BEPARTMENT OF PUBLIC WORKS, NEW SOUTH WALES

Annual Report for the Year 1941-1942

INDEX

			Appendix	Page		
I.	Administration .			 1		
II.	Legislation .			 2		
III.	Financial .		I	 3 and	11	
IV.	Electricity .		II	 3 and	21	
v.	Harbours and Rivers		III	 4 and	27	
VI.	Water Supply and Sewerage .		IV	 6 and	36	
VII.	Architectural and Public Buildings .		v	 7 and	41	
VIII.	Local Government Engineering and Defence Works Co-ordination		VI	 8 and	46	
IX.	Engineering Design .		VII	 8 and	48	
x.	Survey Drafting .		VIII	 9 and	52	
XI.	Testing and Inspecti	ons	IX	 9 and	53	
XII.	Engineering and Ship building Undertakin Newcastle		x	 9 and	54	
XIII.	Standards Association of Australia	n		 9		
XIV.	Roll of Honour .			 10	and	lo A
xv.	Conclusion .	1		 10	A	

DEPARTMENT OF PUBLIC WORKS, NEW SOUTH WALES

Annual Report for the year 1941-42

The Under Secretary, Department of Public Works to the Honourable John Joseph Cahill, M.L.A., Minister for Public Works.

Sir,

I have the honour to present to the Minister the Annual Report of the Department of Public Works for the year ended 30th June, 1942.

I. ADMINISTRATION

On 18th January, 1942, Mr. M.A.K. Weir was appointed Under Secretary and Comptroller of Accounts, The Treasury, and on 19th January, Mr. D.J. Ford was appointed Under Secretary, Department of Public Works, and Mr. R.A. Johnson, Assistant Under Secretary.

On 9th February, 1942, Mr. J.M. Main was appointed Chief Engineer, Department of Public Works and Department of Local Government and Housing.

The year of operations has been one of marked activity, particularly in the construction of defence works and air raid protective works; for National Security reasons such works are not specified.

The report deals only with the major operations of the Department, which are in the charge of the following officers:-

Chief Electrical Engineer

Principal Engineer, Harbours and Rivers Principal Engineer, Water Supply and Sewerage Government Architect Principal Designing Engineer

Local Government Engineer

Director, Engineering and Shipbuilding Accountant Legal Officer Draftsman-in-Charge (Survey Drafting) Chief Testing Officer V.J.F. Brain, B.E., M.I.E. Aust., M.I.E.E., Mem. A.I.E.E. H.F. Searl, Assoc. M.I.E. Aust.

S.W. Jones, B.E., M. Inst. C.E., M.I.E. Aust. C. Parkes, F.R.A.I.A. A. Lewis, B.E., Assoc. M.I.E. Aust. E.R.C. Gallop, L.S., Assoc. M.I.E. Aust. D.L. McLarty, M.I.E. Aust. C.E. Jenkins, A.I.C.A. H.V. Everitt, LL.B.

V.R. Blacket P.C. Pecover, A.A.I.C.

II. LEGISLATION

During the year the following Acts, prepared in Bill form by this Department, became law. A summary of their contents is appended.

Junee Water Supply Administration (Amendment) Act, 1941 - No. 35 of 1941.

Amends the Junee Water Supply Administration Act, 1915-1934 in order to re-declare the capital debt of the water supply works and make provision for the allocation of revenue.

South-west Tablelands Water Supply Administration Act, 1941 - No. 36 of 1941.

Provides for control and administration of the works of water supply and declaration of capital debt and provision for allocation of revenue. Agreements already entered into by the Minister with the Councils concerned and individual consumers were validated.

Public Works (Stormwater Channels Vesting) Act, 1941 - No. 50 of 1941.

Enables the transfer of stormwater channels to the proper authority for the purposes of future maintenance. No actual transfer is effected by the Act, but machinery is established under which each work can be reviewed separately and handed over, by proclamation published in the Government Gazette, either to the Metropolitan Water, Sewerage and Drainage Board or to Shire or Municipal Councils.

Southern Electricity (Administration) Act, 1942 - No. 3 of 1942.

Consolidates the two schemes of electricity generation and supply, operating respectively from Port Kembla and Burrinjuck, into one undertaking. The consolidated undertaking will in future be administered by an Administrator, who will be the Minister for Public Works, constituted for this purpose a corporation sole. The Act supersedes the Burrinjuck Hydro-Electric (Administration) Act, 1929, and the Public Works (Port Kembla Electricity) Act, 1929-1934, and the greater part of those Acts is repealed. The capital debt of the undertaking is declared, and provision made for the allocation of revenue and the keeping of special accounts in the Treasury.

III. FINANCIAL

(Details of Accounts under this Heading appear in Appendix I.)

EXPENDITURE - WORKS AND SERVICES

The total expenditure and repayments in respect of works and services of the Department during the year may be summarised as follows:-

Expenditure £. s. d. 857,990. 0. 1	Receipts and Payments £. s. d. 30,817.11. 7
937.18. 3	
302,246.13.10	25,842.13. 1
50,446.13. 2	12,134.11.11
104.11. 2	
	5,107.10. 5
4,863,275.13. 5	1,365,149.16. 9
689,557.11.11	20,029. 0. 8
289,324. 0. 2	
7,053,883. 2. 0	1,459,081. 4. 5
	£. s. d. 937.18. 3 302,246.13.10 50,446.13. 2 104.11. 2 4,863,275.13. 5 689,557.11.11

Net Expenditure £5,594,801.17. 7

IV. ELECTRICITY

(Details of Work under this Heading appear in Appendix II.)

POWER STATIONS

At Yanco power station a 750 kW. generator was installed and the erection of a new switch-house is proceeding. The construction of a new tail race was commenced at Burrinjuck power station whilst at Port Kembla additional steam raising and generating plant is in contemplation.

132 kW INTERCONNECTOR

In this system Goulburn control station is practically completed, Port Kembla sub-station is finished and Burrinjuck sub-station is proceeding, although retarded by delays in delivery of equipment.

Pending completion of Burrinjuck terminal sub-station, the interconnector was operated at 132,000 volts on the Goulburn-Port Kembla section and at 66,000 volts on the Goulburn-Burrinjuck section.

SYDNEY-PORT KEMBLA INTERCONNECTOR

Erection of Port Kembla sub-station is almost completed and the same applies to the Sydenham sub-station. The 66,000 volts transmission line, 50 miles in length, is fully erected.

COWRA-ORANGE TRANSMISSION LINE

The Cowra sub-station which will increase available power to 1,000 kVA and the voltage to 66,000 is nearing completion. Orange sub-station has been rebuilt to accommodate an additional transformer and completion of the 60,000 voltage transmission line, $47\frac{1}{2}$ miles in length, has been accomplished.

SOUTHERN ELECTRICITY SUPPLY

With the passage of the Southern Electricity (Administration) Act, 1942, the Port Kembla and Burrinjuck electricity supplies, with Yanco power station incorporated, have been combined in the one generation, transmission and distribution system. The scheme is designed to facilitate further construction of electricity plant and expansion of distribution so enabling greater consumption of electricity in the southern industrial and rural areas.

REDUCTION IN RATES

A standardized bulk supply rate has been introduced for the southern electricity undertaking resulting in reduced charges to most bulk consumers on the Port Kembla-Burrinjuck sections. Retail supply township consumers have received a substantial reduction in charges.

SYDNEY ELECTROLYSIS COMMITTEE

The Department has again co-related the interests of this Committee in the action taken to minimize corrosion of underground structures caused by electrolysis. Protective measures adopted have reduced to a new minimum the number of telephone cable faults on account of electrolysis, the repair cost remaining approximately the same.

V. HARBOURS AND RIVERS

(Details of Work under this Heading appear in Appendix III.)

Two large wharves, constructed under contract to the Department, were placed in commission, viz.,

Lee wharf, second extension, Newcastle, July, 1941.
No. 3 jetty reconstruction, Port Kembla, September, 1941.

Work is proceeding on the design of a 300 ft. extension to Coffs Harbour jetty, in conjunction with extension to the Timber Storage Depot.

SYDNEY HARBOUR GRAVING DOCK

This Department was responsible for the quarrying of spalls at Ball's Head Quarry for construction of the coffer dam walls at the Graving Dock, and the work was completed on 1/7/42. The quantity of stone removed was 386,313 cubic yards of spalls and 35,913 cubic yards of quarry refuse. Expenditure incurred by the Department was £261,258. 0. 0.

PORT KEMBLA

Eastern Breakwater:

Stone in the quantity of 12,108 tons was placed in position and the bull end widened and extended 50 ft. to chainage 3,729 ft. This was subsequently reduced by a storm to 3,712 ft. The total amount of stone now placed in the breakwater is 1,418,434 tons, costing £601,701. 0. 0.

Gillan's Hill Querry:

Stone quarried was 37,947 tons, making a total output since serviceable stone was first available 1,174,957 tons, costing £296,553. 0. 0.

Facilities for Waterside Workers:

Mess rooms, ambulance rooms, offices etc. were built at Nos. 1, 3 and 4 jetties, Port Kembla.

HASTINGS RIVER

Construction of the northern breakwater, which is an extension of the eastern training wall, was completed to a total length of 5.396 ft.

PORT HACKING

A baths has been constructed downstream of the causeway by throwing a timber foot-bridge across Port Hacking River, from which it is proposed to suspend a sharkproof net. Amongst the facilities being provided is an artificial sand beach for children.

DREDGING

A total of 3,642,041 tons of material was dredged at an average cost of 11.163d. per ton compared with 11.659d. per ton for the preceding year.

WALLIS CREEK FLOOD GATES, MAITLAND

The construction of these flood gates was completed during the year comprising earthworks, approach channels, and 10 timber gates.

COASTAL DEFENCE WORKS

A number of coastal defence works have been carried out, the nature of which is not disclosed.

VI. WATER SUPPLY AND SEWERAGE.

(Details of Work under this Heading appear in Appendix IV.)

The greater part of water supply and sewerage activities have been connected with works for the Commonwealth Government, many of which are of considerable magnitude. In addition, valuable information has been furnished to military and air force commands for use in intelligence work and in case of emergency.

The Department has continued to exercise over-riding supervision on works constructed by councils under the provisions of the Local Government Act. Alteration in government policy has brought about reversion to the former system under which the Department's organisation is available to carry out investigation, design and construction on behalf of Councils seeking such service.

Excluding the Sydney and Newcastle metropolitan areas there are now 164 towns and villages in the State served with reticulated water supplies and 56 towns with sewerage systems, an increase of 17 water supplies and one sewerage system. Filtrated or treated water supplies are possessed by 51 towns, whilst there are 7 new water supplies, 5 new sewerages and several augmentations and improvements under construction.

JUNEE WATER SUPPLY AND SOUTH WEST TABLELANDS WATER SUPPLY

The head works and trunk distribution systems of these two separate water supplies are administered by the Department, water being supplied at 1/6d. per thousand gallons to the Municipality and the Department of Railways in the case of Junes; a wide area of towns and rural consumers is served by the South West Tablelands scheme, the rate of purchase being the same as at Junes.

BROKEN HILL SEWERAGE

The Department on behalf of the Broken Hill Water Board has laid a further 29,000 lineal feet of pipes, bringing the total reticulation of the city to 37g miles. The first section of the treatment works and one pumping station were put into operation, thus making the sewerage system available to 3,000 tenements.

INVESTIGATIONS

Principal amongst water supply schemes investigated are those for Central Tablelands, Pish River, Blue Mountains, Lower Manning and Imlay shire areas.

STORMWATER DRAINAGE

Under the provisions of the Public Works (Stormwater Channels Vesting) Act, 1941, a committee was constituted for the purpose of recommending to the Minister the authority to be vested with the future control of many stormwater channels constructed by the Department of Public Works over a period of years.

RIVER MURRAY WATERS ACT

The following works previously constructed by this Department have been maintained, operated and controlled during the year, in terms of the River Murray Waters legislation, under which these responsibilities are vested in the Minister for Public Works as Constructing Authority.

Murray River:

Hume Reservoir (N.S.W. Section)
Lock 10, Wentworth
Lock 15, Euston

Murrumbidgee River:

Weir No. 5, Redbank Weir No. 7, Maude

VII. ARCHITECTURAL AND PUBLIC BUILDINGS

(Details of Work under this Heading appear in Appendix V.)

SUBSIDIZED HOSPITALS

Contracts have been let for works at District Hospitals, Balmain, Bathurst, Ryde, Canterbury, Nyngan, Braidwood and Wyalong, ranging in cost between £10,000 and £42,000.

Sketch proposals have been in course of preparation for Lismore Base Hospital (amended development scheme) £110,995; Nambucca District Memorial Hospital £32,777; Stockton Mental Hospital £33,610; Callan Park Mental Hospital £22,600; Lower Clarence District Hospital £19,240; Newcastle-Western Suburbs Maternity Hospital and Benevolent Home £15,045.

EDUCATION DEPARTMENT WORKS

Work at Bondi Domestic Science School was closed down owing to difficulties experienced in obtaining materials and manpower, 40 per cent of the work being completed. The contract price is £59,866.

Working drawings have been prepared for Wollongong Technical College £26,400; Granville Technical College £19,800 and Sydney Technical College (St. George branch) £13,200.

The sketch plan stage has been reached for Wagga Wagga Technical College £81,682; Hurstville Central Domestic Science School, Penshurst £64,883; Kogarah Central Domestic Science School £53,750; Bingara Public School £23,148 and Ramsgate Public School £10,650.

MISCELLANEOUS WORKS

Housing: In co-operation with the Commonwealth Government further schemes for relieving the housing problem, in addition to accommodation for munition workers, have been undertaken at Lithgow, Orange and Bathurst.

Engineering and Shipbuilding Undertaking, Newcastle: Construction has been commenced upon the administrative building and workmen's accommodation, the estimated cost being £24,500.

General: Other works of magnitude are Bodington Red Cross Sanatorium, Wentworth Falls, £11,987; Registrar General's Building £10,750; Police Boys Club, Redfern, £13,000.

NATIONAL EMERGENCY SERVICES

Along with defence works, National Emergency Services works have been proceeding on a Wide scale and because of the necessity of early completion strenuous efforts have been exerted by the Department to meet this emergent demand.

Air raid shelters and trenches have been constructed at public buildings, hospitals and schools, also work in connection with the strengthening of buildings, glass protection and black-out. Schemes for "floating population" which are well under way are designed to provide shelter for 94,390 persons. Construction of control centres, first aid posts, protection of valuable equipment is also involved whilst the Department has continued to furnish advice to practicing architects, engineers and the general public on the design and construction of shelters etc.

VIII. LOCAL GOVERNMENT ENGINEERING AND DEFENCE WORKS CO-ORDINATION

(Details of Work under this Heading appear in Appendix VI.)

DEFENCE WORKS

The defence works programme entrusted to the Department has been prosecuted with the utmost vigour. Works mentioned in last years report such as munition factories, aerodromes, military camps, prisoner-of-war camps, petrol storage dumps and seaplane bases are still under construction. Additional works in hand are:

Naval Depot:- Reads, fencing, drains and walls.

Bulk Stores:- Preparation of sites, roads, water supply and erection of building for five stores.

Coastal Defences:- Anti aircraft gun emplacements, command posts, underground tanks, ammunition shelters, camouflage works, anti tank defences, anti submarine defences and coastal battery.

SURVEY

Considerable survey work was undertaken both in respect of Departmental and defence works, the latter fully occupying the time of 20 survey parties.

IX. ENGINEERING DESIGN

(Details of Work under this Heading appear in Appendix VII.)

Engineering Design services are utilized in connection with all engineering activities of the Department and involve preparation of plans, specifications etc. for requirements of defence, water supply, sewerage, stormwater drainage, harbours, electricity etc. 9.

X. SURVEY DRAFTING

(Details of Work under this Heading appear in Appendix VIII.)

General survey drafting, recording, heliographing, photostatcopying, plan mounting and plan registration is a type of work condition precedent to constructional operations but such services have been rendered also on behalf of councils, defence and National Emergency Service organizations.

XI. TESTING AND INSPECTIONS

(Details of Work under this Heading appear in Appendix IX.)

The estimated value of materials tested and inspected prior to despatch amounted to £598,954.0.0 made up as follows:

Cement - 4,217,400 paper bags (175,725 tons) £593,110. 0. 0
Valves, Hydrants, etc. 5,327. 0. 0
Miscellaneous ... 517. 0. 0

£598,954. 0. 0

The testing facilities possessed by the Department continue to be requisitioned by councils and private bodies and with early improvement in instruments and equipment considerable expansion in this type of work can be anticipated.

XII. ENGINEERING AND SHIPBUILDING UNDERTAKING - NEWCASTLE

(Details of Work under this Heading appear in Appendix X.)

Early in the year the Government decided upon the establishment of the Engineering and Shipbuilding Undertaking at Newcastle.

After careful investigation the existing Walsh Island site was abandoned in favour of the development of an area on the mainland at Carrington embracing the Dyke End workshops; this site was chosen because of facilities provided for road and rail access, deep water frontage and reduction of dredging expenses.

Mr. D.L. McLarty was appointed Director of Engineering and Shipbuilding.

The work of dismantling the engineering shops and plant at Walsh Island and transfer and erection at the new site is well in hand.

XIII. STANDARDS ASSOCIATION OF AUSTRALIA

The Department has continued to avail the services of its technical officers to the Standards Association of Australia for representation upon numerous committees totalling more than one hundred, which are concerned with the issue of new specifications and codes, revising existing publications and giving interpretation upon the technical character of specifications etc.

The Department has further assisted the Association by reviewing draft standards, whether Australian, British or Empire origin, which were referred to the Department for comment.

XIV. ROLL OF HONOUR

During the year a further 86 members of the staff enlisted in the fighting forces; this brings the total enlistments from the Department to 194, and it is with pride that I append the additional names hereunder.

Agnew, G. Anderson, G. Ardill, F.D. Armstrong, M.M.

Baird, A.N.
Baker, H.N.
Bath, R.T.
Bissett, R.W.
Bouch, A.D.
Brior, J.F.

Callaghan, R.W.
Carr, F.J.
Carmichael, R.
Champion, D.A.H.
Clarke, R.W.E.
Clements, L.P.
Coles, N.C.
Cornwell, J.A.
Cuneo, E.P.

Davis, A.I. Douglas, J.A. Driver, R.L.

Emanuel, L.

Pindley, J.D. Pitzgerald, W.T. Planagan, J. Praser, J.L.

Galloway, J. Gardner, W.P. Gore, S.G. Green, R.

Hall, K.W. Hambley, S.H.H. Hankin, C.H.Z. Holdaway, H.W. Holliday, J.B. Hodges, R.J. Horsley, A.R. Hughes, A.S.

Inge, H.D.

Jackson, B.J. Jamieson, L.M.

King, J.O.

Laurie, J.J. Ledsam, D.G. Lucas, N.J.D. Lucas, L.R.

Mackie, A.S.
Marsden, M.
McCombie, W.E.
McPhedran, D.
Heirs, J.
Maygor, R.E.
McCeughan, W.C.

Monan, J.I.

O'Dea, D.R.

Palmer, R.K.
Parow, W.F.
Partlett, W.T.
Poarce, L.R.
Pearce, W.W.
Peter, A.J.
Peterson, R.F.
Poitri, R.C.
Porter, T.N.

Quinlivan, P

Quinlivan, W. J.

Rich, G.B. Rose, H.E. Rosen, E.R. Rosen, K.G.

Sande, E.A. Shutt, W. Slatter, S.M. Smith, E.J. Smith, L.A. Smith, H.F.

Talbot, J.S. Taylor, C.G. Thomas, W.H. Tighe, J.H. Tulloch, W.J.

Uron, J.

Vidal, G.H. Vanstone, A.R.

Wellbourn, A.E.

Particulars of casualties, decorations, etc. are as under :-

Communities.

Allen, E.B.	(P.O.W.)	Munro, C.M.	(P.O.W.)
Bourne, L.E.	(P.O.W.)	Pearce, L.R.	(killed)
	(missing)	Peterson, R.F. Peitri, R.C. Purdon, T.	(missing) (missing) (P.O.W.)
Davis, A.	(P.O.W.)	Smith, L.A.	(P.O.W.)
Fulton, M.	(P.O.W.)	Stone, R.C.	(P.O.W.)
	(miesing)	Wheatley Wilsteneroft	(missing) (missing)
Kennedy, L.W. (Ribblewhite, W. (missing belief		Vanstone, A.E.	(Gecessed)

Mathers, J.B. (killed) Mooney, N.K. (missing)

Decorations.

H.P. Goldsmith, D.F.M., D.F.G., Melta Cross. T.C. Harvey, M.M. R.W.G. Oglo, D.S.O.

XV CONCULSION

The necessity of pressing forward with a defence and A.R.P. programme of works with the utmost rapidity has made exacting demands upon the Department and I take this opportunity of expressing appreciation of the ready co-operation manifested by the staff.

Yours faithfully,

Under Secretary.

APPENDIX I

EXPENDITURE - WORKS AND SERVICES

The total expenditure and repayments in respect of works and services of the Department during the year may be summarised as follows:

1.	Consolidated Revenue	Expenditure £. s. d. 857,990. 0. 1	Receipts and Payments £. s. d. 30,817.11. 7
2.	Advances for Department's Working Account	937.18. 3	
3.	General Loans	302,246.13.10	25,842.13. 1
SA.	Loans Expenditure Suspense	50,446.13. 2	12,134.11.11
4.	Loans - Unemployed Relief Fund	104.11. 2	
4A.	Loans - Special Expenditure		5,107.10. 5
5.	Special Deposits Account	4,863,275.13. 5	1,365,149.16. 9
6.	Unemployment Relief Fund	689,557.11.11	20,029. 0. 8
7.	Payments made by other Departments for works and services carried out	289,324. 0. 2	
		7,053,883. 2. 0	1,459,081. 4. 5

Net Expenditure £5,594,801.17. 7

STAFF - NUMBER - SALARY

Numerical strength of the staff and the annual salary charges as at 30/6/42, and the comparison with the similar particulars of the previous year are set out hereunder.

The figures given apply only to officers under the provisions of the Public Service Act. There are many other Departmental employees who are not so classified.

		rmanent fficers		mporary fficers	Tot	tal
	No.	Salary	No.	Salary	No.	Salary
1940-41		£		£		£
General Staff Dredge Service	549 115	229,339 36,317	525 87	155,499 24,837	1,074	384,838 61,154
	664	265,656	612	180,336	1,276	445,992
1941-42						
General Staff Dredge Service	502 108	230,160 35,494	616 84	194,779 26,076	1,118	424,939 61,570
	610	265,654	700	220,855	1,310	486,509

CONSOLIDATED REVENUE FUND

DETAILS OF EXPENDITURE AND REPAYMENTS

	Expenditure £. s. d.	Repayments E. s. d.
(a) Salaries and Payments in the nature of Salaries:	152,353.12. 0	
(b) Maintenance and Working Expenses other than Salaries:	21,564. 1. 8	
(c) Maintenance of Public Works and Services:		
Harbours and Rivers	27,047.16.10	
Dredge Service	143,959.13. 3	
Public Buildings	94,331. 9.10	
Water Supply, Sewerage and	* 036 11 10	
Stormwater Drainage	3,936.11.10	
State Power Supply State Telephone Services	41,302. 6. 1	
Electricity and Gas	52,592. 1. 6	
River Murray Waters	14,000. 0. 0	
Purchase of Survey Instruments	234. 8. 7	
Government Dockyard (excluding		
Floating Dock)	3,792.11.11	
Government Dockyard (excluding Hire Operations)	3,856. 8.10	
(d) Other Services:		
Services for Other Departments	35,988.13.10	
Purchase of Motor Vehicles	1,111. 5. 2	
South West Tablelands Water Supply		
Deficit in working	26,427. 8.10	3 - A - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
Leichhardt Depot - Custody of		
Idle Plant	3,040. 0. 0	
Port Kembla Haulage and Shipment	2,098. 3. 9	
Rebates Circular Quay Promenade - Cleaning	359. 6. 1	
Sewerage at Broken Hill - Advances		
to Water Board	8,000. 0. 0	
Junee Water Supply - Accumulated		
Deficiency in operations of	74 000 0 4	
Undertaking	34,022. 2. 4 186,835.18.10	
Air Raid Precautions Miscellaneous	585. 6. 2	
Receipts Returned	39.12. 5	
Unforeseen Expenses	117.13. 8	
Exchange on Remittances		212.15. 9
(e) Revenue Received and paid into Consolidated Revenue:		
Payments to Previous Years Con-		15,227. 7. 7
solidated Revenue Vote		2,230.19. 7
Rent ex Land Miscellaneous Services Rendered		8,821.10. 3
Unclassified Receipts		4,098. 1. 0
Fees: Miscellaneous		1.19. 0
Commission to cover cost of		
collection of Premiums - Group		004 10 5
Assurance Scheme		224.18. 5
	£857,990. 0. 1	230,817.11. 7

ADVANCES FOR DEPARTMENTAL WORKING ACCOUNTS AND OTHER PURPOSES AND ADVANCES TO BE RECOVERED

DETAILS OF EXPENDITURE AND REPAYMENTS

Commonwealth Works

Expenditure

Repayments

£937.18. 3

GENERAL LOAN ACCOUNT - DETAILS OF EXPENDITURE AND REPAYMENTS

	Expenditure £. s. d.	Repayments E. s. d.
Sydney Harbour Bridge		217.11. 3
Harbours, Rivers and Dredges	79,706. 1. 3	13,916.19. 7
Water Supply Works	11,357. 3. 3	221. 4. 0
Sewerage and Stormwater Drainage	365.13. 5	3,013. 9. 7
Public Buildings	78,169. 4. 7	48.12. 6
Grain Elevators	5,266.16. 4	4.17. 7
Electrical Works	112,093.13.11	7,920. 4. 9
River Murray Commission	13,100. 0. 0	
Border Railway	106.19. 7	
Public Watering Places		48.15. 4
Circular Quay Improvements	2,081. 1. 6	450.18. 6
	£302,246.13.10	£25,842.13. 1

Net Expenditure - £276,404. 0. 9

LOANS EXPENDITURE SUSPENSE: DETAILS OF EXPENDITURE AND REPAYMENTS

	Expenditure	Repayments E. S. d.	
Newcastle Floating Dock	39. 4. 3		
Sydney - Port Kembla			
Electrical Connection	50,407. 8.11	134.11.11	
Yanco Power Station - Working Capital		12,000. 0. 0	
	£50,446.13. 2	£12,134.11.11	

LOANS - UNEMPLOYED RELIEF FUND: DETAILS OF EXPENDITURE AND REPAYMENTS

Expenditure Repayments
£104.11. 2

Kyogle Water Supply

SPECIAL EXPENDITURE LOANS: DETAILS OF EXPENDITURE AND REFAYMENTS

	Expenditure	Repayments
Roads and Bridges		£. s. d. 4,847.14. 8
Harbours and Rivers		180. 7. 6
Stormwater Drainage		51.17. 5
Euildings Generally		14. 3. 6
Miscellaneous Minor Works		13. 7. 4
		£5,107.10. 5

SPECIAL DEPOSITS ACCOUNTS

DETAILS OF EXPENDITURE AND RECEIPTS

		Balance at	Receipts	Total	Expenditure	Balance at 30/6/42
	Public Works Store Advance Account Junee Water Supply Administration Account Broken Hill Water Supply Administration Account Medlow Water Supply Unclaimed Wages and Salaries Account Unclaimed Moneys Account Public Works Department Working Account Motor Vehicles Working Account	8. 8. d 60,123.13. 6 2,261. 0. 5 30,267.17. 7 112. 0. 0 404. 5. 0 88.12. 3 13,092. 2.10 1,126.19. 8Dr. 104. 1. 3Dr.	£. s. d 158,185.11.10 44,708. 2.10 141. 4. 2 1. 0. 9 3,293.15. 3 245. 8.10 103,553. 5. 4 5,493.15. 4 8.13. 4	£. s. d 218,309. 5. 4 46,969. 3. 3 30,409. 1. 9 113. 0. 0 3,698. 0. 3 334. 1. 1 116,645. 8. 2 4,366.15. 8 95. 7.11Dr.	£. s. d 176,620.19. 0 25,167. 8. 4 19,964. 6. 1 2,185.11. 2 109. 1. 9 111,582.11. 1 5,836. 9. 6 4.19. 9	£. s. d 41,688. 6. 4 21,801.14.11 10,444.15. 8 113. 0. 9 1,512. 9. 1 224.19. 4 5,062.17. 1 1,469.13.10Dr. 100. 7. 8Dr.
· · · · · · · · · · · · · · · · · · ·	Motor Venicles Working Account Pipe Testing Suspense Account Generally Broken Hill Water Board Hospital Commission Suspense Account Bathurst Housing Scheme Western Division Weirs Yaralla Convalescent Home Kyogle Sewerage Security Deposit Trust Account Junee Water Supply Renewal Account Bethungra Water Supply Renewal Account Bethungra Water Supply Renewal Reserve Account Port Kembla Electricity Supply - Renewal Reserve Account Government Dockyard Store Advance Account Government Dockyard Store Advance Account Government Dockyard Plant Hire Account N.E.S. Suspense Account South West Tablelands W.S Renewal Reserve Account Port Kembla Haulage and Shipment - Renewal Reserve Account Burrinjuck Electricity Supply - Working Account Burrinjuck Electricity Supply - Working Account Esting Brench Working Account Port Kembla Electricity Supply - Working Account Fort Kembla Electricity Supply - Working Account Port Kembla Haulage and Shipment of Coal South West Tablelands Water Supply - Working Account Yanco Power Station - Working Account Yanco Power Station - Working Account State Embla Haulage and Shipbuilding Undertaking Working Account State Timber Yards Working Account State Brickworks (Homebush) Working Account State Brickworks (Homebush) Working Account State Brickworks (Homebush) Working Account State Monier Pipe & R.G. Works Working Account Building Construction Branch - Working Account Building Construction Branch - Working Account Commonwealth Government Defence Works Commonwealth Government Specific Defence Works	104. 1. 3Dr. 5,347.12. 8 50,873. 6. 0 398,487. 2. 6 79,499. 0. 0 16,594.13. 6 2,100. 0. 0 7,500. 0. 0 13,107.18. 1 6.16. 0 245,105. 5.10 254,328.17.11 9,434.14. 9 2,331. 2. 2 30,000. 0. 0 24,167.15. 8 30,202. 3. 9 491. 7. 2Dr. 50,861.18. 0 1,379. 6. 7 1,113. 3.11 9,990. 7. 8 6,718. 5. 9 1,788.15.11 9,606.17. 0 127.13. 5 357. 2. 0 48. 0. 0 382.16. 0 146.16. 8 55,000. 0. 0	8.13. 4 58,140. 5. 7 14,675. 8. 4 1,490. 5. 3 17. 2. 8 676. 1. 0 364. 8. 6 14. 4. 7 19,705.12. 1 4,025. 8.11 317.10. 2 39,374. 9. 2 58,622.13.10 5,265.13. 2 7,872.11. 2 26,076.19. 7 8,622. 4. 9 5,717.14.11 45,397.11. 1 224,096. 1. 4 20,059. 2. 1 12,987.17. 3 201,157.18. 5 65,833.10. 6 62,334.10. 9 39,264. 4. 1 8,355.14. 4 25.17.10 5. 8. 8 30.14. 7	63,487.18.3 65,548.14.4 399,977.7.9 79,516.2.8 17,270.14.6 2,464.8.6 7,514.4.7 32,813.10.2 4,025.8.11 324.6.2 284,479.15.0 312,951.11.9 14,700.7.11 10,203.13.4 56,076.19.7 32,790.0.5 35,919.18.8 44,906.3.11 274,957.19.4 21,438.8.8 14,101.1.2 211,148.6.1 72,551.16.3 64,123.6.8 48,871.1.1 8,355.14.4 153.11.3 362.10.8 78.14.7 382.16.0 146.16.8 55,230.1.6 514.10 27.13.8 42.15.2 4,448.13.2 63,061.5.2	37,184.15.1 60,312.5.3 388,428.15.11 77,606.0.4 12,744.8.9 897.2.1 3,185.11.5 21,561.13.3 160.0.2 166.11.11 1,203.3.10 370.0.9 6,205.6.8 44,272.15.7 3,935.2.3 44,906.3.11 220,664.14.9 20,782.5.8 10,514.16.6 198,311.10.10 64,486.15.1 64,094.18.1 41,742.11.7 15,616.17.3 78.14.7 52.8.2 22,467.12.7 160,319.7.1	26,303. 3. 2 5,236. 9. 1 11,548. 11. 10 1,910. 2. 4 4,526. 5. 9 1,567. 6. 5 4,328. 13. 2 11,251. 16. 11 4,025. 8. 11 164. 6. 0 284,313. 3. 1 311,748. 7. 11 14,330. 7. 2 3,998. 6. 8 11,804. 4. 0 32,790. 0. 5 31,984. 16. 5 54,293. 4. 7 656. 3. 0 3,586. 4. 8 12,836. 15. 3 8,065. 1. 2 28. 8. 7 7,128. 9. 6 7,261. 2. 11Dr. 153. 11. 3 362. 10. 8 330. 7. 10 146. 16. 8 32,762. 8. 11 160,313. 12. 3Dr. 27. 13. 8 42. 15. 2
	Graving Dock - Garden Island Commonwealth Contribution - Floating Dock, Newcastle Adjustment of Advances made to State Govt. for Commonwealth Work Balance Salaries Adjustment Suspense	s 85,000. 0. 0	30,624. 8. 1 7,923.15. 6 10,164.10. 8 2,533. 6. 4	30,624. 8. 1 7,923.15. 6 95,164.10. 8 2,533. 6. 4	43,953.17. 8	7,923.15. 6 51,210.13. 0 2,533. 6. 4
		1,496,305. 4.10	1,365,149.16. 9	2,861,455. 1. ?	4,863,275.13. 5	2,001,820.11.10Dr.

UNEMPLOYED RELIEF FUND: DETAILS OF EXPENDITURE AND REPAYMENTS

	Expenditure	Repayments
Roads and Bridges	£. s. d. 54,444.14.10	£. s. d. 8,382. 9.10
Harbours and Rivers	164,524.12. 8	6,129. 9. 4
Country Towns Water Supplies	1,681. 5. 1	8. 2
Country Town Sewerage	22.10. 0	
Stormwater Drainage Works	63,409.16.10	1,485. 5. 3
Buildings Generally	132,101.10. 1	549.11. 5
Miscellaneous Minor Works	271,991. 1.11	3,481.16. 8
Christmas Cash Grant	1,382. 0. 6	
	£689,557.11.11	220,029. 0. 8

Net Expenditure - £669,528.11. 3

PAYMENTS MADE BY OTHER DEPARTMENTS FOR WORKS AND SERVICES CARRIED OUT.

Department		Expenditure
Aborigines Protection Board		£. s. d. 2. 1.11
Agriculture		754.17. 6
Attorney General and Justice		5.14. 1
Australian Red Cross Society		3,617.18. 9
Broken Hill Water Board		16.13. 4
Chief Secretary		3. 4. 1
Child Welfare		327. 1. 9
College of Physicians		2. 3.11
Education		215,779.10.11
Explosives		542. 3.11
Fisheries		26. 0. 0
Forestry Commission		3,411.18. 9
Government Insurance Office Accident Pay	808.12. 9 476.13. 4	1,285. 6. 1
Government Motor Garage		1. 6.11
Government Printer		2,787.19. 0
Government Stores		389.11. 5
Health		1,599.13. 2
Hospitals Commission		1. 5. 3
Homes for Unemployed Trust		11,152.17. 0
Department of the Interior		165. 2. 7
Kindergarten Union of N.S.W.		9.16.11
Kuringai Chase Trust		1.17.11
Labour and Industry		217.15.11
Lands		36.10. 6
Licenses Reduction Board		35. 7. 2
Local Government and Housing		7,880. 8. 9
Main Roads		84. 9. 8
Maritime Services Board		775.11. 7
Mental Hospitals		28.15. 4
Mines Department		26.10. 2
National Emergency Services		27,162. 7.10
Police		771. 7. 5

Payments made by other Departments for works and services carried out.

Departments	Expenditure
Premiers	89.17. 6
Prices Commissioner	2. 3.11
Prisons Department	2.15. 9
Public Service Board	3.15. 3
Public Trustee	6.18. 0
Railway Commissioner	275.16. 2
Registrar General	8.14. 7
Resumed Properties	570.13. 8
Road Transport and Tramways	52.11. 0
State Controller of Salvage	8. 5. 8
State Electrol Commission	18. 0. 3
State Lottery Office	658.18. 9
State War Effort Co-ordination Committee	31. 5.11
Sydney University	6,843.19.11
Taxation Department	70.18. 2
Treasury	18. 0. 3
Water Conservation and Irrigation Commission	1,757.10.11
	£289,324. 0. 2

FINANCIAL ASSISTANCE TO MUNICIPAL AND SHIRE COUNCILS

The expenditure in this connection during the year was £4,393 made up as follows:-

Unemployment Relief Fund

(2) Harbours and Rivers (3) Buildings	1,414	
(4) Miscellaneous Minor Works General Loan Account	2,166	£3,393
Public Buildings		1,000
	TOTAL:	£4,593

STATESTING OF FINANCIAL ASSISTANCE TO HURICIPAL AND CUINE COUNCILS

ORALTS MADE AVAILABLE TO HUMBOLD AND SHIRE COUNCILS IN NESSEROR OF DATIONAL STAR 1941/42

HULLICIPAL COUNCILS

	36.66	6		200	6 di di		6.	-
Total		109. 0.	1,426,15, 7 17,16, 6	end Ship Ship	205.17. 305. 1. 157. 3.	550. 0.	1,550. 0. 0	3,c47. 7. 1
U.R. Pund	232, 3, 6 232, 3, 6 216, 3, 30 42, 8, 11		1,7,30, 0	35° 0° 00° 00° 00° 00° 0° 0° 0° 0° 0° 0° 0	137. 5. 2	2,17,0	1,516, 0, 0	1,965, 5, 6
Herbours & Rivers	THE RESERVE THE PARTY OF THE PA		1,416,15, 7				2,16, 6 cp.	2,433,27, 2
Noode and Bridges	2, 273, 0 0E, 3, 273, 9, 5 0E,	532,10,11 109, 0, 6 or.			205. 1. 2 dr.	550* 0* 0		365.15. 6 dr.
U.R. Fund Buildings	E. C. C.						34.0.0	310 00 0
Togete	Aerodrone and Alexandra Park Ift. Panorem Coonie Bond Aerodrone Kenimble Velley Road Aerodrone Grielet Ground & Aerodrone	Tor Currecting Berry Dench Road Born; Beech Road Wharf Koolemang	roclamtion. Unformide Park. Inyte. & Golf course	Hoston Park Improvements Wellsond Park Improvements	Calif Delve Extension	Bridge over Kengaroo Greek Spider Park Inprovends	Perf: Exprovenents Lake Albert Britanissent Aerical Landing Ground Expts	TOZAL
Gounesta	Albury Batharet Bleezhoeth do. Corose Forbes	Confinence Conford	do.	000000	Katooriba	Truct Posited Terrongs Zoolo	Struct Posts	

	- 45	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1,345,16, 4
	Central Locate Public Building Generally	2,0000,000 2,0000,000	1,000,000
	Hace Hand Hors	55, 5, 0, 0 60, 1, 0	201. 2. 0
2	U.R. Fund		
DITTIES COMPAN	U.R. Fund	### ##################################	141.021.0 th
	Morte	Rentifule Velley Roed Recorditioning Roed in Tower Velley Pirascle - Tower Roed - Section 1 Forest Recf Rd, to Blocufield Rd, Orenge Recording Confidencial Rd, Orenge Recording Confidencial Rd, Tower Gerge Roed - Section 2 Look-out Roed Social Drives Rulnian Roed Roed Confidency Roed	Tracs
	Commodit	Blandens do. do. do. do. do. do. do. do	

APPENDIX II ELECTRICITY

Construction

Power Stations:

Yanco: The installation of a 750 kW generator, ex Coulburn, was completed and the manufacture of a condenser for this unit was practically finished. Contracts have been let for the replacement of obsolete switchgear in the Power Station. The building of a new switchhouse is proceeding.

Burrinjuck: Construction of a new tail race for No. 2 Power Station was commenced. The pressure pipe to No. 1 Power Station was protected by concrete cover over its entire length.

Port Kembla: Specification and drawings were prepared and preliminary investigations and enquiries made regarding the installation of additional steam raising and generating plant. A new ash conveyor belt was purchased but has not yet been put into service. The automatic boiler control equipment for No. 7 unit has been delivered and installations commenced. A busbar zone relay protection scheme was installed to safeguard the 350 kVA switchgear installed during 1940/41.

132 kV Interconnector:

Goulburn Control Station: This station was completed with the exception of the permanent control and relay panels. The control board which is in course of manufacture is very much overdue.

Port Kembla Substation: This station has been completed.

Burrinjuck Substation: Construction of the substation has proceeded but has been retarded due to delays in delivery of equipment. Erection of supporting steelwork, 132 kV and 66 kV isolating switches and busbars, main transformers, 132 kV circuit breakers, lightning arrestors, 6.6 kV switchgear, storage battery, earthing system and various smaller items was carried out during the year. The work included the transport of the two heavy main transformers from Bowning to Burrinjuck by means of the Department's 44 ton road trailer. Running of control cable between the Power Stations and substations to enable both Power Stations to be controlled from the substation was completed.

Transmission Line: Pending completion of Burrinjuck terminal substation the interconnector was operated at 132,000 volts on the Goulburn-Port Kembla section and at 66,000 volt on the Goulburn-Burrinjuck section. Although the water conditions at Burrinjuck Dam were worse than during the corresponding period in 1939 when expensive emergency plant had to be run to maintain supply, the transfer of power from Port Kembla enabled the system to function economically.

Sydney-Port Kembla Interconnector:

Fort Kembla Substation: Supporting steelwork, busbars, isolating switches, 6.6 kV switchgear, control gear, lightning arrestors and the first main transformer were erected and put into service. This completed the work at the substation with the exception of the second transformer, are suppression coil and 66 kV circuit breaker, deliveries of which were delayed.

Sydenham Substation: Work on this substation was carried out by the Department of Hailways for this Department. With the exception of the 66 kV circuit breaker, the substation was completed and put into service. Items of equipment erected included two main transformers, oil circuit breaker, isolating switches, busbars and lightning arrestors.

Transmission Line: The 66,000 volt transmission line, 50 miles in length was completed on 13/5/42.

Cowre-Orange Transmission Line:

Cowra Substation: The work of erecting this substation which will increase the available power to 1,000 kVA and the voltage to 66,000 at Cowra is nearing completion.

Orange Substation: This substation was rebuilt by the Railway Department to accommodate an additional transformer and associated equipment provided by this Department for supply to a defence establishment.

Transmission Line: The 66,000 volt transmission line, 47% miles in length, was completed in March 1942.

Transmission Lines and Substations Generally:

The Port Kembla-Cobbler's Hill section of the 33,000 volt western feeder was re-constructed in a new location and provision made for a second circuit. The re-arrangement was effected in conjunction with the construction of the Sydney-Port Kembla and Eurrinjuck-Port Kembla interconnectors which are all grouped in a common right of way practically from Springhill Road to Cobbler's Hill. The new arrangement also permits the construction of a second 132,000 volt double circuit transmission line from Port Kembla. A considerable amount of work was carried out in connection with the re-arrangement of the 6,600 volt feeders along the Five Islands Road.

A survey was made of the 6,600 volt double circuit feeder from Port Kembla to Wollongong and orders placed for the supply of material. Arrangements were also made for the reconstruction of the Cobbler's Hill-Cordeaux No. 2 section of the 33,000 volt western feeder and the survey was completed. Several sections of the 33,000 volt line between Port Kembla and Windang were reconstructed.

Minor extensions were carried out in the Yerrinbool-Camden, Bookham, and Cootsmundra-Temora areas.

The substation for No. 3 Jetty at Port Kembla was completed and a commencement made with the installation of low voltage power and lighting circuits.

Operation and Maintenance

Power Stations:

Yanco: Operation of the power station was satisfactory throughout the year. Routine maintenance was carried out on all plant.

Burrinjuck: The two power stations operated satisfactorily and no major replacements were made. Owing to a succession of bad seasons the quantity of water made available from the Dam was well below normal for the whole of the period under review. The water level fell to 123 feet below the original spillway i.e. 113 feet below the

recently modified spillway and it was not possible to maintain the usual output from the two stations. Routine maintenance was carried out on all plant.

Port Kembla: Operation throughout the year was satisfactory despite heavy loading occasioned by the shortage of water at Burrinjuck. The Port Kembla-Sydney interconnector was completed during the year and served as a stand-by to meet any plant deficiency. General maintenance was carried out on boilers, turbines and switchgear as loading permitted.

Camberra: The Camberra steam plant was run as required to assist in meeting deficiencies caused by the low output from Burrinjuck as a result of the shortage of water.

Statistics:	
Generated:	1941-42
Burrinjuck	50,828,700
Canberra	1,000,086
Port Kembla Yenco	10,530,868
Purchased:	27,320
Australian Iron and Steel Sydney	42,500
Total generated and purchased	139,364,086
Used in Stations:	
Burrinjuck 113,0	12
Yenco 2,853,78	
18000	0,400,140
Sold:	
Burrinjuck consumers 65, 282, 30	
Port Kembla do 47,774,1' Sydney 20,50	
Yanco 10,090,4	
Station Maximum Half Hour Dem	and W:
Burrinjuck	18,500
Fort Kembla	21,456
Yanco	2,250
Station Annual Load Factors %	
Burrinjuck	51
Port Kembla	41 53
Yanco	90

The energy sold so far as the Burrinjuck and Port Kembla sections are concerned represents an increase of 6.16 % on that of the previous year. Yango Power Station was not under the control of this Department for a full year in 1940-41, which precludes drawing a proper comparison with this year.

Transmission and Distribution:

The operation of the system was generally satisfactory. Activities were mainly confined to carrying out routine maintenance and minor extensions to existing lines and reticulations.

An officer and certain employees were transferred to Goulburn Control Station as a commencement of the establishment of a field headquarters of technical and administration matters.

Some inspection of retail consumers installations was carried out in the early part of the year under Local Government Ordinance 54B.

The overhaul of sub-stations in the Port Kembla section was continued as staff permitted. Electrical maintenance was carried out on the Port Kembla jetties.

Commercial

Southern Electricity Supply:

With the passage of the Southern Electricity (Administration)
Act, 1942, the Port Kembla and Burrinjuck Electricity Supplies were
combined and the Yanco Power Station incorporated with those two
systems. The undertaking is known as the Southern Electricity Supply
of New South Wales and the financial provisions of the Act facilitate
the construction of new electricity extensions. A provision has also
been included for implementation later to allow of trading in
electrical equipment, consumers to obtain electrical appliances from
the undertaking by hire purchase agreements.

Reduction in Rates:

Bulk Supply: During the year a standardised bulk supply rate was introduced for the combined undertaking and resulted in reduced charges to most bulk consumers on the Port Kembla and Burrinjuck sections. The old rates proved more favourable in a few instances and were left unaltered.

Retail Supply: In the case of rural supplies a reduction in rates was effected by lowering the energy charge only and allowing the service charges to remain unaltered.

With the object of placing the township rate on a sounder and more standard basis, the form of rate as well as the charge per kilowatthour was changed. The primary kilowatthours for domestic services are now based on a floor area basis and for commercial service on a measured demand basis. This conforms to the practice in the metropolitan area.

With few exceptions, township consumers received a substantial reduction in charges but where no benefit would have accrued by the adoption of the new rates the consumers concerned are still supplied under the old rate so that in no case did a consumer suffer an increase in charges.

Industrial Supplies:

Supply was made available for B. Eirton & Co. Pty. Ltd. at Gerringong and two services of a temporary nature were provided at Port Kembla.

Retail and Military Supplies:

A number of township consumers were connected during the year and direct supplies of electricity were provided for military establishments. A supply was made available for the township of Douglas Park.

Financial Position:

Despite reduced rates and as a result of the water shortage at Burrinjuck, the increased use made of the coal fired Fower Stations, the financial position is satisfactory, a profit of £53,216 being earned by the combined undertaking.

WORK FOR OTHER DEPARTMENTS, ETC.

Inspections were made and reports submitted on a number of subsidised electrical extensions.

Work in connection with the development of the State.

The Department's administrative activities relating to the electrical development of the State have included such matters as engineering, economic, commercial and administrative advice to local governing bedies and franchise holders, work in connection with application for the Governor's approval as required under the Local Government Act for agreements of various types, the raising of leans and the installation of additional generating plant. Investigations have been conducted and reports prepared on various matters receiving the attention of the Electricity Advisory Committee.

Formation of County Districts for the purposes of electricity supply.

The Department has rendered advice on the following matters:-

- (a) The Southern Riverina County Council for electricity supply was inaugurated. The County District consists of the shires of Mitchell, Kyesmba, Lockbart, Urana, Culcairn and Holbrook.
- (b) Further negotiations occurred towards the formation of a County District consisting of the municipality of Port Nacquarie and the Shire of Hastings but no finality has been reached.

Acquisition of Franchise Assets by Local Government Authorities.

The Department has given attention to the undermentioned subjects:

The Gulgong Shire Council has decided to acquire the undertaking of franchise holder, Mr. L. Morris, and to purchase bulk supply of electricity from him. Action for the raising of the loan is proceeding

Further consideration has been given by the Hastings Shire Council to the acquisition of the assets of the Wauchope Electric Supply Pty. Lt. The Council has received a report on the undertaking and made enquiry for the necessary loan.

Additional Generating Plant.

Investigations were conducted and appropriate recommendations made regarding plant requirements of the following authorities:-

Sydney County Council
Broken Hill City Council
Tamworth Municipal Council
Deniliquin Municipal Council
Narromine Municipal Council
Coonamble Municipal Council
Forbes Municipal Council
Coonabarabran Shire Council
Dubbo Lighting Company Ltd.

DEFENCE WORKS

Electrical installations for defence purposes have been made at a number of places throughout the State, whilst at other centres the Department has supervised work done by other authorities.

Moreover, the Department has performed a considerable volume of work for the Commonwealth Government in connection with electricity supply and services to military establishments throughout the State. This has included design and constructional supervision of distribution lines, substations and reticulations and the negotiation of agreements to cover supply of electricity and general maintenance of reticulations and services etc., as well as advice to local supply authorities in cases where the additional load created by such establishments had placed a demand upon local generating facilities in excess of its effective capacity.

SYDNEY ELECTROLYSIS COMMITTEE

The Department has again throughout the past year correlated the interests of the Sydney Electrolysis Committee in the steps taken to minimise the corresion of underground structures caused by electrolysis, the investigative and field work having been carried out by the Technical Sub-Committee.

Although further protective equipment has been planned for a number of locations, installation has been only on a limited scale due to labour shortages with the various staffs depleted on account of War conditions and also due to difficulty in obtaining special equipment necessary. Attention has been given to adjustment and maintenance of existing equipment.

Once again the protective measures taken have reduced the number of telephone cable faults due to electrolysis to a new minimum since the Committee commenced its work, although the total repair cost has remained approximately the same.

APPENDIX III

HARBOURS AND RIVERS

TOTAL EXPENDITURE

The total expenditure on construction and maintenance amounted to £1,100,044.14. 3 as detailed hereunder:-

> Harbours and Rivers Works Dredge Service ... Miscellaneous

£399,305. 2. 2 145,498.14. 1 555,240.18. 0

TOTAL

£1,100,044.14. 3

HARBOUR WORKS

Two large wharves, constructed under contract to the Department, were placed in commission, viz.,

> Lee Wharf, Second Extension, July, 1941. No. 3 Jetty, Reconstruction, Port Kembla, September, 1941.

Work is proceeding on the design of a 300 ft. extension to Coffs Harbour Jetty in conjunction with extension to the Timber Storage Depot.

DREDGING

The quantity of material dredged totalled 3,642,041 tons at an average cost of 11.163d. per ton compared with 11.659d. per ton for the preceding 12 months.

BIVER ENTRANCE

The majority of river entrances were worked by bar dredges and maintained at a fairly satisfactory depth in view of the time that dredges were available at each port.

OENERAL MAINTENANCES

Expenditure on maintenance of harbour and river work (excluding dredging) amounted to £27,047.16.10.

TWEED RIVER

Stationary dredge "Harwood" removed 16,767 tons of material from Terranora Broadwater and the Inner Channel, Tweed Heads. Expenditure £2,325. 5. 3.

BYRON BAY JETTY

Replacement of piles, girders and fenders and temporary repairs to electric wiring to cranes. Ballast wall approximately 80ft. long constructed at right angles to jetty near Pier No. 82 to prevent scouring of sand.

Moorings overhauled by dredge "Hermes". £2,250. 1.11.

RICHMOND RIVER

Bar dredges "Hermes", "Jupiter" and "Meptune" dredged at entrance and South Woodburn Channel and removed 162,900 tons of sand. Stationary dredge "Coraki" maintained up-river channels at Bungawalbyn Creek, Broadwater ferry approach, Wardell ferry approach and removed 7,804 tons of material ... £12,031. 0. 4.

CLARENCE RIVER

Dradging carried out by bar dradges "Hermes" and "Jupiter" at entrance and crossings, 234,150 tons of sand being removed.

Haintenance of up-river channels carried out by stationary dradge "Maclean" at Yargai Island, Turky Island and North Arm at Woodburn Island, 43,570 tons of material being pumped ashore. £27,399. 8. 6.

WOOLGOOLGA

Erection of 7g ton crane at outer end of the jetty was completed and put into commission. Maintenance repairs to jetty and overhaul of meorings £2,365.15. 0.

COFFS HARBOUR

Jetty:

Maintenance repairs to the jetty and cranes and overhaul of the moorings £2,873. 4. 5.

Jetty Extension:

Investigation and design continued.

Timber Storage Depot:

Construction of the new Timber Storage Depot completed, involving extensive reclamation along the foreshore near the jetty. Rail sidings and storage space of 29,000 sq. ft. provided £1,025.15. 7.

NAMBUCCA RIVER

The stationary dredge "Urunga" operated at Stewart Island Crossing and removed 10,687 tons of sand .. £1,773, 2.8.

WACLEAY RIVER

Dredge "Hermes" removed 46,600 tons of material from bar and river crossings ... £2,279. 8. 6.

HASTINGS RIVER

Northern Breakwater:

Dredging:

Dredge "Neptune" removed 17,000 tons of sand from the bar and crossing £922.16. 4.

MANNING RIVER

Dredge "Latona" removed 12,500 tons of sand from the crossing £1,194.15. 6.

PORT OF FOSTER (Cape Hawke)

Stationary dredge "Macksville" removed 28,720 tons of sand from ferry crossing ... £6,269. 3. 4.

PORT STEPHENS

Dredge "Forster" removed 74,225 tons of sand from the Myall River ... £3,733. 4.11.

HEWCASTLE

Submerine Rock Removal:

Breaking of rock in northern main channel and in basin entrance channel continued, the quantities broken being 712 cubic yards and 1,866 cubic yards respectively. £4,875. 1. 9

Dredging:

A total of 2,601,900 tons of material dredged from within the harbour. Dredge "Antleon" removed 1,750 tons from Stockton Crossing, dredge "Neptune" removed 182,000 tons (176,500 pumped ashore) and dredge "Pluto" 335,600 tons from the Floating Dock site at Carrington ... £93,205. 6. 4.

Wharves:

Repairs carried out as follows:-

Kings Wharf Lee Wharf	£2,306. 8. 1,896.14.	
Inflammable Liquids Wharf Dyke End Wharf	604. 5.	6
Silo Wharf No. 2	1,381.12.	
Newcastle and Hunter River S.S. Co's Wharf North Coast Co's Wharf	841. 1. 98. 8.	
TOTAL:	£7,380. 2.	0

Total expenditure on maintenance of wharves and plant was £13,498.18. 5.

Lee Wharf Further Extension: Completed on 4/7/41 and put into commission £7,076.14. 1.

Wallis Creek Floodgates: Construction including earthworks, approach channels and manufacture and fitting of ten timber gates £2,991. 5. 0.

Air Raid Shelters:

Covered trenches and "Anderson" shelters in course of construction in 23 State schools in the Newcastle area providing accommodation for 4,250 pupils. Materials are being provided for 6 denominational schools.

LAKE MACQUARTE

Dredge "Latona" removed 57,250 tons of sand from the bar and crossing £2,251.17. 1.

HAWKESBURY RIVER

Brisbane Water: Channels dredged at Lintern Street Wharf, Restwell Jetty and Blackwall Point, 30,326 tons of material being pumped ashore by dredge "Swansea" .. £2,866.17.10.

Little Patonga: Jetty 90 ft. long and 6 ft. wide with landing stage was constructed at the National Fitness Camp £1,110.16. 0.

SYDNEY HARBOUR

Hawthorne Canal: Two coffer dams approximately 300 ft. long constructed and one section of concrete invert poured. Concrete wall slabs precast and placed in position £10,895.16.11.

Dobroyd Parade: Ballasting and kerbing roadway between Mortley Avenue and Hawthorne Parade continued. Kerb, guttering ballasting and drainage of the section between Paramatta Road and Ramsay Road commenced £9,813. 2. 7.

Dobroyd Reclamation: Ballasted roadway across reclamation £780. 2. 1. penetrated and sealed

Dredging continued throughout the year under contract £3,386.13. 2.

Leichhardt Park: Retaining wall continued and grading and levelling of reclamation commenced. Concrete pavement along edge of wall carried out. Construction of roadway from Funicipal Bath to Augustus Street to connect existing park roads partially completed £2,848.13. 3.

Callan Park: Reconstruction of sea wall continued.

Swimming pool remodelled £3,383.16. 8.

Parramatta River Improvements: Principal work was part construction of dam at Charles Street. Two acres of river bed between Marsden Street and Lennox Street bridge cleared of debris. Removal of existing dam commenced £4,801.17.11.

Sydney Harbour, Graving Dock:

Construction continued under the joint operations of the Maritime Services Board and the Public Works Department; coffer dam completed and dewatering commenced on 19/2/42 and completed on 2/4/42; the Metropolitan Water Board then commenced excavation of the area.

The Graving Dock Committee comprising

Mr. M.W. Mehaffey (Chairman), Acting Director-General of Works,

Mr. M.W. Mehaffey (Chairman), Acting Director-General of Works,
Department of the Interior, Commonwealth Government,
Mr. H.F. Searl, Principal Engineer, Harbours and Rivers,
Public Works Department,
Mr. S.W. Jones, Principal Engineer, Water Supply and Sewerage,
Public Works Department,
Mr. A.J. Debenham, Engineer-in-Chief, Maritime Services Board,
Mr. S.T. Farnsworth, Chief Engineer, Metropolitan Water Sewerage
and Drainage Board,

met regularly in a supervisory capacity over the operations of the various instrumentalities charged with the responsibility of carrying out the work.

This Department's direct activities were confined to the winning of spalls from the Balls Head Quarry for the construction of the coffer dam walls. During the year 386,313 cubic yards of spalls and 35,913 cubic yards of quarry refuse were quarried and transported to the graving dock for the construction of the coffer dam, reclamation, embankments and approaches to the fitting-out wharf. Quarrying operations were completed on 1/7/42.

Direct expenditure by the Public Works Department for supply of spalls and transporting from Balls Head Quarry

£261,258. 0. 8

2. Expenditure by the Maritime Services Board on construction of the coffer dam. £229,861. 9.10

£491,119.10. 6

BOTANY BAY

Cook's River Improvements: Work continued downstream to River Street, Canterbury, with the exception of a section 300 ft. long near Canterbury Road bridge. Work consisted of re-aligning, widening, concrete lining of banks and grading of main channel for a length of 1,700 ft. Surplus spoil used to reclaim adjacent low lying areas. Extension of footbridge at Charles Street completed £20,832.16. 1.

Cook's River Training Walls: Work continued and 1,150 ft. of wall reconstructed. Erosion behind walls repaired with material excavated from river bed. Four flood gates on Cook's River and £3,590. 0. 0. Shea's Creek repaired

Carss Park Reclamation: Sea wall along southern side of baths reconstructed. Reclamation commenced by dredge "Macksville". £2,300.13.11.

Shea's Creek: The suction dredge "Gosford" and grab dredge "Come" worked in conjunction in dredging Shea's Creek Canal.

A quantity of 59,800 tons of material removed by dredge "Como" from the canal; 26,271 tons of material pumped ashore near Mt. Frome Lime Works to reclaim Departmental land £5,836. 4. 6.

Cook's River: Dredge "Gosford" pumped ashore 45,372 tons to the Recreation Reserve £2,705. 3.10.

Dredge "Cook's River" commissioned during year and dredging commenced above Tempe road bridge for the purpose of deepening the river; dredged material amounting to 2,799 tons pumped ashore to £688.14. 2. low lying land

Carss Park Reclamation: Dredge "Macksville" commenced dredging and reclamation; 1,400 tons of material pumped ashore. £1,562.11. 8.

PORT HACKING

National Park Baths: A timber foot bridge 200 ft. long erected across Fort Hacking River about 1,000 ft. downstream from Audley Causeway; proposed to suspend shark-proof net to form bathing enclosure. Upstream from foot bridge an artificial beach constructed to provide for safe bathing by small children. A light traffic road constructed from the causeway to bathing area £3,923. 3. 9.

FORT KENBLA

Eastern Breakwater: Bull end widened and extended 50 ft. to chainage 3,729 ft but subsequently reduced by a storm to 3,712 ft.; 12,108 tens of stone placed. Total quantity of stone now placed in breakwater is 1,418,434 tens at a cost of £601,701.10.0. Expenditure on construction £13,380. 6. 8.

Quarry Output: Total stone quarried at Cillen's Hill Quarry was 37,947 tons costing £14,501. 1. 7 at a unit rate of 7/8.09 per ton.

Output was distributed as follows:-

Eastern Breakwater Construction Spalls to Quarries Ltd. Spalls and Spoil to Approaches to Nos. 3 and 4 Jetties

12,108 tons, 31.91% 18,546 tons, 48.87%

7,293 tons, 19.22%

TOTAL:

37,947 tons

Total output from quarry since serviceable stone was first available is 1,174,957 tons costing £296,553. 8. 1 at a unit rate of 60.56d. per ton.

No. 3 New Jetty: This jetty was completed in September 1941 and placed in commission. Expenditure (including cost of dismentling old jetty) ... £33,702. 8.11.

No. 3 Old Jetty: Jetty placed out of use and partially dismantled ... £1,199. 8. 3.

of the electrical equipment .. El, Oll. 1. 6.

Mo. 4 Jetty: Repairs to fenders and installation of new type

Fire Protection of Jetties: Fire equipment has been provided at all jetties and a Departmental Volunteer Fire Fighting Squad formed and trained.

Haulage and Shipment: An additional locomotive, No. 81, was purchased from the South Maitland Railways Pty. Ltd., overhauled and placed in commission.

Revenue £54,803. 0. 0. Expenditure £54,460. 0. 0.

Pacilities for Waterside Workers: Mess rooms, ambulance rooms and offices etc., were built at Nos. 1, 3 and 4 jetties. £3,335. 7. 4.

Crockhaven River: Dredge "Antleon" removed 5,000 tons of material from the channels at Greenwell Point £1,094. 15. 0.

Bateman's Bay: Bar dredges "Antleon" and "Latona" removed 53,000 tons of sand from the entrance .. £3,548. 5. 1.

Moruya River: Bar dredges "Antleon" and "Latona" removed 104,000 tons of sand from the channel crossing £13,567.11. 4.

Dermagui Jetty: Renewals carried out of seven piles and 4,400 sup. ft. of decking etc. .. £562. 6. 9.

Merimbula Jetty: Three piles, 7,200 sup. ft. of decking renewed etc. £464. 7. 5.

DOCES: MAINTENANCE AND TRANSACTIONS

Rivers satisfactorily maintained .. £1,509.11. 5.

Transactions as follows:-

		Ashby Dock, Clarence River.		Rileys Hill Dock, Rich- mond River.	Terranora Dock, Tweed River.	
	Government vessels	2		3 ^x	nil	
	Gross tonnage	373		160	nil	
	Private vessels	2		nil	1	
	Gross Tonnage	192		nil	50	
	Dock dues, etc.	£241. 0.	0	£45.11. 3 ×	£13. 2. 6	
ø	Expenditure on docking private vessels	£94.15.	8		£12.18.10	
	Dock maintenance costs	£378.10.	7	£628.17. 2	£502. 3. 8	

Amounts repaid to Department by owners

**Department Main Roads - 3 ferries

WALSH ISLAND (NEWCASTLE) GOVERNMENT DOCKYARD: PLOATING DOCK

The Government Dockyard and Floating Dock were handed over to the Government Engineering and Shipbuilding Undertaking on 1/3/42.

Floating Dock: It was decided on 26/5/41 to join the sections of the dock to make one unit and to dredge the dock basin to provide for the docking of vessels having a draft of 26 ft. but owing to the heavy silting experienced at Walsh Island the dredging was limited to provide for a draft of 20 ft. Preparation of a site at Carrington was commenced.

The joining of the sections of the dock and mooring by chain etc. at Walsh Island was completed by the end of 1941. At 30/6/42 approximately half the dredging was completed at the Carrington site, much of the material being deposited ashore as reclamation.

Total Expenditure chargeable to Commonwealth Government

Walsh Island site, joining dock, dredging, etc. £52,342. 0. 0

Carrington site dredging, reclamation, etc. 7.975. 0. 0

£60,317. 0. 0

Floating Dock:

Revenue received for hirings £8,485. 9. 4 Expenditure of dockings 1,382.14. 9 Maintenance cost (excluding insurance) 5,650.15.10

Slipways:

Revenue received for hirings £1,036. 5. 0
Expenditure of slipping 137. 0.10
Maintenance cost (excluding insurance) 2,276. 0.10

Vessels docked or slipped:

	No. of vessels docked			No. of vessels slipped			
	Small Unit	Combined Dock	Gross Tonnage	Number	Gross Tonnage	Totals	
Govt. vessels	5	nil	2,387	10	2,032	15	4,419
Private vessels	2	nil	1,104	5	1,112		
do.	-	46	238,358	-	-	53	240,574
TOTALS	7	46	241,849	15	3,144	68	244,993

SWAMP DRAINAGE

There were 45 Drainage Unions and 13 Drainage Trusts at 30/6/42, including one newly constituted, Condong Drainage Union, and two Unions not functioning, viz., Kiss Lagoon and Taloumbi Swamp.

By reason of repayment of capital debt, six Trusts became Unions, viz.

Anna Bay, Hinton Swamp, Martin Swamp, Shark Creek Swamp, Swampy Creek and Louth Park.

The boundaries of the following Unions were altered:-

Bolwarra (additional lands included) and Duranbah Swamp (lands excised).

The Myocum Swamp Drainage Union was dissolved by proclamation.

Enquiries under Section 58 of the Drainage Act were held in the case of Newrybar Swamp and Mooball and Crabbes Creek Drainage Trusts.

Proposals for the constitution of new Unions to be named Breakfast Plains and Tyagarah Swamp Drainage Unions are under consideration.

SURVICES FOR OTHER DEPARTMENTS

Mines Department (Explosives Branch):

Moorings of Public Magazine at Fullerton Cove (Newcastle) overhauled.

Maritime Services Board:

General maintenance of wharf and jetty appurtenances at ports other than Sydney, construction and maintenance of floating oil booms, flood-lighting of Lee Wharf and reconstruction of the lifeboat slipway at Newcastle.

Department of Main Roads:

Surveys, investigations and supervision of roads, bridges and ferries in the Western Division.

Department of Lands:

Investigations and inspections concerning leases, special purchases and permissive occupancies.

Water Conservation and Irrigation Commission:

Inspections in connection with Water Rights applications.

Commonwealth Government:

Coastal defence works.

COASTAL CAMPING RESERVES

The programme of improvements to 19 Coastal Camping Reserves was continued, the completed works including 6 reinforced concrete water tanks of 20,000 gallons capacity each, 39 closet blocks and 2 dressing sheds.

36.

APPENDIX IV

WATER SUPPLY AND SEWERAGE

The greater part of the activities in this regard have been concerned with works for the Commonwealth Government, many of which were of considerable magnitude. In addition, much valuable information was supplied to the Australian Military Forces and the Royal Australian Air Force for use in intelligence work and in case of emergency.

The Department has continued to exercise overriding supervision of works constructed by councils under the provisions of the Local Government Act, but much work is now being performed direct for councils in the way of investigation, design and construction. Notwithstanding the priority demands of the Defence Authorities on personnel, plant and organization, the Department carried out a large volume of civil works, often under heavy disadvantages in obtaining labour and materials.

Excluding the Sydney and Newcastle metropolitan area, there are now 164 towns and villages in the State served with reticulated water supplies and 56 towns with sewerage systems, an increase of 17 water supplies and one sewerage system. Among the water supplies there are 51 towns which have filtered or treated supplies. There are also 7 new water supplies, 5 new sewerages, and several augmentations and improvements under construction.

JUNEE WATER SUPPLY AND SOUTH WEST TABLELANDS WATER SUPPLY

The head works and trunk distribution systems of these two separate water supplies are administered by the Department, water being supplied at 1/6d. per thousand gallons to the Municipality and the Department of Railways in the case of Junee; a wide area of towns and rural consumers is served by the South West Tablelands scheme, the rate of purchase being the same as at Junee.

COUNTRY TOWNS WATER SUPPLIES Works completed by the Department

Bourke: Removal of collapsible wickets from existing structure and construction of concrete gravity weir about eleven feet high on existing foundations to form storage reservoir for augmenting town supply.

Broken Hill; Additional concrete service reservoir with capacity of one million gallons.

Additional booster plant in service at Mica Street.

Katoomba: Construction of concrete dam across Greaves Creek to form storage reservoir for augmentation of town supply.

South West Tablelands: Extensions to reticulation at Cootamundra, Jugiong, Temora and West Wyalong. Additional deserator units at Jugiong.

Works completed by Councils with overriding Departmental Supervision

Casino: Improvements to existing supply, consisting of new service reservoir, extensions to reticulation, filtration plant and pumping machinery.

Corowa: Additional service reservoir.

Lismore: Extensions to reticulation and new service reservoir.

Mullumbimby: New scheme, including gravitation main from Wilson's Creek, filtration plant and town reticulation.

Institutions

Kermore Mental Hospital: 6in. rising main from Wollondilly River.

Morisset Mental Hospital: 8in. gravitation main and details to
connect hospital.

National Fitness Camps: Works at Lake Macquarie and Patonga.

Works under Construction by the Department

Baradine: New supply.

Binnaway: New supply.

Broken Hill: Filtration, duplication of pumping machinery at Stephens Creek and renewals to reticulation.

Dubbo: Concrete weir.

Forbes: Filtration.

Jerilderie: Timber and rock crib weir.

Menindee: Two timber and rock crib weirs.

Narromine: Timber and rock crib weir.

Peak Hill: Augmentation including filtration.

Portland: Augmentation from bore in Back Creek.

Wilcannia: Timber and rock crib weir.

Works under Construction by Councils

Adelong: Supply from Adelong Creek.

Armidale: Augmentation from Gara River and filtration.

Finley: Filtered supply from Berriquin main irrigation canal.

Gloucester: Augmentation from Barrington River.

Gunnedah: New rising main and extensions to the reticulation.

Inverell: Augmentation from Macintyre River and filtration.

Lecton: Filtration.

Narrabri: Additional bore.

Northern Riverina: District scheme; partial supply to several towns.

Nyngan: Augmentation from Macquarie River and filtration.

Southern Riverina: District scheme; supply to The Rock and Uranquinty.

Uralla: Filtered supply from Kentucky Creek.

District Hospitals

Pambula District Hospital, and water treatment plants at Bathurst and Narrabri.

Investigation

District Schemes: Further investigation: District schemes for Central Tablelands, Fish River, Imlay Shire, Lower Blue Mountains and Lower Manning.

New Schemes: Baradine, Binnaway, Braidwood, Captain's Flat, Cobargo, Glen Davis, Hill End, Marangarell, Millthorpe, Ungarie, Uralla and Walcha.

Augmentations: Armidale, Bathurst, Berry, Blackheath, Blayney, Bowral, Gundagai, Katoomba, Kiama, Lithgow, Molong, Muswellbrook, Peak Hill, Quirindi, Scone, Wentworth Falls.

Committees etc.: Reports on catchment areas, rainfall data, erosion and silting. Proposals investigated in 15 towns for manufacture of power alcohol.

SEWERAGE

Improvements to existing sewerage systems were effected at Bathurst, Goulburn and Lismore.

Works Completed

Bourke District Hospital: New treatment works.

Kenmore Mental Hospital: Sewerage system, including reticulation, pumping machinery and treatment works.

Macarthur Memorial Agricultural School: New treatment works.

Works under Construction

Broken Hill: As constructing authority for the Broken Hill Water Board, the Department has laid 29,000 lineal feet of pipes bringing the total length of reticulation to 37% miles. The first section of the treatment works and one pumping station were completed and put into operation, thus making the sewerage system available to 3,000 tenements.

Kyogle: The Department is constructing the reticulation and a contract is in progress for the treatment works.

There are three new schemes under construction by councils with departmental overriding supervision. Kempsey is nearing completion, X and pumping machinery is awaited at Gunnedah and Narrabri.

Additional imhoff tank unit and filter bed are being added to treatment works at Dubbo.

Investigations

Reports furnished on proposals for joint scheme at Coolangatta, Queensland, and Tweed Heads and new scheme at Tocumwal.

Investigation made into effluent disposal at Cooma and augmentation to treatment works at Temora.

WATER SUPPLY AND SEWERAGE: PURIFICATION AND TREATMENT

Water Supply

Towns.

Investigation into filtration plant at Forbes and extensions to filtration plant at Broken Hill.

New filtration plants inspected and placed in operation at Casino, Condobolin, Griffith and Yenda.

Institutions.

District Hospitals: Investigation into provision of water supplies at Gundagal, Fort Macquarie (Hastings District), and Ryde, and water treatment plants at Barraba, Delegate (Cottage) and Tamworth (Base). Water treatment plants placed in operation at Cowra and Merriwa.

Schools etc.: Water treatment plant in operation at Farrer Memorial High School, Tamworth. Investigation made into plants for Armidale Teachers' College and Gosford Farm Home.

Sewerage

Towns.

Tenders called for construction of chlorinator and effluent disposal works at Murrumburrah-Harden.

Inspection made of the operation at 45 towns where sewerage systems are in operation.

Institutions.

District Hospitals: Reports on proposals for installations at Eurrowa, Gulgong and Inverell.

Construction of installations completed at Illawarra (Cottage) and Portland and works placed in operation.

STORMWATER DRAINAGE

Under the provisions of the Public Works (Stormwater Channels Vesting) Act, 1941, a committee was constituted for the purpose of recommending to the Minister the authority to be vested with the future control of many stormwater channels constructed by the Department of Public Works over a period of years.

Investigations were made into location and design of Wolli Creek extension and Bunnerong Creek extension.

Works Constructed

Clay Cliff Creek: Extension of drainage work in Holroyd Municipality.

Coopers Creek: Extension of drainage work in Blacktown Shire and Holroyd Municipality.

Cup and Saucer Creek: Extension of drainage work in Canterbury Municipality.

Daceyville: Drainage of Crown Lands Subdivision.

Duck Creek: Extension of drainage in Granville.

Matraville South: Drainage for South Matraville Crown Lands Improvement Scheme.

Pagewood: Extension of work in Botany Municipality.

Sefton Park: Restoration of road surface in Woods Road, Bankstown

Toongabbie Creek: Extension to previous work.

Wolli Creek: Improvements and extensions to previous work.

RIVER MURRAY WATERS ACT

The following works previously constructed by this Department have been maintained, operated and controlled during the year, in terms of the River Murray Waters legislation, under which these responsibilities are vested in the Minister for Public Works as Constructing Authority.

Murray River:

Hume Reservoir (N.S.W. Section)
Lock 10, Wentworth
Lock 15, Euston

Murrumbidgee River:

Weir No. 5, Redbank Weir No. 7, Maude

APPENDIX V

ARCHITECTURAL AND PUBLIC BUILDINGS

The main characteristics which governed these operations during the period 1940-41 are evidenced this year. Further, the Commonwealth Authorities have extensively availed themselves of the services of this Department in connection with defence works. The Housing Commission has also been similarly served in implementing its policy of providing homes in country centres, whilst the usual help has been extended the Hospitals Commission and Department of Education in giving effect to their respective building programmes.

SUBSIDISED HOSPITAL WORKS

Contracts Let

Balmain District Hospital:

Erection and completion of a new ward block, together with temporary office and covered way linking up with the existing buildings.

The building forms the first section of the future development of this Hospital which will be four storeys in height.

Building contract

£35,404. 0. 0

Sub-contracts for engineering services

2,878. 0. 0

£38,282. 0. 0

Bathurst District Hospital:

Erection and completion of new building, also isolation block and new nursing staff quarters

Building contract

£30,633. 0. 0

Sub-contracts for engineering services (steam raising plant, steam and hot water services, laundry equipment and water softening plant)

11,881. 0. 0

£42,514. 0. 0

Ryde District Hospital:

Erection and completion of a single storey brick building as a children's ward unit; accommodation also for 14 beds together with all necessary service rooms and verandahs.

Before completion it was decided to erect two further storeys in order to give an ultimate bed capacity of 42.

The original contracts

Building work

£5,146. 0. 0

Stores

134. 0. 0

Engineering services 755. 0. 0

£6,035. 0. 0

Anticipated total expenditure

£20,539. 0. 0.

Canterbury District Hospital:

- 1. Nurses Quarters. Two storey brick building.
- 2. Paying Unit. Single storey designed to take second storey.
- 3. Ward Extension and Kitchen Block additions etc.

Building contract

£27,927. 0. 0

Sub-contracts for engineering services

4,554. 0. 0

£32,481. 0. 0

Nyngan District Hospital:

Erection of new paying unit, additions to nurses quarters, alterations and additions to main hospital and to isolation block, new boiler house and laundry, water filtration plant, septic tank and all essential services.

Building contract Engineering services £9,246. 0. 0

2,388. 0. 0

£11,634. 0. 0

Braidwood Hospital:

Alterations and additions

£10,942. 0. 0.

Wyalong District Hospital:

New quarters for nurses

£10,800. 0. 0.

Sketch Proposals

Lismore Base Hospital:

Amended developmental scheme providing accommodation for 131 patients

£104,855. 0. 0.

Temporary maternity and paying units for 19 beds to be converted at a future date into domestic staff quarters

£6,140. 0. 0.

Nambucca District Hemorial Hospital:

Amended scheme for new hospital block to provide bed accommodation for 29 patients with all required service rooms £32,777. 0. 0.

Lower Clarence District Hospital:

Proposed new buildings

£19,240. 0. 0.

Newcastle - Western Suburbs Maternity Hospital and Benevolent Home:

Remodelling of ward accommodation and erection of new quarters for nurses £15,045. 0. 0.

Coffs Harbour District Hospital:

Improvements and additions providing for intermediate wards (8 beds), extensions to domestics quarters, new nurses home £10,100. 0. 0.

Stockton Mental Hospital:

Proposed evacuation of patients to Wyee necessitating removal and re-erection of buildings, new structures, etc. £33,610. 0. 0.

Callan Park Mental Hospital:

Repatriation block, providing accommodation for 62 patients in 4 dormitories together with day and dining rooms, etc. £22,600. 0. 0.

EDUCATION DEPARTMENT WORKS

Contracts in Hand

Bondi Domestic Science School:

This work progressed until the roof was placed on the building when, owing to difficulty experienced in obtaining materials and man-power, it was decided to close down the work which was about 40 per cent complete.

£59,866. 0. 0. cent complete

Drummoyne Intermediate High School:

New buildings

225,384. 0. 0.

Albury Public School:

New infants' building

£22,490. 0. 0.

East Maitland Boys' High School: New building and alterations to existing

£40,941. 0. 0.

Griffith Intermediate High School:

New infants! building

£13,500. 0. 0.

Fort Street:

building

New primary school building

£11,800. 0. 0.

Kingsgrove Public School:

New infants' building

£5,150. 0. 0.

Working Drawings

Wollongong Technical College: Proposed new workshops.

Provision of engineering workshop etc. £26,400. 0. 0.

Granville Technical College:

First section two mechanical engineering workshops etc. Building designed to take two additional floors. £19,800. 0. 0. Initial unit

Sydney Technical College (St. George Branch):

Engineering workshop forming addition to present £13,200. 0. 0. College buildings

Sketch Plans

Wagga Wagga Technical College:

Amended developmental scheme

£81,682. O. O.

Hurstville Central Domestic Science School, Penshurst:

New building planned in three main wings £64,883. 0. 0.

Kogarah Central Domestic Science School:

Remodelling of general accommodation with additions £53,750. 0. 0.

Bingara Public School:

Amended scheme for new buildings

£23,148. 0. 0.

Ramsgate Public School:

Additions (amended scheme)

£10,650. 0. 0.

MISCELLANEOUS WORKS

Schemes for Relieving the Housing Problem.

In co-operation with the Commonwealth Government, further schemes for relieving the housing problem, in addition to accommodation for munition workers, have been undertaken at Lithgow, Orange and Bathurst.

Lithgow: Following on the work carried out last year the Commonwealth Government decided to add to the Men's Hostel by erecting an additional 120 cottages. With the addition to the Hostel, accommodation is now available for 608 men, with appropriate additions to the administrative block and kitchen.

Orange: One hundred permanent homes have been erected consisting in each case of living room, dining room, 3 bedrooms (in a few cases 2 bedrooms) kitchen recess, bathroom and laundry. Gas and electricity is installed in each case.

Bathurst: At this centre 95 permanent homes have been built of wood frame structure on brick base with similar facilities to those at Grange.

Engineering and Shipbuilding Undertaking, Newcastle.

Working drawings were prepared and construction commenced as follows:-

- 1. Administrative Building. Two storeys in brick with concrete floor and flat roof.
 - (a) Ground Floor. General offices, strong rooms, kitchen and staff luncheon room.
 - (b) First Floor. Director's office, Secretary's office, board room, drawing office, senior staff luncheon room, blue print and drawing service and strong rooms.

Estimated cost

£18,500, 0. 0.

2. Workmen's Accommodation. One storey, one section in brick finished with covered in deck, the other section in timber construction; dining room, canteen, showers and basins and necessary toilets; hot and cold water installed.

Estimated cost

£6,500. O. O.

Bodington Red Cross Sanatorium, Wentworth Falls.

Plans and specifications prepared and contract entered into for renovations, painting and additions Ell,987. 0. 0.

Registrar General's Building.

Plans and specifications prepared and contract entered into for the erection of the basement section of the northern wing; the ultimate building will be the same height as the existing structure and will harmonize in design £10,750. 0. 0.

Police Boys Club, Redfern.

New club premises will be situated on the site of the old Fish Market; the buildings will be one and two storeys in height, of brick construction £13,000. 0. 0.

NATIONAL EMERGENCY SERVICES

Work has been carried out in accordance with the Air Reid Shelter Code for roof spetter posts at Public Buildings and for the construction of air raid shelters. Black-out and glass protection work is also in hand. Considerable protection work has been carried out in hospitals and schools. The work involved comprises, i.e., Strengthening of buildings, protection of valuable equipment, black-out and glass protection, shelter, trench and first aid post protection. Schemes for protection of the "floating population" are proceeding in Sydney, Newcastle and Wollongong-Port Kembla areas, providing for protection of a total of 94,390 persons. Control centres have been designed and constructed in many places in the Metropolitan area. The Department has continued to furnish technical advice to practicing architects and engineers and the general public on the design and construction of air raid shelters.

PUBLIC LIBRARY OF NEW SOUTH WALES

The extensions and alterations to this fine building have been completed at a cost in the vicinity of £215,000. 0. 0.

UNEMPLOYED RELIEF WORKS

An amount of £35,500.0.0 was expended in the Newcastle area in undertaking repairs and renovations at Stockton Mental Hospital, Newcastle Mental Hospital, Newcastle Morgue and various Police Stations and Court Houses.

HOMES FOR UNEMPLOYED TRUST

Contracts were entered into for 29 new homes at a total cost of £8,715. 0. 0.

APPENDIX VI

LOCAL GOVERNMENT ENGINEERING AND DEFENCE WORKS CO-ORDINATION

DEFENCE WORKS

The defence works programme entrusted to the Department has been prosecuted with the utmost vigour. Works mentioned in last years report such as munition factories, aerodromes, military camps, prisoner-of-war camps, petrol storage dumps and seaplane bases are still under construction. Additional works in hand are:

Naval Depot:- Roads, fencing, drains and walls.

Bulk Stores:- Preparation of sites, roads, water supply and erection of building for five stores.

Coastal Defences:- Anti aircraft gun emplacements, command posts, underground tanks, ammunition shelters, camouflage works, anti tank defences, anti submarine defences and coastal battery.

ROAD AND GENERAL IMPROVEMENTS

Pagewood Subdivision Roads:

Reconditioning and construction of subdivision roads £15,851. 8. 0.

Royal Prince Alfred Hospital: Susan Street Extension:

Concrete road in connection with erection of King George V Memorial Hospital £1,944. 5. 3.

Randwick Auxiliary Hospital:

Grading, levelling, turfing, approximately 30,000 sq. ft., and road work £1,176. 2. 3.

Maroubra Speedway Grading - Levelling and Drainage:

Approximately 114,724 cub. yds.

£35,808.15. 0.

MAINTENANCE AND FINAL INSPECTIONS OF LOCAL GOVERNMENT WORKS

Owing to the volume of defence works the usual periodic inspections were not possible but several inspections carried out revealed that the works have been completed or maintained satisfactorily.

FLOOD DAMAGE

Inspections showed that works undertaken by Councils on account of flood damage have been mostly finished and satisfactorily executed. The damage mostly comprised wash-out causeways, demolition of bridges, destruction of pavement, formation work and pipe culverts etc.

SURVEY

Over twenty survey parties have been kept engaged fully on engineering and property surveys, the major proportion of the surveys being in connection with the establishment of defence projects widely dispersed throughout the State.

Departmental surveys included the following:-

Water supply investigations for the supply of water to Glen
Davis and a full survey for a pipe line from Oberon to Glen Davis with
a branch line to serve Lithgow. Data in connection with the underground water resources of the Botany and Sans Souci sand beds.

The ultimate outlet for the supply of electricity from the Fort Kembla power house and power line locations westerly to Cobblers Hill. Surveys for a duplicate supply to Wollongong and for supplies to defence establishments.

The set out of the buildings for the Engineering and Shipbuilding works at Newcastle together with surveys for the relocation of the Newcastle Floating Dock.

Housing investigations between Parramatta and Penrith and subdivision surveys for housing purposes at Bathurst, Orange, Lithgow, Unanderra and St. Marys.

The location of a further extension of the improvements to Cooks River and surveys of Welli Creek with a view to its ultimate realignment and construction as a stormwater channel from Bardwell Park to Cooks River.

Property surveys relating to metropolitan stormwater drainage works and resumption surveys in reference to Macleay River Bank Protection at Jerseyville, Crooked River Road, Yarrawonga Weir, Sydney-Port Kembla Electricity Transmission Line and 132 kV Interconnector (Port Kembla-Goulburn). Surveys in connection with lands vested in the Minister and for resumptions and easements for Departmental works.

APPENDIX VII

ENGINEERING DESIGN

Work done has involved many estimates, requisitions, drawings, apecifications, reviews, investigations, inspections, reporting on tenders and quotations, recommendations and miscellaneous matters.

Much design work has been undertaken in connection with projects of water supply, sewerage, sullage and stormwater drainage for R.A.A.F. schools, aerodromes, military camps and other establishments connected with the war effort. The individual works are not specified.

The principal design work done by the Department is as follows:-

BRIDGES

Examination and reports for the Councils of the following Municipalities or Shires:-

Blaxland
Bolwarra
Boolooroo
Deniliquin
Dumaresq
Ermington and Rydalmere
Gulgong
Hume
Kearsley
Lake Macquarie
Manning

Macquarie
Macleay
Merriwa
Mulwarree
Queanbeyan
Rockdale
Tumbarumba
Wallarobba
Waverley
Yanco

HARBOUR WORKS

Drawings, estimates and specifications:-

Floating Dock, Newcastle, No. 3 anchorage.

Jetty extension and crane equipment at Timber Storage Depot,

Coffs Harbour.

Fitting-out wharf at Newcastle for the Engineering and Shipbuilding Undertaking.

Preliminary designs and estimates:-

Site for Floating Dock at Carrington.
Silo wharf at Newcastle.
Layout of wharves, buildings and slips for the Dredge Service at Carrington.
Slipways of 300 and 900 tens at Carrington.

Inspections:

Periodic inspections at Clyde Engineering Co. Ltd. of the 20 and 5 ton electric cranes for Port Kembla.

WATER SUPPLY

Departmental Works:

(a) Plans, specifications and estimates and/or reports for augmentations or existing works:-

Aberdeen, Armidale, Bathurst, Bourke, Broken Hill, Cobar, Dubbo, Forbes, Hastings District Hospital, Jerilderie, Lithgow, Menindee, Morisset Mental Hospital, Pambula District Hospital, Peak Hill, South West Tablelands, Wilcannia.

(b) Contract plans and specifications for pumping machinery:Armidale, Broken Hill.

Subsidised Works - Reviews:

Reports and/or estimates and/or plans and specifications submitted by Consulting Engineers for Councils or by the Councils themselves:-

Cooma, Bowral, Gulgong, Gundagai, Bomaderry, Boggabri, Gloucester, Tweed Heads, Condobolin, Gunnedah, Griffith, Central Blue Mountain Villages, Central Tablelands, Lower Blue Mountain Villages, Northern Riverina, Central Tablelands, Southern Riverina, Uralla.

SEWERAGE

Departmental Works:

Plans, specifications and estimates and/or reports:-

Bombala District Hospital, Bourke District Hospital, Broken Hill Sewerage, Griffith School, Pambula District Hospital, Patonga National Fitness Camp.

Subsidised Works:

Reports and/or estimates and/or plans and specifications submitted by Consulting Engineers for Councils or by Councils themselves:-

Dungog, Goulburn, Gosford, Grafton City, Gunnedah, Junee, Kyogle, Mittagong, Murrumburrah-Harden, Muswellbrook, Singleton, South Grafton, Tumut, Narrabri.

Plans and/or specifications for pumping machinery:-Bourke District Hospital, Walgett District Hospital.

STORMWATER DRAINAGE

Departmental Works:

(a) Plans for:-

A'Becketts Creek, Boronia Park, Clay Cliff Creek, Cooks River Improvements, Goopers Creek, Cup and Saucer Creek, Duck Creek, Finlaysons Creek, Hawthorne Canal, Lachlan Swamp, Parramatta River, Tuckombil Flood Escape and Weir, Wolli Creek.

(b) Plans and estimates for bridges and culverts:-

Beverley Hills, Canterbury Road, Fauna Street, Georges River, Henley Park, Vanessa Street.

Subsidised Works:

Plans, specifications and estimates submitted by Councils in connection with drainage schemes:-

City of Grafton, Granville, Lismore.

ELECTRICAL

- (a) For the National Emergency Services drawings and specifications for air raid sirens and control equipment.
- (b) For the Ministry of Munitions drawings and/or specifications for equipment.
- (c) For the Emergency Electrical Control Committee operating diagrams of sections of the Southern Electricity Supply.

Departmental Works:

Southern Electricity Supply.

Design, specification, etc.

Burrinjuck Power Stations.

Remote Control Catenary Cables between No. 2 power station in Burrinjuck sub-station; 6.6 kV take-off tower at No. 2 power station.

Tail race at No. 2 power station; protection of pipe line to No. 1 power station.

Burrinjuck Sub-station.

Main control switchboard; medium pressure distribution board; control of sub-station together with remote control of No. 1 and No. 2 power stations from the 132 kV sub-station; 132 kV and 66 kV bus structures airlines and compressors, oil services, liquid earthing resistances.

Control Station, Goulburn.

Installation of equipment in the control station; lightning arresters and 50 ton lifting structure foundations.

Cowra Sub-station.

Material for 66 kV 11 kV sub-station.

Port Kembla Power Station.

6.6 kV and 66 kV control panels, Sydney-Port Kembla Inter-connector; are suppression coil panel; installation of No. 8 Turbo-alternator; boiler plant; soot blower valves for economizers, cooling water booster system, ash removal schemes for No. 8 boiler.

Fort Kembla Sub-station.

66 kV switching arrangement and foundations for 66 kV are suppression coil neutral earthing compensator, control cubicle for transformer regulator and for lightning arresters.

Transmission Line Section.

- Sydney-Port Kembla 66 kV Interconnector. (1)
- Cowra-Orange 66 kV Transmission Line.
- (2) (3) (4) Western 33 kV Transmission Line from Port Kembla to Cordeaux Dam.
- Wasga-The Rock 22 kV system and a tap line to Uranquinty.
- Burrinjuck Power Station area 6.6 and 66 kV Interconnecting lines (5) between the two Power Stations and the Sub-station and extension to the existing outgoing 66 kV lines.
- Camden to Narellan. (6)
- (7)
- Douglas Fark Reticulation 11 kV. Wollongong 6.6 kV duplicate feeders. (8)

Yanco Power Station.

Replacement of old equipment with new metal clad switchgear for the power station and the adjacent sub-station; extensions to power station building; sub-station control building; re-arrangement and extensions to main control switchboard.

SPECIAL INVESTIGATION

Munition factories, Shipbuilding Undertaking, Newcastle, gun emplacements, N.E.S. control centres and strengthening of Government buildings in connection with A.R.P.

Structural Design and Investigation:

The Aero and Hydro Dynamics Laboratories and Wind Tunnel for University of Sydney.

New Veterinary Science Building, University of Sydney.

Administrative Building, Government Engineering and Shipbuilding Undertaking, Newcastle.

Parramatta District Hospital.

St. Catherines and Sacred Heart Hospital, Cootamundra.

Narrabri District Hospital.

Schools at Bondi, Glen Innes and East Maitland.

APPENDIX VIII

SURVEY DRAFTING

General survey drafting, recording, heliographing, photostatcopying, plan mounting and plan registration were carried out in connection with the following types of work:-

Type of Work	Number of I 1940-41	
Country Towns Sewerage	12	1
Country Towns Water Supplies	39	20
Stormwater Channels Stormwater Channels Vesting Act, 1941	14	26 25 13 3 8 9 8 6 4 41 9
Harbours and Rivers	11	13
Roads	8	5
Electrical Construction Port Kembla	9	9
Glen Davis	9 8 3	8
River Murray Waters Act	3	6
Swamp Drainages	28	41
Naval and Military Defence Works National Emergency Services	5	9
Authorisation Descriptions	16	13
Local Government Nunicipal Maps	7	
Education: School Sites - Plans and Schedules	130	79
Local Government:		
Alterations to boundaries of Constituted Areas	43 16	13
Urban and Building Areas Residential Districts	54	41
Electrical Undertakings (Special Loans)	10	
Completion of Works	3	8 2
Proclamation of National Works Sketches	20	10
Search and Investigation:	43.4	005
Certificate of Identity Technical Description accompanying Certificates	414	285 78
Search Sketches	191	137
Course Trackture		
General Drafting:	277	241
Resumptions, etc. Descriptions (Technical)	365	396
Descriptions (Proclamation of Catchment District, e	te.) 3	1
Detail Sheets	24	19
Plans and Sections Names of Streets	1,403	774 113
Hamos VI SUI GOOD		
Printing and Plan Registration:		
Helios	61,481	66,458
Mounting	2,431	2,614
Photostats Plan Registrations	12,932	6,300
TAM NORTPOLATIONS		0,000
Field and Level Book Registrations	1,015	1,100

APPENDIX IX

TESTING AND INSPECTION

The estimated value of the material listed below, tested and inspected prior to despatch, was £598,954.0.0, made up as follows:-

Cement - 4,217,400 paper bags (175,725 tons) £593,110. 0. 0 Valves, Hydrants, etc. .. 5,327. 0. 0 Miscellaneous

517. 0. 0

£598,954. 0. 0

It is pointed out that no valuation can be given of the material represented in the tests of iron and steel bars etc.

In addition to the various Government Departments, both State and Commonwealth, and Shire and Municipal Councils, many private firms and individuals have taken advantage of the facilities for testing provided by the Department.

Cement Testing:

1,093 certificates, covering the sampling, testing, analysis and issue of 4,217,400 jute bags of cement, were despatched to the various manufacturers.

Newcastle Inspections:

1,428 valves and hydrants and 284 miscellaneous jobs were inspected and despatched.

Fees totalled £213. 0.10.

Physical Testing:

540 reports covering 1,660 tests of concrete cubes, sand and gravel, east iron, steel and bronze bars, wire ropes, and rubber belting, were issued. Fees charged for physical testing totalled £704.16.11.

Chemical Tests and Analyses (other than cement):

58 reports, covering 130 tests and analyses of paints, oils, bitumen, concrete, sand, alloys etc., were issued. Fees charged amounted to £209. 0. 0.

APPENDIX X

ENGINEERING AND SHIPBUILDING UNDERTAKING, NEWCASTLE

Progress in regard to the various sections of the Undertaking is as follows:-

Floating Dock:

The work of joining the Floating Dock (previously utilised in two sections) was completed by the end of 1941, since when 46 vessels totalling 244,000 tons have been docked and repaired.

Engineering Shops:

Dismantling of the engineering shops and plant at Walsh Island, their transference and re-erection on the new site at Dyke End has continuously proceeded since October, 1941, and at the date of this report the structures are practically complete. All shops have been equipped with overhead travelling cranes and a number of machine tools, which were put into production as soon as available.

Fitting-out Wharf and Crane:

The area for the wharf has been cleared and dredging put in progress. A fitting-out crane having a capacity of 50 tons at 45 ft. radius and 20 tons at 70 ft. radius has been secured and is available for erection as soon as foundations are ready.

Ship Repair Facilities:

The steel structure of the shippard shops has been removed from Walsh Island and 75 per cent of the structure erected on the new site. The foundations for the gantry of the first shipbuilding berth are about 90 per cent completed and about 60 per cent of the steel work erected.

Work in Hand:

In addition to repair work carried out in conjunction with the Floating Dock, there has been considerable activity in repair and maintenance to the floating plant. Any available labour not required for repair and maintenance work has been engaged in the manufacture of main engine parts for the Australian Shipbuilding Board and the manufacture of lathe parts for the Commonwealth Government.

An order has been received from the Department of the Navy for the construction of a certain type of naval vessel.

Turnover:

Since the new establishment assumed control of activities on lst March, 1942, work of the following approximate value has been carried out in addition to the work involved in the development of the establishment:-

Repairs in conjunction with the Floating Dock £26,000. 0. 0

Harbours and Rivers and Dredge Service 28,000. 0. 0

Australian Shipbuilding Board - Engines 2,500. 0. 0