





## 5.—WORKS AND BUILDINGS.

The number, original cost and expenditure on maintenance of Government buildings is given in Appendix (D).

The number of buildings erected during 1924 was 475 at a total cost of \$1,300,569.

The total number of buildings maintained by the department is 9,669, valued at \$34,968,278.

This value shows the actual cost to Government of the buildings erected. The replacement value of these buildings at the present day would require a much greater expenditure.

The total sum spent on maintenance was \$827,018, which represents 2.73 per cent. of the value of the buildings.

Provision was made under Loan Account for Special Services; a sum of \$3,128,431 being provided, of which \$1,568,221 was spent; the principal works carried out being:

## PERAK.

Quarters for 10 senior and 43 subordinate officers were erected during 1924.

## SELANGOR.

Quarters for 166 married clerks in Imbi Road, Kuala Lumpur, have been built at a cost of \$449,389.

No works of magnitude were undertaken in Negri Sembilan or Pahang.

## 6.—ROADS, STREETS AND BRIDGES.

The total sum of money expended on upkeep of Roads under "Annually Recurrent Expenditure" is shown in Appendix (E). The total sum of money provided being \$3,588,115 and the sum spent \$3,447,462.

The total mileage of roads maintained is as follows:

Metalled	...	...	...	...	...	...	2,504	miles
Unmetalled	...	...	...	...	...	...	114	"
Bridle-paths	...	...	...	...	...	...	1,924	"

The average cost of maintenance being \$1,284 per mile.

## PERAK.

General condition of the roads is fair. Floods occurred at various times during the year but no serious damage was done.

## SELANGOR.

General condition of roads compare somewhat unfavourably with those in other States. This is probably due to the heavier weight of traffic carried on roads, the foundations of which are insufficient for present day needs.

## NEGRI SEMBILAN.

The roads in this State were satisfactorily maintained.

## PAHANG.

Roads in this State were maintained in reasonably good condition.

The total output of road metal from quarries during the year was 450,000 tons.

## SPECIAL SERVICES.

Expenditure on Roads, Streets and Bridges amounted to only \$39,019 out of Revenue Account and \$775,121 out of Loan Account, details of which are given in Appendix (B). The principal items under this heading are:

## PERAK.

Metalling the Kampar-Deggong Road was continued. Permanent bridges were erected to replace timber bridges and improvements or deviations made to the main trunk road in various districts.

## SELANGOR.

Formation and metalling Morib Road, formation and metalling Sungei Buloh Forest Road and the raising of the trunk road at 36½ mile near Kuala Kubu were the principal items.

## NEGRI SEMBILAN.

Tampin-Gemas Road, 15 miles of which between Gemanchi and Gemas, were gravelled during the year and the through road opened to restricted traffic in September.



## PAHANG.

Mentakab-Karak Road was completed during the year and opened to traffic.

A trace for the proposed Pekan-Kuantan Road was completed during the latter part of the year and detail estimates are being prepared.

## 7.—IRRIGATION.

The following sums were expended under Annually Recurrent items:

	Provision.		Expenditure.		Saving.
Perak ... ..	\$125,500	...	\$119,392	...	\$6,108
Selangor ... ..	38,100	...	28,882	...	9,218
Pahang ... ..	2,500	...	1,956	...	544
	<hr/> \$166,100	...	<hr/> \$150,230	...	<hr/> \$15,870

## PERAK.

The following figures in connection with the Krian Irrigation Scheme are of interest:

Collected Water-rates	...	...	...	...	\$123,442
Maintenance and Supervision	...	...	...	...	119,392
				Showing a profit of	<hr/> \$4,050

The Krian Irrigation Scheme was successfully maintained, there being no shortage of water and a good crop is anticipated. A contract has been let for clearing several hundred acres of the Krian Irrigation Reservoir. This work is now in hand.

The Kenas Irrigation Scheme was completed according to plan but some extra work recommended for the western channel still remains to be done.

## PAHANG.

At Pulau Tawar reinforced concrete syphons to replace the wooden flumes washed away during heavy floods in January have been put in.

## NEGRI SEMBILAN.

Plans are in hand for the Sri Menanti Irrigation Scheme and survey work is being continued down the Muar Valley.

Surveys were continued in the Senggang area and plans are now being prepared.

## 8.—RIVERS.

## PERAK.

Two hundred and seven miles of clearing was carried out at a total cost of \$49,257.

## SELANGOR.

Sixty miles of clearing was carried out at a total cost of \$42,026.

## NEGRI SEMBILAN.

No river clearing of any importance was carried out.

## PAHANG.

No river clearing of any importance was carried out.

In all, 267 miles of river clearing was carried out at a cost of \$91,283.

In Pahang the Perting River dam and spillway in connection with the Bentong Tailings Retention Scheme made considerable progress.

The contractors are carrying out the work in an efficient and businesslike way.

At Sungei Repas investigations were continued during the year and final plans for the Repas tailings dam are being prepared by the Chief Hydraulic Engineer.

In Selangor works for improving the channel of the Selangor River at Kuala Kubu are in hand.

Gaugings of rivers which had been neglected during 1923 owing to lack of staff were resumed and new discharge curves were computed for the Kinta, Bernam, Klang, Ijok and Batang Padang Rivers.

Sixteen new rain-gauge stations were established in Pahang and a further eight are being established which should prove of interest and give a better idea of the rainfall in Pahang.

A rainfall table is attached, Appendix (H), giving the average rainfall for the year, which was, for the whole of the Federated Malay States and Kedah, 108.61 inches, which is 7.4 per cent. above the average.

These figures are obtained from 262 stations, of which 169 are maintained by rubber estates.



## 9.—WATERWORKS.

Existing water supplies were maintained in a satisfactory condition throughout the year.

The capital cost of the existing water supply systems and the revenue received in each State as well as the cost of maintenance were as follows:

State.	Capital Cost.	Maintenance Cost.	Revenue.
Perak ... ..	\$3,219,880	\$99,540	\$118,520
Selangor ... ..	4,707,035	49,008	213,982
Negri Sembilan ... ..	735,341	24,429	31,708
Pahang ... ..	540,305	12,595	2,628
Total ... ..	\$9,202,561	\$185,572	\$366,838

## PERAK.

In Ipoh  $4\frac{1}{2}$  miles of mains were relaid in order to improve the available pressure. Further extensions to the Kuala Kangsar water supply were carried out.

The 9-inch main at Teluk Anson was scraped throughout with satisfactory results.

## SELANGOR.

Total consumption of water in Kuala Lumpur Sanitary Board area during the year was 1,218,953,000 gallons against 1,069,810,000 in 1923.

Assuming a population of 89,362, the average consumption per head was 37.2 gallons per day.

The need for another source of supply for Kuala Lumpur is still receiving consideration.

The work of raising the Sungei Bahru and Ayer Kuning dams was completed just before the end of the year.

An additional storage tank was built and brought into use at Kuala Selangor during the year.

## NEGRI SEMBILAN.

The 7-inch main from the now abandoned Gunong Angsi source of supply was cleaned and relaid at Kuala Pilah, where there is now an abundant supply of water.

## PAHANG.

The quality of the water obtained from the Kuala Lipis supply is still unsatisfactory.

A report from the Government Chemist as to the most suitable treatment of the water has been obtained and a scheme is being prepared.

## 10.—HYDROGRAPHICS.

The survey at Tanjong Gila (Deepwater Point), Port Swettenham, was completed.

Thirty bores were put down and  $\frac{3}{4}$  square miles of soundings were taken together with continuous observations of tides and currents.

Soundings were taken at Prai River Wharves and report made on the silting difficulties.

Soundings were taken over an area of about  $2\frac{1}{2}$  square miles in order to locate the channel from the jetty south of the island at Port Dickson.

## 11.—ANTI-MALARIA.

The Engineering staff of the Anti-Malaria Branch consisted of the Anti-Malaria Engineer and one Assistant Engineer.

The Anti-Malaria Engineer, Mr. F. D. Evans, acted as Assistant Director of Public Works in addition to his own duties from 2nd May, 1924, to 28th August, 1924, when Mr. H. G. L. Bennett relieved him as Acting Anti-Malaria Engineer.

Surveys were made and designs and estimates prepared, but shortage of staff prevented more being done in this direction.

The Anti-Malaria Engineer visited the Mosquito Destruction Board areas in Pahang and Perak with the Senior Health Officer.

## PERAK.

The only special service for the year was at Taiping and the work is well in hand.

## SELANGOR.

Drainage work was continued at Kuala Lumpur and at Klang.

## PAHANG.

Anti-Malaria work at Raub is progressing satisfactorily and should be completed early in the new year.



## 12.—ELECTRICAL.

A separate report is being put up upon the electrical installations in the Federated Malay States by the Chairman, Electrical Board.

## 13.—STORES AND FURNITURE.

The cost of personnel running this branch amounted to \$39,609. Stores to the value of \$128,139 were sold during the year and, in addition, four "A" sets, eleven "B" sets and one "C" set of furniture were supplied.

Revenue collected amounted to \$28,600.

The total number of scheme sets supplied up to the end of the year amounted to 87 "A" sets, 321 "B" sets and 14 "C" sets.

The expenditure on the maintenance of scheme furniture was \$8,978, while the rent collected amounted to \$24,000.

## 14.—FACTORY.

Business done by the Factory during the year amounted to \$283,270, an increase of \$70,000 over the value of the work done in 1923.

The total loss on the year's work amounted to \$17,311. Included in this amount is a loss of \$2,596 on the sale of condemned stores and a small payment to Government of \$891.50 for motor car hire which should have gone into the 1923 account.

The increase in the work done is largely accounted for by the increased amount of bridge work.

## ESTABLISHMENT CHARGES.

Salaries amounted to \$60,024, being 21 per cent. of the value of completed orders during the year.

It must be remembered with regard to the Factory that it exists for the express purpose of carrying out Government work and though actual loss may be shown in its working, yet the fact that its existence compels outside firms to tender for Government work at moderately low figures may cause a saving considerably in excess of the actual loss shown.

The proposal for moving the Government Factory from its present site to a new site in the Factory area provided for under the Kuala Lumpur Town Planning Scheme is under consideration.

## 15.—DREDGING PLANT.

The dredger "Kuantan" remained at Port Swettenham until November, when she was hired to the Government of the Straits Settlements for dredging work in the South Channel, Penang.

The dredger was still on hire at the close of the year and it is expected she will be returned early in 1925.

The tug "Sri Tunda" and two hopper barges were put in a thorough state of repair by the Singapore Harbour Board and at the close of the year were lying at Port Swettenham; the remaining two hoppers being on loan to the Federated Malay States Railways at Prai.

## 16.—MECHANICAL TRANSPORT.

The use of motor lorries for transport has continued to extend, the cost per ton mile being cheaper in most districts than transport by bullock-cart.

The following table gives the number of motor lorries employed by the department in each State:

Perak ... ..	38
Selangor ... ..	28
Negri Sembilan ... ..	15
Pahang ... ..	6
Fraser's Hill ... ..	2
	—
Total ... ..	89
	—

## 17.—HILL STATIONS.

## CAMERON'S HIGHLANDS.

Camps have been established at Jor, Sungei Ringleet and Tana Rata and another at the foot of Batu Brinchang is being constructed.

Investigations for a cart-road trace were undertaken.

## FRASER'S HILL.

A sum of \$50,840 was provided under "Annually Recurrent" for the upkeep of roads, buildings, gardens, etc., at Fraser's Hill, the expenditure being \$45,435.



Under Special Services, Loan Account, \$175,323 was provided, of which \$154,685 was expended.

*Buildings.*—Five new houses were completed during the year, viz., Hollebeke, Dacres, Clifford, Duberley and Red Cross House; three of these are available for the public, one is for the Superintendent, and Red Cross House (built from Red Cross Funds) is for the use of ex-Service visitors.

*Roads.*—One mile 50 chains of metalled road was constructed during the year extending the existing road system and 13 chains of earthwork for the Padang Road were completed.

Bad corners on the Gap-Fraser's Hill Road were improved; in all, 18,700 cubic yards of earthwork being done on these improvements.

*Development.*—The valley was sufficiently advanced to lay out four greens and four tees for the Golf-Course and satisfactory progress was made with the earthwork for the Padang.

A contour path was made to the High Commissioner's site and the trace for a road has been surveyed.

A site for a proposed Dairy Farm was investigated.

*Weather.*—The weather conditions were poor throughout the year. Rainfall was 124.09 inches, and rain fell on 243 days.

#### 18.—GENERAL.

The health of the staff throughout the year was satisfactory.

On the last day of the year there were working for the department:

Coolies	...	...	...	...	...	...	...	...	10,071
Artizans, etc.	...	...	...	...	...	...	...	...	2,400

Giving a total labour force of	...	12,471
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There was no shortage of labour during the year.

The State Engineers and branch heads met in conference in the office of the Director of Public Works twice during the year.

The Head of the Department sat on the following Boards and Committees during the year:

- Electrical Board (Chairman)
- Factory Board (Chairman)
- Railway Board
- Indian Immigration Committee
- Malaria Advisory Board
- Fraser's Hill Development Committee
- Decrepit Asylum Committee
- War Memorial Committee
- Standardisation of Timber Committee.

The Engineering staff of the department travelled some 229,000 miles by road during the year.

In 1924 the department recruited 15 Assistant Engineers, but the incidence of leave weighed heavily on the department during the year under review, due to arrears of leave that accumulated as a result of the war.

The shortage of trained subordinates is a serious matter and it is hoped that the proposal to re-open the Departmental Technical School in 1925 will effectively deal with this in the future; but it will be some years before the benefit of the school will be noticeable.

The staff worked with a will throughout the year and accomplished very satisfactory work.

The following appendices are attached:

- A. Distribution of Staff.
- B. Summarised Statement of Expenditure.
- C. Statement of Revenue.
- D. Return of Buildings with value and cost of maintenance.
- E. Return of Roads with value and cost of maintenance.
- F. Metal Output.
- G. Mileage of Roads.
- H. Rainfall.
- I. Furniture.

KUALA LUMPUR,  
25th March, 1925.

SYDNEY SMITH,  
Acting Director of Public Works, F.M.S.

# APPENDIX A.

## Distribution of Staff on 31st December, 1924.

	FEDERATED MALAY STATES.													DEPUTATION.							
	Head Office.	P.W.D. Factory.	A.A. to D.P.W.	Hydraulic.	Electrical.	Anti-Malaria.	Perak.	Selangor.	Negri Sembilan.	Pahang.	Fraser's Hill.	On Leave.	Total, F.M.S.	Johore.	Kedah.	Kelantan.	Trengganu.	Town Planning.	Sanitary Board, Kinta.	Total on Deputation.	Grand Total.
Director of Public Works ... ..	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Assistant Director of Public Works ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chief Hydraulic Engineer ... ..	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
State Engineers ... ..	...	...	...	...	...	...	1	1	...	...	...	2	4	1	1	...	1	...	...	3	7
Senior Executive Engineers ... ..	...	...	...	1	...	...	2	1	...	...	...	3	7	1	...	...	...	1	...	2	9
Anti-Malaria Engineer ... ..	...	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Executive Engineers ... ..	1	1	...	2	...	1	4	2	2	2	1	5	21	2	1	1	...	1	...	5	26
Assistant Engineers ... ..	1	...	...	3	...	1	8	9	7	4	...	8	41	3	6	...	...	1	1	11	52
Chief Electrical Engineer and Inspector ... ..	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Deputy Chief Electrical Engineers ... ..	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Executive Electrical Engineers ... ..	...	...	...	...	2	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	2
Assistant Electrical Engineers ... ..	...	...	...	...	4	...	...	...	...	...	...	1	5	...	...	...	...	...	...	...	5
Assistant Mechanical Engineer ... ..	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Architectural Assistant to Director of Public Works ... ..	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Assistant Architects ... ..	...	...	2	...	...	...	1	1	...	...	...	...	4	...	1	...	...	...	...	1	5
Total ... ..	3	2	3	7	8	3	16	14	9	6	1	19	91	7	9	1	1	3	1	22	113



## APPENDIX B.

## SUMMARY OF P.W.D. EXPENDITURE, 1924.

	Head Office.		Hydraulic Branch.		Electrical Branch.		Anti-Malaria Branch.		Fraser's Hill.		Stores and Furniture.		Total.	
	Estimated.	Spent	Estimated.	Spent.	Estimated.	Spent.	Estimated.	Spent.	Estimated.	Spent.	Estimated.	Spent.	Estimated.	Spent.
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Personal Emoluments ... ..	712,385	550,807	20,131	11,843	125,105	107,814	24,955	18,738	...	...	24,811	23,753	907,387	712,955
Do. Federal ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Clerical Services ... ..	16,105	15,065	3,340	3,335	8,960	8,615	4,155	4,305	1,120	1,120	11,885	10,558	45,565	42,998
Temporary and Acting Allowances ... ..	...	94,670	...	1,514	...	18,875	...	5,470	...	112	...	5,298	...	125,939
Do. do. Federal ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Charges—Annually Recurrent ... ..	22,100	13,607	78,000	34,347	362,739	308,162	14,850	8,326	23,540	18,494	...	...	501,229	382,936
Do. Federal ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Works and Buildings—Annually Recurrent ... ..	20,000	13,592	...	...	...	...	...	...	6,500	6,157	15,242	12,249	41,742	31,998
Do. do. Federal ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Roads, Streets and Bridges—Annually Recurrent ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. do. Federal ... ..	...	...	...	...	...	...	...	...	20,800	20,784	...	...	20,800	20,784
Irrigation and Drainage—Annually Recurrent ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. do. Special Services ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anti-Malaria Works—Annually Recurrent ... ..	...	...	...	...	...	...	30,000	29,416	...	...	...	...	30,000	29,416
Other Charges, Special Services ... ..	2,681	2,681	250	175	31,360	6,882	...	...	...	...	36,745	19,794	71,036	29,532
Works and Buildings, Special Services ... ..	82,024	60,375	20,000	13,519	...	...	...	...	...	...	...	...	102,024	73,894
Do. do. Federal ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Roads, Streets and Bridges, Special Services ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Miscellaneous Services ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	855,295	750,797	121,721	64,733	528,164	450,348	73,960	66,255	51,960	46,667	88,683	71,652	1,719,783	1,450,452
LOAN ACCOUNT.														
Educational Buildings ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Do. do. Federal ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Quarters and Buildings including Furniture ... ..	193,500	17,718	...	...	...	...	...	...	...	...	...	...	193,500	17,718
Do. do. do. Federal ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
River Investigation, Drainage and Irrigation ... ..	...	...	19,336	11,072	...	...	...	...	...	...	...	...	19,336	11,072
Road Improvement, Widening and Replacing Bridges ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Waterworks and Supplies ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Anti-Malaria Works ... ..	...	...	...	...	...	...	36,758	11,297	...	...	...	...	36,758	11,297
Topo. Survey, Kuala Lumpur Town ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fraser's Hill Development ... ..	...	...	...	...	...	...	...	...	175,323	154,685	...	...	175,323	154,685
Surveys Investigation and Borings ... ..	38,000	3,230	...	...	...	...	...	...	...	...	...	...	38,000	3,230
Electrical Supplies ... ..	...	...	...	...	2,170,000	128,395	...	...	...	...	...	...	2,170,000	128,395
Hospitals and Asylums, Perak ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	231,500	20,948	19,336	11,072	2,170,000	128,395	36,758	11,297	175,323	154,685	...	...	2,632,917	326,397
GRAND TOTAL ...	1,086,795	771,745	141,057	75,805	2,698,164	578,743	110,718	77,552	227,283	201,352	88,683	71,652	4,352,700	1,776,849



## SUMMARY OF P.W.D. EXPENDITURE, 1924—(cont.).

	Perak.		Selangor.		Negri Sembilan.		Pahang.		Grand Total.		Savings.
	Estimated.	Spent.	Estimated.	Spent.	Estimated.	Spent.	Estimated.	Spent.	Estimated.	Spent.	
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Personal Emoluments ... ..	111,043	100,285	135,940	118,214	57,777	42,549	44,381	32,815	1,256,528	1,006,818	249,710
Do. Federal ... ..	...	...	4,500	4,500	...	...	...	...	4,500	4,500	...
Clerical Services ... ..	59,561	56,926	56,085	51,152	29,770	26,386	28,430	27,551	219,351	205,013	14,338
Temporary and Acting Allowances ... ..	36,000	27,558	...	32,342	...	12,265	...	7,625	...	205,729	...
Do. do. Federal ... ..	...	...	...	393	...	...	...	...	...	393	...
Other Charges—Annually Recurrent ... ..	223,126	185,094	237,175	198,202	85,456	58,446	44,606	35,196	1,091,592	859,874	231,718
Do. Federal ... ..	4,480	2,939	550	464	...	...	2,500	2,010	7,530	5,413	2,117
Works and Buildings—Annually Recurrent ... ..	373,889	331,649	272,270	246,428	135,950	129,192	107,640	96,006	931,491	835,273	96,218
Do. do. Federal ... ..	16,750	14,503	103,500	96,006	...	...	...	...	120,250	110,509	9,741
Roads, Streets and Bridges—Annually Recurrent ... ..	1,334,450	1,305,430	1,024,840	1,004,351	668,200	594,895	525,875	512,832	3,553,365	3,417,508	135,857
Do. do. Federal ... ..	450	228	13,500	8,942	...	...	...	...	34,750	29,954	4,796
Irrigation and Drainage—Annually Recurrent ... ..	125,500	119,392	38,100	28,882	...	...	2,500	1,956	166,100	150,230	15,870
Do. do. Special Services ... ..	...	...	7,660	7,529	...	...	...	...	7,660	7,529	131
Anti-Malaria Works—Annually Recurrent ... ..	34,600	22,443	54,000	45,811	21,200	16,566	...	...	139,800	114,236	25,564
Other Charges, Special Services ... ..	19,200	15,726	47,744	25,929	1,050	819	1,775	862	140,805	72,868	67,937
Works and Buildings, Special Services ... ..	31,068	18,491	40,869	15,434	1,300	1,222	12,365	10,789	187,626	119,830	67,796
Do. do. Federal ... ..	4,980	2,554	141	...	...	...	...	...	5,121	2,554	2,567
Roads, Streets and Bridges, Special Services ... ..	32,325	29,928	10,326	9,091	...	...	...	...	42,651	39,019	3,632
Miscellaneous Services ... ..	...	...	500	500	...	...	6,030	3,287	6,530	3,787	2,743
Total ...	2,371,362	2,233,146	2,047,700	1,894,170	1,000,703	882,340	776,102	730,929	7,915,650	7,191,037	930,735
LOAN ACCOUNT.											
Educational Buildings ... ..	131,060	59,826	123,783	75,107	7,900	7,078	104,000	64,586	366,743	206,597	160,146
Do. do. Federal ... ..	...	...	50,000	...	...	...	...	...	50,000	...	50,000
Quarters and Buildings including Furniture ... ..	842,309	374,121	1,051,991	642,967	211,255	173,179	211,564	115,105	2,510,619	1,323,090	1,187,529
Do. do. do. Federal ... ..	4,000	2,876	197,069	35,658	...	...	...	...	201,069	38,534	162,535
River Investigation, Drainage and Irrigation ... ..	250,698	72,622	157,150	73,489	19,626	14,801	20,824	17,487	467,634	189,471	278,163
Road Improvement, Widening and Replacing Bridges ... ..	469,530	345,331	185,121	100,148	188,650	132,230	272,348	197,412	1,115,649	775,121	340,528
Waterworks and Supplies ... ..	80,103	64,503	85,886	70,598	...	...	34,500	5,746	200,489	140,847	59,642
Anti-Malaria Works ... ..	28,684	9,106	73,181	26,945	100,450	19,011	14,929	4,644	254,002	71,003	182,999
Topo. Survey, Kuala Lumpur Town ... ..	...	...	12,000	7,245	...	...	...	...	12,000	7,245	4,755
Fraser's Hill Development ... ..	...	...	...	...	...	...	...	...	175,323	154,685	20,638
Surveys Investigation and Borings ... ..	...	...	...	...	...	...	500	400	38,500	3,630	34,870
Electrical Supplies ... ..	...	...	...	...	...	...	...	...	2,170,000	128,395	2,041,605
Hospitals and Asylums, Perak ... ..	148,705	3,130	10,376	8,366	...	...	237,669	45,852	396,750	57,348	339,402
Total ...	1,955,089	931,515	1,946,557	1,040,523	527,881	346,299	896,334	451,232	7,958,778	3,095,966	4,862,812
GRAND TOTAL ...	4,326,451	3,164,661	3,994,257	2,934,693	1,528,584	1,228,639	1,672,436	1,182,161	15,874,428	10,287,003	5,793,547



# APPENDIX C.

Statement showing Revenue earned during 1924 on all undertakings, the Expenditure on which was debited against the Public Works Department, F.M.S.

	Federal.		Perak.		Selangor.		Negri Sembilan.		Pahang.		Total.	
	Estimated.	Actual.	Estimated.	Actual.	Estimated.	Actual.	Estimated.	Actual.	Estimated.	Actual.	Estimated.	Actual.
CLASS II.	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
RECEIPTS FOR AND IN AID OF SPECIFIC GOVERNMENT SERVICES.												
7.—FEES OF COURT OR OFFICE.												
Electric Enactment Examination Fees ...	350	1,148	...	...	...	...	...	...	...	...	350	1,148
" " Inspection Fees ...	1,100	1,353	...	...	...	...	...	...	...	...	1,100	1,353
8.—PAYMENTS FOR SPECIFIC SERVICES AND REIMBURSEMENTS-IN-AID.												
Pipe Fittings ...	...	...	...	962	4,500	7,990	100	...	...	...	4,600	8,952
Sanatorium Fees ...	3,000	5,071	...	417	...	325	...	2	...	...	3,000	5,815
Rest-house Fees ...	...	...	...	3	...	3,764	...	55	...	...	...	3,822
Miscellaneous ...	...	...	...	2,248	...	2,764	...	...	...	102	...	5,114
CLASS III.												
RECEIPTS ON ACCOUNT OF UNDERTAKINGS OF A COMMERCIAL CHARACTER.												
10.—LIGHT, WATER AND POWER.												
Electric Light and Power ...	...	...	120,000	152,873	375,000	472,343	50,500	70,059	...	...	545,500	695,275
Water Supply, Private and Public ...	...	...	64,810	118,520	{ 43,000 } 146,800	213,982	23,018	31,708	2,590	2,628	{ 43,000 } 237,218	{ 366,838 }
CLASS IV.												
REVENUE FROM GOVERNMENT PROPERTY.												
13.—RENT ON GOVERNMENT PROPERTY.												
Furniture ...	27,120	25,425	1,860	2,579	...	60	360	416	180	120	29,520	28,600
Government Buildings ...	181,540	176,555	31,908	33,818	37,150	29,348	12,350	14,521	775	657	263,723	254,899
Drainage Assessment ...	...	...	288	288	47,050	51,975	...	...	...	153	47,338	52,416
Water Rate (Irrigation) ...	...	...	117,000	123,442	...	...	...	...	...	...	117,000	123,442
CLASS V.												
MISCELLANEOUS RECEIPTS.												
MISCELLANEOUS.												
Sale of Unserviceable Buildings and Stores ...	...	...	...	5,736	1,375	3,962	...	121	...	...	1,375	9,819
Sundry Sales ...	...	1,143	...	...	...	85	...	1,219	...	...	...	2,447
Miscellaneous ...	...	...	...	...	...	1,409	...	2,140	...	7,081	...	10,630
Total ...	213,110	210,695	335,866	440,886	654,875	788,007	86,328	120,241	3,545	10,741	1,293,724	1,570,570



# APPENDIX D.

## Return of Government Buildings with Value and Cost of Maintenance during 1924.

State.	Number of buildings on 1-1-1924.	Value.	Additions during 1924.	Value.	Reductions during 1924.	Value.	Number of buildings on 31-12-1924.	Value.	COST OF MAINTENANCE, 1924.				Percentage of upkeep 1924.	Minor works.	Remarks.
									Number of buildings repaired.	Current repairs including painting and re-attaping.	Special repairs.	Total cost of repairs.			
		\$		\$		\$		\$		\$	\$	\$		\$	
Federal ... ..	530	3,304,461	6	17,817	...	...	536	3,322,278	489	73,006	11,004	84,010	2.52	12,678	
Perak ... ..	4,822 <sup>a</sup>	14,659,679	103	325,555	10	6,370	4,915	14,978,864	3,320	259,597	7,515	267,112	1.78	17,303	
Selangor ... ..	1,897	9,512,683	213	644,615	14	26,213	2,096	10,131,085	1,438	235,094	52,220	287,314	2.78	32,147	
Negri Sembilan ... ..	1,053	4,450,614	43	124,198	9	14,625	1,087	4,560,188	769	106,988	10,863	117,851	2.62	9,129	
Pahang ... ..	929	1,788,280	110	188,384	4	800	1,035	1,975,863	608	63,710	7,022	70,731	3.96	9,657	
Total ... ..	9,231	33,715,717	475	1,300,569	37	48,008	9,669	34,968,278	6,624	738,395	88,624	827,018	2.73	80,914	

(a) Includes 32 Tanjong Malim College buildings which were omitted in 1923 return.



# APPENDIX E.

## Return of Metalled and Gravelled Roads and Bridges and Culverts with Cost of Maintenance during 1924.

State.						ROADS.						BRIDGES AND CULVERTS.							
						Total mileage on 1-1-1924.	Additions during 1924.	Deductions during 1924.	Mileage on 31-12-1924.	Mileage remodelled during 1924.	Cost of remetting during 1924.	Total on 1-1-1924.	Additions during 1924.	Deductions during 1924.	Total on 31-12-1924.	Cost of up keep during 1924.			
1						2	3	4	5	6	7	8	9	10	11	12			
						M. C.	M. C.	M. C.	M. C.	M. C.	\$					\$			
Perak	...	...	...	...	...	869 41	2 39	40	871 41	178 27	557,587	3,419	17	24	3,412	115,617			
Selangor	...	...	...	...	...	830 16	16 42	18 62	827 76 a	181 02	448,845	1,885	25	4	1,906	50,951			
Negri Sembilan	...	...	...	...	...	463 12	1 79	...	465 10	85 75	146,511	2,347	12	...	2,359	59,484			
Pahang	...	...	...	...	...	371 79	7 95	2 07	377 67	71 38	121,322	2,278	8	9	2,277	62,020			
Total						...	2,534 68	28 75	21 29	2,542 34	516 62	1,274,265	9,929	62	37	9,954	288,072		
OTHER MAINTENANCE EXPENSES.																			
						Clearing side drains.	Clearing jungle or road reserves.	Sanding, brim-ming, gravelling and pathing.	Land slips and con-tingencies.	Improving corners and widening.	Upkeep of overseers quarters and coolie lines, etc.	Wages of overseers and metal check-ers.	Tools, pipes, stores, etc.	Tar painting.	Value of metal paid for on side of roads at end of year.	Miscellaneous.	Total cost. Columns 7, 12, 13 to 23.	Average cost of maintenance per mile.	
						13	14	15	16	17	18	19	20	21	22	23	24	25	
						\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
Perak	...	...	...	...	...	97,515	16,529	61,103	17,138	14,712	20,153	62,840	76,413	129,967	30,705	50,133	1,250,412	1,435	
Selangor	...	...	...	...	...	43,263	11,542	78,339	19,986	10,437	18,328	75,976	60,076	166,888	30,021	39,500	1,054,212	1,273	
Negri Sembilan	...	...	...	...	...	21,337	22,103	47,896	44,303	14,941	15,638	45,060	34,031	50,936	31,114	22,354	555,708	1,194	
Pahang	...	...	...	...	...	19,425	15,498	41,232	21,016	3,469	8,884	43,606	35,171	2,007	63,700	28,596	465,945	1,233	
Total						...	181,540	65,672	228,630	102,443	43,559	63,003	227,482	205,691	349,798	155,540	140,583	3,326,277	1,284

a. Includes 29 miles 58 chains unmetalled roads and 8 miles 13 chains bridle paths maintained.



## APPENDIX F.

## Metal Return, 1924.

## PERAK.

	Granite.	Laterite or Schist.	Limestone or Calcareous Shale.	River Metal.	Sandstone and Gravel.	Quartzite.	Slate.	Mining Metal.
In hand 1-1-24—Cubes ...	3,479	218	1,016	...	116	856	...	...
Value \$ ...	38,667	490	8,647	...	590	2,848	...	...
Output 1924—Cubes ...	23,633 $\frac{1}{2}$	1,453	15,043	691	3,368	1,415	...	...
Cost \$ ...	254,457	6,327	112,202	5,763	14,610	8,863	...	...
Total 1924—Cubes ...	27,112 $\frac{1}{2}$	1,671	16,059	691	3,484	2,271	...	...
Cost \$ ...	293,124	6,817	120,849	5,763	15,200	11,711	...	...
Used 1924—Cubes ...	24,865 $\frac{1}{2}$	1,625	14,302	602	3,267	2,257	...	...
Cost \$ ...	267,410	6,623	109,999	5,076	14,091	11,642	...	...
Balance 31-12-24—Cubes ...	2,247	46	1,757	89	217	14	...	...
Value \$ ...	25,714	194	10,850	687	1,109	69	...	...

## SELANGOR.

In hand 1-1-24—Cubes ...	2,105	2,453	1,157	30	137	114	...	...
Value \$ ...	19,999	11,910	14,104	432	452	554	...	...
Output 1924—Cubes ...	8,934	12,027	10,765	176	7,605	1,362	...	...
Cost \$ ...	96,139	93,077	132,762	924	23,289	9,899	...	...
Total 1924—Cubes ...	11,040	14,481	11,922	256	7,742	1,476	...	...
Cost \$ ...	116,138	104,987	146,866	1,356	23,741	10,453	...	...
Used 1924—Cubes ...	9,884	13,428	11,450	218	7,470	1,156	...	...
Cost \$ ...	101,799	96,440	142,583	1,151	22,666	8,249	...	...
Balance 31-12-24—Cubes ...	1,156	1,053	472	39	272	320	...	...
Value \$ ...	14,339	8,547	4,283	205	1,075	2,204	...	...

## NEGRI SEMBILAN.

In hand 1-1-24—Cubes ...	1,218	2,330	...	150	...	90	150	...
Value \$ ...	11,657	16,586	...	1,135	...	918	990	...
Output 1924—Cubes ...	9,114	4,879	...	...	2,091	761	70	...
Cost \$ ...	95,678	26,102	...	...	6,822	6,544	637	...
Total 1924—Cubes ...	10,333	7,208	...	150	2,091	851	220	...
Cost \$ ...	107,425	42,684	...	1,135	6,822	7,462	1,627	...
Used 1924—Cubes ...	8,345	6,172	...	150	2,091	766	220	...
Cost \$ ...	85,003	34,328	...	1,135	6,822	6,850	1,627	...
Balance 31-12-24—Cubes ...	1,987	1,036	...	...	...	75	...	...
Value \$ ...	22,421	8,356	...	...	...	612	...	...

## PAHANG.

In hand 1-1-24—Cubes ...	1,040	408	951	32	...	1,920	...	...
Value \$ ...	6,790	579	7,001	330	...	8,317	...	...
Output 1924—Cubes ...	9,400	713	3,992	1,338	...	1,305	657	630
Cost \$ ...	78,868	4,929	37,253	12,678	...	8,695	6,278	4,129
Total 1924—Cubes ...	10,440	1,121	4,944	1,371	...	3,225	657	630
Cost \$ ...	85,657	5,908	44,254	13,008	...	17,012	6,278	4,129
Used 1924—Cubes ...	8,653	1,121	3,904	1,268	...	2,645	619	488
Cost \$ ...	68,309	5,908	36,949	11,979	...	12,688	5,963	3,233
Balance 31-12-24—Cubes ...	1,787	...	1,039	103	...	579	38	142
Value \$ ...	17,348	...	7,306	1,029	...	4,323	315	896

## TOTAL.

In hand 1-1-24—Cubes ...	7,842	5,409	3,124	212	253	2,980	150	...
Value \$ ...	77,113	29,565	29,752	1,897	1,042	12,637	990	...
Output 1924—Cubes ...	51,081 $\frac{1}{2}$	19,072	29,800	2,205	13,064	4,843	727	630
Cost \$ ...	525,142	130,435	282,217	19,365	44,721	34,001	6,915	4,129
Total 1924—Cubes ...	58,925 $\frac{1}{2}$	24,481	32,925	3,468	13,317	7,823	877	630
Cost \$ ...	602,344	160,396	311,969	21,262	45,763	46,638	7,905	4,129
Used 1924—Cubes ...	51,747 $\frac{1}{2}$	22,346	29,656	2,238	12,828	6,824	839	488
Cost \$ ...	522,521	143,299	289,531	19,341	43,579	39,429	7,590	3,233
Balance 31-12-24—Cubes ...	7,177	2,135	3,268	231	489	988	38	142
Value \$ ...	79,822	17,097	22,439	1,921	2,184	7,208	315	896

Total value of metal in hand on 31st December, 1924, \$131,882.



# APPENDIX G.

## Mileage of Roads and Paths, 1924.

State.	CART ROADS.																BRIDLE PATHS AND ROADS.							
	METALLED OR GRAVELLED.								UNMETALLED.															
	Total, 1-1-24.		Additions, 1924.		Deductions, 1924.		Total, 31-12-24.		Total, 1-1-24.		Additions, 1924.		Deductions, 1924.		Total, 31-12-24.		Total, 1-1-24.		Additions, 1924.		Deductions, 1924.		Total, 31-12-24.	
	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.	M.	C.
Perak ... ..	869	42	2	40	...	40	871	41	48	77	...	...	2	25	46	53	1,123 <sup>a</sup>	61	33	...	...	...	1,156	06
Selangor ... ..	786	09	13	57	9	62	790	05	48	61	2	65	10	48	40	78	147	26	9	...	...	07	156	19
Negri Sembilan ... ..	463	11	1	78	...	...	465	10	8	75	...	...	...	...	8	75	259	63	...	...	...	...	259	63
Pahang ... ..	371	79	7	75	2	07	377	67	25	50	...	...	7	62	17	68	288	64	63	17	...	...	352	01
	2,490	61	26	10	12	29	2,504	43	132	23	2	65	20	54	114	34	1,819	54	105	17	...	07	1,924	09

a. Includes 33 miles 13 chains which were not shown in 1923 return.

# APPENDIX H.

## ANALYSIS OF RAINFALL RETURNS, F.M.S. AND KEDAH, 1924.

Total number of Stations included in 1924 Returns=262.

State.							Number of Stations.	Government Stations.	Rubber.	ABOVE AVERAGE.		BELOW AVERAGE.		Average for State, Inches.	Average for 1924, Inches.
										No.	Percentage.	No.	Percentage.		
Kedah ... ..	...	...	...	...	...	...	9	8	1	4	44.4	5	55.6	108.88	110.42
Perak ... ..	...	...	...	...	...	...	110	40	70	92	83.6	18	16.4	111.73	121.18
Pahang ... ..	...	...	...	...	...	...	19	14	5	18	94.7	1	5.3	102.51	117.31
Selangor ... ..	...	...	...	...	...	...	87	22	65	58	66.7	29	33.3	91.21	93.97
Negri Sembilan ... ..	...	...	...	...	...	...	37	9	28	17	45.9	20	54.1	87.94	90.77
Total ...							262	93	169	189	72.1	73	27.9		

Average rainfall for the whole F.M.S. and Kedah 101.12 inches.

" " 1924 " " 108.61 " = 7.4 % above average.

16 New rain-gauges (ordinary pattern) were established in Pahang during 1924.

1 " gauge (automatic " ) was " Perak "

1 " " " " " " Selangor "



## APPENDIX I.

## Return of Furniture in Government Quarters with Value and Cost of Maintenance during 1924.

State.				SPECIAL FURNITURE.							
				1-1-1924.		Additions during the year.		Deductions for Depreciation, etc.		31-12-1924.	
				No.	Value.	No.	Value.	No.	Value.	No.	Value.
					\$		\$		\$		\$
Federal	...	...	...	...	47,191	...	2,203	...	349	...	49,045
Perak	...	...	...	...	6,361	...	1,349	...	65	...	7,645
Selangor	...	...	...	...	9,527	...	2,001	...	243	...	11,285
Negri Sembilan	...	...	...	...	8,509	...	303	...	69	...	8,743
Pahang	...	...	...	...	8,573	...	2,932	...	777	...	10,729
Total	...	...	...	...	80,163	...	8,790	...	1,504	...	87,449
SCHEME FURNITURE, CLASS A.											
Federal	...	...	...	...	...	...	...	...	...	...	...
Perak	...	...	...	17	24,480	4	5,760	...	...	21	30,240
Selangor	...	...	...	52	74,880	...	...	...	...	52	74,880
Negri Sembilan	...	...	...	10	14,400	...	...	...	...	10	14,400
Pahang	...	...	...	4	5,760	...	...	...	...	4	5,760
Total	...	...	...	83	119,520	4	5,760	...	...	87	125,280
SCHEME FURNITURE, CLASS B.											
Federal	...	...	...	...	...	...	...	...	...	...	...
Perak	...	...	...	123	147,600	2	2,400	...	...	125	150,000
Selangor	...	...	...	117	140,400	7	8,400	...	...	124	148,800
Negri Sembilan	...	...	...	32	38,400	2	2,400	...	...	34	40,800
Pahang	...	...	...	38	45,600	...	...	...	...	38	45,600
Total	...	...	...	310	372,000	11	13,200	...	...	321	385,200
SCHEME FURNITURE, CLASS C.											
Federal	...	...	...	...	...	...	...	...	...	...	...
Perak	...	...	...	13	7,800	...	...	...	...	13	7,800
Selangor	...	...	...	...	...	...	600	...	...	1	600
Negri Sembilan	...	...	...	...	...	...	...	...	...	...	...
Pahang	...	...	...	...	...	...	...	...	...	...	...
Total	...	...	...	13	7,800	...	600	...	...	14	8,400
OTHER GOVERNMENT FURNITURE.											
Federal	...	...	...	...	...	...	...	...	...	...	...
Perak	...	...	...	341	69,774	5	7,753	...	176	346	77,351
Selangor	...	...	...	189	48,595	9	3,289	...	...	198	51,885
Negri Sembilan	...	...	...	114	18,945	3	1,478	...	125	117	20,298
Pahang	...	...	...	63	10,512	2	301	7	84	64	10,729
Total	...	...	...	707	147,827	19	12,822	7	386	725	160,264
COST OF MAINTENANCE.											
				Special Furniture.	Scheme A.	Scheme B.	Scheme C.	Other Furniture.	Total.		
				\$	\$	\$		\$	\$		
Federal	...	...	...	1,228	...	...	...	...	1,228		
Perak	...	...	...	854	456	2,527	...	3,055	6,893		
Selangor	...	...	...	506	2,079	2,381	...	2,959	7,927		
Negri Sembilan	...	...	...	1,195	172	402	...	1,282	3,053		
Pahang	...	...	...	358	87	870	...	409	1,725		
Total	...	...	...	3,443	2,796	6,181	...	7,706	20,828		

Total value of furniture on 31st December, 1924—\$766,594.



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