Government of the Punjab,

PUBLIC WORKS DEPARTMENT.

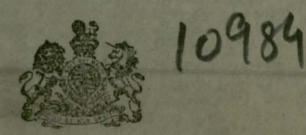
# ADMINISTRATION REPORT

OF THE

BUILDINGS AND ROADS BRANCH

FORTHE YEAR

1906-1907.



E-10 906-07

Inhone:

PRINTED AT THE "NEWS" PRESS.

1907.

# Agents for the sale of Punjab Government Publications.

#### IN LONDON.

- E. A. Arnold, 41 and 43, Maddox Street, Bond Street, W.
- CONSTABLE & Co., 10, Orange Street, Leicester Square, W. C.
- P. S. King & Son, 9, Bridge Street, Westminster, W. S.
- KEGAN PAUL, TRENCH, TRUBNER & Co., Charing Cross Road, W. C.
- B. QUARITCH 11, Grafton Street, New Bond Street, W.
- DEIGHTON BELL & Co., Cambridge.
- H. BLACKWETT, 50 and 51, Broad Street, Oxford.
- HENRY, S. KING & Co., 65, Cornhill, E. C.
- GRINDLAY & Co., 54, Parliament Street, London S. W.
- W. THACKER & Co., 2, Creed Lane, London, E. C.

## ON THE CONTINENT.

- FRIEDLANDER & SOHN, 11, Carlstrasse, Berlin.
- OTTO HARRASSOWITZ, Leipzig.
- KARL W. HIRRSEMANN, Leipzig.
- ERNEST LEROUX, 28, Rue Bonaparte, Paris.
- MARTINUS NIJHOFF. The Hague.
- RUDOLF HAUPT, Halloe A-S, Germany.

#### IN INDIA.

- THACKER, SPINK & Co., Calcutta & Simla.
- NEWMAN & Co., Calcutta.
- THACKER & Co., Bombay.
- HIGGINBOTHAM & Co., Madras.
- V. KALYANARAM IYER & Co, 189, Esplanade Row, Madras.
- NATESAM & Co., Madras.
- SUPERINTENDENT, AMERICAN BAPTIST MISSION PRESS, Rangoon.
- A. CHAND & Co., Imperial Book Depôt
- GULAB SINGH & SONS, Mufid-i-'Am Press, Lahore.
- S. MUMTAZ ALI & SON, Rafah-i-'Am Press, Labore [ for Vernacular Publications only ].
- Moнan Lal, Punjab Law Book Depôt Lahore.
- MANAGER, "The Aryan Printing, Publishing and General Trading Co., Limited," Lahore.

# Government of the Punjab,

# PUBLIC WORKS DEPARTMENT.

# ADMINISTRATION REPORT

OF THE

# BUILDINGS AND ROADS BRANCH

FOR THE YEAR

1906-1907.



Sahone:
PRINTED AT THE "NEWS" PRESS.
1907.

PRICE: - One shilling or twelve annas.

Community of the Emilia

MEDIAN STAGE OF BULLOW DISISION

LINEAR MORRANTALISMA

3117.10

HOMARA SUAOR GMA SOMIO HUS

MASY SEED SOL

ATOPIE OF

# PUBLIC WORKS DEPARTMENT, PUNJAB,

# BUILDINGS AND ROADS BRANCH.

#### TOTAL EXPENDITURE.

1.—The total outlay for the year amounted to Rs. 64,36,725 under the following Main Heads:—

				Rs.
Imperial Military Works			 	3,79,082
Imperial Civil Works			 	6,94,693
Provincial Works			 	47,86,330
Incorporated Local Work	s		 	3,160
Contribution Works (incl	uding loca	al loans)	 •••	5.73,460
				64,36,725
				-

These figures exclude a sum of Rs. 69,999 expended by this Department on Famine Relief Works, and Rs. 22,061 expended by District Officers on acquiring land for the Southern Punjab and Amritsar-Tarn Taran-Patti Railways.

#### ADMINISTRATIVE CHANGES.

2. Colonel R. S. Maclagan, R. E., on return from leave assumed charge of the 1st Circle of Superintendence in December 1906 vice Mr. Barratt proceeding on furlough.

The Ludhiana Civil District was formed into a Special Works Sub-Division under the control of the Sanitary Engineer, to include all Public Works Department roads and buildings in the district, together with the construction of the waterworks for Ludhiana City and the preparaton of a project for a new Central Jail at Ludhiana.

The Delhi Special Works Sub-Division was merged in the Delhi Sub-Division in August 1906, but was reformed as the Delhi Drainage Works Sub-Division in February 1907.

A new Public Works Sub-Division was established in the Gurgaon District to include the construction of the Nuh-Palwal and Nuh-Ferozepore roads, and repairs to metalled roads and Civil buildings in charge of this Department.

Mr. W. Macdonald left the Province in October 1906 to take up the Chief Engineership of Eastern Bengal and Assam, and Mr. W. A. Bagley was appointed in his place to hold charge of the 3rd Circle of Superintendence.

Mr. Rowan Wilson, M.I. E. E., was appointed an Inspector to Government under the Electricity Act of 1903.

#### FAMINE RELIEF WORKS.

3. Relief works were opened in the Rohtak District, in March 1906, owing to failure of the preceeding monsoon and winter rains. The labourers were employed on digging large tanks at Mandauthi, Bakhra and Mokhra, and on

the excavation of kunkur for the Rohtak-Mahim and the Jhajjar-Bahadurgarh roads. At Mandauthi, 1,500 workers were registered on the first day, and a maximum of 4,425 was registered by the end of March. They decreased when the rains began and there were 3,000 people on the work on the 2nd August when the work was closed. At Mokhra, the maximum number of workers was recorded on 17th May and reached 1,810 and of these, only 3 resided on the work which was accordingly closed and another opened at Madina on 20th May. At Madina, kunkur quarries were opened for the Rohtak-Mahim road. The maximum number of labourers amounted to 1,077 on 21st June. The work was closed on 4th August.

At Bakhra, tank work was started on 19th March. People from 28 villages in the neighbourhood came to it. The highest number of labourers on any day (31st March 1906) was 2,265. Work was closed on 30th July. Only 302 resided in the camp on the work. At Majra and Bir-Jhajjar, quarries were opened to obtain kunkur for the Jhajjar-Bahadurgarh road. The maximum number at Majra reached 2,325 on 19th June 1906, and at Bir-Jhajjar, 2,450 on the same day. People from 26 villages came to the former work, and from 32 villages to the latter work. The Majra work was closed on the 20th May, and the people sent to Bir-Jhajjar, which work was closed on 10th July. The total expenditure, to the end of the year, on famine relief works in the Rohtak District, amounted to Rs. 86,683.

# IMPERIAL MILITARY WORKS.

4. The total outlay on works was Rs. 2,63,187, including Rs. 1,94,234 under "Special" demands, and on repairs Rs. 52,127.

The addition of a 3rd storey to the Central Library at Simla was put in hand and half completed.

Special repairs to the Cattle Farm buildings at Hissar were carried out and similar repairs to the Remount Depôt building at Karnal were taken, in hand.

At Mona, the Central Remount Depôt in the Jhelum Canal Colony, additional sheds and hospitals for horses were constructed, and 2½ miles of roads in connection with this depôt were metalled.

A large number of buildings were also constructed at the Remount Depôt at Sargodha; expenditure during the year amounting to Rs. 98,703. One, out of 5 wells proposed for the Depôt at Sargodha, was sunk; but the water was found to be too brackish for drinking, and a scheme for storing and filtering canal water in tanks has been proposed in place of the wells.

New Stallion Stables were constructed at Chak No. 98 and Kandiwalla in the Jhelum Colony; others also at Tinoka and Chak No. 93 were put in hand. In the Chenab Colony and the Gujrat District, stables at various places were in course of construction.

Quarters for the Superintendent of the Jhelum Colony at Sargodha were started.

#### IMPERIAL CIVIL WORKS.

5. The total outlay on works was Rs. 4,07,751 and on repairs Rs. 1,99,429.

At Kasauli, additions and alterations to Ranbir Villa to adapt it for use as a Central Research Institute were completed at a cost of Rs 59,400, including a water supply to the building.

At Simla, additions and alterations to Knockdrin cost Rs. 10,400. Additional furniture for Snowdon cost Rs. 7,800. Constructing a block of peons' quarters for the Government of India, Imperial Civil Secretariat, cost Rs. 13,500. Improvements to Windcliffe cost Rs. 12,800. Providing carpets for Peterhoff cost Rs. 7,400. Alterations to Electric Light installation at the Central Branch Press cost Rs. 2,500. At Ferozepore, additions and alterations to the Post Office, costing Rs. 2,500, were carried out.

At Lahore, the new postal Stock Depôt was completed. Other works in progress during the year were :-

#### At Simla-

Signallers' quarters at North View.

Quarters for Telegraph line-men at North View.

Fire precautions for Imperial Government buildings.

Alterations to Peterhoff.

Supply of furniture for the Retreat.

## At Lahore-

New office for the Accountant-General, Punjab.

Stables for the General Post Office.

PROVINCIAL AND INCORPORATED LOCAL CIVIL WORKS,

# 6. The total outlay was :-

			Works.	Repairs.
			Rs.	Rs.
Provincial			 25,91,829	13,65,496
Incorporated	Local	***	 2,782	378

#### CIVIL BUILDINGS.

# 7. Land Revenue. - Total Expenditure Rs. 1,41,609.

New Tahsils were constructed at Sargodha, Palampur and Kangra, the last being only a temporary structure. Special repairs to roofs and doors of the Tahsil buildings in Kharar in the Ambala District were carried out.

A new record room was added to the District Offices at Ambala, and additions and alterations made to the District Offices at Amritsar.

An office for the Commissioner and Superintendent, Delhi Division, was completed at Delhi.

At Rohtak and Hissar, Offices for the Settlement Officers were constructed.

Residences of Local Governments.—Total expenditure Rs. 19,201. At Government House, Lahore, the electric light installation was connected with the Mall installation by means of a motor generator as a supplementary source of supply.

Additions and alterations, costing Rs. 2,500, were carried out at Barnes Court, Simla.

Secretariat Offices.—Total expenditure Rs. 2,07,299. The Public Works Secretariat Offices at Lahore, which were commenced in the previous year, were built up to roof level.

Improvements in the lighting and decoration of the officers' rooms ion the Civil Secretariat at Lahore were carried out.

Monuments and Antiquities.—Total expenditure Rs. 47,909. At Delhi, the following works were either completed or in hand:—

Restoration of white marble work in the Aqab Hammam in the Fort.

Restoration of the tomb of Muhammad Tuglak Shah.

Restoration of mosaics in the Moghal Throne in the Diwan-i-Am.

Restoration of Hayat Bakhsh Garden and Tank in the Fort.

Constructing marble lamp-posts for the Jamma Masjid.

Restoration of Naubat Khana in the Fort.

Red sandstone edging of the water channels in the garden around Humayun's Tomb.

At Lahore, the largest expenditure has been on Jahangir's tomb and the Akbari Serai which adjoins it at Shahdara. The glazed skylight above the tomb, which was a late addition, has been removed and the opening closed, as, in the opinion of the best authorities, this is supposed to have been the original condition of the tomb. The grounds in front of the tomb, which were much over-grown with trees and shrubs, have been cleared, levelled and laid down with grass. The water-ducts, reservoirs and cascades have been repaired, and, to some extent, restored to their former condition. The old Imperial Serai has been cleaned up and the interior court-yard, grassed. Trees will be planted and the whole enclosure will be kept green by being watered from one of the old Moghal wells. The tank and fountain in front of the mosque have been repaired. No attempt will be made to restore any of the buildings or the gateways; but the place will now form a pleasant approach to the tomb instead of being an eyesore as it used to be.

In the Baradari of the Hazuri Bagh, outside the Lahore Fort, the ornamental ceiling and the inlaid stone work of the ground floor platform were repaired.

In the Naulakha in the Fort, a very successful bit of work was done in removing and replacing a carved marble screen which had got out of plumb and was in danger of falling into the moat. Besides this, the ornamental ceiling of the Shish Mahal was repaired, and some restoration carried out to the damaged marble screen on the south side of the Naulakha.

Some restorations, consisting principally of repairs to the structure, closing up two modern windows and rebuilding two "mehrabs" in the centre of the north chambers, were made in Dai Anga's tomb near the Railway Station.

Museums.—Total expenditure Rs. 14,013. The work of providing new fittings for the Jubilee Museum at Lahore, which was begun in 1903, was completed by the Curator, who also carried out the construction of a marble porch for the Museum.

Educational.—Total expenditure Rs. 1,71,146. The O'Brien High School at Mianwali was completed. At Delhi, an office for the Inspector of Schools was constructed.

At Lahore, a swimming bath and gymnasium for the Central Training College were completed.

At Simla, the work in connection with the rebuilding of Bishop Cotton School was nearly completed and the school has since been fully re-opened. The Government High School was provided with fire appliances.

Law and Justice.—Total expenditure Rs. 1,14,300. The following work were completed:—

Assistant Commissioner's Court at Pindi Gheb. Court House for Attock District at Sakesar. Residence and Court for the District Judges at Sargodha. Munsif's Court at Bhakkar. Judicial lock-ups at Rojhan and Umarkote. Sessions House at Palampur.

A Sessions House at Lyallpur was nearing completion.

Temporary accommodation for the Court of the District Judge of Kangra was provided.

Jails.—Total expenditure Rs. 1,92,136.—The District Jail at Campbellpore was completed, and at Mianwali, a Leper ward was added near the main Jail buildings.

Additions and alterations were carried out to the residence of the Superintendent of the Reformatory School at Delhi. Quarters for certain Jail Officials and a new work-shed were constructed in the Delhi Jail. An oil pressing shed was constructed at the Montgomery Central Jail and work on 60 additional solitary cells was started at the Multan Central Jail.

Police.—Total expenditure Rs. 2,05,004. Additions for accommodation of menials were made to the Police lines at Campbellpore.

Several new Police stations were put in hand in the Rawalpindi, Shahpur Lyallpur, Montgomery, Multan and Muzaffargarh Districts.

Police Stations at Gurgaon, Hissar, Amritsar and Palampur were completed.

Medical.—Total expenditure Rs. 1,35,128. Dispensaries at Sargodha and Campbellpore were completed.

Latrines in the main block of the Mayo Hospital at Lahore were tiled and provided with flushing arrangements. The system of drainage was also overhauled and put into order.

Agriculture.—Expenditure Rs. 2,09,371 (including Rs. 47,589 recorded under other heads.)

Work on the construction of the Agricultural College and attached buildings at Lyallpur was in progress throughout the year.

Furniture and fittings for the Veterinary Hospital at Simla were provided.

At the Lahore Veterinary College, an open clinic shed was constructed and work on other extensions was put in hand.

Miscellaneous Public Works Department and other buildings.—Total expenditure Rs. 1,80,635.

Improvements to the garden of the Circuit House at Rawalpindi were carried out and the furnishing of the house was completed. The Divisional Judge's residence and Court house at Ambala was converted into a Circuit house.

Several Civil Rest Houses in each Circle of Superintendence were constructed during the year, and others started.

Residences for the Settlement Officers at Hissar and Rohtak, and for the Assistant Commissioner at Pindi Gheb were completed.

A Public Works Department office was constructed at Jullundur.

The European Clerks' Cottages at Lahore were completed and have proved very popular.

#### COMMUNICATIONS.

8. The Provincial outlay on works amounted to Rs. 6,11,832 and on repairs, to Rs. 9,91,707.

The figures for the three preceeding years were :-

			Works.	Repairs.
			Rs.	Rs.
1903-04	***		3,98,246	9,04,872
1904-05		100	4.74,864	8,99,088
1905-06		***	5,02,490	10,90,724

A five-year programme for the construction of new feeder roads to railways, was drawn up by a Committee during the year. It was estimated that the total mileage which could be undertaken in any one year, with the existing staff, would cost six lakhs of rupees, and it was decided to meet this sum in equal shares from Provincial and District funds instead of wholly from Provincial funds as heretofore. About four lakhs were expended on new feeders during the year and the increase of Rs. 1,10,000 over the outlay of the previous year on new roads is mainly due to this cause.

The maintenance outlay (disregarding that of the previous year, which was abnormally heavy owing to repairs on roads and bridges in Kangra and Kulu after the earthquake) shewed an increase of nearly one lakh of rupees over the average, and it is more than probable that this charge will continue to increase quickly because not only is the road mileage increasing yearly, but the rates of labour have already gone up 30 to 40 per cent. and are still rising. A sum of, at least, 11½ lakhs should be put aside now for road maintenance.

The following table shews the total mileage and cost of maintenance of metalled and unmetalled roads, both Provincial and District, outside Municipal boundaries, during the year:—

CLASS OF ROAD.			META	LED.			Unmai	Unmetallud.			
Provincial or District.		Provincial.		District.		Provincial.		District.			
Maintained by		Provincial.	District Board.	Provincial.	District Board,	Provincial.	District Board.	Provinical.	District Board.		
Total mileage		1,240	132	548	366	1,252	353	149	19,089		
Cost of maintenance		5,68,959	22,713	1,86,815	1,40,174	98,837	6,483	6,893	2,31,271		
Rate per mile		459	173	341	383	79	18	46	12		

The two link roads connecting Campbellpore with Attock and Hatti were completed.

Progress on the feeder roads in the Jhelum and Chenab Colonies was a good deal checked by slow delivery of metal due to short supply of trucks on the North Western Railway. It is probable that trucks for the carriage of road metal

will have to be bought in England, for the quantity of metal to be moved by rail is far greater now than it was formerly, owing to local kunkur quarries having become exhausted. In the Ambala District, the Barara-Kala-Amb Road was completed.

In the Gurgaon District, the work in connection with raising and improving the Sohna-Palwal road was completed.

A mule path was constructed from Kirang Khad to Penigla on the border of the Bashahr State.

Metalling of new feeder roads was commenced in the Karnal, Rohtak, Gurgaon, Hissar, Amritsar, Gujranwala and Sialkot Districts.

In the Lahore District, the road from Pattoki Railway Station to Halla was completed.

In Lahore Civil Station, a new driving road along the right bank of the Bari Doab Canal for a length of  $4\frac{1}{2}$  miles was made.

The new bridge over the Deg Nalla, 12 miles from Lahore on the Lahore-Sheikhupura road, was completed. The new bridge over the Boner Khad on the Kangra Valley Cart Road, was erected by Messrs. Jessop and Company and completed and opened for traffic.

A cantilever bridge of 100' span was constructed over the Giri River on the Chakrata road at Digthali below Fagu.

Additions and alterations were made to the dak bungalows at Ferozepur and Hissar, and the construction of new dak bungalows was started at Palampur, Dera-Gopipur and Baijnath in the Kangra District.

## BOAT BRIDGES AND FERRIES.

9. Provincial boat-bridges were maintained over the Jhelum at Khushab, the Ravi at Shahdara, and the Indus at Dera Ghazi Khan.

During the hot weather, the North Western Railway, as usual, worked a steam ferry service at Dera Ghazi Khan which was supplemented by the Korashi ferry. A boat bridge was constructed on the Grand Trunk Road where it crosses the Phalku Nalla at Wazirabad. District Boards maintained boat bridges and ferries over the Jamna at Nurjalah, Rajghat, Sanauli and Khojkipur, and over the Beas at Gopipur.

#### MISCELLANEOUS PUBLIC IMPROVEMENTS.

# 10. The expenditure was as follows :-

	Works.	Repairs.
	Rs.	Rs.
Imperial Civil Contribution	5,712	
Provincial	3,43,690	69,065
Municipal and Loan funds	4,36,378	18,109
Private Subscriptions	22,097	2,318

At Lahore, an ornamental teak wood dado was put up in the Lawrence Hall and work on additions to the Lawrence and Montgomery Halls was commenced.

At Dera Ghazi Khan, further protective measures, on a small scale, were necessary. The bay, above the northern end of the stone bund, remained open with the river sweeping right through it and erosion continued, more or less, all through the cold weather of 1906-1907. The position was considered so critical

that a stone apron was laid on the reverse slope of the nose, and subsidence at the head of the bund itself was made good. These measures have for the time proved successful and, at the moment of writing, the river has left the bay.

### WATER SUPPLY.

11. At Campbellpore, three small reservoirs were constructed in connection with the water supply and an additional well was sunk.

At Simla, the laying of new water mains of larger bore to give better pressure for distribution and for the protection from fire, of the important public buildings from the Ridge to Boileauganj, was completed at a cost of Rs. 44,000.

At Lahore, fire hydrants were fixed on the City distribution system, which bring the whole of the intramural area under protection from fire. The second pumping engine was removed to the main station and the new rising main was linked up to the Engine and the City reservoir. A project for extension of the water works to meet the increased demand is ready and only awaits provision of funds by the Municipal Committee.

The Ludhiana water works, estimated to cost Rs. 4,30,468, were commenced in October 1906, and were making good progress at the close of the financial year. The supply will be pumped from deep wells, as at Amritsar, and forced to a central distributing reservoir in the City. Ludhiana is a prosperous and rising place, but it has always been unhealthy owing, probably, to defective water supply from local wells.

The Sargodha water works have been opened.

The supply, now obtained from the wells at Handesra, is ample for the requirements of Ambala City and Civil Station.

## DRAINAGE WORKS.

12. The intramural drainage of the Lal Kuan Bazaar and Sita Ram Bazaar areas of Delhi, and that of the Khazana Gate and Gilwali Gate areas of Amritsar were completed. The Ambala Municipal Committee made further additions to their intramural drainage system at a cost of 15,000 rupees, of which 10,000 rupees were contributed by Government as a grant-in-aid.

The extramural drainage systems of Gujrat, Jagraon and Multan, and the drainage works of Sargodha City and Civil Station were completed.

The out-fall drainage works for Rawalpindi were in hand.

At Lahore, progress was made with the Conservancy Tramway which is being laid down at a cost of  $1\frac{1}{2}$  lakes to convey refuse from the gates of the City to a depôt, about a mile from the town, where it is sold as manure. The drain along the Maclagan Road was entirely remodelled at a cost of Rs. 8,012.

Great improvements have been made, during the past 4 years, in the street drains of many large towns; but it is doubtful whether the inhabitants appreciate them. Good drains cannot be a success, without daily flushing and efficient scavenging, and Municipal Committees are apt to cut down expenditure on this sort of establishment, with the result that full beneficial effect of the sanitary works carried out, is lost.

#### CONTRIBUTION WORKS.

13.-A Civil Dispensary was constructed at Isa Khel.

A statue to John Nicholson, cast in England to the design of Mr. T. Brock, R. A., was erected in the Memorial Garden facing the Kashmir Gate at Delhi. Funds were raised by public subscription.

A large camp was erected in January, outside the Circuit House at Delhi, for His Highness the Amir of Kabul's escort and followers. The work included levelling the camping ground, metalling roads, laying down pipe water supply, and erecting sheds.

At Lahore, the marble canopy over Queen Victoria's Statue, which was commenced in September 1904, was completed, but the accounts were not closed.

A good deal of work in connection with improving the Zoological Gardens at Lahore was carried out.

### WORKS OF PUBLIC UTILITY.

14.—Works, aggregating Rs. 2,94,300, were carried out by pirvate individuals. In the previous year, the expenditure on this head, was only Rs. 74,394. The most important works were :—

A musafir khana and dharmsala with wells, garden &c., costing Rs. 37,500, built by Mahajan Madho Ram and Murli Dhar at Bhiwani.

A tank, well and dharmsala, costing 18,840 built by Mahajans Mohan Lal and Sheo Lal at Bharwa.

A dharmsala and pucca well, costing Rs. 10,000, built by Mahajan Ram Narain at Rawalwas.

A dharmsala, well &c., costing Rs. 10,000, built by Mahajan Mohan Lal at Bohal.

A serai, costing Rs. 10,000, built by Lala Gurditta Mul at Basal.

A serai, costing Rs. 28,000, built by S. Sher Muhammad Khan at Ingra.

A well, costing Rs. 20,000, built by Lala Uttam Chand in the village of Dokhr.

#### ASSISTANCE RENDERED TO LOCAL BODIES.

15. Projects, aggregating Rs. 15,98,704, were either prepared entirely or scrutinised by officers of the Public Works Department, and, in several cases, work was carried out under their superintendence. Many works were inspected from time to time, and advice given to Local Authorities by the Sanitary, Superintending, and Executive Engineers.

# CAPITAL COST OF BUILDINGS.

16. The table below gives the capital cost and cost of maintenance of buildings for the year:—

Class of b	ouilding.	Capital cost.	Cost of main- tenance.	Percentage.
		Rs.	Rs.	
Imperial, (Including Viceregal buildings).	Pucca. Katcha-Pucca. Katcha.	64,52,983 33,25,063 1,85,625	80,613 62,197 5,446	1·24 1·87 2·93
Provincial	Pucca. Katcha-Pucca. Katcha.	77.85,322 1,33,32,175 35,26,722	58.592 1.47.568 55.301	0.75 1.11 1.56
Provincial, (For which Capital and Revenue accounts are kept).	Pucca. Katcha-Pucca. Katcha.	6,575 4,77,433 93,767	268 12,222 3,097	4·07 2·56 3·30

#### ESTABLISHMENT CHARGES.

17. The percentage cost of establishment compared with total cost of work expenditure, is as follows:—

				Per cent.
1.	Imperial Civil	1111	 	16.16
2.	Imperial Military	***	 	19.22
3.	Provincial Civil	0/07	 	21.04

The figures for 1 are slightly higher, but for 2 and 3, they are normal.

#### PERSONAL.

18. Out of the sanctioned cadre of 41 officers, the actual strength present for duty was 35, and absent on leave 6. The number of men temporarily engaged remained at 15. The Superintending and Executive Engineers have carried out their duties with thoroughness and efficiency. Their charges are nearly all scattered over large areas with indifferent communications, both by road and railway, which makes close supervision and control difficult to secure. Amongst those who have done specially good work, are Messrs. Macdonald and Granville, Superintending Engineers, and Messrs. Kanhya Lal, Astbury and Rowan Wilson.

E. DUCANE SMITHE, M. INST. C. E.,

Secretary to Government, Punjab, P. W. D.,

Buildings and Roads Branch

SIMLA:

Dated, 22nd October 1907.

# STATEMENT A.

# Statement of Expenditure on Public Works during 1906-07.

		ORIGINA	L Works.	REI	AIRS.	TOTAL.		
Service heads.		Grant.	Outlay.	Grant.	Outlay.	Grant.	Outlay.	
1		2	3	4	5	6	7	
IMPERIAL.		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
44MILITARY WORKS.					13. 1			
Special Demands.		2,03,000	1,94,234	1		2,03,000	1,94,234	
Establishment	•••					45,807	36,400	
Tools and Plant		***				3,093	2,374	
Suspense	•••	•••					*	
Barrack Department	***		***	***				
Expenditure in England			•••			-1,660	-771	
Total Special Demands		2,03,000	1,94,234			2,50,240	2,32,237	
ORDINARY DEMANDS.								
Works	•••	65,150	68,953	48,150	51,929	1,13,300	1,20,882	
Establishment	***					26,140	24,176	
Fools and Plant			•••		•••	1,660	1,569	
Suspense	***			•••		***		
Barrack Department						200	(a) 218	
Expenditure in England				•••			•••	
Total Ordinary Demands		65,150	68,953	48,150	51,929	1,41,300	1,46,845	
Total Military Works		2,68,150	2,63,187	48,150	51,929	3,91,540	3,79,082	
45.—CIVIL WORKS.								
Civil Buildings		4,50,605	4,02,039	2,10,920	1,99,429	6,61,525	6,01,468	
Communications								
Miscellaneous Public Improvements		6,500	5,712			6,500	5,712	
Establishment						1,09,341	98,124	
Tools and Plant						7,129	5,681	
Suspense	•••					•	-2,204	
Expenditure in England				•••		<b>—3</b> 8,000	-14,088	
Total Civil Works		4,57,105	4,07,751	2.10,920	1,99,429	7,46,495	6,94,693	
Total Imperial		7,25,255	6,70,938	2,59,070	2,51,358	11,38,035	10,73,775	

# STATEMENT A.

# Statement of Expenditure on Public Works during 1906-07 .- continued.

	ORIGINAL	Works.	REPA	IRS.	TOTAL.		
Service Heads.	Grant.	Outlay.	Grant.	Outlay.	Grant,	Outlay.	
i	2	3	4	5	6	7	
PROVINCIAL.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
45.—Civil Works.					The state of		
Civil Buildings	17,14,351	(a) 16,36,307	2,90,132	(a) 3,04,724	20,04,483	19,41,031	
Communications	7,10,461	6,11,832	10,12,010	9,91,707	17,22,471	16,03,539	
Miscellaneous Public Improvements	4,07,799	3,43,690	65,954	69,065	4,73,753	4,12,755	
Establishment					8,13,000	8,32,864	
Tools and Plant					26,948	24,107	
Suspense			***		52,450	-27,966	
Total Provincial 45.—Civil Works	28,32,611	25,91,829	13,68,096	13.65,496	50,93,105	47,86,330	
33.—Famine Relief Works in Charge					CHENCE A		
OF PUBLIC WORKS DEPARTMENT.	Pris Tolly	ORDER OF	Total of				
Civil Buildings			***				
Communications	18,200	18,190			18,200	18,190	
Miscellaneous Public Improvements	54,800	51,809			54,800	51,809	
Establishment						Bellan ( )	
Tools and Plant					7		
Total 33Famine Relief Works Punjab	73,000	69,999			73,000	69,999	
Grand Total Provincial	29,05,611	26,61,828	13,68,096	13,65,496	51,66,105	48,56,329	
LOCAL FUNDS.				100	Will Marie 2		
Incorporated Local Funds		1			16,309	3,160	
Excluded Local Funds			10000			Charles and the same	
Contribution including Local Loans		7.0			9,53,794	5,73,460	
Total Local Funds		A	104 500		9,70,108	5,76,620	
GRAND TOTAL	36,30,866	33,32,766	16,27,166	16.16,854	72,74,243	65,06,724	

<sup>(</sup>a) Excludes outlay on original works and repairs executed during 1906-67, in connection with the Jubilee Museum, Lahore, in terms of Secretary to Government, Punjab, Public Works Department's letter No. 123 B., dated 16th January 1306-

Works ... ... ... ... ... Rs. 14,013 Repairs ... ... ... ... ... ... ... ... ... 1,418

STATEMENT A.

# Statement of Expenditure on Public Works during 1906-07-concluded.

	ORIGINAL	WORKS.	REI	PAIRS.	TOTAL.		
Service Heads.	Grant.	Outlay.	Grant,	Outlay.	Grant.	Outlay.	
1	2	3	4	5	6	7	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rø.	
40—Subsidized Railways.							
Southern Punjab Railway and extensions			1	•••	20,000	(5) 18,813	
Kalka-Simla Railway		***					
Delhi-Umbala-Kalka Railway					***		
Amritsar-Tarn Taran-Patti Railway		•••			81,000	3,248	
Total					1,01,000	22,061	
41-Miscellaneous Railway Expenditurz.							
Ludhiana-Dhuri-Jakhal Railway				***		-61	
				£12810	e source		
Total						-61	

<sup>(</sup>b) Includes Bs. 18,818 on account of Ludhiana-Ferozepore McLeod Ganj Railway.

# STATEMENT B.

Statement of Imperial Roads in the Punjab, not within Municipal boundaries, maintained by the Public Works and Local Authorities, respectively, during 1906-07.

Name of Division.	Name of Dis	trict.	Length of metalled roads maintained by the P. W. D.	Length of unmetalled roads maintained by the P. W. D.	Length of metalled roads maintained by the local authorities.	Length of unmetalled roads maintained by the local authorities.	Total metalled roads.	Total unmetailed roads.
010(01 ()) 1 (0.0)()	2	10	3	4	5	6	7	8
1st Circle.  Nil.  2nd Circle.						V.		Colonidados.
Nil.							4	
Multan	D. G. Khan Mlutan		23·34	52.58	0.68	94.75	23·34 0·68	147:33
TOTAL IMPERIAL I	ROADS		23:34	52.58	0.68	94.75	24.02	147:33

Statement of Provincial Roads in the Punjab, not within Municipal boundaries, maintained by the Public Works and Local Authorities, respectively, during 1906-07.

Name of Division.		Name of Dist	f met ined D.	Length of unmetalled roads maintained by the P. W. D.	Length of metalled roads maintained by the local authorities.	Length of unmetalled roads maintained by the local authorities.	Total metalled roads,	Total unmetalled roads.	
1		2		3	4	5	6	7	8
1st Circle.									
Rawalpindi	***	Rawalpindi		109-61	61.51			109.61	61.51
		Jhelum		31.59	32.53		8.00	31.59	40.53
		Attock	***	44.85	144.59			44.85	144.59
		Total	•••	186.05	238.63		8.00	186.05	246.63
Shahpur		Shahpur		31.97	2.20	6.80	25.70	38.77	27.90
		Mianwali		12.06	7.38	53.00	10.00	65.06	17.38
		Total		44.03	9.58	59 80	35.70	103-83	45.28
Lyallpur		Jhang	***		11.89				11.89
		Lyallpur	•••		10.25				10.25
		Total			22.14	(			22:14
Gujranwala		Gujrat		37.29		2.00		39-29	
Color III		Gujranwala		44.87		5.64	3.12	50.51	3.12
		Sialkot		22.44		1.75	29 00	24.19	29.00
		Total		104.60		9.39	32.12	113.99	32.12
		Total, 1st Cir	cle	334.68	270:35	69 19	75.82	403:87	346.17
2nd Circle.									
Delhi		Delhi		87.43	10.87			87.43	10.87
		Gurgaon		30.00				30.00	1
		Rohtak		3:63	50.76	7.50		11-13	50.76
		Total		121:06	61.63	7.50		128.56	61.63
			1	121:06	61.63	7,50		128-56	61.63
		Carried over	~ {	334.68	270:35	69.19	75:82	403-87	346.17

Statement of Provincial Roads in the Punjab, not within Municipal boundartes, maintained by the Public Works and local authorities, respectively, during 1906-07.—continued.

Name of Division.	Name of District.	Length of metalled roads maintained by the P. W. D.	Length of unmetalled roads maintained by the P. W. D.	Length of metalled roads maintained by the local authorities.	Length of unmetalled roads maintained by the local suthorities.	Total metalled roads.	Total unmetalled roads.
1	2	3	4	5	6	7	8
2nd Circle—concld.							
	P	334.68	270.35	69.19	75.82	403-87	346.17
	Brought forward	121.06	61.63	7.50		128.56	61.63
Ferozepur	Hissar	1.87		3-86	83.65	5.73	83.65
	Ludhiana	68.49		15.17		83.66	
	Ferozepur	55 95		3.35		59-30	
	Total	126-31		22.38	83.65	148.69	83.65
Ambala	Ambala	83.04	32.42	3.33		86-37	32-42
	Karnal	128-96		7.50		136.46	
	Simla	7.00	20.07			7.00	20.07
	Total	219.00	52.49	10.83		229.83	52.49
Simla	Kangra (Kulu)		264-62				264-62
	Simla	58.00	231.50			58.00	231:50
	Total	58.00	496.12			58.00	496.12
	Total, 2nd Circle	524-37	610-24	40.71	83-65	565 08	693-89
SRD CIRCLE.						-6.	ini
Lahore I	Lahore	110.30		2.20	16.00	112:50	16.00
	Total	110:30		2.20	16.00	112.50	16:00
	(	110.30		2.20	16.00	112:50	16.00
	Carried over {	859.05	880 59	109.90	159.47	968 95	1,040-06

Statement of Provincial Roads in the Punjab, not within Municipal boundaries, maintained by the Pubic Works and local authorities, respectively, during 1906-07—continued.

Name of Division.	Name of District.	Length of metalled roads maintained by the P. W. D.	Length of unmetalled roads maintained by the P. W. D.	Length of metalled roads maintained by the local authorities,	Length of unmetalled roads maintained by the local authorities	Total metalled roads.	Total unmetalled roads.
1 1	2	3	4	5	6	7	8
3RD CIRCLE-concld.			1				
	Brought forward {	859.05	880-59	109.90	159.47	968-95	1,040.06
	Brought forward	110.30	***	2.20	16:00	112.50	16.00
Jullandur	Amritsar	44.69	14.50		2.00	44.69	16.50
	Jullundur	70.78				70.78	
	Gurdaspur	41.33	69.70	8.50	24.00	49.83	93.70
TATOM TOO	Hoshiarpur	9.27	28.41	4.37		13.64	28.41
	Total	166-07	112-61	12.87	26.00	178-94	138-61
Multan	D. G. Khan	5.51	174 00		149.00	5.51	323.00
	Muzaffargarh	10.48	21.00	7.00	3.00	17.48	24.00
	Multan	13.21				13.21	
	Montgomery	***			(		bio (10)
	Total	29.20	195.00	7.00	152.00	36.20	347.00
Kangra	Kangra	75-67	63.83		10 (10%)	75-67	63.83
	Total	75-67	63-83			75.67	63.83
	Total, 3rd Circle	381.24	371:44	22.07	194.00	403:31	565-44
White phot	Total Provincial Roads.	1,240.29	1,252.03	131.97	353.47	1,372-26	1,605:50

Statement of District Roads in the Punjab, not within Municipal boundaries, maintained by the Public Works and local authorities, respectively, during 1906-07.

Name of Division.	Name of Distric	t.	Length of metalled roads maintained by the P. W. D.	Length of unmetalled roads maintained by the P. W. D.	Length of metalled roads maintained by the local authorities.	Length of unmetalled roads maintained by the local authorities.	Total metalled roads.	Total unmetalled roads.
0 1	2		3	4	5	6	7	8
IST CIRCLE.								
Rawalpindi	Rawalpindi .			34.00	7.00	803.00	7.00	837.00
(1000) ( 1000)	Jhelum .				3.96	952-50	3.96	952.50
	Attock .				3.75	620.00	3.75	620.00
2000) . Harry	Total			34.00	14.71	2,375.50	14.71	2,409.50
Shabpur	Shahpur		6.50	***		886-50	6.50	886.50
	Mianwali					673.00		673.00
	Total		6.50			1,559-50	6.20	1,559.50
Lyallpur	. Jhang		5.75	2.25	6.80	718-25	12.55	720-50
	Lyallpur		49.64	8.00	7	995.00	49.64	1,003.00
	Total		55.39	10.25	6.80.	1,713.25	62.19	1,723:50
Gujranwala	Gujrat		7.74		3.00	611.00	10.74	611-00
	Gujranwala	***	63.99	9.09	4.25	1,269-12	68-24	1,278:21
OAL PART	Sialkot		17.60		29.00	755.75	46.00	755.75
	Total	***	88.73	9.09	36-25	2,635.87	124.98	2.644.96
	Total, 1st Circle	0	150-62	53:34	57.76	8,284.12	208-38	8,387-46
2ND CIRCLE.							11	
Delhi .	Delhi		9.31	21.15	44.62	472.76	53.93	493-91
	Gurgaon		37.50		36.00			480.00
	Rohtak		66.00			559.00		559.00
	Total		112 81	21.15	80.62			
	0	(	112.81	21.15	80.62			
	Carried over .		150-62	53:34			-	

Statement of District Roads in the Punjab, not within Municipal boundaries, maintained by the Public Works and local authorities, respectively, during 1906-07—continued.

Name of Division.	Name of District.	Length of metalled roads maintained by the P. W. D.	Length of unmetalled roads maintained by the P. W. D.	Length of metalled roads maintained by the local authorities.	Length of unmetalled roads maintained by the local authorities.	Total metalled roads.	Total unmetalled roads.
1	2	3	4	5	6	7	8
2ND CIRCLE—concld.							01110
	Brought forward	150-62	53.34	57.76	8,284.12	208:38	8,337.46
	Brought forward {	112.81	21.15	80.62	1,511.76	193-43	1,532-91
Ferozepur	Hissar	9.25		1.00	857-50	10.25	857.50
	Ludhiana	54.60		49.03	199-66	103-63	199.66
	Ferozepur	29.99	Y 1	9.22	843.00	39.21	843.00
	Total	93.84	***	59.25	1,900-16	153.09	1,900-16
							Barrier .
Ambala	Amballa	43.25	7.25	18.14	328-69	61.39	335.94
	Karnal	49.50	66:90	10.72	633-62	60.22	700-52
	Total	92.75	74.15	28.86	962:31	121.61	1,036·46
Simla	Kangra (Kulu)		0		163.00		163.00
	Simla				17:00		17.00
\$2 (5) (N = 200 0)	Total	***			180.00		180.00
	Total 2nd Circle	299.40	95:30	168.73	1,554:23	468.13	4,649.53
3RD CIRCLE.					-415		
					( - L		
Lahore I	Lahore	19.82		0.07	819-24	19.89	819-24
	Total	19.82	1300	0.07	819.24	19.89	819 24
		19.82		0.07	819.24	19.89	819.24
Serso mad	Carried over	450-02	148 64	226.49	12,838.35	676.51	12,986-99

# STATEMENT B .- concluded.

Statement of District Roads in the Punjab, not within Municipal boundaries, maintained by the Public Works and local authorities, respectively, during 1906-07 -concluded.

Name of	Division.	Name of District.	Length of metalled roads maintained by the P. W. D.	Length of unmetalled roads maintained by the P. W. D.	Length of metalled roads maintained by the local authorities.	Length of unmetalled roads maintained by the local authorities.	Total metalled roads.	Total unmetalled roads.
		2	3	4	5	6	7	8
3nd Circli	E—concld.							
		Brought forward	450.02	148.64	226-40	12,838-35	676.51	12,986-99
		Prought tormand	19.82		0.07	819.24	19.89	819.24
Jullundur		Amritsar	22.87		29.75	311.87	52.62	311.87
		Jullundur	55.12		31.13	336.50	86.25	336-50
		Gurdaspur			25.28	505.24	25.28	505.24
		Hoshiarpur			11.80	708-50	11.80	708-50
	2.5	Total	77.99		97.96	1,862-11	175.95	1,862·11
Multan		D. G. Khan			0 15	210.00	0.15	210.00
		Muzaffargarh	14.		10.90	545.10	10.90	545.10
		Multan		1.6	24.45	1,197-25	24.45	1,197.25
		Montgomery			6.00	1,070.00	6.00	1,070.00
		Total			41:50	3,022.35	41.50	3,022:35
Kangra		Kangra				547.00		547:00
		Total				547.00		547.00
		Total 3rd Circle	97.81		139.53	6,250.70	237:34	6,250.70
		Total District Roads	547.83	148-64	366.02	19,089.05	913.85	19,237-69

