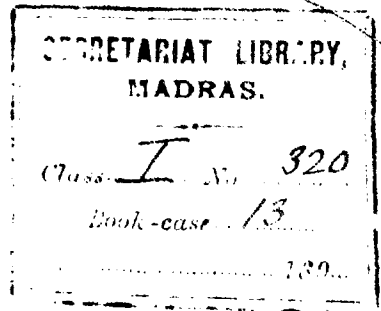




ADMINISTRATION · REPORT

OF THE

PUBLIC WORKS DEPARTMENT,

(GENERAL, BUILDINGS AND ROADS BRANCH).

MADRAS PRESIDENCY,

FOR THE YEAR

1893-94.

சுப்பனிருவர் பெயர்
தி. சங்கரய்யா.
சுப்பனிருவருக்காக ஏடுதான்
கொள்ளப்பட்ட நாள்
1993
சுப்பனிரு முடித்த நாள்
1993
சுப்பனிருக்கும்
ம.பா.ஏ. உதவியாக
கையொப்பம். சுப்பனிருவர்

MADRAS:

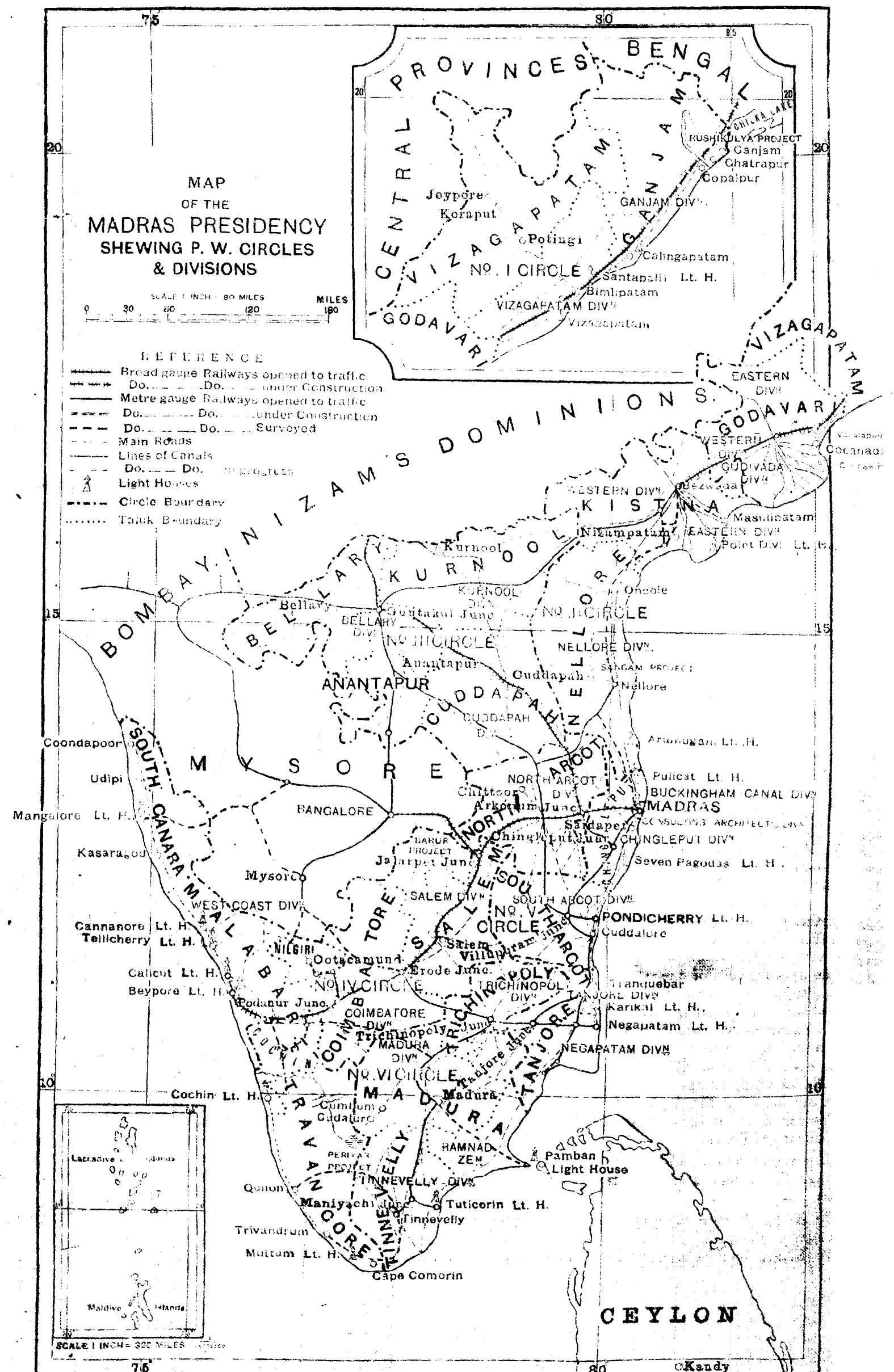
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1894.

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REFERENCES

- Broad gauge Railways opened to traffic
 ----- Do. ----- Do. ----- under Construction
 ----- Metre gauge Railways opened to traffic
 ----- Do. ----- Do. ----- under Construction
 ----- Do. ----- Do. ----- Surveyed
 ----- Main Roads
 ----- Lines of Canals
 ----- Do. ----- Do. ----- in progress
 ----- Light Houses
 ----- Circle Boundary
 ----- Tank Boundary
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ADMINISTRATION REPORT
OF THE
PUBLIC WORKS DEPARTMENT, MADRAS,
(GENERAL, BUILDINGS AND ROADS BRANCH),
FOR THE YEAR 1893-94.

I.—GENERAL REMARKS.

Administration.—Mr. G. T. Walch was acting as Chief Engineer and Secretary to Government, Public Works Department, at the beginning of the year. On the 22nd April he retired under the 55 years' rule, and the Government took that opportunity of placing on record its appreciation of his services. Mr. Walch joined the Department of Public Works as Assistant Engineer, 2nd grade, in March 1866. Since then and up to March 1887 he was in executive charge of some of the most important irrigation projects in the Presidency. Both in his executive and administrative capacity he had, the Government remarked, given every satisfaction, and the services of an experienced, able and zealous officer were lost by his retirement. Mr. Hannan was thereupon appointed Acting Joint Secretary to Government with the departmental rank of Chief Engineer, 2nd class, temporary, and assumed charge of the General Branch. Colonel Drake-Broekman continued in charge of the Irrigation Branch with the position of Acting Secretary to Government and Chief Engineer, 1st class, until the 30th October 1893, when Colonel Pennycuik, R.E., returned from furlough and reassumed charge of his permanent appointment as Chief Engineer and Secretary to Government.

2. *Circle Charges.*—The circle charges were administered as follows:—The I Circle, with head-quarters at Dowlaiswaram, continued throughout the year in charge of Mr. G. D. Wybrow. The II Circle, head-quarters Bezwada, was held by Mr. J. W. Martin, except for a period of three months' absence on privilege leave, when the officiating charge devolved on Mr. A. A. G. Malet, Executive Engineer. Colonel A. T. Fraser, R.E., continued in charge of the III Circle, head-quarters Bellary. Mr. J. C. Larminie, who had charge of the IV Circle, head-quarters Coimbatore, in the previous year, was relieved early in April by Lieut.-Colonel A. W. Smart, R.E., who in turn was succeeded by Mr. J. Hannan in November. Mr. Larminie relieved Mr. Hannan of the charge of the V Circle, head-quarters Madras, in April on the transfer of the latter officer to officiate as Chief Engineer, II class, and he continued in charge for the remainder of the year, except during a short period of absence on privilege leave, when Mr. J. P. Davidson officiated. The VI Circle, head-quarters Trichinopoly, was administered by Mr. W. Hughes, B.A., until August, when he proceeded on furlough and was relieved by Major W. L. C. Baddeley, R.E. The latter officer was succeeded in November by Lieut.-Colonel A. W. Smart, R.E., who held charge for the remainder of the year. The office of Consulting Architect was held by Mr. H. Irwin, C.I.E., throughout the year, and the charge of No. 1 Periyár division (head works) continued in the hands of Mr. S. D. Pears, Superintendent of Works.

3. *Divisional changes.*—It was considered desirable for administrative reasons to rearrange the divisions of the Kistna district, and the following divisions were constituted:—

(1) *Kistna Eastern division* (including the present Gudiváda division) with head-quarters at Bezwada.

(2) *Kistna Western division* with head-quarters at Guntúr.

(3) *Kistna Northern division* (to include the head works, workshops, quarries and other work formerly attached to the head-quarter sub-division of the Eastern division, together with the charge of the non-deltaic portions of the district) with head-quarters at Bezwada.

The works in the Periyár No. II division having sufficiently advanced, it was decided to abolish that division as a separate charge, the works belonging to it being formed into two sub-divisions under the Executive Engineer, Madura division.

4. *Reclassification of the Engineer Establishment.*—Rules were issued during the year for regulating the organisation of the grades, the grade pay, and the promotion of Executive and Assistant Engineers of the department. In the case of officers entitled to draw the rates of pay of the Imperial service, the organisation of the grades and the pay were modified as shown below:—

Old organisation and pay.			New organisation and pay.		
	Monthly pay.			Monthly pay.	
	Rs.			Rs.	
Executive Engineer, 1st grade	950		Executive Engineer, 1st grade	1,000	
" " 2nd "	800		" " 2nd "	850	
" " 3rd "	700		" " 3rd "	700	
" " 4th "	600		Assistant " 1st "	550	
Assistant " 1st "	500		" " 2nd "	450	
" " 2nd "	350 rising to 400 after 3 years.		" " 3rd "	350	
" " 3rd "	250		Ungraded, old 3rd grade (will eventually disappear)	250	

A cadre number was laid down for each list on which promotions are made, which, in the case of Madras, was fixed at 72, and this was apportioned as follows amongst the various grades in accordance with recognised percentages:—

Executive Engineer, 1st grade	...	...	...	...	...	...	18
" " 2nd "	...	...	...	...	...	...	11
" " 3rd "	...	...	...	...	...	...	7
Assistant " 1st "	...	...	...	...	...	...	14
" " 2nd "	...	...	...	...	...	...	11
" " 3rd "	...	...	...	...	...	...	11
Total	...	...	...	...	...	...	72

The scale thus prescribed is called the limiting scale beyond which no promotions can be made. Promotions within the limiting scale are further subject to a time rule which requires a certain number of years' service in each grade or in the department before an officer is eligible for advancement. Various other minor conditions for regulating promotion were also prescribed. The scale and cadre number are to remain in force up to the end of 1894, provided that should the strength of any list be reduced within that period by transfers and retirements to such an extent that the difference between its actual strength and the cadre number equals or exceeds 10 per cent. of the latter, then the cadre number and corresponding scale are to be reconsidered with reference to the existing strength. At the end of 1894 all the cadre numbers will be subject to reconsideration, and the whole of the rules will be subject to revision at the end of seven years.

Officers of the Provincial establishment are to be graded with those of the Imperial establishment and will be promoted side by side with officers of the Imperial establishment in accordance with the prescribed scale and time rule. The arrangement of the grades and rates of pay of Engineers of the Provincial establishment has been fixed as follows:—

	Pay.
	Rs.
Executive Engineer, 1st grade	650
" " 2nd "	550
" " 3rd "	475
Assistant " 1st "	400
" " 2nd "	350
" " 3rd "	250

5. *Special Retirement Scheme for Engineers.*—Rules were issued by the Government of India permitting the retirement, on special pensions, of certain officers who entered the department in the years 1874 to 1881. It was provided that a certain

number of Civil Engineers who joined the service during that period would be eligible, after the completion of 15 years' total service, to retire with the pension due under the rules applicable to them and an additional pension of one-third of their ordinary pension up to a maximum of Rs. 4,000 per annum. There was a *proviso* that no officer who was originally appointed to the department in any rank below that of Assistant Engineer, 2nd grade, and who had not completed on the 31st December 1893 12 years' service from the date of promotion to that grade would be eligible for retirement on the terms offered. The concession was not extended to officers on foreign service and was further restricted to a number not exceeding one-third of the total number of officers on each list, or 110 for all lists. The concession was subsequently extended to the case of officers who joined the service prior to 1874, but only attained the rank of 2nd-grade Assistant Engineers in or after that year. The following officers took advantage of the special terms and were permitted to retire from the service:—

Mr. J. Traill, Executive Engineer, 2nd grade.

" A. B. Todd " " "

" C. M. Smith " " "

" G. E. Manson " " "

" W. Jopp " " "

6. *First appointment of an Upper Subordinate to the Provincial Engineer Establishment.*—During the year an upper subordinate, T. Subrahmanya Aiyar, Sub-Engineer, was appointed to the Provincial Engineer establishment under the rules which had been issued by the Government of India in accordance with the recommendations of the Public Service Commission. It is provided under those rules that a Provincial service recruited in India shall be established on a rate of pay differing from that of the Imperial service recruited in England. The rates are lower except in the three classes of Chief Engineer in which no change is made. The service is under the Leave Rules of Indian services, chapter XIV, and under the General Pension Rules, part IV, of the Civil Service Regulations. The recruitment is —

- (a) from students of the Indian Colleges, being statutory Natives, and
- (b) from upper subordinates of the Public Works Department.

The number of appointments is limited, so far as the Madras list is concerned, to one annually from the Madras College of Engineering, and in alternate years one upper subordinate.

Recruits from the Indian Colleges will be appointed as apprentices on Rs. 100 a month and will remain on probation until they have proved their thorough fitness for service in the department. The men of the upper subordinate class will be ordinarily Sub-Engineers chosen for their ability and merit. Should they be military men they must forego their military rank.

After an officer has been appointed under these regulations in a grade not below that of Assistant Engineer, 2nd grade, he will belong to the general graded establishment of Engineers and will thereafter, if qualified, rise with his contemporaries. College students entitled to appointments under the old rules receive the benefit of those rules.

7. *Casualties.*—There were two deaths among the superior officers of the department, that of Mr. B. H. Young, Executive Engineer, which occurred on the 27th April 1893 at Bhimavaram in the Gódvári district, and of Mr. A. M. Foord, Executive Engineer, which occurred at sea *en route* to England on the 6th January 1894.

8. *Grants and Expenditure.*—The following statement shows the grants and expenditure of the year under the different finance heads:—

Fund and financial heads.	Original grant.	Revised estimate.	Actual expenditure.
	Rs.	Rs.	Rs.
Imperial Military works	1,17,500	1,23,000	1,19,529
Do. Civil works	36,300	35,100	33,720
Provincial Do.	24,00,000	22,70,000	22,53,919
Local Incorporated funds	28,000	39,000	51,733
Do. Excluded funds	2,590	36,247	33,370
Estate works	15,252	20,724	14,863
Total	25,99,642	25,24,071	25,07,334

NOTE.—The figure printed in italics above is only approximate as the Examiner's books have not yet been finally closed.

9. *Madras Harbour Works.*—Operations during the year 1893-94 continued to be confined to the construction of the massive pier heads for completing the harbour with an eastern entrance of 520 feet in width and with a minimum depth of 39 feet of water at De Havilland's mean sea level.

The north pier head construction having advanced more rapidly than that of the south pier, attention was turned to preparing the pier head superstructure to be ready by the close of the year to receive the iron caisson designed to terminate each of the pier heads. The amount of work done was in advance of that accomplished last year, while the nature of the work was more difficult.

The north pier head was practically completed by the 10th March 1894 when the iron caisson was successfully set. The work was started in 1876 and has thus been 17 years in hand. Of this period, 7 years have been occupied in reconstruction. The total length of the pier is 3,816' 9".

Good progress was also made at the south pier head. Judging by the rate of progress at the north arm it is expected that the south arm will be finished by June or July 1895, when the harbour works will be completed in accordance with the sanctioned design.

North Pier Head Superstructure.—The total length of pier built and removed was 140 feet or 384 blocks against a length of 61' 9" or 264 blocks in the previous year. In addition to this, the building, floating, and setting of the north pier head caisson—a most difficult task in an open roadstead—had to be done.

Wavebreaker.—At the north pier head 70 wavebreaker blocks were dropped into position, bringing the wavebreaker screen up to the full width of 40 feet from the sea face of the superstructure.

Apron or Protection to the Rubble Base.—The north pier rubble base was paved or consolidated with Portland cement concrete towards the pier head for a length of 185 feet. The completion of this protection around the end of the pier head and caisson was all that remained to be done under water to complete the north pier.

South Pier Head Superstructure.—The progress made at the south pier during the year was 32' 3" or 143 blocks. Although this progress was in excess of that made in the previous year, it was only one-fourth of that of the north arm. This was due to the unsuitable titan crane available at this arm. It will be replaced in the coming year by that from the north pier when more rapid progress will be possible.

The total length of the south pier, inclusive of the pier head, on the 31st March 1894 was 3,878½ feet from the commencement of the concrete block work on shore. Exclusive of the setting and removal of the necessary temporary courses for the caisson, there only remained one permanent course of 5' 4½" of permanent block work to be added to complete the superstructure of the south pier.

Wavebreaker.—The wavebreaker screen was extended as far as the superstructure had advanced, and for this protection 41 wavebreaker blocks were dropped into position.

Supply of Portland Cement.—No Portland cement was received from England during the year, but an indent was forwarded to the India Office in February 1894 for a further supply of 1,000 tons. The balance in store on the 31st March 1893 was 1,577 tons and the issues to the 31st March 1894 were 548 tons or 3,075 casks, leaving a balance on hand at the close of the year of 1,029 tons, which will be in most part issued by July 1894 for the north pier capping, caisson, &c. The supply under indent will therefore be used for work at the south pier at the close of 1894.

Pallavaram Quarries.—The outturn of stone from the Pallavaram quarries during the year was 8,352 tons of large rubble stone. This was deposited in the protective works north of the harbour. A further supply of 4,727½ tons of chips was received for the concrete in the caisson, paving the rubble base, and laying under the superstructure of the pier heads.

Protective Works North of the Harbour.—The revetment to the north of the harbour grew weak at several points during the year through the flattening of the slopes. To prevent a breach at such points additional large rubble was deposited where necessary. The total quantity so deposited was 8,352 tons, which brought the line of revetment up to a uniform strength. The bay forming at the extreme end of the revetment is, as was expected, growing, and the high water mark of the 31st March 1894 shows a permanent decrease of foreshore during the year of about 100 feet.

GENERAL, BUILDINGS AND ROADS BRANCH.

Foreshore South of the Harbour.—Near the south arm of the harbour the high water mark had advanced 40 to 50 feet in the past 12 months, but it is still in shore or short of the furthest high water mark registered in 1893 by from 150 to 180 feet. At about three quarters of a mile south of the harbour the high water mark of 31st March 1893 is identical with that of 1894, but from this point southwards there is a decided erosion of about 50 feet up to 2 miles down the coast.

Sea Bottom within the Harbour.—An accurate marine survey of the sea bottom within the harbour was made between July and September 1893. No silting or change in the depth of the harbour could be detected. Close to the south pier some sand has found its way through irregularities in the old block work and this sand has, from time to time, been drifted and thrown up, advancing the high water line, thereby providing more foreshore for storage purposes. But since the entrance has been narrowed and the sea rendered quieter inside the harbour the high water line has only varied according to the monsoon and the state of the weather.

Summary of Progress.—The following is a summary of the progress made during the year under review:—

Number of item.	Particulars and quantity of work.	Column Sub-heads of work.	North Pier.			South Pier.			Pallavaram quarries outturn.	Protective works.	Total expenditure.	Remarks.
			Pier head at 40 feet below sea level.	Wavebreaker.	These protective works.	Pier head at 10 feet below sea level.	Wavebreaker.	Railway lines.				
			A	B	C	D	E	F	G	H	I	J
1	Total quantity rubble stone received on work.	Tons.		..	..	..	..	..	7,078	7,078	..	..
2	Total quantity blasted chips received on work.	"		..	..	..	..	..	8,352	8,352	..	..
3	Concrete blocks set and removed by divers.	No.	264 18 Permanent. 336 Temporary.	..	..	..	..	..	1,551 4,727½	..	..	..
	384 Total blocks in work in addition to setting of north pier caisson.		..	..	..	..	..	..	..	..	..	..
4	Concrete blocks deposited in wavebreaker and removed by divers.	"	..	201	..	..	..	..	..	..	..	..
5	Wrought iron cramps fixed in position.	"	20	70	..	..	35	..	..	..	..	..
6	Total outturn of concrete.	Cyds.	12	..	..	12	41	..	..	..	..	..
7	Advance or progress of completed superstructure.	Rg. ft.	2,330	..	124½	6	..	..	..	..	..	..
	61' 9" 9 Permanent advance including caisson.		..	..	131½	..	..	..	..	..	..	..
	75' 3" Temporary advance including caisson and removal.		..	..	28' 7½" 32' 3"	..	..	..	..	..	..	..
	140' 0" Total length.		..	..	..	..	..	..	..	..	..	..
8	Rubble base protected with concrete.		..	309	..	..	..	..	..	..	..	..
9	Titan and mixed gauge Railway lines, &c.		..	185	..	..	..	..	..	..	..	..
10	Expenditure under sub-heads of work approximately.		..	..	..	..	..	4,810	..	..	..	..
			1,12,254	1,360	1,052	38,449	1,316	5,989	15,476	2,191	1,79,088	..

Portland Cement.

	TONS.			
Balance from last year	..	..	..	..
Received from England during year	..	..	..	..
Used for north pier head works	..	..	..	..
Balance on 31st March 1894	..	..	..	..
	1,577	10	1	13
	548	19	2	16
	1,028	10	2	26

Expenditure.—The total outlay on the works during the past year, including the expenditure on the protective works north of the harbour, has been Rs. 2,28,030, made up as follows:—

	RS.
Outlay on works	2,11,464
Do. on establishment	30,954
Do. on tools and plant	11,157
Net debits to suspense heads ...	2,53,575
Net outlay in the year ...	2,28,030

The total expenditure up to the end of the official year was Rs. 1,21,92,104 against the total estimated cost of Rs. 1,23,83,386.

Miscellaneous.—The Deputy Traffic Manager's bungalow at Cassimode and the property of the trust known as Carlton House occupied by the Board's Secretary at Ráyapuram were thoroughly repaired previous to the setting in of the monsoon. A marine police boat station stables for the Deputy Commissioner of Police was also completed and handed over at the close of 1893. The balance of the fifteen pier trucks sanctioned for the Traffic Department was completed and handed over to the department in working order. The usual repairs and the upkeep of all machinery, cranes, railway lines, &c., were attended to, all haulage done by the harbour works locomotives for the Traffic Department was continued, and the realignment of the beach line for the Tramway Company was well in hand. No accidents of any nature occurred during the year.

10. *Negapatam Harbour.*—The following works in connection with this harbour were sanctioned during the year at a cost of Rs. 4,980:—

- (1) Repairs to the jetty wall.
- (2) Extending and strengthening the present groynes on the east side of the island in the harbour.
- (3) Constructing two stone groynes on the west side of the island. An experimental training groyne at the mouth of the harbour was also sanctioned at a cost of Rs. 2,250. The object of this work is to keep the mouth of the river from shifting southwards. An estimate of Rs. 240 for clearing the municipal drainage channel on the north side of the jetty was also sanctioned and carried out.

11. *New Pier at Tuticorin.*—In 1891 it became evident that a new pier at Tuticorin was necessary. The existing structure—a wooden jetty constructed in 1872—is no longer suitable for the work put upon it and has suffered from the attacks of marine insects. Careful inquiries were instituted as to the most suitable form of structure and its probable cost, and a committee, in which local mercantile and railway interests were represented, was convened to select the best site for the work. The committee decided in favour of a position adjoining the present jetty on the ground that the warehouses of the majority of the traders are in its proximity while the Custom-house and Port offices are across the road. There is, however, one serious drawback to this site, viz., its distance from the South Indian Railway. To overcome this defect it is proposed to lay down a siding on a radius of 500 feet and at a cost of Rs. 2,000. It will also be necessary to reclaim the land on which the siding will be laid. For this purpose, a strip along the foreshore measuring approximately 140 feet wide and 900 feet long will have to be dealt with at an estimated cost of over Rs. 10,000. The pier will then start from the seaward margin of the reclaimed land at about 140 feet from high water mark and a reduction of 90 feet in its length will be practicable. The saving in cost of the pier thus effected will counterbalance to a great extent the expense of the reclamation. Tenders were invited for the construction of the pier, and that submitted by Messrs Burn and Co. of Calcutta was accepted for Rs. 1,00,000. To this sum has to be added the cost of land reclamation and of piles separately provided by the Public Works Department. The cost of the pier is thus expected to reach about Rs. 1,25,000.

12. *Proposed Harbour at the mouth of the Upputeru River.*—The Upputeru river which is formed by the confluence of several small channels issuing from the Colair lake forms a natural boundary between the Gódvári and Kistna deltas. From its head to the sea its length is about 30 miles, and during this course it receives the drainage of a considerable extent of land on either bank. As the river approaches the sea it widens to about 150 yards and increases to a depth varying from 20 to 30 feet. For the last 6 or 7 miles it runs parallel to the coast, being separated from the sea by a narrow sand ridge in most places not more than a mile wide. As soon as it turns parallel to the coast, it opens out into a shallow backwater of considerable extent through which, however, there is a channel 15 to 18 feet deep at low tide. The mouth is formed by a permanent gap in the sand ridge. It is about $\frac{1}{4}$ mile wide and the minimum depth of water on the bar is found from soundings taken by the Presidency Port Officer and the Superintending Engineer to be $4\frac{1}{2}$ feet at low tide. As an inland waterway connected by four locks with the navigation systems of the Gódvári and Kistna canals, the Upputeru river is extremely valuable, and it is thought that, if the bar at the mouth were removed and a permanent deep water channel maintained, it would offer a capacious and convenient port for the large traffic now springing up from the improved condition of the Gódvári and Kistna districts. The question as to the best means for effecting this object is now under consideration, but it seems certain that a harbour suitable for the accommodation of large vessels cannot be made at the mouth of the river without very heavy expenditure.

13. *Port of Muttupet.*—The necessity for deepening the river at the port of Muttupet in the Tanjore district was urged on Government by the local authorities. This town, which is the proposed terminus of the Máyavaram-Muttupet Railway, lies on the west bank of the Korayar at a distance of 7 miles from the sea, and all the sea-borne trade is carried down the river to the ships lying in the bay in large cargo boats of 10 to 15 tons. The river for about a mile below the custom-house is so silted up that, except in heavy floods, there is hardly one foot of water. It was therefore proposed that the measures necessary for deepening the river should be reported on by a professional officer. This was accordingly done, but the cost of the proposed improvements was found to be beyond the means of the Tanjore District Port fund. No grant could therefore be made for the work.

14. *Law College, Madras.*—The circumstances under which it was decided to erect a separate building for the Law College at Madras were noticed in the report for 1892-93. Plans and estimates for the work were sanctioned during the year under review, the latter amounting to Rs. 3,41,360. The building has been designed with two stories, the walls being thick enough to carry a third story if necessary hereafter; the rooms being arranged round a central courtyard with a view to light and ventilation. The basement floor will contain four lecture rooms each $47' 2" \times 31' 2"$ and two common rooms of smaller dimensions besides accommodation for stores and establishments. On the upper floor there will be five lecture rooms of somewhat similar size to those below as well as rooms for the Principal and Professors. Provision has also been made for suitable out-buildings. The expenditure on the work was Rs. 57,605, of which Rs. 35,000 represent the value of materials supplied.

15. *Lighthouses.*—The following lighthouses were inspected by Superintending Engineers during the year:—

Calingapatam.	Hope Island.
Santopalli.	Point Divi.
Vakalapudi.	Negapatam.

16. *Works on Wards' Estates.*—The works in the following estates were in charge of the Public Works Department during the year:—

Ganjám Division.	Gódvári Western Division.
(1) Aska.	(4) Lakkavaram.
(2) Bodlagada.	(5) Tangallamudi.
(3) Dhárakóta.	

The statement given below exhibits the outlay as compared with the grant for works :—

Estates.	Buildings.		Communications.	
	Repairs.		Repairs.	
	Revised grant.	Outlay.	Revised grant.	Outlay.
<i>Ganjām Division.</i>				
Aska	Rs.	Rs.	Rs.	Rs.
Dhārākōta	750	507	..	27
Bodagada	200	200	..	95
Total	950	707	..	122
<i>Gōdāvari Western Division.</i>				
Tangellamudi	1,547	1,380	..	..
Lakkavarani	..	..	..	..
Total	1,547	1,380	..	..

Aska Estate.—A grant of Rs. 3,000 was made for the reconstruction of the Malukdar's quarters but was subsequently surrendered, as the proprietrix of the estate was unwilling to have the work carried out.

Bodagada Estate.—A sum of Rs. 1,000 was sanctioned for the construction of a compound wall round the Bodagada palace and a tiled house in the place of the present thatched one for Sri Durgadevi, but the Collector disapproved of the works and the grant was surrendered. The houses in Bodagada palace were under repair, an expenditure of Rs. 200 having been incurred against an estimate of Rs. 380. The work was in progress at the end of the year.

The expenditure of Rs. 95 under "Communications, Repairs," was incurred on the road from the palace to the police station.

Dhārākōta.—The expenditure of Rs. 507 under "Buildings, Repairs," was on two buildings in Dhārākōta palace, and the outlay of Rs. 27 under "Communications, Repairs," was on the maintenance of the Dhārākōta-Mundanari road.

The sum of Rs. 1,380 under "Buildings, Repairs," was spent on the zemindari building.

17. Public Works Stores—

	RS.	A.	P.	RS.	A.	P.
The opening balance of the year was	..	..	..	1,81,839	10	9
The receipts during the year were—						
From London	56,001	9	6			
" Public Works divisions	99	0	0			
" Public Works Workshops	4,737	8	1			
" other departments	795	13	8			
" excess in stock-taking	18	2	6			
" local purchases	1,685	5	6			
				63,337	7	3
Total				2,45,177	2	0
The issues were—						
To Public Works Department	6,583	2	3			
" Public Works Workshops	24,242	2	0			
" State Railways	182	7	2			
" articles valuing Rs. 10 and below transferred to other divisions and departments	25	12	1			
" other departments	476	8	0			
" other Provinces	46	5	10			
" private sales	0	11	0			
				31,527	0	4
Leaving a closing balance of				2,13,650	1	8

This closing balance is in excess by Rs. 63,650-1-8 of the reserve limit of Rs. 1,50,000. The excess is due to a great extent to an accumulation of surplus stores and to the retention in the Public Works Stores of a portion of the English stores obtained for the Nellore and Bezwada workshops.

Obsolete surplus stores to the value of Rs. 2,792 were sold during the year.

Special stores to the value of Rs. 55,243 were obtained from England on account of other divisions and despatched to their destinations.

Stores were obtained from other departments to meet the requirements of the Public Works Department to the value of Rs. 795-13-8.

Instruments, tools and machinery were issued numerically to Public Works Provincial service without charge and to irrigation works and other departments to the value of Rs. 18,684-3-1.

Forty-one consignments were received from England and there were 39 shipments to other Public Works divisions as against 45 and 57 in the previous year.

18. *Public Works Workshops.*—The value of work executed in the shops during the year was Rs. 1,09,612-3-10 against Rs. 1,11,562-9-1 in the previous year showing a decrease of Rs. 1,950-5-3.

The following is a statement of the work done during the year as compared with that of the previous year :—

	1892-93.		1893-94.		Difference.	
	Rs.	A. P.	Rs.	A. P.	More.	Less.
Work done for Public Works Department including						
Military Works and State Railways	53,638	3 2	80,385	2 10	..	2,653 0 4
Other Government departments	28,104	6 1	27,007	0 6	..	1,097 6 1
Private parties and Quasi Public bodies	419	15 10	3,220	1 0	1,800	1 2
Total	1,11,562	9 1	1,09,612	3 10	1,800	1 2
Loss	..	..	..	..	..	3,750 6 5
						1,950 5 3

The value of machinery and plant in the shops at the beginning of the year was Rs. 99,291. After deducting 4 per cent. for depreciation and adding receipts amounting to Rs. 1,402, the balance at the close of the year amounted to Rs. 96,721. The expenditure on tools and plant was Rs. 2,512 from a grant of Rs. 4,000, while the balance of materials on hand at the end of the year was Rs. 12,759-8-4 which is within the sanctioned reserved limit of Rs. 25,000.

19. *Nellore Workshops.*—The outturn during the year was Rs. 13,886 against Rs. 14,053 in the preceding year. The general charges on account of establishment and contingencies amounted to Rs. 1,800 against a centage of Rs. 1,259 charged to works, resulting in a loss of Rs. 541, but this included Rs. 343 brought forward from the previous year. Owing to the paucity of works in hand and to Nellore being in railway and canal communication with Madras, the advisability of closing the Nellore shops was considered. It was decided in March 1894 to close the shops as early as possible. Notices were accordingly given to the establishment that their posts would be abolished from 1st June 1894.

20. *Bezwada Workshops.*—The outturn of these shops was Rs. 1,85,807 during the year against Rs. 1,11,561 for the preceding year. The outturn of 1893-94 has been the highest since the commencement of the workshops. The total receipts at 1 per cent. on the transactions of the year on account of general charges amounted to Rs. 1,258 while the charges debitable to this head were Rs. 565, leaving a net profit of Rs. 693 against Rs. 358 in the previous year.

21. *Dowlaiswaram Workshops.*—The following is a statement of the work done in the shops excluding centages during the year under review as compared with the previous year :—

	1893-94.	1892-93.	More than 1892-93.	Less than 1892-93.
1. Work done for the Public Works Department excluding centage	52,020	67,385	..	15,365
2. Work done for other departments excluding centage	1,568	3,717	..	2,149
3. Do. for private parties excluding centage	1,650	1,794	..	214
Total	55,138	72,896	..	17,758

The value of work thus amounted to Rs. 11,602 less than in the previous year. The falling off was due to the completion of the work connected with the Gôdâvari delta system and to the opening of the East Coast Railway which has facilitated the carriage of articles from Madras and elsewhere.

22. *Government Brick and Tile Manufactory.*—About 2,397,600 bricks, 143,560 flooring tiles, 189,023 Mangalore pattern roofing tiles, and a large quantity of terracotta were manufactured and supplied to Government works; 832,766 bricks and 125,089 tiles were sold to contractors and others at an advance of 24½ per cent. on the rate charged to Government works.

23. *Roads.*—The following statement shows the length of road communication maintained by public authorities in Madras during the year 1893-94:—

Name of division.	Name of district.	Length of metalled roads maintained by the Public Works Department.	Length of unmetalled roads maintained by the Public Works Department.	Length of metalled roads maintained by local authorities.	Length of unmetalled roads maintained by local authorities.	Total of metalled roads.	Total of unmetalled roads.
Ganjam and Baskikalya	Ganjam	5	..	732	22	737	22
Vizagapatam	Vizagapatam	..	..	338	538	338	538
Gôdâvari (Eastern and Western).	Gôdâvari	6	..	784	161	789	161
Kistna (do.)	Kistna	62	20-50	681	275	681-62	205-50
Nellore	Nellore	40	..	979	108	979-40	108
Bellary	Amuntapur	..	..	156	543	156	543
Cuddapah	Bellary	..	..	44	492	44	492
Kurnool	Cuddapah	..	..	321	718	321	718
Coimbatore	Kurnool	..	..	482	182	482	182
Salem	Nilgiris	28-45	7-41	64	481	92-45	488-41
West Coast	Coimbatore	..	..	937	605	937	605
North Arcot	Salem	..	..	534	1,394	534	1,394
Chingleput	Malabar	61	..	477	879	538	879
South Arcot	South Canara	..	..	148	887	148	887
Tanjore and Nogatam	North Arcot	..	..	1,468	..	1,468	..
Trichinopoly	Chingleput	..	..	607	77	607	77
Madura	South Arcot	..	..	895	234	895	234
Tinnevely	Tanjore	..	147-50	150	1,348	155	1,495-50
Consulting Architect	Trichinopoly	20-87	..	517	152	537-87	152
	Madura	..	..	539	706	569	706
	Tinnevely	..	..	818	124	818	124
	Presidency	4-30	..	..	..	4-30	..
	Total	125-64	232-41	11,635	9,956	11,760-64	10,188-41

NOTE.—This statement does not include roads and streets within municipal limits.

24. *Reclassification of the Public Works Secretariat Office Establishment.*—This establishment has for a considerable period been on the progressive salary rates of pay, but this system was altered during the year, at the request of the members of the establishment, to the fixed scale system. The revised scale was so arranged that, without increase of cost or personal loss to any member, an even flow of promotion would be secured.

25. *Service Books.*—The orders with respect to the due and correct maintenance of service books are reported to have received careful attention at the hands of officers of the Public Works Department, except in a few cases in the Gôdâvari Western and Ganjam divisions where the early verification and completion of the books was promised.

26. *Inventory of valuable Stock.*—The instructions of Government relating to the maintenance of an inventory of valuable stock were carried out in the Chief Engineer's and subordinate offices, except in one instance, viz., in the office of the Superintending Engineer, V Circle, where no count is reported to have been made for the half-year ending 31st October 1893.

II.—PROGRESS OF WORKS.

I.—IMPERIAL—MILITARY WORKS.

27. *Ganjam.*—The only work in progress during the year was constructing a well for the use of the public in lieu of the one reserved for the exclusive use of the regiment at Berhampur; estimate Rs. 920, expenditure to end of the year Rs. 1,024. This work was ordered to be stopped pending allotment of funds. The well was excavated to a depth of 35 feet and there was water to a depth of about 28 feet. A revised estimate was prepared and submitted to the Collector for his approval.

28. The works in progress under repairs during the year were 18, of which 16 were completed. The expenditure was Rs. 1,433 against an allotment of Rs. 1,410.

29. *Vizagapatam.*—The following minor works were executed at a cost of Rs. 943 against an allotment of Rs. 1,194:—

(1) Sinking five new wells in the cantonment, Vizianagram; estimate Rs. 2,170, outlay Rs. 270.

(2) Improvements to the stop butt of N.I., Vizianagram; estimate Rs. 520, outlay Rs. 442.

(3) Laying a cut-stone drain opposite bandsmen's lines, Vizianagram; estimate Rs. 160, outlay Rs. 147.

(4) Two dry earth store sheds to the military latrines of the regimental hospital, Vizianagram; estimate Rs. 80, outlay Rs. 84.

30. The expenditure on repairs was Rs. 3,257 against an allotment of Rs. 3,200 for repairing buildings at Vizagapatam and in the cantonment of Vizianagram and also for paying assessment on military buildings at Vizianagram and house-rent and compensation for quarters for medical and military subordinates.

31. *Godavari (Eastern).*—The expenditure on repairs was Rs. 236 against a grant of Rs. 290.

32. *Bellary.*—Providing two quarters for Senjeant Instructors at Hubli; estimate Rs. 10,238, grant Rs. 9,353, outlay Rs. 9,353. This work was brought on the books of the Public Works Department in February. The outlay was incurred by the Railway Department.

33. *West Coast.*—The following works were completed and made over for occupation:—

(1) Sheds for transport animals at Calicut; estimate Rs. 15,480, expenditure Rs. 16,761.

(2) Swimming bath, West Hill, Calicut; estimate Rs. 8,000, expenditure Rs. 7,576.

(3) Quarters for 8 men of the Army Hospital Native Corps at Calicut; estimate Rs. 2,260, expenditure Rs. 2,322.

(4) Sheds for transport animals at Malappuram; estimate Rs. 2,824, expenditure Rs. 2,822.

(5) Officers' mess at Malappuram; estimate Rs. 7,920, expenditure Rs. 8,312.

(6) Four blocks of corrugated iron latrines for the Madras Infantry at Cannanore; estimate Rs. 2,590, expenditure Rs. 2,642.

34. The elephant shed at Calicut was improved at a cost of Rs. 1,378.

35. A sum of Rs. 1,147 was expended on improvements to the commissariat serjeant's quarters at Malappuram.

36. The lightning conductor attached to the powder magazine at West Hill, Calicut, was improved at an outlay of Rs. 145.

37. Materials to the value of Rs. 430 were received from Bombay for the provision of lightning conductors to the military buildings at West Hill, Calicut, but their arrival was too late to admit of the grant of Rs. 1,040 being utilized in full.

38. The expenditure on repairs was Rs. 25,271 against a grant of Rs. 25,430. The military buildings and cantonment roads at the several military stations in the division were repaired and maintained in good order.

39. **Coimbatore.**—The only major work in progress was the construction of quarters for the Serjeant Instructor attached to the Madras Railway Volunteer Corps at Pódanúr; estimate Rs. 3,800, expenditure in the previous year Rs. 2,950, expenditure during the year Rs. 274. The work was completed.

40. The following minor works were completed:—

(1) Providing ventilators in the roof of the kitchen of the rest-house at Pódanúr; expenditure Rs. 15.

(2) Demarcating the extra land required for the rest camp at Méttupálaiyam; expenditure Rs. 8.

(3) Constructing verandah in rear side of hospital, girls' school, Lawrence Asylum, Ootacamund; expenditure Rs. 145.

41. The total outlay under military repairs was Rs. 10,562 against an allotment of Rs. 9,090; of this, Rs. 1,200 were paid for rents of hired buildings for military subordinates.

42. The following are the principal works carried out during the year:—

(1) Servants' lines and Principal's quarters, Lawrence Asylum, Ootacamund; estimate Rs. 2,100, expenditure Rs. 275.

(2) Repairs to the European warders' cottage on Jail Hill at Ootacamund; estimate Rs. 320, expenditure Rs. 307.

(3) Special repairs to Lawrence Asylum buildings; estimate Rs. 2,270, expenditure Rs. 2,201.

(4) Repairing Judge Advocate-General's office and Volunteer head-quarters on Jail Hill; estimate Rs. 340, expenditure Rs. 332.

(5) Repairing warders' quarters on Jail Hill, Nos. 2, 3 and 4 blocks; estimate Rs. 200, expenditure Rs. 219.

(6) Apothecary's quarters, Lawrence Asylum; estimate Rs. 490, expenditure Rs. 499.

(7) Repairing serjeants' quarters, Lawrence Asylum; estimate Rs. 2,650, expenditure Rs. 2,173.

(8) Annual repairs to girls' school, Lawrence Asylum; estimate Rs. 1,350, expenditure Rs. 1,342.

(9) Repairs to hospital of Lawrence Asylum; estimate Rs. 925, expenditure Rs. 874.

(10) Boys' kitchen at Lawrence Asylum; estimate Rs. 670, expenditure Rs. 670.

43. **North Arcot.**—The construction of quarters at Rénigunta for a Serjeant Instructor was sanctioned and materials were to some extent collected to begin the work, but on orders being received that the work was not required the grant was surrendered.

44. Some petty repairs to the Pension office at Arni were carried out at a cost of Rs. 69.

45. **Salem.**—A house at Jalarpét was purchased for the accommodation of the Serjeant Instructor, Madras Railway Volunteers.

46. Out of the grant of Rs. 300 allotted for repairs to Serjeant Instructor's quarters at Yercaud, Rs. 261 were spent.

47. **South Arcot.**—The construction of an armoury with magazine and store room and quarters for the Serjeant Instructor attached to the South Indian Railway Volunteer Corps at Cuddalore was in progress on an estimate of Rs. 9,830. Masonry was built up to floor level and most of the wood work required for the building was brought to the work spot.

48. Rs. 73 were spent from an allotment of Rs. 180 in hiring quarters for the Serjeant Instructor attached to the South Indian Railway Volunteer Corps at Cuddalore.

49. **Negapatam.**—The building occupied by the Serjeant Instructor of the South Indian Railway Volunteer Rifle Corps at Negapatam was repaired at a cost of Rs. 382 and municipal tax for the building Rs. 55 was paid.

50. **Trichinopoly.**—The only new work carried out in the year was the construction of a platform and drain to the Muhammadans' canteen room in the 1st Madras Pioneers' lines at a cost of Rs. 72.

51. A sum of Rs. 8,269 was spent during the year in repairing several buildings and maintaining the cantonment roads, the latter by the Municipality from the contribution of Rs. 1,188 received from Public Works Department.

52. **Madura.**—Rs. 175 were paid for rent for quarters occupied by the Serjeant Instructor, South Indian Railway Volunteer Corps, for portion of the year, bills for claims for the latter part of the year not being received.

53. **Tinnevely.**—Rs. 180 were paid for rent of quarters hired for the Serjeant Instructor of the above corps.

II.—IMPERIAL—CIVIL BUILDINGS.

54. **Ganjam.**—Improvements to the Post office at Chatrapur; estimate Rs. 610, outlay Rs. 608. The work was completed in March but final payments made to the extent of Rs. 38 in May 1894.

55. Post office at Kasibugga; estimate Rs. 1,720, outlay Rs. 1,435. The work was in progress.

56. The expenditure under repairs was Rs. 685 against an allotment of the same amount. The following works were executed:—

(1) Repairs to the Post office at Gopálpur; estimate Rs. 510, outlay Rs. 488. Work completed.

(2) Repairing the Post office at Chatrapur; estimate Rs. 200, outlay Rs. 176. Work completed.

(3) Repairs to Post office and out-houses at Parlákimedi; estimate Rs. 270, outlay Rs. 21. Work nearly completed.

57. **Vizagapatam.**—A sum of Rs. 952 against an allotment of Rs. 1,000 was spent in repairing the Post offices at Vizagapatam, Sálúru and Párvatípuram and Telegraph office at Vizagapatam.

58. **Godavari (Eastern).**—Repairs to Post offices at Bhadráhalam, Kunavaram, and Samalkot and erecting a compound wall round Tunni Post office, an incomplete work of last year, were carried out during the year at a cost of Rs. 500 against a grant of Rs. 500.

59. Repairs to the Telegraph signallers' quarters at Cocanada, an incomplete work of last year, was completed at a cost of Rs. 143.

60. Telegraph offices at Rajahmundry and Cocanada were repaired at a cost of Rs. 552.

61. The total expenditure under "Telegraphs" was Rs. 695 against a grant of Rs. 700.

62. **Godavari (Western).**—Alterations to old District Munsif's Court at Amalápuram for Postal Department were made at a cost of Rs. 140.

63. **Kistna (Eastern).**—Repairs to the bungalow on Orr's Hill were ordered to be put in hand in consequence of a proposal to hand over the building to the Assistant Commissioner, Salt and Abkári Revenue, for his residence and office, but on the representation of the Superintending Engineer as regards the unsuitability of the building for the purpose, the idea was abandoned. The outlay incurred on the work was Rs. 356.

64. The Post office at Bezwada was repaired at a cost of Rs. 70.

65. The Telegraph offices at Bezwada and Masulipatam were repaired at a cost of Rs. 142 and Rs. 335 respectively.

83. **Kistna (Western).**—The Post office at Vinukonda and the Telegraph office at Gudur were repaired during the year.

85. **Nellore.**—The Post office at Ramayapatam was repaired to the extent of Rs. 737 against an estimate of Rs. 170.

86. Repairs to the Post offices at Kāvali and Gudur were in progress.

89. **Bellary.**—The construction of a stone drain in the Bellary Telegraph office was completed at a cost of Rs. 161.

70. **Cuddapah.**—Repairs to the Post office at Rāzampēta were carried out at a cost of Rs. 141 and materials collected for repairing the Post office at Madanapalle.

71. **Salem.**—Combined Post and Telegraph office at Vāniyambādi. The work was sanctioned late in the year. The site was handed over on the 18th March 1894. However good progress was made with construction.

72. Improvements to the Postmaster's quarters at Jalarpet. Work commenced at the end of the year and almost completed.

73. A compound wall in the front of the Post office at Suramangalam was also commenced and an outlay of Rs. 140 incurred.

74. Annual repairs to Post office buildings at Suramangalam, Dharampuri, Yercaud and Salem were completed during the year.

75. **North Arcot.**—Two works under the head "Repairs, Postal," were undertaken, viz. :—

(1) Repairs to the Post office at Vellore; estimate Rs. 3,070. Work in progress.

(2) Repairs to the Post office at Venkatagirikōtta. Completed at a cost of Rs. 40.

76. **Coimbatore.**—A sum of Rs. 90 was allotted for the construction of a porch in the Postmaster's quarters at Kōtagiri. The work was completed.

77. Rs. 1,262 were spent on repairs to postal and Rs. 31 on repairs to telegraph buildings.

78. **West Coast.**—The only new work carried out was improving the Post office building at Palghat; estimate Rs. 420, expenditure Rs. 459.

79. The postal buildings at the undermentioned stations were repaired during the year at the cost set against each :—

	Expenditure.
	Rs.
(1) Pondalur	160
(2) Tellicherry	380
(3) Beypore	57
(4) Puthur	19
(5) Cannanore	278
(6) Malappuram	79
(7) Devala	436
(8) Vayittiri	25
(9) Palghat	69
(10) Muthancherry	40
(11) Postmaster's quarters at Mangalore	38

80. **Chingleput.**—A kitchen was built for the combined Post and Telegraph office at Kathivakam at an outlay of Rs. 158 on an estimate of Rs. 160.

81. Repairs were carried out to the Post office at Puduvoyal at an outlay of Rs. 146.

82. **South Arcot.**—A telegraph room was added to the combined Post and Telegraph office at Cuddalore at a cost of Rs. 305.

83. **Tanjore.**—The Post offices at Tanjore and Tranquebar were repaired at an outlay of Rs. 241.

84. **Negapatam.**—From the year's grant of Rs. 1,000 for constructing, in the interests of the salt revenue, a dam across the Valavanar, estimate Rs. 8,900, an expenditure of Rs. 996 was incurred. The further prosecution of the work is under consideration.

85. The Post office at Mimbesal and the Government Telegraph office at Negapatam were repaired at a cost of Rs. 17 and 105 respectively.

86. **Trichinopoly.**—Kothavalchavady and Teppakulam Post offices and the General Post and Telegraph office at Trichinopoly were repaired at an outlay of Rs. 452. A bath room for the Telegraph Master and chimneys for linemen's quarters were provided at a cost of Rs. 119.

87. **Madura.**—The provision of additional accommodation to the Post and Telegraph office at Rāmnad and the sinking of a well in the compound of the Post office at Butlagundu were completed, all at an outlay of Rs. 716. Repairs to the Postmaster's quarters at Periyakulam and the Post office at Butlagundu were completed and repairs to the Post office at Ammayanāyakkannūr were in progress, outlay on all being Rs. 300.

88. **Tinnevely.**—Providing iron bars to the windows of the Post office near the Railway station at Tinnevely was completed at a cost of Rs. 50. Repairs to the Post offices at Palamcottah and Virudupatti, repairs to the well and compound wall of the Post office at Sātūr and to the well in the Post office at Srivaikuntam were carried out at an outlay of Rs. 370. Of these the second and third were executed by the Local Fund Engineer. The Telegraph office at Tuticorin also was repaired at an outlay of Rs. 31.

89. **Presidency.**—Rs. 1,114 were expended for several minor works in the Post and Telegraph offices, Madras.

III.—PROVINCIAL—CIVIL BUILDINGS.

90. **Ganjam.**—The following works were completed or in progress :—

(1) New residence for the Collector at Chatrapur; estimate Rs. 24,900, outlay Rs. 12,357 against a grant of Rs. 12,583. The work was completed and handed over to the Collector on 18th January 1894.

(2) A new record room as an adjunct to the Collector's office at Chatrapur; estimate Rs. 5,160, outlay Rs. 2,961 against a grant of Rs. 2,920. The work was completed and handed over to the Collector on 15th January 1894.

(3) Post office at Balliguda; estimate Rs. 2,900. The work was completed and handed over.

(4) Post office at Udayagiri; estimate Rs. 2,500. The work was completed and handed over.

(5) Combined office for the Stationary and Town Sub-Magistrates at Berhampur; estimate Rs. 12,800, outlay Rs. 4,063 against a grant of Rs. 4,000. Roughstone masonry in basement was completed, door frames were put up and walls were raised in superstructure to the level of the window sills throughout in the front portion to a height of nearly 6 feet. Window frames were being put up.

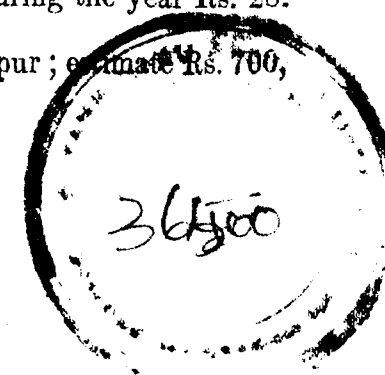
(6) Compound wall around the burial-ground at Gopalpur; estimate Rs. 1,250, outlay during the year Rs. 557. Work completed.

(7) Sub-Registrar's office at Purushottapur; estimate Rs. 2,060, outlay during the year Rs. 1,574. The work was completed and handed over to the Registration Department.

(8) Compound wall around the Sub-Jail and Sub-Magistrate's cutcherry at Sōmpēta; estimate Rs. 1,300, outlay during the year Rs. 1,034. The work was completed.

(9) Dead-house at Tekkali; estimate Rs. 730, outlay during the year Rs. 28. The work was virtually completed in the previous year.

(10) Improvements to the Protestant cemetery at Berhampur; estimate Rs. 700, outlay during the year Rs. 697. The work was completed.



91. The number of works under repairs during the year was 9, and 6 of these were completed. The outlay under this head was Rs. 4,487 against a grant of Rs. 4,200.

92. **Vizagapatam.**—The following works were completed or in progress during the year:—

(1) Additions and alterations to the Hill Jail at Párvatipuram; estimate Rs. 13,300, outlay Rs. 5,445 against a grant of Rs. 5,250. Blocks Nos. 2 and 3 were practically completed and handed over to the jail authorities. Verandah floors have still to be paved.

(2) Repairing the Government Normal school at Vizagapatam; estimate Rs. 2,960, outlay Rs. 2,820 against a grant of Rs. 2,960. Work completed but accounts not finally closed.

(3) Dismantling and reconstructing Superintendent's office and store rooms, Lunatic Asylum, Waltair; estimate Rs. 3,880, outlay Rs. 2,427 against a grant of Rs. 3,080. Work nearly completed except tiling and flooring with asphalt.

(4) A Middle and Normal school-house at Gunupur; estimate Rs. 5,435, outlay Rs. 1,841 against a grant of Rs. 1,823. Work completed and handed over.

93. A sum of Rs. 5,423 was spent during the year under minor original works against a grant of Rs. 5,660. The principal works carried out are detailed below:—

(1) Extension of store-room, District Jail at Vizagapatam; estimate Rs. 850, outlay Rs. 841.

(2) Work shed in the District Jail at Vizagapatam; estimate Rs. 1,750, outlay Rs. 469.

(3) Demolishing and reconstructing the record room of Deputy Tahsildar's cutcherry at Sálúru; estimate Rs. 1,280, outlay Rs. 565.

(4) Sub-Registrar's office at Bobbili; estimate Rs. 2,250, outlay Rs. 1,580.

(5) Sub-Registrar's office at Vizianagram; estimate Rs. 2,160, outlay Rs. 575.

(6) Improving the Deputy Tahsildar's cutcherry at Anakápallic; estimate Rs. 1,590, outlay Rs. 1,392.

94. The expenditure on repairs to public buildings was Rs. 1,021 against a grant of Rs. 1,200.

95. **Godavari (Eastern).**—The following works were completed or in progress:—

(1) Additions to Provincial College at Rajahmundry; estimate Rs. 13,600, outlay during the year Rs. 78. This building was completed and handed over in the previous year.

(2) Quarantine ward in the Central Jail at Rajahmundry; estimate Rs. 13,890, outlay Rs. 287 against a grant of Rs. 300. The work was completed.

(3) Close prison ward in the Central Jail, Rajahmundry; estimate Rs. 40,910, outlay Rs. 1,318 against a grant of Rs. 1,319. The work was completed.

(4) Improvements to the Central Jail at Rajahmundry; estimate Rs. 3,460, outlay Rs. 540 against a grant of Rs. 625. Work completed.

(5) District Munsif's court-house at Rajahmundry; estimate Rs. 12,700, outlay Rs. 8,798 against a grant of Rs. 9,734. The work was nearly completed. The lapse of grant was due to the cut-stone works for steps and dais and painting work not being done during the year as anticipated.

(6) Kitchen with circular cooking range in the Central Jail at Rajahmundry; estimate Rs. 3,270, outlay Rs. 2,366 against a grant of Rs. 2,000. The work was nearly completed.

96. A sum of Rs. 4,657 was spent during the year against a grant of Rs. 5,038 under minor original works. The principal works carried out during the year are detailed below:—

(1) Wooden record racks for the District Munsif's Court at Rajahmundry; outlay during the year Rs. 105.

(2) Bathing cistern in the Central Jail at Rajahmundry; outlay Rs. 378.

(3) Solitary cells for females in the Central Jail, Rajahmundry; outlay Rs. 490.

(4) Second-class police station-house at Tuni; outlay Rs. 1,215.

(5) Second-class police station-house at Pithápuram; outlay Rs. 463.

(6) Four stalls and two tiffin rooms in the Superintending Engineer's office compound; outlay Rs. 567.

(7) Rain gauge pillar and fence at Pithápuram; outlay Rs. 17.

(8) Rain gauge pillar and fence at Peddápúram; outlay Rs. 17.

(9) Rain gauge pillar and fence at Prattipad; outlay Rs. 17.

(10) Rain gauge pillar and fence at Tuni; outlay Rs. 19.

(11) Rain gauge pillar and fence at Rámachandrapuram and Alamur; outlay Rs. 26.

(12) Improvements to the Sub-Jail at Cocanada; outlay Rs. 1,008.

(13) Laying water-supply pipes for the close Prison in the Central Jail, Rajahmundry; outlay Rs. 474.

(14) Sub-Registrar's office at Prattipad; outlay Rs. 31.

(15) Improvements to No. 3 building in the old District Jail at Rajahmundry; outlay Rs. 30.

97. The outlay on the following works under repairs was Rs. 5,631 against a grant of Rs. 5,520:—

(1) Repairs to taluk cutcherry at Rámachandrapuram; estimate Rs. 1,350, outlay Rs. 126.

(2) Improvements to the compound wall in the old District Jail at Rajahmundry; estimate Rs. 1,240, outlay Rs. 703.

(3) Exploration of the subterranean passage in the old demolished court-house at Rajahmundry; outlay Rs. 15.

(4) Altering treasury room window of Pithápuram Deputy Tahsildar's cutcherry; estimate Rs. 14, outlay Rs. 13.

(5) Repairs to the Central Jail buildings at Rajahmundry; estimate Rs. 3,750, outlay Rs. 1,612.

(6) Repairing the Central Jail well pump, Rajahmundry; estimate Rs. 500, outlay Rs. 495.

(7) Repairs to the Sea Customs godowns at Cocanada; estimate Rs. 570, outlay Rs. 260.

(8) Repairs to Public Works buildings used as offices and quarters; outlay Rs. 2,407.

98. **Godavari (Western).**—The following works were completed or in progress:—

(1) District Munsif's Court-house at Tanuku; estimate Rs. 18,440, outlay Rs. 3,609 against a grant of Rs. 5,782. Work very nearly completed. The lapse of grant was due to non-settlement of land compensation.

(2) First-class taluk cutcherry at Ellore; estimate Rs. 36,200, outlay Rupees 19,461 against a grant of Rs. 18,300. Walls raised to 8½ feet above basement.

(3) Reconstructing divisional office building at Chettipett; estimate Rupees 13,500, outlay during the year Rs. 179. The work was completed.

99. A sum of Rs. 1,093 was spent during the year under minor original works against a grant of Rs. 1,203.

100. The number of repair works in progress or completed during the year was 6 at a cost of Rs. 769 against a grant of Rs. 1,000.

101. **Kistna (Eastern).**—Taluk cutcherry at Nandigáma; estimate Rs. 31,400, outlay to the end of the year Rs. 25,006. Three-fourths of the work were practically completed. Very great difficulty was experienced in procuring local labour even with the assistance rendered by the officers of the Revenue Department. The skilled labour was imported from Bezvada.

102. Taluk office at Gannavaram; estimate Rs. 31,675, outlay Rs. 3,463. Funds for putting the work in hand were provided only in March 1894. As the Ellore canal was kept open a month later than usual, it was found possible to send down a considerable quantity of materials.

103. Taluk cutcherry at Masulipatam; estimate Rs. 36,400, total outlay Rs. 35,372. The main building was completed and handed over to the Revenue Department at the end of February 1894. The cook room and the latrine have since been completed. The accounts of the work remain to be closed.

104. Record room in the Collector's office at Masulipatam; estimate Rs. 10,214, total outlay Rs. 11,448. The building has made slow progress and has been subjected to many delays since its commencement, due to certain structural alterations ordered.

105. Deputy Tahsildar's office at Avanigadda; estimate Rs. 19,200, expenditure Rs. 175. The work was ordered to be put in hand only in February 1894. Sand and lime were conveyed to the work spot and the collection of bricks was in progress.

106. Head Assistant Collector's residence at Bezvada; estimate Rs. 10,600, total outlay Rs. 10,262. The building was completed and handed over to the Head Assistant Collector in January 1894. The wire fencing was in progress and a well remains to be sunk.

107. Head Assistant Collector's office at Bezvada; estimate Rs. 20,400, total outlay Rs. 20,046. The building with a ryots' shed was completed and handed over in December 1893. Wire fencing remains to be done.

108. Reflooring the two iron goods sheds at the Fort of Masulipatam and repairs to the jailor's quarters were completed during the year at a cost of Rs. 1,501.

109. **Kistna (Western).**—Taluk cutcherry at Tenali; estimate Rs. 38,320, outlay during the year Rs. 15,407. Basement nearly completed and arrangements made for the commencement of the superstructure.

110. Taluk Cutcherry at Gurazala; estimate Rs. 40,700, outlay during the year Rs. 19,863. Jail warders' and record rooms raised to the required height. Much work over doors and windows was in progress. Ryots' shed and cook room raised to the extent required and compound wall nearly completed.

111. Taluk cutcherry at Narasaraopet; estimate Rs. 36,040, outlay during the year Rs. 16,569. Superstructure raised to 3 feet and the materials required collected, but the progress of this as well as the other works at Narasaraopet was retarded owing to an outbreak of cholera in March 1894.

112. District Munsif's Court at Narasaraopet; estimate Rs. 17,300, outlay during the year Rs. 9,813. Masonry work completed and arrangements made to start the roofing.

113. Deputy Collector's office at Narasaraopet; estimate Rs. 18,710, outlay during the year Rs. 10,213. Superstructure raised to nearly 7 feet and all materials collected.

114. Sub-Registrar's office at Sattenapalle; estimate Rs. 4,530, outlay Rs. 2,482. Superstructure completed, compound wall raised to 3 feet and the required materials collected. This work would have been completed if the Revenue Department had not stopped the work at the quarries in July till the contractor paid seigniorage. The prohibition to quarry was withdrawn in December, but in the meantime heavy rain had fallen and swamped the quarries and it was therefore found impossible to move or cart stone till February.

115. **Nellore.**—Deputy Collector's cutcherry at Atmakuru; estimate Rs. 16,700, outlay up to end of the year Rs. 16,267. Main building completed except a few details. Luncheon room and latrine were in progress.

116. Head Assistant Collector's cutcherry at Gudur; estimate Rs. 18,800, outlay to end of the year Rs. 12,758. Superstructure was in progress, whilst the wood work for the building was almost finished in the Nellore workshops.

117. Ten tiled police huts at Mulapet; estimate Rs. 2,550, outlay to end of the year Rs. 352. Materials were under collection.

118. Providing iron record racks for Collector's cutcherry at Nellore; estimate Rs. 2,460, outlay to end of the year Rs. 1,924. The racks were almost completed at the end of the year.

119. Improvements to the stables at the Collector's cutcherry, Nellore, were completed at a cost of Rs. 1,392 against an estimate of Rs. 1,490.

120. Wire fencing for Police station, Gudur, was completed at a cost of Rs. 451.

121. Servants' sheds and stables to Kodavalur bungalow were completed at a cost of Rs. 104.

122. **Bellary.**—Four additional blocks of cells for the District Jail, Bellary; estimate Rs. 27,490, outlay Rs. 26,649. The following works were completed: compound wall, roofs for 59 cells, 45 cells out of 75, and walls of the remaining cells.

123. Sub-Registrar's office at Rayadrug; estimate Rs. 2,750, outlay Rs. 2,631. The work was completed.

124. District Munsif's Court at Bellary; estimate Rs. 13,510, outlay Rs. 13,441.

125. First-class Taluk office at Kudligi; estimate Rs. 26,225, outlay Rs. 26,167. Accounts almost closed.

126. A Police hospital at Bellary; estimate Rs. 8,690, outlay Rs. 8,424. Work completed and handed over to the Police Department.

127. Additions and improvements to the combined Superintending Engineer and Executive Engineer's offices; estimate Rs. 6,550, outlay Rs. 7,349. The work was completed.

128. Improvements and alterations to the Taluk and Deputy Collector's office at Anantapur; estimate Rs. 8,180, outlay Rs. 7,407. The work was completed and handed over to the Revenue Department.

129. Police hospital at Anantapur; estimate Rs. 7,640, outlay Rs. 8,641. Work completed and handed over.

130. Taluk office at Madakasira; estimate Rs. 33,793, outlay Rs. 200. The work was not commenced owing to other cutcherries being considered by the Collector of prior importance.

131. Collector's residence at Anantapur; estimate Rs. 34,246, outlay Rs. 35,763. The minus outlay during the year represents the value of materials adjusted.

132. First-class Taluk office, Hindupur; estimate Rs. 34,600, outlay Rs. 5,000. This work was commenced in March 1894. Progress made in collecting materials.

133. First-class Taluk office, Gooty; estimate Rs. 35,204, outlay Rs. 4,000. The work also was commenced in March 1894. Progress made in collecting materials.

134. School-house at Anantapur; estimate Rs. 19,920, outlay Rs. 2,096. Owing to difficulty in selecting a site, the work has not yet gone beyond the preliminary stage.

135. Ten minor original works were put in hand during the year, out of which two still remained to be completed. The outlay was Rs. 4,131 against an allotment of Rs. 3,500.

136. Forty-eight repair works were put in hand, of which 25 were completed; the outlay amounted to Rs. 10,234 against a grant of Rs. 9,760.

137. **Cuddapah.**—Sub-Magistrate's office at Piléru; estimate Rs. 10,851, outlay Rs. 9,431. Main building completed; two out-buildings in progress of construction.

138. Sub-Registrar's office at Kadiri; estimate Rs. 2,608, outlay Rs. 2,644. Work completed.

139. Sub-Registrar's office, Rayachoti; estimate Rs. 2,775, outlay Rs. 1,243. The death of the contractor somewhat delayed the work and caused a lapse of grant.

140. Two tiled sheds in the compound of the Collector's office, Cuddapah; estimate Rs. 2,710, outlay Rs. 2,814. Work completed.

141. The following minor original works were completed:—

(1) Stable for the Executive Engineer's office at Cuddapah; estimate Rs. 820, outlay Rs. 756.

(2) Sub-Registrar's office, Piléru; estimate Rs. 2,462, outlay Rs. 2,052.

(3) Stables for three horses and one carriage to the Collector's office, Cuddapah; estimate Rs. 1,370, outlay Rs. 1,150.

(4) Slab drain in the District Jail, Cuddapah; estimate Rs. 800, outlay Rs. 975.

(5) Repairing and improving the District Jail at Cuddapah; estimate Rs. 480, outlay Rs. 518.

(6) Opening an archway in the wall between English and Vernacular record room of the Collector's office, Cuddapah; estimate Rs. 150, outlay Rs. 108.

142. Improving and repairing the mahal at Gurramcondah was in progress; two estimates Rs. 3,240, outlay Rs. 1,901.

143. The total outlay on these and other petty works was Rs. 5,434 against a grant of Rs. 5,777.

144. A sum of Rs. 3,531 was spent on repairs to 28 buildings against a grant of Rs. 3,644.

145. **Kurnool**—District Munsif's Court at Nandyal; estimate Rs. 17,355, outlay Rs. 9,190. The work made considerable progress.

146. Taluk cutcherry at Allagadda; estimate Rs. 35,028, outlay Rs. 17,581. All masonry completed and the roof work in progress.

147. Extension to the sub-jail at Kurnool; estimate Rs. 3,275, outlay Rs. 3,420. Work completed.

148. Improvements to the forest bungalow at Nandyal; estimate Rs. 2,700, outlay Rs. 1,200. Roofing and out-houses were in progress.

149. Residence for the Head Assistant Collector at Nandyal; estimate Rs. 12,000, outlay Rs. 850. Only time to collect some materials.

150. The following minor works were in progress or completed:—

(1) Improvements, &c., to the police buildings at Nandyal completed and made over to the Police Department. The outlay was Rs. 2,020.

(2) The conversion of an old burial-ground into a cemetery at Kurnool was completed at a cost of Rs. 1,713.

(3) Two wells for the court and cutcherry at Markapur were in progress.

151. The outlay on these and other works amounted to Rs. 3,959 against a grant of Rs. 6,200.

152. Repairs to the Koilkuntla taluk cutcherry were completed at a cost of Rs. 6,357.

153. **West Coast**.—Collector's office, Calicut. All the different buildings were fully completed and handed over for occupation with the exception of mugh's room, the delay in completing which was due to the site not having been made over to the department by the Revenue authorities. The record racks were fully completed and fitted up. Materials for the lightning conductor were received from Bombay. Against a grant of Rs. 13,700 for the year, Rs. 13,696 were expended, bringing the total outlay up to the end of the year to Rs. 2,01,210 against an estimate of Rs. 1,94,615.

154. Police hospital, Malappuram. The main building and out-houses were fully completed and well excavated to 50 feet in depth. The outlay during the year was Rs. 5,950 against a grant of Rs. 6,107; total outlay to the end of the year Rs. 7,953 against an estimate of Rs. 8,110.

155. Six police huts at Sultan's Battery, Wynaad. Superstructure raised to full height all round. Rs. 1,674 expended during the year against a grant of Rs. 3,044.

156. Sub-Registrar's office at Vayittiri. Walls of superstructure raised 9 feet high all round and gables were in progress. Wooden posts for verandah and wood work for roof prepared. The year's outlay was Rs. 1,816, total outlay to end of the year Rs. 2,798.

157. Combined office for the Tahsildar and Deputy Tahsildar at Mangalore. Masonry superstructure of the main building and out-houses completed except upper story over treasury and record room. Superstructure of compound wall built to half the height. Wood work of the main building almost all put up except front verandah and the upper story. Roofing with ceiling over the same nearly completed. Roofing to stables finished and well sunk to 35 feet. Rs. 12,338 were spent during the year under review against the grant of Rs. 14,000, bringing the outlay up to the end of the year to Rs. 25,963 against an estimate of Rs. 46,000.

158. Sub-Registrar's office at Baindur. Completed except plastering, painting and flooring. The year's grant of Rs. 3,500 was fully spent.

159. District Munsif's Court at Karkal. Foundations completed. Rs. 3,413 were expended against a grant of Rs. 4,500.

160. Sea Custom-house at Barkur. Superstructure raised to 11 feet and wood work for the roof and other materials collected; estimate Rs. 6,600, grant Rs. 4,000, outlay Rs. 3,640.

161. Improvements to the District Munsif's Court at Mangalore. A sum of Rs. 500 was spent in connection with the work.

162. The following works were completed and made over to the departments concerned:—

(1) Sub-Registrar's office at Kasaragod; estimate Rs. 3,970, outlay Rupees 3,846.

(2) Improvements and additions to the Deputy Collector's office, Puttur; estimate Rs. 3,680, outlay Rs. 3,506.

(3) Weaving shed in the Lunatic Asylum at Calicut; estimate Rs. 2,510, outlay Rs. 2,385.

(4) Dead-house at Calicut; estimate Rs. 1,020, outlay Rs. 989.

(5) Two additional wards and executing certain repairs to the sub-jail at Chavakad; estimate Rs. 2,000, outlay Rs. 1,893.

(6) Masonry pillars for fixing Symon's rain gauges at 11 stations in Malabar; estimate Rs. 230, outlay Rs. 263.

(7) Improvements to the Police Superintendent's office at Calicut; estimate Rs. 2,300, outlay Rs. 2,151.

(8) Police magazine at Calicut; estimate Rs. 1,100, outlay Rs. 748.

(9) Providing a tiled roof to the police magazine at Malappuram; estimate Rs. 2,020, outlay Rs. 2,510.

(10) Additions and alterations to the Ernad taluk cutcherry at Manjery; estimate Rs. 190, outlay Rs. 192.

(11) Providing lightning apparatus and candle sticks for lecturn and reading desk to the Protestant church at Malappuram; estimate Rs. 170, outlay Rs. 170.

(12) Additions and alterations to the taluk cutcherry, Badagara; estimate Rs. 760, outlay Rs. 711.

(13) Sub-Registrar's office at Munantoddy; estimate Rs. 7,610, outlay Rupees 7,043.

(14) Improvements to the Head Assistant Collector's residence at Coondapoor; estimate and outlay Rs. 330.

163. Under Repairs Rs. 9,546 were expended against the year's grant of Rupees 9,000. Thirty buildings were repaired and kept in good order, the principal items being—

(1) Re-roofing the Sub-Collector's bungalow at Tellicherry; estimate Rupees 3,820, outlay Rs. 3,882.

(2) Repairing the roof of the taluk cutcherry at Manjery; estimate Rs. 3,820, outlay Rs. 3,819.

164. **Coimbatore**.—The following major works were in progress during the year:—

(1) Additions and improvements to the Government house at Ootacamund; estimate Rs. 7,79,150, expenditure to end of 1892-93 Rs. 7,51,674, grant for the year Rs. 10,000, outlay during the year Rs. 9,666. The principal items of the above work on which expenditure was incurred are detailed below:—

(a) Providing stained glass for the clere story windows in the hall at Government house; estimate Rs. 1,150, expenditure Rs. 333. The work was completed.

(b) Providing furniture to Government house; estimate Rs. 1,25,000, expenditure in 1893-94 Rs. 1,148.

(c) Additions to farrier's quarters at Government house; estimate Rs. 150, expenditure Rs. 142. The work was completed.

(d) Improvements to the tent godowns and poultry yard at Government house; estimate Rs. 320, expenditure Rs. 300. The work was completed.

(e) Converting Public Works Department store into stables for four horses at Government house; estimate Rs. 670, expenditure Rs. 627. The work was completed.

(f) Constructing a dispensary at Government house; estimate Rs. 840, expenditure Rs. 827. The work was completed.

(g) Constructing four cisterns, two dams and a shed for washermen at Government house; estimate Rs. 1,060, expenditure Rs. 976.

(h) Providing partition to Lady Wenlock's bed room; estimate Rs. 440, expenditure Rs. 352.

(i) Constructing quarters with out-houses for the head handsmen at Government house; estimate Rs. 3,600, expenditure Rs. 1,382.

(j) New piping with hydrants and hand fire engines; estimate Rs. 3,950, expenditure Rs. 3,684.

(k) Providing record and stationery rooms for Private Secretary's office; estimate Rs. 1,440, expenditure Rs. 1,167 and various petty items of work at Government house.

(2) Police ward in the compound of the Civil Hospital at Gudalur; estimate Rs. 6,750, expenditure to end of previous year Rs. 4,128, grant for the year Rs. 2,252, expenditure up to date Rs. 6,380. The work was completed.

(3) Improvements and additions to the Mount Stuart buildings used as Army Head-quarters office at Ootacamund; estimate Rs. 16,100, previous expenditure Rs. 8,631, grant for the year Rs. 3,479, expenditure up to date Rs. 16,274. The work was completed.

(4) Sixty warders' huts in the Central Jail at Coimbatore; estimate Rs. 14,040, grant Rs. 5,000, expenditure up to date Rs. 6,278. No. 1 block is completed except plastering walls and flooring; No. 2 blocks, walls of huts nearly completed; No. 3 blocks, all materials required brought to site.

(5) Deepening the main gate well at the Central Jail at Coimbatore; estimate Rs. 5,650, grant Rs. 2,650, expenditure up to date Rs. 1,062. The well has been sunk 77 feet. Bricks for steining brought to site. Progress slow owing to hardness of rock.

(6) Sub-Registrar's office at Pollachi; estimate Rs. 3,300, grant Rs. 2,300, outlay Rs. 1,214. Basement walls nearly completed. All the wood work was ready. The work was delayed by the dilatoriness of the contractor.

(7) Sub-Registrar's office at Gudalur; estimate Rs. 2,780, outlay to end of previous year Rs. 2,211, grant Rs. 569, outlay up to date Rs. 2,638. The work was completed.

(8) First-class Taluk office at Bhavani; estimate Rs. 29,250, grant Rs. 10,000, expenditure to end of March 1894 Rs. 8,916. Concrete was laid in all the main building for foundations. Compound wall raised to 2 feet.

(9) Sub-Registrar's office at Udumalpet; estimate Rs. 3,250, grant Rs. 2,250, expenditure during the year Rs. 139. The lapse was due to the failure on the part of the contractor whose contract has since been cancelled.

(10) Sub-Registrar's office at Dharmapuram; estimate Rs. 3,250, grant Rs. 2,250, expenditure Rs. 1,722. Walls raised 9 feet above floor; doors, windows and wood work for roof being prepared.

(11) Sub-Registrar's office at Erode; estimate Rs. 3,360, grant Rs. 1,360, expenditure Rs. 1,411.

(12) Constructing out-houses and compound wall to the Deputy Tahsildar's office at Aravakurichi; estimate Rs. 3,400, grant Rs. 1,000, expenditure Rs. 1,000.

165. A sum of Rs. 10,796 was spent on minor original works against a grant of Rs. 12,627 and the principal works carried out during the year were the following:—

(1) Providing an iron cistern for storing water at the Central Jail, Coimbatore; estimate Rs. 2,250, expenditure during the year Rs. 392, expenditure up to date Rs. 2,678. The work was completed.

(2) Purchasing land for cholera camp for the Central Jail near Singanellore; estimate Rs. 1,255, expenditure Rs. 1,255.

(3) Extending main gateway and providing new gate in the Central Jail at Coimbatore; estimate Rs. 1,540, expenditure Rs. 1,154.

(4) Constructing a new latrine for the Secretariat office at Stonehouse Hill, Ootacamund; estimate Rs. 1,080, expenditure Rs. 786. The work was completed.

(5) Certain improvements to the Government Secretariat offices, Stonehouse Hill; estimate Rs. 830, expenditure Rs. 682. The work was completed.

(6) Constructing two latrines for Police lines at Wellington; estimate Rs. 590, expenditure Rs. 434. The work was completed.

166. Besides the above, 37 petty works costing less than Rs. 500 were in progress and 30 of which were completed.

167. A sum of Rs. 23,990 was spent on repairs to civil buildings against an allotment of Rs. 28,200: 112 works were repaired during the year, 109 of which were completed. The lapse, viz., Rs. 4,069, was owing to an additional grant of Rs. 8,000 having been given late in February.

168. **Salem.**—The following major works were completed during the year:—

(1) Twenty-three police huts at Tiruppattur; estimate Rs. 6,500, outlay Rs. 5,901.

(2) Thirty police huts at Vaniyambadi; estimate Rs. 8,030, outlay Rs. 7,996.

(3) A second-class Police station-house at Tiruppattur was completed during the year at a cost of Rs. 1,774 against an estimate of Rs. 1,600.

169. The following major works were in progress:—

(1) Close prison cells in the Central Jail at Salem; estimate Rs. 18,700, outlay up to date Rs. 17,284.

(2) Taluk cutcherry at Tiruppattur; estimate Rs. 36,600, outlay up to date Rs. 23,893.

(3) Taluk cutcherry at Tiruchengodu; estimate Rs. 33,660, outlay Rs. 19,547.

(4) Civil debtors' ward in the Central Jail at Salem; estimate Rs. 6,380, outlay Rs. 3,596.

(5) Five police huts at Yercaud; estimate Rs. 2,540, outlay Rs. 1,650.

(6) Improvements to the Central Jail at Salem; estimate Rs. 3,080, outlay Rs. 1,606. The improvements consist of an inner iron gate and replacing glazed windows by zinc weather board. The greater portion of the estimate amount was absorbed in the purchase of these articles which were obtained from Public Works Workshops, the charges of which will be adjusted in the supplemental accounts for March 1894.

170. Rs. 8,827 were spent on minor works against a grant of Rs. 8,600 and the difference represents workshop's liabilities to be adjusted in the supplemental accounts for March 1894.

171. A sum of Rs. 2,777 was spent on repairs against an allotment of Rs. 3,000.

172. **North Arcot.**—The undermentioned incomplete works were in progress:—

(1) Taluk cutcherry at Chandragiri; estimate Rs. 31,580. The progress on this work was much retarded owing to the failure of the contractors. A sum of Rs. 10,000 out of Rs. 20,000 allotted for the year had to be surrendered. The work is being pushed on.

(2) Taluk cutcherry at Wandiwash; estimate Rs. 30,170. The progress on this work was very satisfactory. Rs. 25,006 were spent up to the end of the year.

(3) Additions to the quarantine ward at the Central Jail at Vellore; estimate Rs. 4,000. Work in progress.

(4) Police lines at Puthur; estimate Rs. 3,430, outlay Rs. 2,995.

(5) Police station at Puthur; estimate Rs. 2,200.

173. The following works were completed:—

(1) Civil debtors' ward at the Central Jail, Vellore; estimate Rs. 6,780, expenditure Rs. 6,574.

(2) Compound wall around the Head Assistant Collector's office, Ranipettai; estimate Rs. 4,030, expenditure Rs. 4,547.

174. The following major works were commenced during the year:—

(1) Sub-Registrar's office at Tiruvettiyur; estimate Rs. 3,750, expenditure Rs. 1,025.

(2) Sub-Registrar's office at Punganuru; estimate Rs. 3,170, expenditure Rs. 2,101.

(3) Police huts at Rénigunta; estimate Rs. 2,650, expenditure Rs. 2,151.

(4) Police station at Tiruchanur; estimate Rs. 2,760.

(5) Converting old European barracks at Arni into police huts; estimate Rs. 5,120, expenditure Rs. 4,398.

(6) Constructing a boundary wall round the cemetery at Pakala; estimate Rs. 2,512. The work is being carried out by the South Indian Railway Company and expenditure adjusted in this department. Rs. 1,766 spent up to the end of the year against an allotment of Rs. 1,000.

175. Deputy Tahsildar's office at Ambur; estimate Rs. 16,550. The work was begun with an allotment of Rs. 3,000, but owing to the site not having been handed over, the grant was surrendered.

176. Eighteen minor works were undertaken, of which 13 were completed. The aggregate outlay during the year was Rs. 6,247 against an allotment of Rs. 8,183. The short outlay was due to the police station at Puthur and Agarampet not having been fully completed and paid for.

177. Under repairs the outlay was Rs. 4,238 against an allotment of Rs. 3,780. Twenty-one works were in progress, of which twenty were completed.

178. **Chingleput.**—Construction of 30 police huts for the Reserve Police constables at Saint Thomas' Mount, which had been stopped in the previous year owing to difficulties in connection with the site, was completed and the huts handed to the Police Department; the total cost was Rs. 6,835 against an estimate of Rs. 6,360.

179. Improvements to the cubicles in the Reformatory School at Chingleput, estimate Rs. 6,000, were commenced and completed, the year's outlay being Rs. 6,000, leaving a small liability due for the work to be paid during 1894-95.

180. Five minor new works were under execution and were completed. The year's outlay was Rs. 224.

181. Repairs were executed to the English and the Roman Catholic churches at the Mount and at Poonamallee and to the Collector's office, Home's Gardens, Saidapet. There were in all twenty repair works under execution, sixteen of which were completed. The grant Rs. 5,900 was spent to the extent of Rs. 5,894.

182. **South Arcot.**—Extension of record room and provision of record racks in the taluk cutcherry at Villapuram, estimate Rs. 3,050; construction of Sub-Registrar's office at Mannargudi, estimate Rs. 3,550; restoration of the building for Sub-Divisional officer's residence at Tindivanam, estimate Rs. 2,350; and improvements to the Sea Customs Superintendent's office at Porto Novo, estimate Rs. 1,525, were completed.

183. At the new Taluk office at Chidambaram, revised estimate Rs. 40,745, the walls were built up to an average height of 9 feet and most of the arch work was completed. The expenditure to the end of the year was Rs. 21,176.

184. The new Munsif's court-house under construction at Tirukkóvilár was nearly completed. The expenditure to end of the year was Rs. 13,858; estimate Rs. 15,050.

185. A Sub-Registrar's office at Bhuvanagiri was in progress on an estimate of Rs. 2,980 and Rs. 1,490 were spent during the year. The walls were raised to full height and roof timber is being put on.

186. An outlay of Rs. 434 was incurred on three minor original works against a lump sum grant of Rs. 500.

187. There were nineteen repair works on which Rs. 3,928 were spent.

188. **Tanjore.**—The principal major works under execution during the year were:—

(1) Sub-Registrar's office at Tirukattapalli; estimate Rs. 4,030, outlay Rs. 3,110. Completed.

(2) Police lines for Tanjore town; estimate Rs. 25,955, outlay Rs. 5,000.

(3) Police lines for Tanjore taluk; estimate Rs. 6,970, outlay Rs. 1,000.

For the two latter works collection of materials and preparation of wood work were in progress.

(4) Sub-Registrar's office at Pápanásam; estimate Rs. 2,860, outlay Rs. 603.

(5) Sub-Registrar's office at Perallum; estimate Rs. 2,990, outlay Rs. 2,952. This building was completed and handed over to the Registration Department.

(6) Sub-Registrar's office at Kuttalam; estimate Rs. 3,040, outlay Rs. 1,000. Walls of main building and foundation and basement to compound wall in progress.

189. A sum of Rs. 1,277 was spent during the year on minor original works. An additional room to the Sub-Registrar's office at Májavaram was completed, outlay Rs. 900, and two road culverts in front of the Tanjore Division office were built at an outlay of Rs. 43.

190. Seven repair works were in progress on which the outlay was Rs. 1,157, the principal works being repairs to the college at Kumbakónam (completed) and to the taluk cutcherry and sub-jail at Tanjore.

191. **Negapatam.**—Sub-Registrar's office at Tirupundi; estimate Rs. 3,370. The work was completed during the year at a total cost of Rs. 3,274, and the building was handed over to the District Registrar, Tanjore.

192. Ten police huts at Nídámangalam, estimate Rs. 2,960, were built at a total cost of Rs. 2,959, but as it was found during the cyclone of November that the site was low and not easily drained, it is intended to have the basement and floor raised.

193. Sub-Registrar's office at Adichapuram; estimate Rs. 2,570, expenditure Rs. 339. Delay consequent on a change of site and a revision of estimate to provide a terraced instead of a tiled roof was the cause of the small outlay.

194. Sub-Registrar's office at Nagore; outlay Rs. 1,500, estimate Rs. 2,670.

195. District Munsif's Court-house at Tirutturaippúndi; outlay Rs. 2,499, estimate Rs. 15,700.

196. Five minor new works were commenced and completed at a total cost of Rs. 1,138.

197. Twenty-two repair works were in progress, of which ten works were completed. The year's expenditure was Rs. 2,988 against the grant of Rs. 3,000.

198. **Public Works Stores and Workshops.**—Against the grant under Provincial Civil Buildings, Rs. 200 for minor new works and Rs. 700 for repairs for the Public Works Stores division, the outlay was Rs. 48 and Rs. 762 respectively. In the Public Works Workshops division Rs. 357 and 1,539 were spent under Provincial Civil Buildings, New Works and Repairs, the grants being Rs. 250 and Rs. 1,500 respectively.

199. **Trichinopoly.**—The following works were completed or were in progress during the year:—

(1) The drains in the Central Jail at Trichinopoly, which were in progress since 1890-91 under the supervision of the Jail Superintendent, were finished in the year at a total outlay of Rs. 6,160, of which Rs. 966 were spent in the year, the estimate being Rs. 6,160.

(2) First-class taluk cutcherry at Musiri. Terracing of private, clerks' and other office rooms, which are 16 feet high, was completed excepting two courses of tiles; asphalt floor for two female wards laid; ventilators in front of court and clerks' rooms fixed; pointing and plastering to some parts in progress; rafters for cook-house put up. Against the estimate of Rs. 34,405, Rs. 29,004 were spent, of which the outlay during the year was Rs. 10,004.

(3) First-class taluk cutcherry at Jayankondasólapuram. Walls raised 10 feet high throughout and 6 verandah gothic arches turned. Required teakwood, Cud-dapah slab stones and cut stones brought and more bricks being made. Of the total outlay of Rs. 18,984, Rs. 12,000 were spent in the year against an estimate of Rs. 38,510.

(4) Petty alterations and improvements to the Collector's cutcherry (Royal Artillery barracks), alterations and improvements to the Central Jail, demarcating lands of civil buildings and building a flight of steps to the Sub-Assistant Inspector's office room on the upper story of the main guard gate at Trichinopoly were in progress, and the construction of 8 rain gauge pillars at different stations was completed, all at an outlay of Rs. 2,238.

200. A sum of Rs. 3,742 was spent on repairs to several buildings.

201. **Madura.**—The following works were completed during the year:—

(1) Eleven police huts at Usilampatty; estimate Rs. 3,730, outlay Rs. 3,708, of which Rs. 1,002 were spent in the previous year.

(2) Improvements to Tirumal Naick's Palace; estimate Rs. 9,720, outlay Rs. 9,129. A few petty items that remained were finished in the year with the exception of fitting in a small iron door and fixing iron railings at the entrance to Collector's record room which cannot be done until the new record rooms are built, and a recovery of Rs. 320 was made from the previous year's outlay.

(3) Sub-Registrar's office at Nattam; estimate Rs. 2,810, outlay Rs. 2,644, of which Rs. 2,144 were spent in the year.

(4) Deputy Tahsildar's office at Mudukulattur; estimate Rs. 2,780, outlay in the year Rs. 2,757.

(5) Six police huts at Appanur; estimate Rs. 2,970, outlay Rs. 2,045 in the year and up to the year Rs. 2,635, the difference being land compensation to be adjusted through civil exchange account.

202. The following works were in progress:—

(1) Office for the Executive Engineer, Madura; estimate Rs. 15,400, outlay Rs. 8,982. Work done up to 10 feet of superstructure all round.

(2) Constructing an office for the Head Assistant Collector at Ramnad; estimate Rs. 17,800, outlay Rs. 3,099. Collection of materials was in progress.

(3) Nine head and 48 constables' huts for the Reserve Police at Madura; estimate Rs. 19,400, expenditure Rs. 6,000. Superstructure walls in both blocks raised 4 feet and compound wall raised to 3 feet for one of the blocks.

(4) Sub-Registrar's office at Védasandūr; estimate Rs. 2,840, outlay Rs. 2,539, of which Rs. 2,040 were spent in the year. Work nearly finished.

203. Besides the above, seven minor works were completed and eight were in progress, the outlay on all these being Rs. 4,808.

204. Reroofing the blocks of the District Jail, repairs to the Police Assistant Superintendent's bungalow and to the Deputy Tahsildar's cutcherry at Ramnad, to the Sub-Collector's cutcherry at Dindigul, to the taluk cutcherry at Tirumangalam, to the Kovilputty temple, and other petty repairs to buildings were carried out at a cost of Rs. 6,504.

205. **Tinnevely.**—The following works were completed during the year:—

(1) District Munsif's Court at Ambásamudram; estimate Rs. 14,900, outlay Rs. 12,855, of which Rs. 6,409 were spent during the year.

(2) Sub-Registrar's office at Sivagiri; estimate Rs. 2,920, outlay during the year and up to date Rs. 2,797.

(3) Sub-Registrar's office at Srivaikuntam; estimate Rs. 3,470, expenditure Rs. 3,624, of which Rs. 2,624 were spent during the year.

(4) Improving English record room of the Collector's office at Kokarakulam; estimate Rs. 4,700, outlay Rs. 4,671, of which Rs. 4,193 were spent in the year.

206. Under minor works, demarcating boundaries of public buildings in Srivilliputtur taluk, providing efficient earth pits, &c., to the lightning conductors to Police hospital and Sub-Registrar's office at Palameottah, providing larger windows to the vernacular record room of the Collector's office at Kokarakulam, converting the old military buildings at Palameottah into an office for the Superintendent of Police, and constructing rain gauge pillars were carried out at an outlay of Rs. 2,489.

207. A sum of Rs. 1,775 was spent during the year on repairs to buildings including assessment paid on those in charge of the department.

208. **Presidency.**—The following works were in progress or completed under the supervision of the Consulting Architect:—

(1) New Law Courts, Madras; estimate Rs. 13,06,640, total expenditure Rs. 12,69,598. The large tower was fully completed. The new dioptric light was fixed in its place and handed over to the Marine Department which tested and found it satisfactory. The accounts of this the largest ornamental building in the Madras Presidency were closed and a saving of Rs. 36,950 surrendered.

(2) Victoria Technical Institute and Connemara Free Library, Madras. A revised estimate of Rs. 5,60,566, which included a new ornamental compound wall, gates, laying out roads, &c., was sanctioned during the year. The library and reading rooms were completed with the exception of the flooring which was under execution. The institute portion, with the exception of the staircase, flooring and interior decoration of the large theatre, was in progress. The furniture was partly executed. The tower was raised to a height of 105 feet and the work above is in abeyance pending the receipt of girders ordered from England. With the exception of the upper part of the tower this work will probably be completed during the year 1894-95. The total expenditure to the end of 1893-94 was Rs. 4,01,657.

(3) Constructing verandah on the south side of the office of the Director of Public Instruction in old College buildings; estimate Rs. 5,446, total outlay Rs. 5,131. The work was completed and has greatly improved the appearance of the building.

(4) Constructing eight quarters for the native nurses at the Lying-in Hospital; estimate Rs. 5,460, outlay Rs. 5,687. The native nurses at the Lying-in Hospital were located in small godowns, 3 and 4 having been accommodated in one godown. These have been converted into store rooms; a separate block containing quarters was built for the nurses with a kitchen attached to each. These quarters were completed and handed over in June 1893.

(5) Additions to the second floor in the Accountant-General's office; estimate Rs. 6,892. This work, the construction of four rooms on the second floor for the accommodation of additional officers attached to the Accountant-General's office, was completed during the year within the amount of the estimate.

(6) Alterations and additions to the old High Court buildings; estimate Rs. 57,505, outlay Rs. 40,772. This estimate was put in hand in August 1893 consisting of alterations and additions to certain parts of the buildings to adapt them for the use of the following offices:—

(1) Deputy Collector's office. This portion was quite completed and occupied during the Christmas holidays in 1893.

(2) Presidency Port office. Also completed and occupied before 1st March 1894.

(3) Stamp and Stationery office. The east and south wings were almost completed by the end of March and the office moved into these parts in April.

The west wing is still in progress, the iron columns and girders have been received, and the work is well in hand expecting completion by the middle of July 1894.

(7) Constructing police mortuary in the police station, Wall Tax Road; estimate Rs. 4,470, outlay Rs. 3,981. A mortuary for the purpose of holding *post-mortem* examinations consisting of a long room 30' x 16' with suitable floor and water-supply was constructed on the grounds of the police station. It was completed during the year and is now in charge of the Police Department.

(8) New Law College at Madras; estimate Rs. 3,41,360, outlay Rs. 57,605. This work has already been noticed under "General Remarks."

(9) Additions to the Chemical Laboratory of the Presidency College; estimate Rs. 32,125, total outlay Rs. 31,309. This building was completed in the previous year and occupied. The fittings were finished in the year under review so far as provision was made in the sanctioned estimate.

(10) Workshop for the College of Engineering at Chépák; estimate Rs. 56,126 which includes a sum of Rs. 32,519 for machinery. This building was fully completed and handed over and publicly opened by His Excellency Lord Wenlock. A saving of Rs. 1,491 was effected on building construction, the outlay on which by the Public Works Department was Rs. 22,116.

(11) Providing additional accommodation at the School of Arts, Madras. The original estimate provided only for a two storied building, but as the accommodation was found insufficient in consequence of the rapid increase of students, more especially in the elementary classes, a revised estimate of Rs. 17,910 for adding a third story was sanctioned. The work was completed and handed over at a total cost of Rs. 18,192.

(12) Constructing boundary wall to the Lunatic Asylum, Madras; estimate Rs. 15,820, outlay Rs. 13,152. The Lunatic Asylum, which had hitherto been partially walled in on the north, west, south and east sides, has been quite enclosed by a suitable wall all round, having an average height of 8 feet above ground level. This wall in foundation was built of chunam, mortar and bricks and above ground with clay, mortar and brick, chunam plastered in and out. It now forms a secure protection for the inmates.

(13) Constructing 75 huts and 2 latrines for native keepers at the Lunatic Asylum; estimate Rs. 13,130, outlay Rs. 11,438. The native warders of this asylum, who, for want of accommodation, had to live elsewhere in the adjacent villages are now sheltered by the building of 75 comfortable houses in a block adjoining the north wall of the enclosure. These huts are built in four lines facing the streets running north and south and are provided with 2 latrines. The work was completed during the year.

(14) Constructing store sheds at the Lunatic Asylum; estimate Rs. 8,060, outlay Rs. 6,776. For the better security and care of stores, fuel, &c., for the use of the inmates of the asylum, a store shed with two large rooms and a fuel shed 49 × 16 were constructed.

(15) Additions to the Government Press buildings; estimate Rs. 15,900, expenditure Rs. 5,992. Structures raised above window sills and work in rapid progress; completion expected in June 1894.

(16) Additions and improvements to Her Majesty's Penitentiary, Madras; estimate Rs. 50,060, outlay Rs. 32,456, and construction of out-offices, estimate Rs. 5,325, outlay Rs. 5,218. These works were almost completed, and the allotments for the year were fully expended. The compound wall, the guard room, the new coach-house and stables for head jailor's quarters and the new office building were completed and handed over during the year. The store rooms and contagious ward were in a fair state of progress, the former being almost completed.

(17) Additional accommodation for the Press Department and carpenters' shed, Her Majesty's Penitentiary; estimate Rs. 9,800, outlay Rs. 8,922. This work was commenced and completed during the year and handed over to the jail authorities.

(18) Improving water-supply to Government House, Guindy; estimate Rupees 7,000, outlay Rs. 2,608. The tanks and filter beds were completed and the required length of piping, &c., collected at site of work pending the receipt of the motor pump indented for from England and shortly expected.

(19) Adding an upper story to the Doctor's quarters at the Government House, Guindy; estimate Rs. 5,620, outlay Rs. 5,363. This was originally a single storied building and totally inadequate for the accommodation of the Surgeon to His Excellency the Governor. An upper story has been added and the building fully completed and made over in December 1893.

(20) Third story at the General Hospital; estimate Rs. 66,400, outlay Rs. 64,581.

(21) Hobart and Argyle wards at the General Hospital; estimate Rs. 19,590, outlay Rs. 18,467.

(22) Additions and improvements to out-patients' dispensary, General Hospital; estimate Rs. 23,657, outlay Rs. 23,650.

(23) New police station at Tondiarpet; estimate Rs. 4,060, outlay Rs. 3,596.

(24) Improvements to the police station, Egmore; estimate Rs. 2,755, outlay Rs. 2,604.

209. Rs. 1,06,803 were expended for the annual and general repairs of buildings in charge of this division; of this sum Rs. 3,500 was for municipal taxes on certain Public Works Department buildings and Rs. 1,640 for the conservancy of the floating and Senate house latrines at Chepāk.

IV.—PROVINCIAL—COMMUNICATIONS.

210. **Ganjam.**—The following works were in progress or completed:—

(1) Tekkali-Anantagiri road; estimate Rs. 23,500, outlay Rs. 1,341 against an allotment Rs. 1,341. The work was completed.

(2) Ichelhapuram and Jarada road; estimate Rs. 39,400, outlay Rs. 7,905 against a grant of Rs. 7,726. The whole road work was completed except turning 4 furlongs in length in the 8th mile. The extra tunnel was also built. The two combined sluices were completed except fixing shutters which will be fitted shortly.

(3) Metalling the road from Kalingia to Tekkalalli; estimate Rs. 7,230, outlay Rs. 4,113 against a grant of Rs. 1,926. Earthwork completed and metal spreading in progress. Owing to heavy rains and scarcity of labour very little expenditure was incurred during the major portion of the year; hence the lapse of a portion of grant.

(4) Constructing iron girder bridge at Mahasinghi; estimate Rs. 41,200, outlay during the year Rs. 440 against an allotment of Rs. 1,000. The work was in abeyance pending the settlement of the question regarding the Mohanagiri ghāt road and was resumed in February. The lapse of the portion of the grant was due to want of labour.

The progress on the work was as follows:—

Silt cleared in bed of river at site of one abutment and one pier, wells built for the same to full height of 10 feet, foundations for wings were excavated and a ring bund was thrown to allow work to be continued till August. All the iron girders, lime, surki, bricks and firewood collected at site of work.

(5) Straightening the course of the Boppayapuram Gedda; estimate Rs. 3,500, outlay Rs. 67 against a grant of Rs. 60. This outlay represents the adjustment of land compensation charges.

(6) Metalling the road from Udayagiri to Kalingia; estimate Rs. 4,250, outlay Rs. 1,178 against a grant of Rs. 1,335. The lapse was due to rains and the scarcity of labour in the Malialis. The work was nearly completed.

(7) Metalling and improving the road from Govindapur to Lohagudi bungalow; estimate Rs. 9,670, outlay during the year Rs. 522 against a grant of Rs. 670. The lapse was due to work done but paid for in April 1894: 802 cubic yards of metal and 333 cubic yards of rough stone were collected during the year.

(8) Constructing Mohanagiri ghāt road; estimate Rs. 12,000, outlay Rs. 43 against a grant of Rs. 100. The estimate was sanctioned in January 1894 only and no more than Rs. 43 could be spent before the end of March as the mistry employed fell ill. Some jungle was cut and thatching grass collected to erect a shed.

211. A sum of Rs. 2,921 was spent under minor original works against a grant of Rs. 3,000. The principal works carried out are detailed below:—

(1) Replacing the damaged bridge near Kalingia in Kalipano road; estimate Rs. 990, outlay during the year Rs. 774. Work almost completed.

(2) Improving Govindapur-Lohagudi road; estimate Rs. 2,450, expenditure during the year Rs. 525. The work was almost completed.

(3) Improvements to slopes east and west approaches of Boduvati nalla half mile east of Dharmapur bungalow; estimate Rs. 1,320, outlay Rs. 349. Work in progress.

(4) Metalling the soft portions of the road from Udayagiri to Dharmapur; estimate Rs. 1,140, outlay during the year Rs. 196. Work in progress.

212. Besides the above, there were eight works in progress, three of which were completed during the year.

213. The expenditure under repairs was Rs. 1,172 against a grant of Rs. 2,000. All the repair estimates were completed, and there was not a sufficient number of estimates in hand to work out the full grant, nor were there any works for which estimates could be prepared; hence the lapse.

214. **Coimbatore.**—The following works were in progress:—

(1) Constructing a suspension bridge of 200 feet span with 10 feet roadway across Enilar river; estimate Rs. 42,500, expenditure in the previous year Rs. 1,000, grant for the year Rs. 42,500, outlay during the year Rs. 40,110. The foundations

were carried down through boulders and running sand to a depth over 15 feet at a great cost of labour and expenditure on baling. The work was most trying and resulted in the loss of the lives of three engine drivers who fell victims to cholera and fever from their exposure and night baling. Pumping was the only work carried on at night owing to the unhealthiness of the place. By the end of the year the towers and anchorages were just ready for the cables and all materials were at site.

(2) Constructing an iron girder bridge on the Burliar river; estimate Rs. 15,600, expenditure in the previous year Rs. 14,506, grant for the year Rs. 1,609. The work was opened for traffic in the previous year, but it was completed and the accounts closed in the year under review with an expenditure of Rs. 1,609.

(3) Constructing an iron girder bridge on the Kullar river; estimate Rs. 28,600, expenditure in the previous year Rs. 29,350, grant for the year Rs. 1,439, outlay during the year Rs. 1,388. The accounts of this work were closed in the year under review. The expenditure was incurred with the object of saving the abutments for a new bridge, but they were afterwards abandoned as useless.

(4) Constructing a temporary suspension foot-bridge over the Kullar river; estimate Rs. 5,062, grant for the year Rs. 5,097, outlay during the year Rs. 3,433. The work was completed.

215. The only work in progress during the year under Minor Works, Communications, was constructing a bridge over Burnfoot lake sluice on the Ootacamund-Coonoor road. This work was commenced in the previous year and completed with an outlay of Rs. 185 against a grant of Rs. 200 in the year.

216. The following repairs were executed at a cost of Rs. 80,411 against an allotment of Rs. 78,400 :—

(1) Annual maintenance of Ootacamund-Kullar road; estimate Rs. 40,760, outlay during the year Rs. 39,976. Owing to excessive rain and damage due to railway operations, the periodical reticulating of the road could not be properly carried out and the surface is not in the good condition it should be.

(2) Reconstructing temporary roadway over the Kullar river; estimate Rs. 5,280, expenditure during the year Rs. 7,739. The excess was owing to repairs having to be executed whenever the roadway was washed off by the freshes. The cart traffic during the north-east monsoon was maintained with only a few hours interruption at a time by a bridge of old rails laid so that floods might pass over it, and the device was very successful. Passenger and foot traffic was never interrupted after the erection of the foot-bridge.

(3) Special repairs to Ootacamund-Kullar road; estimate Rs. 28,640, expenditure Rs. 28,700. Much of these repairs was due to the railway operations and the remainder to replace the old wooden bridges which had become rotten with iron joists.

(4) Repairs to laterite roads leading to Government buildings at Ootacamund; estimate Rs. 3,750, expenditure during the year Rs. 3,710. The work was completed.

217. Besides the above, a sum of Rs. 9,645 was spent in rectifying the damages due to the Nilgiri Railway operations on the Ootacamund-Kullar road, and the expenditure was transferred to the Examiner's division to be debited to Imperial (Railway) Funds.

218. **West Coast.**—Improvements to the Vayittri-Gudalur road. Kunnembetta and Seepathy bridges which were in progress the previous year were fully completed and opened for traffic.

219. Kanooth bridge. Abutments and piers raised 5 feet and granite stones laid. Iron work of all three bays fitted up. Painting to iron work and the roadway over the bridge and approaches were in progress. Outlay during the year Rs. 23,290 against a grant of Rs. 16,481; total outlay on the project up to the end of the year Rs. 6,44,500 against an estimate of Rs. 6,59,337.

220. Chundale-Mysore Road. An estimate, amounting to Rs. 37,400, for improvements to the worst portion of this road, viz., from the 60th to 72nd mile, was sanctioned during the year, but owing to the almost complete failure of the contractors, only Rs. 3,727 were expended in the collection of metal.

221. The road from Calicut *via* Vayittri to Gudalur (61 miles) was repaired and kept open for traffic at a cost of Rs. 54,473 against a grant of Rs. 52,000.

222. A sum of Rs. 4,036 was spent in connection with the removal of some heavy land slips and repairing the damages to the road.

223. **South Arcot.**—Rs. 684 were paid on account of compensation for lands taken up in connection with the construction of the Ponnar bridge and Rs. 12 were spent on sundry works executed to the girder bridge at Cuddalore.

224. **Madura.**—The following works were completed during the year :—

(1) Bridge over the Suruliyar at Uttamapattinam; estimate Rs. 42,800, outlay Rs. 40,092, of which Rs. 9,313 were spent in the year.

(2) Bridge over the Suruliyar at Veerapandy; estimate Rs. 40,600, outlay Rs. 36,678, of which Rs. 43,519 were spent in the year. The original contractor's accounts were not closed as he was disputing the rates.

225. **Presidency.**—Rs. 13,501 were paid to the Madras Municipality for maintaining the roads and bridges over the Cooum river.

V.—PROVINCIAL—MISCELLANEOUS PUBLIC IMPROVEMENTS.

226. **Godavari (Eastern).**—The roads and drainage culverts in the Sappers' cantonment at Dowlaishweram were repaired at a cost of Rs. 296 against a grant of Rs. 300.

227. **Kistna (Eastern).**—(1) Widening Ryves' canal; estimate Rs. 11,000, total outlay Rs. 9,965. Work was completed except the revetment for about 100 feet which will be carried out before the canal is re-opened.

(2) Annual repairs to the sea dyke at Masulipatam.

(3) Improving the outfall sluice at tidal lock, Masulipatam. This work was not completed in the dry season as expected owing to the difficulty in demolishing the old tombogi vents down to the new sill level.

The outlay on the last two works was Rs. 1,911.

228. **West Coast.**—Protective works for filling in erosion in the cliff opposite the Sub-Collector's bungalow at Tellicherry were carried out at a cost of Rs. 1,573.

229. **Coimbatore.**—A sum of Rs. 860 was spent against an allotment of Rs. 1,000 for minor works, mostly on petty items at Ootacamund.

230. Rs. 1,961 were spent on account of following repairs against a grant of Rs. 3,000 :—

(1) Pay of boatmen for clearing weeds, &c., in Ootacamund lake; estimate Rs. 390, expenditure Rs. 256. This work has since been transferred to the Ootacamund municipality.

(2) Clearing channel running through the low-lying lands between Charing Cross and Government Garden gate; estimate Rs. 230, expenditure Rs. 224.

(3) Removing the wattle round the margin of Ootacamund lake; estimate Rs. 330, expenditure Rs. 314.

(4) Gravelling along Church Hill road on Ootacamund-Kullar road; estimate Rs. 380, expenditure Rs. 374.

(5) Repairing the fencing on the new road of approach to Government House, Ootacamund; estimate Rs. 400, expenditure Rs. 299.

231. The maintenance of the fencing and lands round the Ootacamund lake was transferred to the municipality during the year.

232. **Negapatam.**—Two minor new works were put in hand and completed at an outlay of Rs. 600.

233. **Madura.**—Cutting a rough trace from Kodaikānal to Pillar rocks; estimate Rs. 2,560, outlay Rs. 1,835, of which Rs. 858 were spent in the year. In addition to this Rs. 667 were paid by the Revenue Department for land compensation. Cutting of trace completed. A further sum of Rs. 358 is also to be adjusted on account of land compensation; by this the estimate will be exceeded by Rs. 300.

234. **Presidency.**—Rs. 13,487 were expended in maintaining the Chepāk park and Marina, the grass plots and trees in the old fishing village site and conservancy of the Cooum river, and Rs. 216 were paid to the Telegraph Department as rent for the line from the clock at Messrs. P. Orr and Sons, Mount Road, to the Observatory.

VI.—LOCAL INCORPORATED.

235. **Rushikulya.**—The Aska and Suradā road was maintained at a cost of Rs. 403.

236. **Godavari (Eastern).**—Gravelling the first mile of the Godāvari left embankment from Rajahmundry to Purushottapatam; estimate Rs. 1,800, outlay Rs. 1,291 against a grant of Rs. 1,300. The work was completed.

237. Maintenance of the road on the Godāvari left embankment first 4 miles below anicut; estimate Rs. 300, outlay Rs. 324 against a grant of Rs. 300.

238. Maintenance of Kovur-Manjair junction canal, ordinary maintenance, estimate Rs. 3,640, outlay Rs. 2,538; closing branches, estimate Rs. 780, outlay Rs. 780. The total outlay on the canal was Rs. 3,318 against a grant of Rs. 2,800. If one-third of this outlay is set off for 43. Minor Works and Navigation, the portion of outlay debitable to Incorporated Local will be Rs. 2,212.

239. Clearing silt below wharf in the A loading channel; estimate Rs. 100, outlay Rs. 100.

240. **Godavari (Western).**—A sum of Rs. 150 was spent from the Local Fund contribution for Ponnamanda channel sluice.

241. **Kistna (Eastern).**—Jubilee Museum at Bezwada; estimate Rs. 27,500, outlay to end of the year Rs. 25,854 and during the year Rs. 8,274. Napa stone flooring was laid, the ornamental finishing off with terracotta work round parapets was completed and the leaded glass windows were all fitted. The whole work was practically finished except wire fencing.

242. **North Arcot.**—A sum of Rs. 2,718 was spent against a grant of Rs. 2,720 towards the construction of causeway across Pālār river on the road from Rānipēttai to Arcot. The work was completed.

243. **Negapatam.**—Mile and furlong stones were provided along road No. 63 at a cost of Rs. 308 against the grant of Rs. 320.

244. **Trichiopoly.**—Road No. 20 from Sirudiyur to the Lower anicut *viz* Sengarayur, 20 miles, and the road along the Iyar Konakurāi flood bank, 7 mile, were maintained at a cost of Rs. 1,049 from the contribution of Rs. 1,070 made by the District Board.

245. **Tinnevely.**—A sum of Rs. 332 was spent in the year from the grant of Rs. 660 made by the District Board on repairing the road running along the bund of Srivaikuntam-Periyakulam tank.

VII.—LOCAL EXCLUDED.

246. **Ganjam.**—The following works were completed or in progress:—

(1) Demarcating the port limits at Calingapatam; estimate Rs. 130, outlay Rs. 123. The work was completed.

(2) Constructing a new northern boundary pillar and demolition of the present one at the port of Ganjam; estimate Rs. 100, outlay Rs. 41. The work was in progress. The lapse was due to the receipt of the allotment late in the year.

(3) Erecting a temporary platform for exhibiting the light at Calingapatam; estimate Rs. 180, outlay Rs. 7. The lapse was due to the grant having been received at the end of February 1894.

(4) Repairs to the lightkeepers' quarters, flagstaff and signal room at Calingapatam; estimate Rs. 100, outlay Rs. 99.

247. **Godavari (Eastern).**—Repairs to the Vakalapudi Lighthouse and lascars' quarters; estimate Rs. 610, outlay Rs. 576 against a grant of Rs. 610. Work completed.

248. **Vizagapatam.**—The following works were completed or in progress:—

(1) Demarcation of port limits, Vizagapatam; estimate Rs. 60, outlay Rs. 49.

(2) Fixing demarcation stones at west side for port limits, Binlipatam; estimate Rs. 55, outlay Rs. 54.

249. **Kistna (Eastern).**—A new lightning conductor was fixed to the Lighthouse at Point Divi at a cost of Rs. 307.

250. **Buckingham Canal.**—A small shed was constructed and a grated trap door was fitted to the Lighthouse at Mahabalipuram; outlay Rs. 90.

251. Alterations to Superintendent's quarters at Pulicat Lighthouse were carried out at a cost of Rs. 1,975.

252. **West Coast.**—The following incomplete works of the previous year were completed:—

(1) Providing lightning conductor to the Lighthouse at Calicut; estimate Rs. 610, outlay Rs. 187 with a saving of Rs. 423.

(2) Constructing quarters for the lightkeeper of the Lighthouse at Mangalore; estimate Rs. 1,480, expenditure Rs. 1,350.

(3) Improvements to the Lighthouse at Cochin; estimate and expenditure Rs. 500.

253. The lightning conductor of the Lighthouse at Cochin was also improved at a cost of Rs. 109.

254. Under repairs the following works were carried out:—

(1) Annual repairs to the Lighthouse at Tellicherry; expenditure Rs. 147.

(2) Repairs to backing of revetment, Cochin, from opposite Messrs. Pierce, Leslie's gate down to marine coal shed; expenditure Rs. 82.

(3) Annual repairs to Port office, Beypore; expenditure Rs. 94.

(4) Repairs to flagstaff at Beypore; expenditure Rs. 649.

(5) Repairs to earth backing on northern side of Cruz Milagre dam, Cochin; expenditure Rs. 227.

(6) Repairs to revetment, Cochin groyne, and revetment, Vypeen; expenditure Rs. 70.

(7) Repairs to flagstaff at Mangalore; expenditure Rs. 925.

(8) Repairs to groyne along the foreshore at Cochin; expenditure Rs. 407.

(9) Repairs to boat jetty at Cannanore; expenditure Rs. 174.

255. **South Arcot.**—A bath room and well for the quarters of the head signaller at the flagstaff, Cuddalore, were completed at an outlay of Rs. 365.

256. **Madura.**—Repairs to the Port officer's bungalow, demarcation of port lands and improvements to the lightning conductor attached to the Lighthouse at Pāmban were carried out at a total cost of Rs. 352.

257. **Tinnevely.**—Corrugated iron goods shed at Tuticorin; estimate Rs. 9,400, expenditure Rs. 9,399, of which Rs. 500 were spent in the year, and work completed and handed over.

258. A sum of Rs. 1,046 was spent in repairing the Lighthouse and lightning conductor at Muttam and the Lighthouse at Manapad.

259. **Presidency.**—Rs. 4,517 were expended under this head for original works and repairs of the Senate House and oil godown for the new Lighthouse and Presidency Port office.

VIII.—MISCELLANEOUS—DEPOSITS CONTRIBUTIONS.

260. **Kistna (Western).**—Improvements to the good water channel, Nizam-patam canal, were completed at an outlay of Rs. 54.

261. A drinking ghāt at Kollur was constructed for Rs. 135.

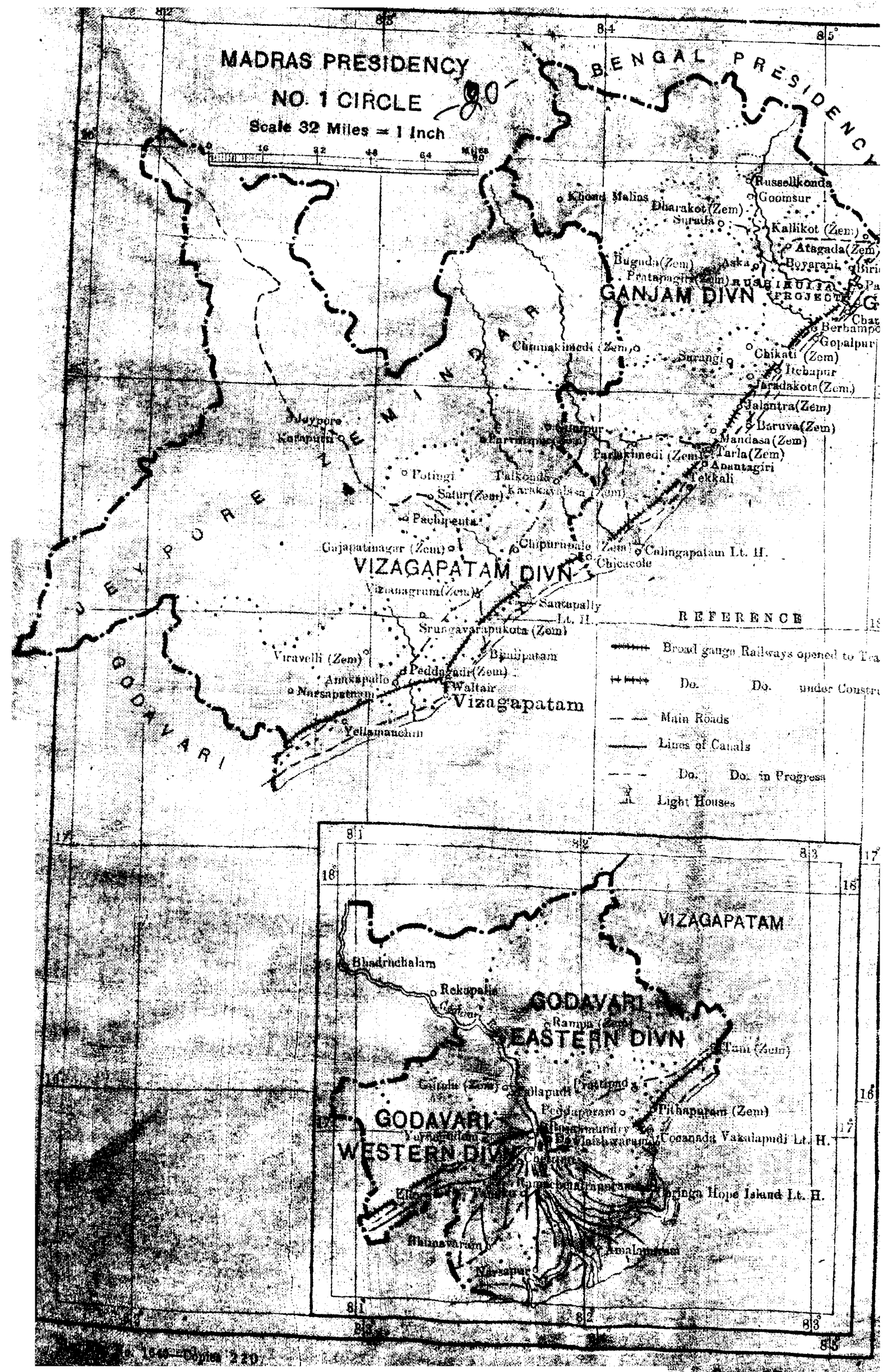
262. **Coimbatore.**—Fixing stained glass windows in Saint Stephen's church at Ootacamund. The work was completed at an outlay of Rs. 42 against the sum of Rs. 110 deposited. The balance was refunded to the depositor.

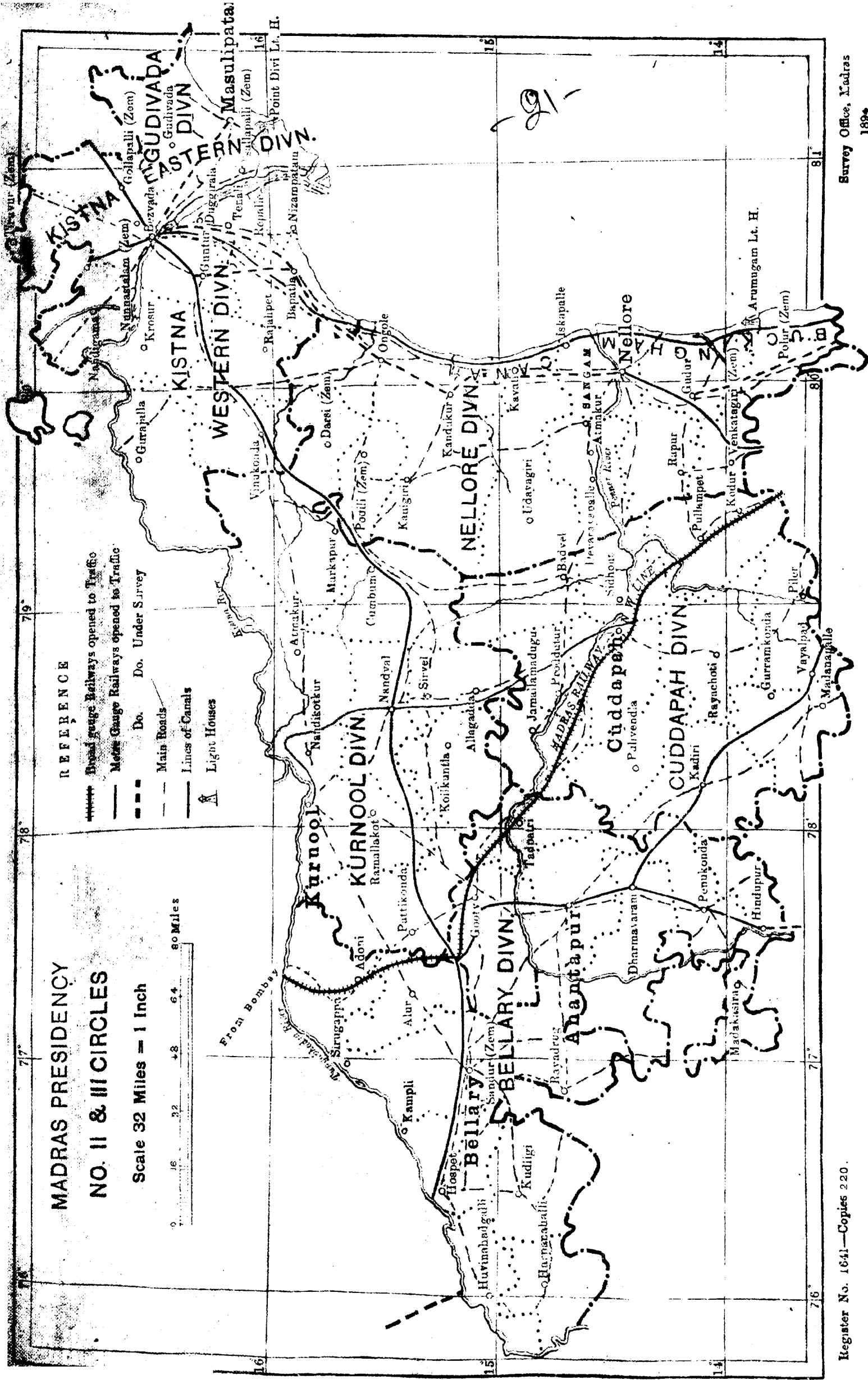
263. **Salem.**—Repairs to Reid Sahib's anicut, an incomplete work of the previous year, was completed during the year.

264. A contribution grant of Rs. 36 was given by the manager, Shulagiri estate, for taking borings in the Settippalli anicut. The work was completed.

265. **Madura.**—Repairs to the Tamkam bungalow. A sum of Rs. 4,432 was recovered from the Registrar of the Madras University, and the work was completed at an outlay of Rs. 4,421.

266. **Presidency.**—Rupees 2,601 were expended during the year 1893-94 in carrying out certain works for the Military Female Orphan Asylum buildings.





MADRAS PRESIDENCY

NO VI CIRCLE

Scale 32 Miles = 1 Inch



REFERENCE

— Metre Gauge Railways opened to Traffic

- - - Do. Do. Under Survey

- - Main Roads

— Lines of Canals

- - - Do. Do. in Progress

▲ Light Houses

