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MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

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*Proceedings of the Madras Government, Public Works Department,
1st October 1875.*

No. 29. Read the following endorsement of the Chief Engineer for Irrigation, dated Ootacamund, 22nd September 1875, No. 38:—

From A. J. DODSON, Esq., Manager and Acting Chief Engineer of the Madras Irrigation and Canal Company, to Lieutenant-Colonel J. MULLINS, R.E., Chief Engineer for Irrigation, dated Kurnool, 11th September 1875, No. 100.

I HAVE the honor to inform you that the delay in replying to your letter, No. 14-B, of 18th March last, has been caused by the difficulty in ascertaining the amount of the balance left of the Company's "Loan Account" available for works of construction.

3 Estimates.	} Per Book Post.
6 Tracings.	
9	

2. I now forward you, herewith, a statement which shows a balance of Rupees 39,533-8-10 still available for that purpose, and have therefore the pleasure, in accordance with the wishes of Government as expressed in your letter, to give the following list of the works I propose to alter or construct so as to improve the means of traffic across the canal:—

- 1.—A second-class bridge at Gopalsingaram.
- 2.—Third-class bridges at Nidjood, Mangalapad, and Massamasced to be made into second-class bridges.
- 3.—The second-class bridge at Muddigutla to be repaired and the approaches improved.
- 4.—Second-class bridge to be built at Moochnurri.
- 5.—Third-class bridge at Bolarum to be altered into a second-class bridge.

3. The four second-class bridges named above will be altered according to the drawings and sections which accompany this letter, which plan has already been submitted to you and received your approval. Their approaches will all be now made 25 feet roadway, and with a gradient of 1 in 16.

4. The second-class bridges at Gopalsingaram and Moochnurri will be constructed according to the plans named at the head of their estimates, and their approaches will also be 25 feet wide with gradients of 1 in 16.

5. In paragraph 5 of your letter under reply some discrepancies are pointed out between the statements made by the Acting Collector of Kurnool in his letter quoted in G. O., No. 2,615, of 15th September 1874, and Mr. Latham's letter of 23rd October 1874, No. 128. I now forward you in explanation a tracing showing the canal from Soonkesala to Kurnool, with all the existing and proposed bridges marked thereon, also the principal villages on either side of the Toombuddra; from this you will see that the Acting Collector is mistaken in stating that the village of Kondalapad is between the 4th and 5th miles, as it is in the 2nd mile (1 mile 20 chains), and is only 1 mile 27 chains from Doodya bridge on the lower side, and 1 mile 20 chains from the crossing over the head sluices at Soonkesala. During, therefore, the seven months of dry weather the villagers of Kondalapad can cross with their bundles either by way of the head sluices and the ford below the ancient or by Doodya bridge, and back to the ford and ferry opposite their village, and in neither case would they have to go

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much more than two miles round. A good road shall be made from Doodyala bridge to this ferry including a crossing over culvert No. 6. The Acting Collector also states that this ferry at Kondalapad is the *only* one above Kurnool; this may have been the case, but at present there are ferry boats at Kondalapad, Yedurur Gopalsingaram, Nidjood, and Mangalapad which deprives this village of the privilege of being the only point of communication between the British and Nizam's Dominions.

Kondalapad, while the canal was constructing, was a populous and flourishing village, owing to the money spent there by the contractors and their followers; but of late years it has dwindled down to its original insignificance, and the traffic to or from it is therefore very small.

6. Ulloor bridge is completed and will be shortly opened to general traffic. Men and cattle with their ploughs, &c., pass over it now.

7. In reply to your paragraph 7, I have the honor to submit herewith an estimate for a second-class bridge to be built at Moochumrry, a few chains below the present sub-way.

The proposed position of this bridge is shown in the plan No. 824 which accompanies this letter, on which plan I also show the second-class bridge built in 1868, which, when writing your letter under reply, seems to have escaped your memory. It is built at 49 miles 68 chains, and is exactly 1 mile 22 chains above the proposed bridge which will be built at 51 miles 10 chains. This bridge was sanctioned in G.O., No. 1,826, of 18th June 1867, and referred to in paragraph 8 of your letter printed in that Government Order.

8. I submit a plan, section, and estimate of the proposed alterations of the third-class bridge at Bolarum into a second-class bridge, similar in all respects to those above Kurnool, except that its western approach having to cross a water-spread makes it more extensive and expensive.

9. The second-class bridge at Muddigutla I propose to repair by rebuilding the arch which is dangerously cracked, and by forming the approaches to gradients of 1 in 16.

10. *Your paragraph 8.*—The bridge at Beempaud in the 9th section is constructed and was opened for general traffic on the 30th of August last.

11. *Your paragraph 9.*—The bridge at Byup Gudur was widened and re-opened for traffic in 1873.

12. I hope the above-named improvements and additions to the means of traffic across the canal will meet with the approval of Government, and that you will recommend their sanction to the expenditure on them of Rupees 20,880 to be charged to Capital Account, and of Rupees 1,060 to be chargeable to Revenue.

SUBMITTED for the consideration and orders of Government.

The Chief Engineer and Manager, Madras Irrigation and Canal Company, having ascertained that funds are available, has forwarded for sanction the following estimates for adding to the number of bridges on the canal and for improving certain third-class bridges, which as originally constructed have been found to be inconvenient or in some cases dangerous.

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2. Commencing with the upper part of the canal, the first point at which the Collector deemed a bridge to be necessary was at Kondalapad in the 5th mile. The position of the village is at 1½ miles, and the Collector appears to have been mistaken in supposing the ferry across the river opposite thereto to be the only one above Kurnool. The bridge over the head sluice is situated 1½ miles to the westward and the Doodyala bridge 1 mile 27 chains to the eastward. No information as to the traffic actually existing either formerly or now at the Kondalapad ferry has been adduced, and for such local traffic as may be connected with this village it would seem that a ferry boat (basket) on the canal would be sufficient. It will be seen from the plan of the canal above Kurnool that the canal runs here at but a very short distance from the river, and it is thought that with a road from the Doodyala bridge to the ferry which Mr. Dodson states shall be made, there could be nothing but a very small amount of local traffic for a bridge were one built; for all traffic from a distance can manifestly with but little, if any, detour reach the ferry by either the head sluice or the Doodyala crossing. Paragraph 7 of Mr. Latham's No. 128, of the 23rd October 1874, gives additional particulars of the circumstances of this village, which appears to be but very little worse off as regards communication with the surrounding country since the canal was cut than it was before. No estimate has been submitted for a bridge.

3. There is no reason to doubt that the culvert in the 9th mile has, except for short intervals, been a very inconvenient crossing, and an estimate has accordingly been prepared for a second-class bridge for the benefit of Gopalasingaram which is near the canal at this point.

4. Estimates have likewise been submitted for altering the third-class bridges at Nidjood, Mangalapad, and Massamaseed into second-class bridges, and these alterations will meet the complaints made in paragraph 7 of the Collector's letter.

5. The estimates further provide for reconstructing the arch of the second-class bridge at Muddigutla 3rd section, for building a bridge of the same class for Collector's letter, paragraph 4. Moochumrry, and for altering the third-class bridge at Bolarum to adapt it for cart traffic.

6. Of the seven bridges mentioned as necessary in the papers recorded in Proceedings, Madras Government, No. 2,047, of the 19th July last, two* are provided for in these estimates. Regarding the other five nothing has been said by Mr. Dodson, and, indeed, were every rupee of the balance left devoted to bridge construction, there would not be enough money for all. The five are—

	Miles.	Chains.
Padidampad at about	24	30
Pagadial	54	40
Parlapalli between	97.51	and 100.25
Kanalapalli	114	115 miles
Chintakunta	130	131

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The tank formed by the canal below Kadarabai makes the aqueduct near this village useless for cattle going from Padilampad to pasture lands east of the tank. The Kurnool shepherds have, it is thought, no ground of complaint, they can get to the pasture lands referred to without a detour of any consequence. If funds can be found, this bridge should be provided.

7. The Pagadial culvert is less convenient than a bridge. It is doubtless true that for an hour or two after unusually heavy rainfall there may be 4 or 5 feet of water in it, but such occurrences must be extremely rare, and probably there is not more than a foot of water passing through on one day out of 100. The construction of a bridge may very well wait until there is money to spare.

8. The bridge stated to be required for Parlapalli would, it is thought, be a luxury. The Deputy Collector's description of the route which the Parlapalli ryots have to take to get to their fields may be quite correct; but if it be so, the sooner the requisite communications are opened by taking up the land necessary for a few convenient paths or cattle tracks the better. Parlapalli is nearly $1\frac{1}{2}$ miles from the canal, and the bridge No. 7 A at 97 miles 51 chains is but a few yards more distant from the village than the nearest point of the canal which is some 20 chains lower down, viz. at the 98th mile. Again, at 100 miles 25 chains there is another bridge which is $2\frac{1}{2}$ miles from the village in a south-east direction. The demand that the Company should build another bridge appears therefore to be altogether unreasonable.

9. Kanalapalli being rather close to the canal in the 115th mile has been inconvenienced by the latter. The nearest bridge is at Dipaguntla about five-eighths of a mile more of a mile to the north. Whether the inconvenience of making this detour be a sufficient reason for building another bridge must be a good deal a matter of opinion. In a country like India in which so much really important work remains to be done, a Kanalapalli bridge would seem to involve a waste of money.

10. Chintakunta.—The sketch map shows that this village is $1\frac{1}{2}$ miles from the bridge in the 131st mile at lock No. 10 A; that the nearest point of the canal is a mile lower down near where the old track to Kondapally crosses and the distance there is $1\frac{1}{2}$ mile. The distance by this track between the two villages is $3\frac{1}{2}$ miles, that by the existing bridge less than $\frac{1}{2}$ mile more. The bitter complaints of the villagers that they can carry no manure to their fields for want of a bridge a mile below the present one are shown by the map to be without foundation.

11. There no doubt are some lands of every village near the canal to which the route from the latter is now somewhat longer than it was before, but this is an inevitable result of constructing a canal at all, and if the benefits of the canal to the people generally be not infinitely greater than is necessary to counterbalance such inconveniences, its construction at all must have been a great mistake. The mere spending of so much money in the district has been a great advantage to the villagers, and Kurnool is now a very different district, owing mainly to this circumstance, to what it was fifteen or sixteen years ago.

12. Again, it might be imagined that when roads between villages are spoken of as having been closed by the canal, that there were or are any roads worth mentioning.

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Take this country near Chintakunta for instance; there is a wide black cotton soil plain over which such traffic as there is, and it is principally the transport of field produce is carried in any and every direction. A good shower of rain brings all wheeled traffic to a full stop until the ground dries again. Even riding after such a shower is a slow and difficult matter. Diverting traffic from such tracks, as custom has established to others which will for years to come be just of the same kind and a few yards longer or shorter is not the grievance which interfering with made roads would be, and if the Local Fund Board or other district authorities were to set to work and lay out convenient tracks from the existing bridges or those admitted to be required in addition, there would be little ground for complaint left, while the old tracks no longer needed might with very little trouble be made available for cultivation in lieu of the ground set apart for the new tracks.

13. It will be seen that the Chief Engineer and Manager reports that the Ulloor bridge in the 37th mile has been so far completed as to be in partial use, and that it will shortly be opened for general traffic; that the Byup Gudur bridge* was widened and re-opened in 1873, and that the Beempaud bridge in the 9th section, 166th mile, has been opened for use.

14. The following are the estimates which are now submitted for sanction:—

Position.		Description.	Rs.
Miles.	Chains.		
8	25	Constructing second-class bridge, Gopalasingaram	7,160
11	20	Altering third-class bridge at Nidood second-class	1,610
13	36	Do. do. at Mangalapad	1,115
15	22	Do. do. at Massamaseed	1,540
49	68	Constructing second-class bridge at Mochmurry	5,670
59	13	Altering second-class bridge to third-class for Bollavaram	2,785
Total			20,880

Revenue.
Repairing Muddigutla bridge and widening the roadway for bandy traffic ... 1,060
15. The letters, No. 128, of the 23rd October 1874, from Mr. Latham, and No. 14-B, of the 18th March 1875, to that Officer, contain information on the subject of the canal crossings, &c.
(Signed) JOHN MULLINS, Lieut.-Colonel, R.E.,
Chief Engineer for Irrigation.

From J. LATHAM, Esq., Chief Engineer and Manager of the Madras Irrigation and Canal Company, to Lieutenant-Colonel J. MULLINS, R.E., Chief Engineer for Irrigation, and Joint Secretary to Government, Public Works Department, dated Kurnool, 23rd October 1874, No. 128.

I HAVE the honor to offer the following reply to the order of the Madras Government, No. 2,615, of 15th ultmo:
2. Suitable provision of roads for the local and general benefit of the country, thereby making enterprise and security possible, is as essential, as the economy of such provision in

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mitigation of the immense cost of famines is unquestionable. Still, such provision is not a definite work which can be completed once for ever. Progress, more than perfection, must always necessarily be the tangible and present aim to be kept in view.

3. The means first proposed to be afforded for intercommunication amongst villages under the canal were certain *bridges* and *ferries* to be made by the Company, and *roads* proposed to be raised at least 2 feet and to be constructed by Government from village to village. The Company completed their part of the bargain and more; for bridges were substituted for the ferries, and many bridges were added; so that your predecessor writes (see G. O., No. 987, of 23rd March 1869):—"Five years ago there were to have been only twelve over and under bridges in the upper 114 miles, now there will be thirty-one over and eight under bridges, most of which are more convenient than overbridges." In a previous letter he reported (see G. O., No. 3,586, of 17th November 1869):—"I observed that several new roads in connection with the bridges and other crossings of the canal have been started." The Government may see with regret, though hardly on account of the continual information they obtain with surprise, how abortive has been this "start"—this experimental road-making, for the success of which all further progress waited.

4. The Plan A appended shows the whole of the roads made under the first 100 miles of canal during the last nine years. The chief of these is part of the main road which has advanced as many miles; four of which from *D* to *G* are under the canal. The only other road at all complete, near the point *B*, is 3 furlongs long, and connects the "difficult and dangerous" culvert with the vagoo which runs into Moechmurry. Lastly, a curious "start" exceeding a mile in length connects the Pagidala culvert at *U* with a vagoo in the fields two miles from any village. There is an unconnected piece of road in Yerragudur at *H* on high ground above the cultivation, and below Tarigopula near *F* some operations have been conducted but without result.

5. Want of funds has prevented the Company from making as many bridges as they would wish. But surely I am justified in saying that regret should not wisely be felt for this in itself. The Company have spent much money in elaborately increasing their bridge accommodation as proposed for trial; and it had become desirable, if not essential, to pause in order that the Revenue Department, including subsequently the Local Fund Boards, might have time to develop the roads also proposed, or intended to be proposed, for trial in connection with these bridges; and without which no public advantage could be expected from the bridges equivalent to the cost of making them. I do not suggest that the Company should pause in the work of improvement so far as their means will extend; but in the interests of the Government and Company, and in make intercommunication possible are insufficient.

6. With this object I will review in some detail the condition of the roads in Toombuddra basin above Metasandal cutting, with reference to progress which to me seems most to be desired—

I. Plan B, Fig. 1, shows the strip of land under the canal above Kurnool. It contains ten

- 1. Doodiyala.
- 2. Yedurur.
- 3. Gopainsingaram and Barapuram.
- 4. Niduzur.
- 5. Maagalapad.
- 6. Mamidyalapad and Masahemasid.
- 7. Roza.
- 8. Kurnool.

hamlets situated in eight villages*. The first eight hamlets lie each between the river at back, the canal in front, and the nearest vagoos right and left, each in a little quadrangle, inaccessible to a cart except across the canal. Each village has its particular bridge or culvert crossing (see with paragraph 3 of the Government Order under reply, and I enclose a Plan D for so altering them at a cost of under Rs. 700 each, omitting approaches, which will vary in cost in each bridge. When this alteration is complete, each village will have one crossing accessible to it, by which alone carts can leave the village. Carts must then follow the village track if there be one, as it winds southward to clear the vagoos. Thus from Niduzur the cart track to Kurnool over the bridge will have to go S. S. W. for 2½ miles, and the way to Kurnool by it will be 9½ miles, the old direct track under the canal being only 5½ miles E. S. E. It would obviously be a great boon to

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this and other villages to have the choice of more than one canal bridge; and so to be able to choose the track from which leads to their object most directly. To complete the road between Soonkesala and Kurnool below the canal would confer this boon, and would also become an artery of trade between Kurnool and the west. The line is a very favorable one. All the vagoos which cross it instead of being liable to indefinite floods are subject only to moderate discharges from the calingulahs and culvert of the canal—discharges which are definite and calculable. The beds of these vagoos are, I think, universally rock, though now, owing to the stoppage by the canal of the accustomed scour, blocked up with reeds and deep in mud. The Company would bridge the outlet from the regulating sluices of No. 9 calingulah. Of this road one mile with its milestone was long ago made, but not in a suitable direction, now that the canal has been constructed.

7. In reference to the village of Kondalapad in this section, and to "the absence of a crossing in connection with a ferry across the Toombuddra," I enclose the views of the village Curnum, an enterprising shrewd man, who has rented the canal fishing, tolls, &c., at various times. He estimates the present passengers, including cultivators, as under thirty a day, and five head of cattle. He declines to take the right of ferrying there, even at a nominal rent, on the ground that the mere mention of a toll would make the people prefer crossing at Soonkesala and Doodiyala, which, in fact, they would generally do now were there any road; for the village of Kondalapad leads nowhere, and is shut in by a vagoo and by stoney tracks. I think the road would be preferred to a bridge.

8. Of Gopalasingaram, which is also in this section, I enclose a Sketch Plan C reduced from the village plan. The land south of the canal in that village is divided into four principal portions by vagoos. The parts *A* of 266 acres gross and *B* of 740 acres have always been inaccessible to the village when the vagoo is in flood. The parts *C* and *D* of 1,458 acres need to be accessible during floods, but are not so.

* Mr. Hope's 3,200 acres perhaps include the Company's Canal itself. I cannot make so many.

I suppose it is to this last piece that the bridge is desired, though this would oblige carts to pass through Uchala to get to Kurnool, a distance of thirteen miles, against the direct way of 8½ miles. Now, though the present culvert makes neither the vagoo nor the roads passable in floods, yet in ordinary showery weather it is a safe passage, pleasant enough to walk or ride through. Were there a bridge, the villagers would hardly care to draw into the village any produce, except for their own consumption, and it seems not a heavy tax to have to take that during fine weather through the culvert. Admitting the inconvenience to the cultivators of the 1,400 or 1,500 acres during actual floods, during which they must go from three to four miles round by Yedurur bridge in order to get from their fields to the village, my impression remains that this bridge may be fairly postponed until more pressing wants have been met elsewhere. I may add that here as at Allur the bridge cannot properly be built without expensive and complicated drainage works.

9. Kurnool.—About 1865 the Company built a first-class bridge in Joharapuram in Kurnool Municipality, in order to shorten the road to Gadidemadugu (towards Nandikotkur). It was understood that Government would make the roads. Figure 2 of Plan B shows the present state of this bridge. It shows at *H* the bridge over the Hindry leading into the town of Kurnool. *HCB* is the old Gadidemadugu road, interrupted by the canal. *ADB* is the diversion made by the Company before they built the bridge at *C*. *CD* is the road made by Government since the bridge at *C* in Joharapuram was built. The road to Gadidemadugu is 3 furlongs 2½ chains longer by this new road by *HCB* than by *HAD*, and that to Cuddapah ½ mile longer. The old dry weather track from Kurnool across the Hindry ford to *C* and thence through the culvert to *B*, a pleasant drive, and much used by carts, is now destroyed and ploughed up; but the new substitute *ADB* is nearly a mile longer. I recommend that either the road from *C* through the culvert to *B* be made good, or that a new road be made as direct as possible from *C* to the south of the canal to *B*. The bridge at *C* is perhaps unnecessary, but at least it seems now thrown away.

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10. *Pudur*.—This bridge has been built about five years, and a road $4\frac{1}{2}$ miles long has been made over a very easy country, from Bapanakotapur to the bridge, for the nearly exclusive benefit of Pudur. But the bridge still needs connecting with the village. The old track is a hollow swamp, full of boulders, and water during eleven months in the year. I urge that the village be made accessible from its bridge. See Plan B, Figure 3.

11. *Allur*.—A similar road has been made from Nandikotkur nearly to Allur, Plan A. I urge its being carried on through the village to the canal bridge now being commenced. Between the village and the road is now a stinking green pond, full of mud and boulders.

12. *Nagatur*.—Here is a fine first-class canal bridge. I urge that it be made accessible to the two important villages of Nagatur and Konidela. The present track varies from a sea of deep mud dangerous to ride through to a surface like a magnified nutmeg grater of sunbaked clay, dibbled by the buffaloe herds laboriously up to the last moist morning, and very carefully fenced on each side by the landowners.

13. *Moochnur*.—Next to Allur this village needs a bridge. Yet here again I urge that it is premature to build a bridge until the existing bridge, a mile distant, shall have been made accessible.

14. *Bollavaram*.—This third-class bridge should be widened by a railing; it will be useful to Pratakota.

15. I beg here to urge the making of a road from A in Plan A at Nandikotkur, via Nagatur, Moochnur, Palaman, &c., to Pagadial. The line I have sketched encounters some subsoil would be favorable also. The part B to C should be made first, then A to B. This road would actually supply Moravakonda, Vrapuram, and Vellala, the tracks to which from it are very good tracks except during actual rain.

16. *Jupad, first-class bridge*.—The road from Kurnool towards Atmakur ends shortly after passing over this bridge at Chetta Jatur. Many of the bridges in it are underarched, and perhaps need culverts under their approaches. Any severe rain like that of this year or 1870 carries away the road and drives the traffic for a time into abominable and circuitous tracks. I agree with an opinion expressed, I understand, by the District Engineer, that this road should not be taken across the Bowanassy river and back again as at first intended, but be carried by Pamalapad. The Bowanassy is a very large river, much larger than its mere apparent bed would indicate, and economy and convenience would be gained by avoiding it.

17. *Terrigopully*.—The south end of this bridge is for several months inaccessible from the east, yet it needs little to make a good road over a good natural ford near Terrigopully to Jatur, which would give Tudichoria and Parmanchala a good access to the Government road at Jatur at the least possible cost.

18. *Rudraceram*.—This uncomplaining village is inconvenienced for want of a bridge, but I do not propose anything yet. The new road if brought via Pamalapad will pass through the village and give it access to neighbouring villages.

19. If I may venture to give an opinion, based on my experience of tracks and roads in all weathers and states of progress in this part of the country extending over fourteen years, it is the following—

(1.) *The Road*.—Sufficient roads for village traffic would be 9 inches of coarse matting 9 feet broad, protected at the surface by a little fine metal, and supported, where in bank of cotton soil, by a rammed bank made up 2 feet 6 inches high in the centre and 2 feet at the sides and 15 feet broad at top. This would sink 6 inches. Near and through the villages, and where other tracks join, the metal should extend the whole 15 feet over the bank.

(2.) A bridge, culvert, or road dam should be made ample sufficient for 1 inch of drainage per hour for small areas and for 50,000 $\times$ the cubic root of the square of the area drained in

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square miles for larger areas, but double this drainage should be passable without destroying the road.

(3.) To bring a road "to" a village should always mean to carry on the road through the chief street of the village, with efficient works, to the far end of the hamlet.

(4.) In no season should it be arranged for the earthwork of the road to anticipate the drainage works. If the bridges and culverts be first completed, they are at once useful; but a bank of unfinished road is a great inconvenience, especially where it destroys the old track, nor is any advantage gained by it.

I believe that greater width of metal is not wanted, and that less thickness must always prove a failure. The wear of metal in a dry country I believe to be much faster than in a moist one. I am speaking of local roads only. At all events these data will now give an approximate idea of the cost of the roads with a view to providing means.

20. For a rough estimate I will first give the roads in the order I would suggest for their being made.

1. B to C in Plan A, $9\frac{1}{2}$ miles, which we will suppose all on bank—

	rs.
Bank per mile, 7 yards $\times \frac{1}{2}$ yard $\times 1,760 = 9,240$ at Rs. $\frac{1}{8}$.	580
Metal dressed, 3 yards $\times \frac{1}{2}$ " $\times 1,760 = 1,320$ at " $\frac{1}{4}$.	440
Total ...	1,020

Say 10 miles road as above ...	10,200
Drainage works ...	9,000
Total ...	19,200

2. Nagatur bridge to the village of Nagatur and Koridela, 1 mile.	1,200
3. Pudur, $\frac{1}{2}$ mile, with culvert ...	1,000
4. Allur, $\frac{1}{2}$ mile ...	800
5. Head sluice, Soonkesala, to Kurnool, 16 miles ...	25,000
6. A to B, Plan A, $9\frac{1}{2}$ miles, half in bank ...	7,300
7. F to G, Terrigopully to Jatur, $4\frac{1}{2}$ miles, do. ...	3,600
8. G to H, Jatur to Yerragudur (main road), 5 miles ...	15,000 (P)
9. K to L, Pratakota through Pagadial to road, $7\frac{1}{2}$ miles ...	8,000
10. D to E, Jupad bridge to Ganapavaram, $5\frac{1}{2}$ miles, with bridges.	16,000
Total ...	96,000

Say one lakh.	
The road-cess if raised to 1 Anna in the Rupee throughout the district—it is now 9 Pies—gives ...	1,07,000
Government grants are about ...	25,000
Special funds available ...	5,000
Total ...	1,37,000

Road repairs throughout the district will require ...	60,000
New roads in progress ...	30,000
Establishment and supervision, &c. ...	30,000
Reserve fund ...	12,000
Total ...	1,32,000

so that at present the funds available for the above roads seem to be the balance in hand, which amounts to Rupees 30,000 and Rupees 5,000 a-year. I urge that this amount be assigned to the roads I have described until they be complete, the Government also assigning from the Imperial funds an amount yearly equal to that contributed by the Local Fund. This will enable all the above roads to be completed, including the supervision, in three or four years. Of course my estimate

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is very rough, but I believe it to be approximate and ample. I suppose all bridges and culverts to be second-class, viz., 10 feet clear between inside of parapets. In the meantime the Company should build Allur bridge and widen all the four third-class bridges, thus providing five more cart crossings over the canal.

21. The area below the canal for which this accommodation is needed is 8.08 square miles in Ramalakota taluq and 88.75 in Nandikotkur. Imagine a space ten miles square (measured on each side) to be pulled out, without altering its total area, into a straggling area fifty miles across. It will then be manifest that for the accommodation of this area and of the very large tract of surrounding country whose lines of communication cross this area, a road not half a mile long from an impassable culvert to a village, and another a mile long from a culvert into the centre of the open fields is not a fair progress to be made during nine years. The main road fortunately enters the area also; and above the canal three detached and, in connection with irrigation, unimportant villages have been imperfectly connected with this road.

22. In the consideration of the proposed roads I have had the careful assistance of Mr. Wilks who has for above ten years been intimately acquainted with much of the country and with the villages concerned, and I am indebted to him for some valuable suggestions.

From Lieutenant-Colonel J. MULLINS, R.E., Chief Engineer for Irrigation, to J. LATHAM, Esq., Chief Engineer and Manager of the Madras Irrigation and Canal Company, dated 18th March 1875, No. 14-B.

In reply to your letter, No. 128, of the 23rd October 1874, I have the honor to inform that valuable and useful as your remarks are on the subject of the improvement of the village communications of the tract of country traversed by the canal, that is not the subject of the order of Government, No. 2,615, of the 15th September 1874.

2. The Government have during the last four years had frequently before them complaints of the inconvenience suffered by the villagers in being cut off from their fields by the canal, and it has been in certain cases decided that bridges must be built. It appears to me therefore quite useless to show that for want of good roads many of the existing bridges are of much less use than they otherwise would be, and the only answers to request for bridges on the part of the villagers that can be accepted would appear to be either—

- 1st.—That the detour by the nearest bridge or other convenient crossing is small.
- 2nd.—That the traffic is so limited as to make it not worthwhile to save this little traffic a somewhat long detour, or that some simpler means, such as sangaries, would suffice.

3. With regard to the alteration of the third-class bridges of Nidood, Mangalapad, and Mundialpad in the 1st section, the arrangement referred to in paragraph 8 of your letter is approved of so far as the bridges themselves are concerned, and may at once be carried out; but it is necessary to point out that the Government require the approaches to be made sufficiently easy, and that the gradient of these approaches is in each case to be shown on the plan. You have therefore to decide in each case what gradients can be obtained, and I shall feel obliged if you will as early as possible furnish this information, together with estimates of the whole cost of altering each bridge.

4. The next crossing is that for Gopalasingaram; this is no longer open to discussion, and a plan and estimate for a second-class bridge should be submitted as soon as possible.

5. Your observations regarding the application for an additional bridge at Kondalapad in the upper part of the 1st section will be duly brought under the notice of Government, but I think you have not shown how the case stands as clearly as might be, or fully answered paragraph 2 of the Government Order as per margin. The tracing does not exhibit the circumstances of the traffic from the south towards the ferry, or the position of villages to the north of the river.

*Proceedings of the Madras Government, Public Works Department,
1st October 1875.*

The Collector in his letter says that the Doodyala bridge is in the 3rd mile and Kondalapad between the 4th and 5th miles, while on the tracing the latter village is shown about half-a-mile above Doodyala. The question is one which depends a good deal upon distances and the direction of traffic, and it is of importance that the Government should be enabled to understand exactly what the circumstances are. Again, the Government require that if a new bridge can be shown to be unnecessary as regards the direction of the traffic, a road should be provided from the Doodyala bridge to the ferry, and it has not been stated whether the passage along the canal bank over culvert No. 6 has been or can be made.

Collector's letter, paragraph 6 and paragraph 8, 2nd mile.
Consulting Engineer's letter in Proceedings, Madras Government, 17th November 1863, No. 3,586.

6. Allur bridge is another of the crossings referred to in the order. In paragraph 11 of your letter, it is mentioned that it was "being commenced." The Government will be glad to know whether it is in progress, and whether it will be opened for traffic before water is again admitted to the canal.

7. There does not appear to have been any plan and estimate submitted for the Mochmurry bridge, which was in G. O., No. 1,304, of the 8th July 1871, decided to be necessary, and these should be forwarded with as little delay as possible. The remarks contained in paragraph 13 of your letter are beside the main reason for the construction of this bridge which is to restore the communication between the village and its lands, and this is entirely independent of the communications between villages. It is not moreover clear what is the "bridge, a mile distant." There is a bridge marked on the tracing A, Drawing No. 783, but in the list printed in Proceedings, Madras Government, dated 20th February 1871, No. 511, the crossing for Kondapragalore is of the third-class by an 8 feet culvert, and I have no recollection of a bridge having been subsequently built. Apparently, the nearest bridge is that at Nagatur, some 3½ miles off.

8. Again, in G. O., No. 1,375, of the 3rd June 1872, it was decided that a bridge was necessary for Beempaud and Sunkettindipally, but I am unable to find any record in this office of its construction. Information is requested, therefore, as to what has been done in the matter, and when it will be ready for traffic.

9. Information is also requested with reference to the alteration of the Byup Gudur bridge, ordered in G. O., No. 1,741, dated 30th June 1871. There was some correspondence about this bridge—

From Agent, No. 208, dated 10th July 1871.

To " " 81, " 12th " "

From " " 323, " 24th " "

and probably the alterations have been made.

No. 30.

ORDER THEREON, 1st October 1875, No. 2,837.

IRRIGATION, No. 4.

Account.

THE estimates, amounting to Rs. 20,830, submitted by the Chief Engineer and Manager, Madras Irrigation and Canal Company, for constructing two additional

second-class bridges on the Main Canal for Gopalasingaram and Mochmurry, and for altering four third-class bridges to second-class so as to adapt them for cart traffic are sanctioned under Capital, as is also the estimate of Rupees 1,060 under Revenue for repairing and improving the Muddigutla bridge in the 3rd Section, Main Canal.

2. It appears from the papers submitted that the balance of Capital remaining is about Rupees 39,533, which may be increased to some small extent by transfer from

Proceedings of the Madras Government. Public Works Department.
1st October 1875.

Revenue to Capital Account on account of stores. The estimates above sanctioned will absorb more than half the balance, and it is evident therefore that the five more bridges reported by the Collector to be required in the Kurnool District cannot all be constructed, while some of them appear from the remarks of the Chief Engineer for Irrigation to be not so necessary as to make it imperative to require their immediate construction. Possibly one or two more bridges might be constructed out of the available Capital balance, but as the Company is not likely to be able to raise additional funds for some time to come, unless the need of bridges in particular cases be shown to be more urgent than at present seems to be probable, the Government must postpone directing their construction.

3. The remarks of the Chief Engineer for Irrigation on the advisability of laying out convenient tracks to the bridges across the Main Canal should be considered by the Collector of Kurnool at an early date, in order that full advantage may be taken of existing means of intercommunication.

(True Extract.)

Major-General, R.E.
Secretary to Government.

To the Revenue Department.
Collector of Kurnool.
Chief Engineer for Irrigation.
Chief Engineer and Manager of the Madras Irrigation and Canal Company.
Examiner of Railway Accounts.

1438. B
Submitted for the consideration and orders of Government.

The Chief Engineer and Manager Madras Irrigation and Canal Company, having ascertained that funds are available, has forwarded for sanction the following estimates for adding to the number of bridges on the Canal and for improving certain 3rd class bridges, which as originally constructed have been found to be inconvenient or in some cases dangerous.

2. Commencing with the upper part of the Canal, the first point at which the Collector deemed a bridge necessary was at Kantalapad in the 5th mile. The position of the village is at $1\frac{1}{4}$ miles and the Collector appears to have been mistaken in supposing the ferry across the river opposite thereto to be the only one above Kurnool. The bridge over the head sluice is situated $1\frac{1}{2}$ miles to the westward and the Dudidala bridge 1 mile 27 chains to the Eastward. No information as to the traffic actually existing either formerly or now at the Kantalapad ferry has been adduced, and for such local traffic as may

was 6 of letter in P.M. 15th Sept/76. No 2616.

connected with this village it would seem that a ferry boat (basket) on the Canal would be sufficient. It will be seen from the plan of the Canal above Kurnool that the Canal runs here at but a very short distance from the river, and it is thought that with a road from the Dudiyalu bridge to the ferry which Mr. Dodson states shall be made, there could be nothing but a very small amount of local traffic for a bridge were one built, for all traffic from a distance can manifestly with but little if any detour reach the ferry by either the head sluice or the Dudiyalu crossing. Para 4 of Mr. Latham's No. 128 of the 23rd October 1874 gives additional particulars of the circumstances of this village which appears to be but very little worse off as regards communication with the surrounding country since the canal was cut than it was before. No estimate has been submitted for a bridge.

3. There is no reason to doubt that the

15 7
culvert in the 9th mile has except for short intervals been a very inconvenient crossing and an estimate has accordingly been prepared for a 3rd class bridge for the benefit of Gopalasingaram which is near the Canal at this point.

4. Estimates have likewise been submitted for altering the 3rd class bridges at Muddigutta, Mangalapad, and Inasamaseed into 2nd class bridges, and these alterations will meet the complaints made in para 4 of the Collector's letter.

Collector's letter
para 4

5. The estimates further provide for reconstructing the arch of the 2nd class bridge at Muddigutta 3rd section, for building a bridge of the same class for Inochmurry, and for altering the 3rd class bridge at Bolaram to adapt it for cart traffic.

6. Of the 7 bridges mentioned as necessary in the papers recorded in Pro: Inasamaseed No. 20047 of the 19th July last, two are provided for in these estimates. Regarding the other five nothing has been said by Mr. Dodson, and indeed were every Rupee of the balance

left devoted to bridge construction there would not be enough money for all. The five are

Padiampad	at about	24 - 30	miles chains
Pagadial	"	"	"
Parlapalli	"	54 - 40	"
Kanalapalli	between	97.51 & 100.35	miles
Chintakunta	"	114 & 115	miles
	"	130 & 131	"

The tank formed by the Canal below Kodarabagh makes the aqueduct near this village useless for cattle going from Padiampad to pasture lands east of the tank.

The Kurnool shepherds have it is thought no ground of complaint: they can get to the pasture lands referred to without a detour of any consequence.

If funds can be found this bridge should be provided.

7. The Pagadial culvert is less convenient than a bridge. It is doubtless true that a foot or two after unusually heavy rainfall there may be 4 or 5 feet of water in it, but such occurrences must be extremely rare and probably there is not more than a foot of water passing through on one day out of 100. The

Para 8 of
Collector's Report.

construction of a bridge may very well wait until there is money to spare.

8. The bridge stated to be required for Parlapalli would it is thought be a luxury. The Deputy Collector's description of the route which the Parlapalli ryots have to take to get to their fields may be quite correct, but if it be so the sooner the requisite communications are opened by taking up the land necessary for a few convenient paths or cattle tracks the better. Parlapalli is nearly $1\frac{3}{4}$ miles from the Canal and the bridge No. 7 at 97 miles 51 chains is but a few yards more distant from the village than the nearest point of the Canal which is some 29 chains lower down, viz at the 98th mile. Again at 100 miles 25 chains there is another bridge which is $2\frac{1}{2}$ miles from the village in a South east direction. The demand that the Company should build another bridge appears therefore to be altogether unreasonable.

9. Kanalapalli being rather close to the Canal in the 115th mile has been

inconvenienced by the latter. The nearest bridge is at Dipagantla about $\frac{5}{8}$ the or a little more of a mile to the north. Whether the inconvenience of making this detour be a sufficient reason for building another bridge must be a good deal a matter of opinion. In a country like S. India in which so much really important work remains to be done the Kanalapalli bridge would seem to involve a waste of money.

10. Chintakunta. The sketch map shows that this village is $1\frac{3}{8}$ miles from the bridge in the $13\frac{1}{2}$ mile at lock No. 10 A; that the nearest point of the Canal is a mile lower down near where the old track to Koudapalli crosses the canal and the distance there is $1\frac{1}{8}$ mile. The distance by this track between the two villages is $3\frac{1}{2}$ miles, that by the existing bridge less than $\frac{1}{2}$ mile more. The bitter complaints of the villagers that they can carry no manure to their fields for want of a bridge a mile below the present one are shown by the map

to be without foundation. 11. There no doubt are some lands and of every village near the Canal to which the route from the latter is now but somewhat longer than it was before, in but this is an inevitable result of constructing a Canal at all, and if the benefits of the Canal to the people generally be not infinitely greater than is necessary to counterbalance such inconveniences, its construction at all must have been a great mistake. The mere spending of so much money in the District has been a great advantage to the Villagers, and Kurnool is now a very different District, owing mainly to this circumstance, to what it was 15 or 16 years ago.

12. Again it might be imagined that when roads between villages are spoken of as having been closed by the Canal, that there were or are any roads worth mentioning. Take this country near Chintakunta for instance: there is a wide black cotton soil plain over which such traffic

as there is, and it is principally the trans-
 -port of field produce, is carried in any
 and every direction. A good shower of rain
 brings all wheeled traffic to a full stop
 until the ground dries again. Even riding
 after such a shower is a slow and
 difficult matter. Diverting traffic from
 such tracks as custom has established
 to others which will for years to come
 be just of the same kind and a few
 yards longer or shorter is not the
 grievance which interfering with made
 roads would be, and if the Local Fund
 Board or other District authorities were
 to set to work and lay out convenient
 tracks from the existing bridges or those
 admitted to be required in addition, there
 would be little ground for complaint left,
 while the old tracks no longer needed
 might with very little trouble be made
 available for cultivation in lieu of the
 ground set apart for the new tracks.

13. It will be seen that the Chief Engineer
 and Manager reports that the Uthor-
 Bridge in the 34th mile has been so far

para 5.

do

no 9

2 10

completed as before in partial use and
 that it will shortly be opened for
 general traffic; that the Byasigudur
 bridge was widened and reopened in
 1893, and that the Beemprand bridge
 in the 9th section 166th mile has been
 opened for use.

14. The following are the estimates
 which are now submitted for sanction.

<u>Capital</u>		
Position	Miles - chains	
Constructing 2 nd class	8 - 25	
bridge - Kopalasingaram.		Rs 4160
Altering 3 rd class bridge	11 - 20	
at Kidjoor 2 nd class.		" 1610
do . do . at Mangalapad	13 - 36	" 1115
do . do . at Masammanad	15 - 22	" 1540
Constructing 2 nd class	49 - 68	
Bridge at Moorchurri.		- 6,670
Altering 2 nd class bridge	59 - 13	
to 3 rd class for Bolaram.		2,785

Total Rupees 20,880

Revenue.

Repairing Muddygulla bridge
and widening the roadway for
heavy traffic _____ Rupees 1060

15. The letters no. 128 of the 23rd October
1874 from Mr. Latham and no. 14 B
of the 18th March 1875 to that officer
contain information on the subject
of the Canal crossings &c.

Wm. L. L. L.
Chief Engineer for Irrigation

Calcutta
22nd Sept 75

To The Secretary to Government
S. A. B.

P. W. 1875 Sept.
No: 5382

From

The Chief Engr.
for Irrigation

Dated 22nd Sept.
Ref. H. Co. 1875.

E.H. No. 38.

Submitting letters
of the Chief Engr. & Manager,
M.D. & Co., forwarding
plans & estimates for
the construction of 2nd & 3rd
Class accommodation
bridges at certain places
etc.

G.O. No 2834 1-10-75

1029

No 2837 O.H.L. 10/22/75
Pro: of the Madras Government
Under date 1st Sept.
Read the following
From,
The Ch. Engr. for M.D. & Co. No 38 of 22nd Sept.

M.L.
30/9

That this draft is shown
on the strongly expressed opinion
of the Chief Engineer for Irrigation
that the bridges for the other
bridges mentioned by the
& Board of the same should
not be lost sight of - M.L.

M.L.

The estimates amounting
to Rs. 20,000 submitted
by the Chief Engr. and Manager
Madras Irrigation and Canal
Company for constructing
two additional 2nd class bridges
on the main Canal for
Gopalasengaram and
Moochurra, and for
altering 4 third class
bridges to 2nd class so as
to adapt them for cart
traffic are sanctioned under
Capital, as is also the
estimate of Rs 1000 under
Revenue for repair.

and improving the need-
dygulla bridge in the
3^d Section Main Canal.

2. It appears from the
papers submitted that the
balance of Capital remain-
ing is about Rs 39,533, which
may be increased to some
small extent by transfer
from Revenue to Capital
Account on account of
shares. The estimates above
sanctioned will absorb
more than half the balance,
and it is evident therefore
that the 5 more bridges
reported by the Collector
to be required in the
Kurnool District cannot
all be constructed, while
some of them appear from
the remarks of the Chief
Engineer for Irrigation
to be not so necessary

25
as to make it imperative
to require their immediate
construction. Possibly one
or two more bridges might
be constructed out of the
available Capital balance,
but as the Company is
not likely to be able to
raise additional funds
for some time to come,
unless the need of bridges
in particular cases be
shown to be more urgent
than at present seems to
be probable, the govern-
ment ^{will not be dis-}
~~posed~~ to directing their
construction.

3. The remarks of the
Chief Engineer for Irrigation
on the advisability of
laying out convenient
tracks to the bridges

across the main Canal
should be considered by
the Collector of Kurruck
at an early date, in order
that full advantage may
be taken of existing means
of intercommunication

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John

No. 30

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23. 10-75

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Rev. Dept

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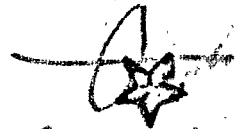
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Govt. of Madras.

PUBLIC WORKS.

To

Rev. Secy

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Date

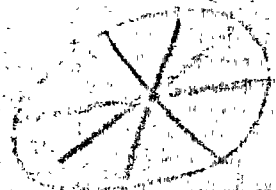
Issued

Recd.

Recd.

G. O. 11th Oct 1875, No. 2837

Nos. 29-30



Adding to the number of
bridges on the Canal &
improving certain 3rd
Class bridges. — Passing

orders on endorsement
of the Chief Engr. for Irrig.
submitting with remarks
letter of the Chief Engr.
Manager, M. S. C. Co.,
forwarding for sanction
Chief Manager, M. S. C. Co.

10

Proceedings of the Madras Government, Public Works Department,
1st October 1875.

No. 31. Read the following Proceedings of the Board of Revenue, dated 30th August 1875, No. 2,437:—

Read the following letter from W. McQUHAE, Esq., Collector of Madura, to H. E. STOKES, Esq., Acting Secretary to the Board of Revenue, dated Madura, 24th July 1875, No. 317:—

I HAVE the honor to submit the annual report on the progress of public works in this district during 1874-75, with the usual detailed statement of work done. I also forward the reports of the Sub-Collector and Head Assistant Collector on the Public Works in their divisions, as directed by Standing Circular No. XXXI. of 1861.

2. The annexed comparative abstract shows that, out of an allotment of Rupees 1,08,385, Rupees 99,678 or 92 per cent. have been spent. This expenditure bears nearly the same proportion as in the previous year, but savings were chiefly effected under the head "New Works" in the items, Civil Buildings, Communications, Agricultural, and Tools and Plant.

Description.	Amount of Allotment for the year 1874-75.	Expenditure of 1874-75.	Expenditure of 1874-75.	Increase.	Decrease.
<i>New Works.</i>	RS.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Civil Buildings ...	32,850	46,400 7 7	30,952 15 7	...	15,447 8 0
Communications ...	10,000	37,250 12 2	4,339 9 10	...	32,911 2 4
Agricultural ...	3,000	3,499 15 10	2,667 7 2	...	832 8 8
Salt Works ...	4,830	2,885 8 5	4,170 7 2	1,284 14 9	...
Tools and Plant ...	644	4,425 0 0	628 0 0	...	3,797 0 0
Total ..	51,324	94,461 12 0	42,758 7 9	1,284 14 9	52,988 3 0
<i>Repairs.</i>					
Civil Buildings ...	3,975	5,392 8 1	4,024 3 4	631 10 9	...
Communications ...	8,200	6,023 6 0	8,253 5 11	2,229 15 11	...
Agricultural ...	42,000	42,005 7 2	42,055 15 1	50 7 11	...
Salt Works ...	750	449 3 1	635 3 1	186 0 0	...
Tools and Plant ...	2,136	1,098 0 0	1,951 0 0	853 0 0	...
Total ..	57,061	52,968 8 10	56,919 11 5	3,951 2 7	...
Grand Total ..	1,08,385	1,47,430 4 10	99,678 3 2	5,236 1 4	52,988 3 0
Net decrease ..	...	...	...	...	47,752 1 8

3. NEW WORKS—*Civil Buildings.*—There is a decrease of Rupees 15,447-8-0 under this head against an increase of Rupees 16,937 in the previous year, owing to short expenditure during the year under review on Tirumal Naick's Palace, constructing wards in the vicinity of the new jail at Madura, and construction of

*Proceedings of the Madras Government, Public Works Department,
1st October 1875.*

Sub-Magistrates' Cutcherries at Tiruchuli and Muducolattur, &c., many of them having been completed. Except in two or three items, the bulk of the expenditure was made for completing works under progress.

4. *Communications*.—There is a great falling off in the expenditure under this head, which amounts only to Rupees 4,339-9-10, while Rupees 37,250-12-2 were spent in the previous year. This result is due to the very small sum laid out on the Gudalore Ghaut road, and the progress report does not afford any information regarding this short expenditure. The following are the two works executed under this head:—

- (1.) Gudalore Ghaut road.
- (2.) Deepening the Paumben Channel.

5. *Agricultural*.—The amount spent during the year is Rupees 2,667-7-2, which is less than the expenditure of the previous year by Rupees 832-8-8, and nearly the whole of this sum was utilized in constructing calingulabs and sluices of tanks, all of the ordinary description.

6. The conservancy establishment entertained for the maintenance of the Nelayore Channel has been discontinued under the sanction conveyed in the Board's Proceedings, No. 1,089, dated 30th April 1875.

7. *Salt Works*.—There is an increase of expenditure in this item, amounting to Rupees 1,284-14-9, which is owing to the large amount of Rupees 3,500 having been spent on the construction of eighteen Police huts at the Muttaregunadapatam Salt station. The remainder, or Rupees 670-7-2 of the expenditure, was incurred for erecting a merchant's shed and raising a compound wall at Attengarai, and for an irrigation channel with a sluice at its head to supply sea water to the pans at Viravanadapatam.

8. *REPAIRS—Civil Buildings*.—A sum of Rupees 4,024-3-4 was laid out on repairs to Civil Buildings against Rupees 3,392-8-7 in the preceding year, the difference being Rupees 631-10-9. The whole of the allotment was utilized. The buildings which received a considerable share are the following:—

	RS.	A.	P.
1. Repairing Deputy Tahsildar's cutcherry and cook-room attached to the Subsidiary Jail at Tripatur.	220	6	10
2. Repairing and improving the Christian Burial-ground at Ramnad	114	9	8
3. Repairing Government House, No. 4, at Paumben.	362	6	4
4. Do. „ 2, at do.	310	0	0
5. Repairing and improving the Sea Custom Office at Keelakarai	299	13	10
6. Repairing the District Judge's Court in Tirumal Naick's Palace at Madura	150	0	0
7. Repairing the Police Constables' huts in the new Jail at Madura	275	0	0
8. Repairing the Sea Custom Office at Paumben	442	6	8
9. Do. the Protestant Church at do.	120	0	0
10. Do. the Sub-Collector's Cutcherry and Bungalow at Dindigul	1,031	4	0

*Proceedings of the Madras Government, Public Works Department,
1st October 1875.*

9. *Communications*.—The expenditure under this head exceeds that of the previous year by Rupees 2,229-15-11, due chiefly to Rupees 2,822-7-3 having been spent on the repair and maintenance of the Gudalore Ghaut road, an item on which no money was spent before. A sum of Rupees 73-1-0 spent on salt branch roads is also included in this item.

10. *Agricultural*.—There is a slight increase under this head, and it is probable that a larger sum would have been spent if funds had been available. The expenditure is a little above the allotment. The money was wholly spent on the repair of tanks and channels as described in the accompanying detailed list. At the same time the wants of the district have not been met, and the District Engineer thinks the old tanks incapable of improvement, their capacity being diminished by gradual silting up. All the channels require masonry work and other improvements, but I see no prospect of getting these works carried out.

11. *Salt Works*.—Rupees 635-3-1 have been spent under this head, showing an increase of Rupees 186. This does not call for any notice.

12. I beg to call the particular attention of the Board to paragraph 11 of the Sub-Collector's report containing his suggestion for the improvement of irrigation in the sub-division, and urging the necessity of detailing a special establishment for the investigation of irrigation projects.

13. I beg to subjoin a statement in the form prescribed in the Circular Memorandum of the Board of Revenue, No. 1,678, dated 14th October 1874, showing the progress of public works as compared with the result of the previous year. It will be seen that no money was spent in the Revenue Department. The expenditure incurred in the Salt Department was not included in this statement, most of the works not falling within the category of buildings and communications.

Proceedings of the Madras Government, Public Works Department,
1st October 1875.

The major head to which the work relates.	Whether New Works or Repairs and by what Department the work was executed.	1874-75.		1875-76.		1876-77.		1877-78.		1878-79.	
		1	2	Budget Allotment.		Expenditure.		Budget Allotment.		Expenditure.	
				Originally sanctioned.	Revised Allotment.	Originally sanctioned.	Revised Allotment.	Originally sanctioned.	Revised Allotment.	Originally sanctioned.	Revised Allotment.
		3	4	5	6	7	8	9	10	11	12
Imperial.											
Irrigation ...	New Works...	...	...	...	...	...	...	...	...	...	...
	Repairs ...	...	...	...	...	...	...	...	...	...	...
Civil Buildings ...	New Works...	...	...	...	...	...	...	...	...	...	...
	Repairs ...	...	...	...	...	...	...	...	...	...	...
Communications ...	New Works...	...	...	...	...	...	...	...	...	...	...
	Repairs ...	...	...	...	...	...	...	...	...	...	...
Buildings ...	New Works...	...	...	...	...	...	...	...	...	...	...
	Repairs ...	...	...	...	...	...	...	...	...	...	...
Total ...	New Works...	...	...	...	...	...	...	...	...	...	...
	Repairs ...	...	...	...	...	...	...	...	...	...	...
Provincial.											
Communications ...	New Works...	...	...	...	...	...	...	...	...	...	...
	Repairs ...	...	...	...	...	...	...	...	...	...	...
Buildings ...	New Works...	...	...	...	...	...	...	...	...	...	...
	Repairs ...	...	...	...	...	...	...	...	...	...	...
Total ...	New Works...	...	...	...	...	...	...	...	...	...	...
	Repairs ...	...	...	...	...	...	...	...	...	...	...
Total ...											

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14. With reference to G. O., dated 16th July 1874, No. 1,174, Financial Department (paragraph 1), I have the honor to annex a comparative abstract of the expenditure incurred by the Public Works agency on Local Fund Works.

Description.	Amount of Allotment for the year 1874-75.	Expenditure of 1873-74.	Expenditure of 1874-75.	Increase.	Decrease.
New Works.					
Communications ...	RS. 2,12,420	RS. 1,39,978	RS. 1,25,616	RS. ...	RS. 14,362
Educational ...	...	...	...	...	...
Sanitary and Miscellaneous ...	27,998	5,313	10,630	5,317	...
Total ...	2,40,418	1,45,291	1,36,246	5,317	14,362
Repairs.					
Communications ...	1,21,436	1,16,663	1,00,389	...	16,279
Educational ...	...	335	...	...	335
Sanitary and Miscellaneous ...	16,694	12,713	9,083	...	3,630
Total ...	1,38,130	1,29,716	1,09,472	...	20,244
Grand Total ...	3,78,548	2,75,007	2,45,718	5,317	34,606
Net decrease ...	...	...	...	...	29,289

15. There is a net decrease of Rupees 29,289 in the expenditure, which is the result of an increase of Rupees 5,317 against a decrease of Rupees 34,606. The increase occurs in the item "Sanitary and Miscellaneous" under New Works, and is due chiefly to the expenditure incurred on the execution of works for the conversion of the jails at Ramnad and Paumben into dispensaries, and on the construction of a dispensary at Periacolum, and the decrease was occasioned by short expenditure under all the other heads.

16. It is to be regretted that the allotments have not been fully utilized as was expected. A list of the principal roads and buildings under construction in the Madura and Dindigul Circles, showing the allotments and expenditure in each

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item, is subjoined. It will be seen that, except in a few items, the allotments were not properly spent.

Circles.	Description of Works.	Amount of Estimate.	Allotment for 1874-75.	Expenditure.
NEW WORKS.				
Communications.				
		RS.	RS.	RS. A. P.
Madura	Madura to Rameswaram	78,300	20,200	15,081 9 4
	Do. to Sayalgudi	56,800	21,000	18,545 1 5
	Melur to Shevavangah	16,000	12,000	8,773 11 6
	Manamadurai to Partibanur	14,500	18,000	5,956 13 4
	Kariaputti to Pundalgudi	48,000	20,000	12,750 6 0
	Madura to Veralur	7,110	3,942	2,391 1 1
	Do. to Alagarcoivil	9,500	3,581	1,742 8 6
	Do. to Tondi	49,300	1,350	1,411 12 2
	Constructing a causeway over the Vagai at Melur	10,700	6,000	1,634 0 0
	Road from Madura to Nutton	27,000	6,000	779 0 2
Dindigul	Madura to Allinagarem	27,000	12,000	5,272 14 9
	Branch to Ammainaickenur	4,010	3,000	1,427 11 0
	Pulni to Udamalapettai	10,700	7,000	1,380 0 0
	Constructing and repairing tunnels and road dams from Mettair to Pulkanoth	20,281	23,095	20,005 15 2
	Terumangalam to Strivilliputtur	14,240	9,283	10,602 0 0
	Dindigul to Butlagunda	24,000	4,000	1,476 0 0
	Do. to Trichinopoly	14,220	3,000	...
	Masonry works on Road No. 38 from Periacolum to Cumbum	6,660	3,775	1,218 10 4
	Cumbum to Gudalore	4,800	1,443	1,071 12 0
	Periacolum to Cumbum	35,200	853	648 11 4
Dindigul	Improving road from Dindigul to Aravacurichi	36,680	98	95 0 0
	Allinagarem	16,000	5,000	1,483 1 7
	SANITARY AND MISCELLANEOUS.			
	Erection of a dispensary at Tiruchuli	3,550	5,000	...
	Conversion of a portion of the Paumben Jail into a dispensary	2,700	2,700	2,698 13 0
	Conversion of the old jail at Ramnad into a dispensary	4,650	2,825	2,824 7 0
	Improving the new Chutirum at Muttanendal	2,132	362	361 4 6
	Constructing a verandah to the dispensary at Ramnad	1,375	1,375	1,190 0 0
	Bungalow at Ammainaickenur	5,000	5,000	49 15 6
	Erecting a dispensary at Periacolum	4,900	4,012	1,504 13 2

ENCLOSURE No. 1.—Statement.

From H. W. BLISS, Esq., Sub-Collector, to W. McQUIHAE, Esq., Collector of Madura, dated Kodaikanal, 4th June 1875, No. 181.

I HAVE the honor to submit the usual report on the progress of public works in the sub-division during the past official year.

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2. The expenditure was as follows:—

Original Works.

	BY PUBLIC WORKS DEPARTMENT.	
	Imperial.	Provincial.
	RS.	RS.
Civil Buildings	...	5,475
Agricultural	193	...
Communications	...	...
Total ...	193	5,475

Repairs.

	BY PUBLIC WORKS DEPARTMENT.	
	Imperial.	Provincial.
	RS.	RS.
Civil Buildings	...	1,196
Agricultural	5,072	...
Communications	...	...
Total ...	5,072	1,196

Total... Rs. 11,936

3. The above is exclusive of Local Fund expenditure.

4. There is an increase under all heads of expenditure except under the head Original, Agricultural (Imperial), as compared with the preceding year as shown below:—

				In 1873-74.	In 1874-75.	Difference.
				RS.	RS.	RS.
Original ...	Civil Buildings	...	...	5,446	5,475	+ 29
	Agricultural	...	...	741	193	- 548
	Communications	...	...	...	...	...
Repairs ...	Civil Buildings	...	...	243	1,196	+ 953
	Agricultural	...	...	3,626	5,072	+ 1,446
	Communications	...	...	...	...	...
Net Increase...				...	...	1,880

5. The following items require brief remark:—

6. ORIGINAL.—Civil Buildings.—Rupees 427 have been spent on the provision of racks in the new record room of the Dindigul Taluq Cutcherry, which work has, to my mind, been done very roughly and unsatisfactorily, as I frequently told the Range Officer while it was in progress; Rupees 548 on a Police Station-house at Mettur, and Rupees 4,499 on the new Taluq Cutcherry at Pulni. The progress made on this latter work has been satisfactory neither in quantity nor in quality; but, as I am aware that the District Engineer has fully reported on the subject to Government, it does not seem to me necessary to enter into details.

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The petty expenditure under this head has been on tank ditches and on repairs to some tank embankments, and has been almost entirely on the completion of works in progress at the beginning of the year.

The chief expenditure (Rs. 1,011) has been on the repairs of the Government's house and culchery at Dindigul.

There has been a gratifying increase in the expenditure under this head. The irrigation works taken in hand and the expenditure on each particular one have, however, been too small for it to be worthwhile to mention them here, except in the following statement:

Tamiraparani Channel	236	In continuation of repairs in hand at the beginning of the year
Arumamudi Tank	151	Do
Chinnaruvu Tank	207	Do
Thalavai	30	Do
Kallaruvankudi Tank	30	Do
Thalavai	30	Do
Kallaruvankudi Tank	30	Do
Thalavai	30	Do
Kallaruvankudi Tank	30	Do
Thalavai	30	Do

In progress and about half done. The Government has also been successful for the thorough repair and completion of the important channel (Gopuram) which irrigates the Puthi group of tanks. This work has been completed, and a very large revenue is dependent, and to which I have already alluded in my report, but it was not commenced until March, the expenditure being Rs. 1,000.

The only one I have to make is that Government has been successful in procuring the services of a competent officer who takes charge of the irrigation works of the sub-division. One is placed at the disposal of the Government, and the other at the disposal of the Government. The Government has also been successful in procuring the services of a competent officer who takes charge of the irrigation works of the sub-division. One is placed at the disposal of the Government, and the other at the disposal of the Government.

The Government has also been successful in procuring the services of a competent officer who takes charge of the irrigation works of the sub-division. One is placed at the disposal of the Government, and the other at the disposal of the Government. The Government has also been successful in procuring the services of a competent officer who takes charge of the irrigation works of the sub-division. One is placed at the disposal of the Government, and the other at the disposal of the Government.

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repair one tank, another gets out of repair and demands attention, and that the day will no more come when they will have no ordinary repairs of old works to attend to, and will have time to turn their thoughts and devote their time to extensions and improvements, than will the day when the poor shall cease out of the land. Every day therefore that the investigation of new projects is delayed until the ordinary establishment shall have leisure to take them up is a day lost. It is as if a man had a gold mine on his estate, which he refused to work except when his gardeners had a few spare hours with nothing to do in the garden, or he had not taken his carriage out and his groom had not to clean it. And what I say of the sub-division may with equal truth be said of the whole district. We have now been in peaceable possession of it for three-quarters of a century, and what have we done? We have made a few roads, some passably good, some very bad, in the Government taluqs. In the Zemindaries we have hardly done that. We built a jail a few years ago, so badly that the timbers of the roof sagged enough, almost in a few months, to allow the prisoners to escape through the ventilators. We have not built a single decent public building. Many of our public offices are simple hovels. We have allowed the palace at Madura, one of the grandest and most nobly conceived public buildings I have ever seen, to fall into such a state of ruin that it is doubtful whether any expenditure will ever again make it safe to use. We have allowed great numbers of irrigation works, the legacy of the ancient rulers, to silt up to such an extent that the late Captain Ryves reported that 30 per cent. of the water received in them was wasted, and we have done nothing to replace them. We have indeed spent much money and valuable time on the investigation of the Perryaur Project, which there is too much reason to fear is impracticable, and which, even if carried out, would irrigate a portion only of I think only one taluq. For the rest of the district we have not even got to the stage of investigation. In the mean time, the population is increasing at a rate we can hardly as yet do more than conjecture, but which is certainly very great. In a few, a very few, years the whole of the cultivable area will be occupied and no waste left to meet the wants of the growing numbers who have nothing, and can have nothing, in this non-manufacturing country but the land to depend on for their livelihood. As it is, none but inferior land is left uncultivated. Are we to continue to stand still and to let things drift? I humbly venture to think not, and, as a first instalment of better days to come, I ask for the investigation of the natural resources of the district with the view of providing against such waste thereof as I believe now to be of constant occurrence.

12. This report has been delayed pending the receipt from the Public Works Department of the information required to fill up the statement prescribed in the Board's Circular Memorandum, No. 1,678, dated 14th October 1874. It has not yet been received. The statement shall be forwarded as soon as it is.

From L. MOORE, Esq., Acting Head Assistant Collector of Madura, to W. McQUIHAE, Esq., Collector of Madura, dated Ramnad, 27th May 1875, No. 164.

I HAVE the honor to submit the usual annual report for 1874-75 on the Public Works in this division.

2. Road No. 2 from Madura to Rameswaram via Ramnad and Paumben.—The portion of this road from Madura up to the river Vaigai, within a couple of miles of Permagudi, is, on the whole, in good order. A few of the culverts are under repair. From the Vaigai up to Ramnad it is, however, in a very bad condition. Even in the best weather it is full of enormous ruts and most inconvenient to travel over, and in wet weather it is almost impassable. Portions of this road are now under repair. From Ramnad to Mandapam opposite Paumben, it is simply a sandy track which, at the best of times, it is very troublesome to get over. The causeway between Paumben and Rameswaram is reported to be very much out of repair.

3. Road No. 3 from Madura to Sayelgudi.—This road is in good order up to Kariapatti, about 18 miles from Madura. After that place it is in bad condition.

4. Road No. 8 from Madura to Tondi.—This road is in good condition up to Tiruvadani. From that village to Tondi, about 8 miles, it is in very bad order.

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5. Road No. 2 from Dindigul to Tondiar and Tirupattur.—This road is reported to be in good order, but the Deputy Tahsildar brings to notice that a number of the avenue trees between Vattanam and Devanattal have fallen down and should be replaced by young trees.

6. Road No. 10 the Coast Road.—This road is throughout its entire course in this division in very bad order. In fact, it would be scarcely possible for it to be worse.

7. Road No. 12 from Melur to Padakkal and Tirupattur.—This road is in good order.

8. Road No. 13 from Tirupattur to Manakkal and Shenganga.—This road is in good order throughout.

9. Road No. 15 from Shenganga to Elampadi.—A small portion of this road is reported to have been repaired recently. The rest is in bad order.

10. Road No. 23 from Karapatti to Pundarikoti.—It is reported that this road has been completely repaired, and is in good order.

11. The several Sub-Magistrates report that their offices and sub-jails are in good repair. The only one of them that I have as yet been able to visit, that at Ramnad, is in proper order and clean.

12. The principal wants of this division as regards public works are, so far as I have as yet been able to ascertain, that the road from Perampalli to Ramnad should be put in a thorough state of repair, and that a road should be constructed from Ramnad to its principal seaport, Kilakeral. There is at present, as you are aware, nothing but a sandy track between these places.

Submitted for the information of Government.

2. The total expenditure from Imperial and Provincial Funds was Rs. 69,678 out of allotments aggregating Rupees 1,08,385 or 32 per cent., about the same proportion as in the previous year, in which Rupees 1,37,420 out of an allotment of Rupees 1,59,261 were expended.

The principal items under New Works, Civil Buildings, appear to have been the same as in the preceding year, viz., the

Tirumal Naik's Palace	10,781	restoration of Tirumal Naik's Palace,
Wards at the New Jail	1,102	construction of wards at the new jail, and
Sub-Magistrate's Cutcherry at Tiruchali	959	the provision of office accommodation at
Do. at Madhavallur	654	certain places; the expenditure during the
Cutcherry at Perampalli	7,834	year on the chief items is given in the
Do. at Pulni	4,500	marginal.

The outlay under "New Works," "Communications," was very small as compared with the year before, owing to short expenditure on the Gudalore Ghaut road, viz., Rupees 400 only. The rest of the expenditure was on the Panamben Channel.

3. The outlay on "Repairs" was chiefly under the head of Agricultural; the allotment, Rupees 42,000, having been laid out in the repair of tanks and channels. The Collector states that the wants of the district have not been met, and seems to regard the condition of the irrigation works as very unsatisfactory.

4. With reference to paragraph 12 of the Collector's letter, the Board observe that the question of entertaining a special establishment for the investigation of irrigation projects in the sub-division has been already laid before Government in Board's Proceedings, dated 12th May 1875, No. 1,251, and the proposal negatived in G. O., 1st July 1875, No. 1,826, Public Works Department.

5. The expenditure of Local Funds by the Public Works Department was very unsatisfactory; the proportion of the allotment for New Works (viz., Rupees 2,40,418) expended being only 57 per cent., Rupees 1,36,246; of the allotment

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for Repairs (Rupees 1,38,130) about 80 per cent., Rupees 1,09,472, was utilized. The Collector expresses regret at this result, but does not assign any particular reason for the shortcoming. The short outlay in the previous year was attributed by the Chief Engineer in his memorandum, recorded in G. O., dated 8th July 1875, No. 1,449, Financial Department, mainly to the weakness of the Public Works Department establishment, and the Board presume that the continuance of a large unutilized balance is due to the same cause.

(True Copies and Extract.)

(Signed) C. A. GALTON,
Acting Sub-Secretary.

No. 32. ORDER THEREON, 1st October 1875, No. 2,838.

ESTABLISHMENT, No. 3.

COMMUNICATED to the District Engineer, Madura, who will, it is hoped, with the increased subordinate Local Fund

Establishment authorized to be entertained in G. O., No. 2,619, dated 13th September 1875, be able to show more satisfactory progress with the communications of the district.

2. The attention of the Chief Engineer for Irrigation is called to paragraph 3 of the Board's Proceedings.

(True Extract.)

Major-General, R.E.,
Secretary to Government.

To the District Engineer, Madura.
" Chief Engineer for Irrigation.

Exd. E. C. Shunker.
Spare Copies

o. 2,437.

PROCEEDINGS OF THE BOARD OF REVENUE, dated 30th August 1875.
Read the following letter from W. McQUHAE, Esq., Collector of Madura, to
H. E. STOKES, Esq., Acting Secretary to the Board of Revenue, dated
Madura, 24th July 1875, No. 317:—

I HAVE the honor to submit the annual report on the progress of public works in this district during 1874-75, with the usual detailed statement of work done. I also forward the reports of the Sub-Collector and Head Assistant Collector on the public works in their divisions, as directed by Standing Circular No. XXXI. of 1861.

2. The annexed comparative abstract shows that out of an allotment of Rupees 1,08,385, Rupees 99,678 or 92 per cent. have been spent. This expenditure bears nearly the same proportion as in the previous year, but savings were chiefly effected under the head "New Works" in the items, civil buildings, communications, agricultural, and tools and plant:—

Description.	Amount of Allotment for the year 1874-75.	Expenditure of 1873-74.			Expenditure of 1874-75.			Increase.			Decrease.		
		RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.
New Works.													
Civil Buildings...	32,850	46,400	7	7	30,952	15	7	...	...	...	15,447	8	0
Communications...	10,000	37,250	12	2	4,339	9	10	...	...	...	32,911	2	4
Agricultural...	3,000	3,499	15	10	2,607	7	2	...	...	...	832	8	8
Salt Works...	4,830	2,885	8	5	4,170	7	2	1,284	14	9	3,797	0	0
Tools and Plant...	644	4,425	0	0	628	0	0	...	...	...	...	...	...
Total ...	51,324	91,461	12	0	42,758	7	9	1,284	14	9	52,988	3	0
Repairs.													
Civil Buildings...	3,975	3,392	8	7	4,024	3	4	631	10	9	...	...	...
Communications...	8,200	6,023	6	0	8,235	5	11	2,229	15	11	...	...	...
Agricultural...	42,000	42,005	7	2	42,055	15	1	50	7	11	...	...	...
Salt Works...	750	449	3	1	635	3	1	186	0	0	...	...	...
Tools and Plant...	2,136	1,098	0	0	1,951	0	0	853	0	0	...	...	...
Total ...	57,061	52,968	8	10	56,919	11	5	3,951	2	7	52,988	3	0
Grand Total ...	1,08,385	1,47,430	4	10	99,678	3	2	5,236	1	4	47,752	1	8
Net decrease ...	...	...	...	...	...	...	...	...	...	...	...	...	...

3. **NEW WORKS.—Civil Buildings.**—There is a decrease of Rupees 15,447-8-0 under this head against an increase of Rupees 16,937 in the previous year, owing to short expenditure during the year under review on Tirumal Naick's Palace, constructing wards in the vicinity of the new jail at Madura, and construction of

Sub-Magistrates' Cutcherries at Tiruchuli and Muducolattur, &c., many of them having been completed. Except in two or three items, the bulk of the expenditure was made for completing works under progress.

4. *Communications.*—There is a great falling off in the expenditure under this head, which amounts only to Rupees 4,339-9-10, while Rupees 37,250-12-2 were spent in the previous year. This result is due to the very small sum laid out on the Gudalore Ghaut-road, and the progress report does not afford any information regarding this short expenditure. The following are the two works executed under this head:—

- (1.) Gudalore Ghaut-road.
- (2.) Deepening the Paumben Channel.

5. *Agricultural.*—The amount spent during the year is Rupees 2,667-7-2, which is less than the expenditure of the previous year by Rupees 832-8-8, and nearly the whole of this sum was utilized in constructing calingulahs and sluices of tanks, all of the ordinary description.

6. The conservancy establishment entertained for the maintenance of the Nelayore Channel has been discontinued under the sanction conveyed in the Board's Proceedings, No. 1,089, dated 30th April 1875.

7. *Salt Works.*—There is an increase of expenditure in this item, amounting to Rupees 1,284-14-9, which is owing to the large amount of Rupees 3,500 having been spent on the construction of eighteen Police huts at the Muttaregunadapatam Salt-station. The remainder, or Rupees 670-7-2 of the expenditure, was incurred for erecting a merchant's shed and raising a compound wall at Attengarai, and for an irrigation channel with a sluice at its head to supply sea-water to the pans at Viravanadapatam.

8. *REPAIRS.—Civil Buildings.*—A sum of Rupees 4,024-3-4 was laid out on repairs to civil buildings against Rupees 3,392-8-7 in the preceding year, the difference being Rupees 631-10-9. The whole of the allotment was utilized. The buildings which received a considerable share are the following:—

	RS.	A.	P.
1. Repairing Deputy Tahsildar's Cutcherry and cook-room attached to the Subsidiary Jail at Tripatur.	220	6	10
2. Repairing and improving the Christian Burial-ground at Ramnad	114	9	8
3. Repairing Government House, No. 4, at Paumben...	362	6	4
4. Do. " 2, at do.	310	0	0
5. Repairing and improving the Sea Custom Office at Keelakarai	299	13	10
6. Repairing the District Judge's Court in Tirumal Naick's Palace at Madura	150	0	0
7. Repairing the Police Constables' huts in the new Jail at Madura	275	0	0
8. Repairing the Sea Custom Office at Paumben	442	6	8
9. Do. the Protestant Church at do.	120	0	0
10. Do. the Sub-Collector's Cutcherry and Bungalow at Dindigul	1,031	4	0

Progress of Public Works in the District of Madura.

The major Head to which the Work relates.	Whether New Works or Repairs and by what Department the work was executed.	1873-74.			1874-75.		
		Budget Allotment whether Imperial or Provincial.		Expenditure.	Budget Allotment.		Expenditure.
		Originally sanctioned.	Revised Allotment.		Originally sanctioned.	Revised Allotment.	
1	2	3	4	5	6	7	8
Irrigation...	Imperial.	RS.	RS.	RS. A. P.	RS.	RS.	RS. A. P.
	New Works.	3,500	3,500	3,499 15 10	3,000	3,000	2,667 7 2
	Repairs	50,000	42,000	42,005 7 2	50,000	42,000	42,055 15 1
Civil Buildings...	Public Works Department.						
	Revenue Department.						
	Public Works Department.						
	Revenue Department.						
Communications	Public Works Department.	150	473	473 3 8	118	183	110 9 6
	Revenue Department.						
	Public Works Department.						
	Revenue Department.						
Communications	Provincial.						
	Public Works Department.	43,000	38,000	37,250 12 2	10,000	10,000	4,339 9 10
	Revenue Department.						
	Public Works Department.	6,100	6,000	5,736 0 8	8,720	7,700	8,180 4 11
Buildings...	Public Works Department.	33,657	51,714	46,400 7 7	38,350	32,850	30,952 15 7
	Revenue Department.						
	Public Works Department.	3,500	3,000	2,919 4 11	3,787	3,787	3,883 9 10
	Revenue Department.						
Total	Public Works Department.	80,157	93,214	87,151 3 7	51,350	45,830	37,980 0 7
	Revenue Department.	59,750	51,473	51,134 0 5	62,625	53,755	54,260 7 4
	Public Works Department.						
	Revenue Department.						
Total		1,39,907	1,44,687	1,38,285 4 0	1,13,975	93,585	92,220 7 11

9. *Communications.*—The expenditure under this head exceeds that of the previous year by Rupees 2,229-15-11, due chiefly to Rupees 2,822-7-3 having been spent on the repair and maintenance of the Gudalore Ghaut-road, an item on which no money was spent before. A sum of Rupees 73-1-0 spent on salt branch roads is also included in this item.

10. *Agricultural.*—There is a slight increase under this head, and it is probable that a larger sum would have been spent, if funds had been available. The expenditure is a little above the allotment. The money was wholly spent on the repair of tanks and channels as described in the accompanying detailed list. At the same time the wants of the district have not been met, and the District Engineer thinks the old tanks incapable of improvement, their capacity being diminished by gradual silting up. All the channels require masonry work and other improvements, but I see no prospect of getting these works carried out.

11. *Salt Works.*—Rupees 635-3-1 have been spent under this head, showing an increase of Rupees 186. This does not call for any notice.

12. I beg to call the particular attention of the Board to paragraph 11 of the Sub-Collector's report containing his suggestion for the improvement of irrigation in the Sub-division, and urging the necessity of detailing a special establishment for the investigation of irrigation projects.

13. I beg to subjoin a statement in the form prescribed in the Circular Memorandum of the Board of Revenue, No. 1,678, dated 14th October 1874, showing the progress of public works as compared with the result of the previous year. It will be seen that no money was spent in the Revenue Department. The expenditure incurred in the Salt Department was not included in this statement, most of the works not falling within the category of buildings and communications.

14. With reference to G. O., dated 16th July 1874, No. 1,174, Financial Department (paragraph 1), I have the honor to annex a comparative abstract of the expenditure incurred by the public works agency on Local Fund Works.

Description.	Amount of Allotment for the year 1874-75.	Expenditure of 1873-74.	Expenditure of 1874-75.	Increase.	Decrease.
	RS.	RS.	RS.	RS.	RS.
<i>New Works.</i>					
Communications	2,12,420	1,39,973	1,23,616	...	14,362
Educational	27,998	5,313	10,630	5,317	...
Sanitary and Miscellaneous				5,317	14,362
Total ...	2,40,418	1,45,291	1,36,246		
<i>Repairs.</i>					
Communications	1,21,436	1,10,668	1,00,339	...	16,279
Educational	16,694	335	9,083	...	335
Sanitary and Miscellaneous				...	3,630
Total ...	1,38,130	1,10,716	1,09,472	...	20,244
Grand Total ...	3,78,548	2,55,997	2,45,718	5,317	34,606
Net decrease ...					29,289

15. There is a net decrease of Rupees 29,289 in the expenditure, which is the result of an increase of Rupees 5,317 against a decrease of Rupees 34,606. The increase occurs in the item "Sanitary and Miscellaneous" under New Works, and is due chiefly to the expenditure incurred on the execution of works for the conversion of the jails at Ramnad and Paumben into dispensaries, and on the construction of a dispensary at Periacolam; and the decrease was occasioned by short expenditure under all the other heads.

16. It is to be regretted that the allotments have not been fully utilized as was expected. A list of the principal roads and buildings under construction in the Madura and Dindigul Circles, showing the allotments and expenditure in each

item, is subjoined. It will be seen that except in a few items the allotments were not properly spent.

Circles.	Description of Works.	Amount of Estimate.	Allotment for 1874-75.	Expenditure.		
		RS.	RS.	RS.	A.	P.
NEW WORKS.						
Communications.						
Madura.	Madura to Rameswaram	78,300	20,200	15,081	9	4
	Do. to Sayelgudi	56,800	21,000	18,545	1	5
	Melur to Shevagungah	16,000	12,000	8,773	11	6
	Manamadura to Pertibanur	14,500	13,000	5,958	13	4
	Kariaputti to Pundulgudi	48,000	20,000	12,750	6	0
	Madura to Veralur	7,110	3,942	2,391	1	1
	Do. to Alagarcovil	9,500	3,581	1,742	8	6
	Do. to Tondi	49,300	1,350	1,411	12	2
	Constructing a causeway over the Vigai at Melackal	10,700	6,000	1,634	0	0
	Road from Madura to Nuttom	27,000	6,000	779	0	2
Dindigul.	Madura to Allinagarem	27,000	12,000	5,272	14	9
	Branch to Ammainaickenur	4,010	3,000	1,427	11	0
	Pulni to Udamalapettai	10,700	7,000	1,380	0	0
	Constructing and repairing tunnels and road dams from Mettiar to Pulkanooth	20,281	23,095	20,005	15	2
	Terumangalam to Strivilliputtur	14,240	9,283	10,602	0	0
	Dindigul to Butlagundu	24,000	4,000	1,476	0	0
	Do. to Trichinopoly	14,220	3,000	...	...	...
	Masonry works on Road No. 38, from Periacolam to Cumbum	6,660	3,775	1,218	10	4
	Cumbum to Gudalore	4,800	1,443	1,071	12	0
	Periacolam to Cumbum	35,200	853	648	11	4
Dindigul.	Road No. 5, portion between Andiputti and Allinagarem	36,680	98	95	0	0
	Improving road from Dindigul to Aravacurichi	16,000	5,000	1,483	1	7
SANITARY AND MISCELLANEOUS.						
Dindigul.	Erection of a dispensary at Tiruchuli	3,550	5,000	...	...	...
	Conversion of a portion of the Paumben Jail into a dispensary	2,700	2,700	2,698	13	0
	Conversion of the old jail at Ramnad into a dispensary	4,650	2,825	2,824	7	0
	Improving the new Chuttrum at Muttanendal	2,132	362	364	4	6
	Constructing a verandah to the dispensary at Ramnad	1,375	1,375	1,190	0	0
	Bungalow at Ammainaickenur	5,000	5,000	49	15	6
	Erecting a dispensary at Periacolam	4,960	4,042	1,504	13	2

ENCLOSURE No. 1.—Statement.

ENCLOSURE No. 2.

From H. W. BLISS, Esq., Sub-Collector, to W. McQUIHAE, Esq., Collector of Madura, dated Kodaikanal, 4th June 1875, No. 181.

I HAVE the honor to submit the usual report on the progress of public works in the Sub-division during the past official year.

7. *Agricultural*.—The petty expenditure under this head has been on tank sluices and on shutters to close tank calingulaks, and has been almost entirely on the completion of works in progress at the beginning of the year.

8. *REPAIRS—Civil Buildings*.—The chief expenditure (Rupees 1,031) has been on the repairs of the Sub-Collector's house and Cutcherry at Dindigul.

9. *Agricultural*.—There has been a gratifying increase in the expenditure under this important head. The irrigation works taken in hand and the expenditure on each particular one are, however, generally too small for it to be worthwhile to mention them here, except in the following instances:—

	RS.	
Vannampatti Channel	234	In continuation of repairs in hand at the beginning of the year.
Attur Filaceti Tank	358	
Butlagundu Virankolum	151	In progress.
Do. Vedankolum	302	Completed.
Kalayambuther Agraharam Athi-		
karikolum	349	do.
Kothamangalam Puthukolum	672	do.
Palay Pappankolum	579	do.
Perulur Karusalkolum	728	In progress and about half done.

10. An estimate, amounting to Rupees 9,000, has also been sanctioned for the thorough repair and regulation of the important channel (Vyapuri) which supplies the Pulni group of tanks and Kothamangalam Puthukolum, upon which a very large revenue is dependant, and to which I have for years vainly invited attention, until the present District Engineer took the matter up. The work is now proceeding rapidly, but as it was not commenced until March, the expenditure in 1874-75 was trifling.

11. *SUGGESTIONS FOR THE FUTURE*.—The only one I have to make is that Government should place at the disposal of the District Engineer the services of a competent officer, who takes an interest in irrigation, and of a suitable staff of Surveyors to investigate the projects which have from time to time been suggested for the improvement of the Sub-division. One is mentioned and discussed in some detail in my letter, No. 71, dated 6th March 1875, and recorded in Board's Proceedings, No. 1,251, dated 12th May 1875. There are others in the neighbourhood of Pulni, upon which the District Engineer has already reported to Government and received answer that no officer can be spared, and that before the investigation of new projects is undertaken, existing works should be improved and repaired so as to irrigate their full ayacut. The principle is no doubt good, but like most good principles, it may be carried too far, and by rigid enforcement in the face of diverse circumstances may be made positively injurious in its application. It is so in this case. We have in this division a number of works of irrigation, the great majority of which are most petty and should, in my opinion, be swept out of the lists altogether, and, with their ayacuts, made over to the ryots at dry rates. Of the remainder, the great majority require such simple and ordinary repairs and deepening, as a good Maistry should be as capable of supervising as any Engineer. There are, however, a few good systems of irrigation which require different treatment. They are generally in fair order, and, where not, require but simple ordinary occasional repairs such as the regular staff of the district can and do attend to. But there is hardly one of them which is not, I think, capable of great extension, to the benefit both of the revenue and of the people. These extensions the ordinary staff of the district cannot attend to, for want of time; and to insist that they shall be left uninvestigated until all ordinary repairs are executed, and all the existing works made to irrigate their full areas of cultivation, seems to me an act of unwisdom, which I cannot characterize as I think it deserves lest I should be thought wanting in respect to Government. The facts are, first, that the great majority of our *nayak* waste and *shavi* is under the wretched, petty tanks which I say should be made over to the ryots at dry rates; and, secondly, that as fast as the ordinary establishment of the Public Works Department

2. The expenditure was as follows:—

Original Works.

	By Public Works Department.	
	Imperial.	Provincial.
Civil Buildings	Rs.	Rs.
Agricultural	193	5,475
Communications	...	...
Total ...	193	5,475

Repairs.

	By Public Works Department.	
	Imperial.	Provincial.
Civil Buildings	Rs.	Rs.
Agricultural	5,072	1,196
Communications	...	...
Total ...	5,072	1,196

Total Rupees... 11,936

3. The above is exclusive of Local Fund expenditure.

4. There is an increase under all heads of expenditure except under the head Original Agricultural (Imperial) as compared with the preceding year as shown below:—

		In 1873-74.	In 1874-75.	Difference.
Original ...	Civil Buildings	Rs.	Rs.	Rs.
	Agricultural	5,446	5,475	+ 29
	Communications	741	193	- 548
Repairs ...	Civil Buildings	...	...	...
	Agricultural	243	1,196	+ 953
	Communications	3,626	5,072	+ 1,446
Net Increase ...		...	...	1,880

5. The following items require brief remark:—

6. ORIGINAL—*Civil Buildings.*—Rupees 427 have been spent on the provision of racks in the new record-room of the Dindigul Taluq Cutcherry, which work has, to my mind, been done very roughly and unsatisfactorily, as I frequently told the Range Officer while it was in progress; Rupees 548 on a Police Station-house at Mettur; and Rupees 4,499 on the new Taluq Cutcherry at Pulni. The progress made on this latter work has been satisfactory neither in quantity nor in quality; but as I am aware that the District Engineer has fully reported on the subject to Government, it does not seem to me necessary to enter into details.

5. *Road No. 9, from Dindigul to Tondi via Tirupattur.*—This road is reported to be in good order, but the Deputy Tahsildar brings to notice that a number of the avenue trees between Vattanam and Devacottah have fallen down and should be replaced by young trees.

6. *Road No. 10, the Coast Road.*—This road is, throughout its entire course in this division, in very bad order. In fact, it would be scarcely possible for it to be worse.

7. *Road No. 12, from Melur to Paduketta via Tirupattur.*—This road is in good order.

8. *Road No. 15, from Tirupattur to Manamadara via Shevazunga.*—This road is in good order throughout.

9. *Road No. 16, from Shevazunga to Eliangudi.*—A small portion of this road is reported to have been repaired recently. The rest is in bad order.

10. *Road No. 23, from Kariapatti to Pandalgudi.*—It is reported that this road has been completely repaired, and is in good order.

11. The several Sub-Magistrates report that their offices and sub-jails are in good repair. The only one of them that I have as yet been able to visit, that at Rannad, is in proper order and clean.

12. The principal wants of this division as regards public works are, so far as I have as yet been able to ascertain, that the road from Perinagudi to Rannad should be put in a thorough state of repair, and that a road should be constructed from Rannad to its principal seaport, Kilakarai. There is at present, as you are aware, nothing but a sandy track between these places.

SUBMITTED for the information of Government.

2. The total expenditure from Imperial and Provincial Funds was Rupees 99,678 out of allotments aggregating Rupees 1,08,335 or 92 per cent., about the same proportion as in the previous year, in which Rupees 1,47,480 out of an allotment of Rupees 1,59,261 were expended.

The principal items under New Works, Civil Buildings, appear to have been the same as in the preceding year, viz., the restoration of Tirumal Naick's Palace... .. 10,784
Wards at the New Jail... .. 1,492
Sub-Magistrate's Cutcherry at Tiruchuli... .. 957
Do. at Maducollatur... .. 7,833
Cutcherry at Periacolum... .. 4,500
Do. at Palni...
the same as in the preceding year, viz., the restoration of Tirumal Naick's Palace, construction of wards at the new jail, and the provision of office accommodation at certain places; the expenditure during the year on the chief items is given in the margin.

The outlay under "New Works," "Communications," was very small as compared with the year before, owing to short expenditure on the Gudalore Ghaut-road, viz., Rupees 400 only. The rest of the expenditure was on the Paumben Channel.

3. The outlay on "Repairs" was chiefly under the head of tanks and channels. allotment, Rupees 42,000, having been laid out in the repair of tanks and channels. The Collector states that the wants of the district have not been met, and seems to regard the condition of the irrigation works as very unsatisfactory.

4. With reference to paragraph 12 of the Collector's letter, the Board observe that the question of entertaining a special establishment for the investigation of irrigation projects in the Sub-division has been already laid before Government in Board's Proceedings, dated 12th May 1875, No. 1,251, and the proposal negatived in G. O., 1st July 1875, No. 1,330, Public Works Department.

repair one tank, another gets out of repair and demands attention, and that the day will no more come when they will have no ordinary repairs of old works to attend to, and will have time to turn their thoughts and devote their time to extensions and improvements, than will the day when the poor shall cease out of the land. Every day, therefore, that the investigation of new projects is delayed until the ordinary establishment shall have leisure to take them up, is a day lost. It is as if a man had a gold mine on his estate, which he refused to work except when his gardeners had a few spare hours with nothing to do in the garden, or he had not taken his carriage out and his groom had not to clean it. And what I say of the Sub-division may with equal truth be said of the whole district. We have now been in peaceable possession of it for three-quarters of a century, and what have we done? We have made a few roads, some passably good, some very bad, in the Government taluqs. In the Zemindaries we have hardly done that. We built a jail a few years ago, so badly that the timbers of the roof sagged enough, almost in a few months, to allow the prisoners to escape through the ventilators. We have not built a single decent public building. Many of our public offices are simple hovels. We have allowed the palace at Madura, one of the grandest and most nobly conceived public buildings I have ever seen, to fall into such a state of ruin that it is doubtful whether any expenditure will ever again make it safe to use. We have allowed great numbers of irrigation works, the legacy of the ancient rulers, to silt up to such an extent that the late Captain Ryves reported that 30 per cent. of the water received in them was wasted: and we have done nothing to replace them. We have indeed spent much money and valuable time on the investigation of the Periyar Project, which there is too much reason to fear is impracticable, and which, even if carried out, would irrigate a portion only of, I think, only one taluq. For the rest of the district we have not even got to the stage of investigation. In the mean time, the population is increasing at a rate we can hardly as yet do more than conjecture, but which is certainly very great. In a few, a very few, years the whole of the cultivable area will be occupied and no waste left to meet the wants of the growing numbers who have nothing, and can have nothing, in this non-manufacturing country but the land to depend on for their livelihood. As it is, none but inferior land is left uncultivated. Are we to continue to stand still and to let things drift? I humbly venture to think not, and as a first instalment of better days to come, I ask for the investigation of the natural resources of the district with the view of providing against such waste thereof, as I believe now to be of constant occurrence.

12. This report has been delayed pending the receipt from the Public Works Department of the information required to fill up the statement prescribed in the Board's Circular Memorandum, No. 1,678, dated 14th October 1874. It has not yet been received. The statement shall be forwarded as soon as it is.

ENCLOSURE No. 3.

From L. MOORE, Esq., Acting Head Assistant Collector of Madura, to W. McQUIHAE, Esq., Collector of Madura, dated Ramnad, 27th May 1875, No. 164.

I HAVE the honor to submit the usual annual report for 1874-75 on the public works in this division.

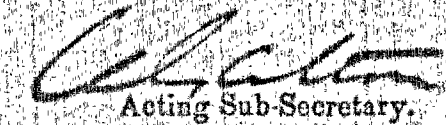
2. *Road No. 2, from Madura to Rameswaram via Ramnad and Paumben.*—The portion of this road from Madura up to the river Vaigai, within a couple of miles of Permagudi, is, on the whole, in good order. A few of the culverts are under repair. From the Vaigai up to Ramnad it is, however, in a very bad condition. Even in the best weather it is full of enormous ruts and most inconvenient to travel over, and in wet weather it is almost impassible. Portions of this road are now under repair. From Ramnad to Mandapam, opposite Paumben, it is simply a sandy track which, at the best of times, it is very troublesome to get over. The causeway between Paumben and Rameswaram is reported to be very much out of repair.

3. *Road No. 3, from Madura to Sargudi.*—This road is in good order up to Kariapatti, about eighteen miles from Madura. After that place it is in bad condition.

4. *Road No. 8, from Madura to Tondai.*—This road is in good condition up to Tiruvadanai. From that village to Tondi, about eight miles, it is in very bad order.

5. The expenditure of Local Funds by the Public Works Department was very unsatisfactory: the proportion of the allotment for new works (*viz.*, Rupees 2,40,418) expended being only 57 per cent., Rupees 1,36,246; of the allotment for repairs (Rupees 1,38,130) about 80 per cent., Rupees 1,09,472, was utilized. The Collector expresses regret at this result, but does not assign any particular reason for the shortcoming. The short-outlay in the previous year was attributed by the Chief Engineer in his Memorandum, recorded in G. O., dated 8th July 1875, No. 1,449, Financial Department, mainly to the weakness of the Public Works Department establishment, and the Board presume that the continuance of a large unutilized balance is due to the same cause.

(True Copies and Extract.)


Acting Sub-Secretary.

To the Secretary to Government, Public Works Department,
with one original Statement, to be returned.

.. the Collector of Madura.

Copy to the Acting Secretary to Government, Revenue Department.

Handwritten notes on the right margin of the top page.

13 Aug 1875 - 28 Sept 1875
 The attention of the Chief Engineer for Bangalore
 is called to page 3 of the Board's Proceedings.
 It is pointed out that the communication of the
 Board to the Chief Engineer dated 13 Sept 1875 should
 have been more satisfactory in its nature and
 should be re-issued in a more satisfactory manner.
 The communication to the Chief Engineer, who will be
 responsible for the matter, is to be re-issued.
 No. 2838
 1st Sept 1875
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 No. 2838
 1st Sept 1875

P. M. 1875 Sept
 No. 5799
 1875.
 Board of Revenue,
 MADRAS.

Proceedings, 30th August 1875, No. 2,437.
 28 Sept 1875

Received 10 Sept 1875
 Public Works in Madras District—Col-
 lector's report on progress of—during 1874-75,
 reviewed and submitted to Government with
 remarks.
 AUGUST.
 No. 2,437.

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whether we cannot do
 something in the current and generally available
 year this is a matter of fact if the Government
 perhaps the existing one is decided by the
 other for Bangalore could be a very satisfactory
 consider the matter to be a very satisfactory
 suggest a communication to the Government
 of what may be a very satisfactory
 and the Government will be a very satisfactory

5-799
Govt. of 1875: Madras.
PUBLIC WORKS.

To Mr. St. John
Madras.

Date
7/11/75
Issued
1875

L
2838
No 31-32

Public Works executed in
the Madras Str. during
1874-75. — Passing order
on Propo. of the Board
of Revenue submitting
with remarks the
Collector's report on