(1) பக்கங்களின் எண்ணிக்கை 44

(2) புதுக்கித் திருப்பிய நாள் 8/88

(3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம்

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

P. W. துறை

அரசாணை எண். —
மு. கோப்புத் தாள் எண். 2225 W

அச்சகம்
பலவகை

நாள் : 11.9.1887 1988.

மடிக்கவோ கண்டபடி கையாளவோ கூடாது

ஆவண. கா-1—18,006—15-6-87.

2225

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following papers:—

From J. W. RUNDALL, Esq., Superintending Engineer, II Circle, to the Chief Engineer, Public Works Department, dated Masulipatam, 26th August 1884, No. 460 N.L.

In acknowledging the receipt of your telegram of yesterday's date and in annexing a copy of the reply sent by wire, I have the honor to state that I am not certain what works are referred to in your telegram.

2. There is no work in progress on the Nellore tank supply channel, except on a repair estimate. The work consists in closing breaches and building a roughstone escape, and is nearly finished.

3. As regards the Collector's cutcherry, a design for a new building has been prepared by the Consulting Architect and forwarded for an estimate to be made. I ascertained, on my recent visit to Nellore, that the Executive Engineer, Captain Henderson, had not commenced the preparation of this estimate, and it will have to stand over till his return from privilege leave.

4. There is no work in progress on current sanctions to the existing Collector's cutcherry.

5. As regards the jail, the improvements sanctioned in G.O., No. 472 W., of the 13th February 1883, and the condemned cells sanctioned in G.O., No. 489 W., of the 22nd February 1884, are practically completed.

6. The preparation of estimates for a new jail has been ordered; copies of the sanctioned designs for Tanjore jail have been obtained, and have been sent to the Executive Engineer, but the work of preparing the estimate for the new building has not been commenced.

ENCLOSURE.

Copy of telegram, dated 26th August 1884.

Your telegram 25th. Nellore tank supply channel closing breaches and building roughstone escape on repair estimate nearly completed. Collector's cutcherry, no estimate and no work. Nellore jail condemned cells and improvements completed.

From the Chief Engineer for Irrigation, dated 6th September 1884.

ORDER—dated 11th September 1884, No. 2225 W., Public Works.

The inquiry as to the supply channels of the Nellore tank was made with reference to His Excellency the Governor's tour minute, dealt with in G.O., No. 737 I., dated 22nd November 1883 (*vide* paragraph 5). The Chief Engineer for Irrigation

explains that improvements to the Nellore tank supply channel have been estimated for and are included in the completion estimates of the Pennér anicut system, of which they form a part. The completion estimates of that system will shortly be forwarded to the Government of India.

2. The Superintending Engineer will make early arrangements for preparation of the estimates for the Collector's cutcherry and the new jail at Nellore, referred to in paragraphs 3 and 6 of his letter above recorded.

(True Extract.)

Major, R.E.,
Under Secy. to Govt., P.W.D.

To the Superintending Engineer, II Circle.
" Chief Engineer for Irrigation.
" Revenue Department.
" Judicial do.

Exd. E. Fernandez.
Spare Copies

2225

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1884} Madras.

PUBLIC WORKS.

Dated September, 11th.

Recd.

Encl.

G.O., 11th Sept. 1884, No. 2225 W.

SEPTEMBER.

Works at Nellore

Orders on a report by the Superintending Engineer of the present state of certain —.

2225/1/3

INDEX TO INSPECTION NOTES OF THE CHIEF ENGINEER FOR IRRIGATION, FIRST CIRCLE, NELLORE DIVISION, FEBRUARY 1881.

	Paras.
Introductory Remarks	1
Pennér Anicut	2
Do. Sanctions on expenditure on upkeep	3
Do. Reserve of stone	4
River bed near Anicut	5
Charts of river near do.	6
Survey of Pennér from Sungum to the sea	7
Nellore Tank	8
Do. Supply Channel	9
Do. do. first requirements	10
Do. do. No. 1 head	11
Do. do. present disposal of surplus	12
Do. do. 2nd head	13
Do. do. 3rd or upper head	14
Do. do. data for improvements	15
Do. do. determination of Pennér F.L. of 1874	16
Do. do. present state of	17
Do. do. material improvements to be submitted for sanction under P.P.W. Capital	18
Do. Revenue information	19
Survapalli Project Revised Estimate	20
Storeyard, Workshops and Office	21
Pennér Right Flood Bank above Anicut	22
Do. do. below do.	23
Do. Left do. above do.	24
Nellore Gundlapalem Channel	25

3

2225
4

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

12th March 1881, No. 187 I.

Irrigation.

Read the following paper :—

No. 29. Endorsement of the Chief Engineer for Irrigation, dated Bezváda, 27th February 1881, No. 26 I.

Inspection Notes of the Chief Engineer for Irrigation, First Circle, Nellore Division, February 1881.

It is necessary, by way of introduction to these Notes, to remark that very little has been done to the Irrigation works of this division since 1875, when my last tour in this district was made, except that the Pennér Anicut has been lengthened; the flood banks on the right bank of the river nearly completed; the flood bank on the left side above the anicut carried out as a famine relief work for a distance of about nine miles, or for about half of the length to Sungum, its western terminus; and the Nellore tank has been provided with an additional surplus weir, the head sluice having also been raised. Many of the matters then noted as needing attention have, in the interval, remained unattended to, and this unsatisfactory result is due to many changes in the Executive Establishment, to the staff having been generally much below the proper strength, and to the famine having occupied the attention of the establishment directly for about two years, and indirectly for some time longer.

2. Penner Anicut.—The extension of this weir, which was undertaken in 1875, after the flood of November 1874, which turned the left flank, and formed a wide channel behind it, has been well carried out, and the present length of 2,212 feet, the original length having been 1,581 feet, though much less than the mean width of the river, is, it is hoped, adequate to the discharge of even such a flood as that of 1874. Its section is now a remarkably strong one, and the great quantities of stone, which have been thrown in from time to time and have sunk below the river bed, make the work much stronger than any plotted section would indicate. The weir from the lowest retaining wall upwards is in excellent order, and the outer rough stone apron, which is 100 feet wide at the new part of the anicut, and is being extended to the same width throughout, suffered little or no disturbance anywhere except at the corner next the south under-sluices, and the stone therefrom displaced was carried but a few yards.

The bank of stone above the crest wall is being made up to its normal form, and the groynes on this side will be repaired shortly.

At the left flank the ramp with its side walls has not, as originally intended, been carried up to the level of the top of flood bank, but has been stopped at a point below M.F.L., a gateway with grooves and sliding shutters being here provided to prevent any water passing out. The Executive Engineer must himself see the shutters put in and tested before the beginning of the annual freshes. The shutters should fit accurately at their horizontal edges, and it may be well to have strips of gunny under the lower edge of the bottom plank and in the grooves behind the planks.

4

3. ANICUT SANCTIONS.—The anicut extension work has been completed, and there has been a saving of about Rs. 13,000, owing chiefly to the modification of the arrangements of the left flank above referred to. This sanction should be closed and the completion certificate sent in.

A plan showing the arrangement of the left flank as carried out should be sent to this office to be copied and returned to the Executive Engineer, and any other divergences from the sanctioned arrangements, especially with regard to foundations, should at the same time be shown. Under Revenue Maintenance and Repairs there is a sanction of Rs. 7,490, and of this about Rs. 5,960 are for new stone for the outer apron of the old part of the anicut, most of this stone being required for widening this apron to 100 feet to correspond with the apron of the extension. This sanction, moreover, is a continuation of a much larger estimate. The widening to a material extent of an apron is not a work which should be classed as a Repair. There is no objection to the work itself, though, looking to the very large quantities of stone which have been thrown in at this part of the weir, it was probably hardly necessary, and of course uniformity of width was not a sufficient reason for spending a good many thousand rupees. The circumstances of the extension and of the old portion of the weir were essentially different. At the former there had been no previous accumulation of stone during a series of years, and it was necessary, by providing a deep and wide apron, to guard against the exposure of the lower retaining wall by the subsidence of the stone. The security of the southern part of the anicut is dependent now much more upon the direction of the flow of the water in floods for some distance above, across, and below the weir, than upon additions to the aprons, and to this much-neglected matter full attention should be paid. So far as repacking of the outer apron may from time to time be necessary, the stone should be laid from the top of the retaining wall on a slope to the deep bed of the river.

The cost of upkeep as obtained from the Executive Engineer's office has been in the last few years as follows:—

		Rs.
1875-76		
1876-77	... ...	10,517
1877-78	 3,882	
1878-79	 1,923	
1879-80	 7,175	
	 12,230	
		25,210
		35,727
	Average of five years ...	7,145
	Average of the four years ...	6,302

The expenditure of 1875-76 was exceptionally high as a result of the flood of 1874. The high recent expenditure is due to the new work improperly treated as a repair.

While the weir must at all times be kept in complete order, expenditure must be confined to what is necessary, and to this end proposals to make additions should be carefully considered before being sanctioned.

4. RESERVE OF STONE FOR ANICUT.—The stone has to be brought from the quarries, distant about $1\frac{3}{4}$ miles, and the railway and rolling-stock must either be maintained in good order or a reserve of about 100,000 cubic feet established near the left flank, and renewed as soon as the quantity in stock falls to 30,000 cubic feet or thereabouts. It is estimated that the cost of upkeep of the railway and rolling-stock would be about 1,000 rupees annually, while the interest on the value of a reserve of stone would be not more than Rs. 500 as a maximum, and might not average more than 350 rupees. On the other hand, the mere relaying of the rails, exclusive of new sleepers, would probably cost about 1,000 rupees, and even with a reserve this would have to be done periodically. Before a decision as to the best arrangement can be come to it will be necessary to show, first, what quantity of stone

is likely to be required annually for the maintenance of the anicut; second, what reserve of stone would be necessary to allow of the railway being taken up and its materials stored, and then relaid at the end of the period for which the reserve would last, at a less cost than that of continuous maintenance of the railway. In the meantime a reserve of 30,000 cubic feet should be kept available close to the anicut to meet any emergent demand.

5. RIVER BED NEAR ANICUT.—This is in better form than was the case formerly, but there is still much need of improvement. The main stream approaches the anicut and leaves it in a direction more nearly at right angles to the weir, and had the instructions given in 1875 been attended to, it is certain that a very much greater improvement would ere this have been obtained. The great bay on the right side of the river between the Civil Dispensary and the old head of the Jaffer Saib has not been planted up as was then directed, and the great slice off the left bank of the river just above the anicut still remains to be done. There is a narrow cut through the ground which is to be washed away, and this ground has been acquired; but the continuous widening of the cut on its south side, from the lower end upwards, yard by yard, until the whole block has been washed away has been neglected, though it could be done rapidly and at a nominal cost whenever the river is in fresh.

Inspection Notes, 21st April 1875, paragraph 9.

In carrying out the planting up of the bay on the right side of the river above the anicut, the instructions contained in Professional Circular No. 46 should be carefully attended to.

Below the anicut there is a bay on the left bank which has silted up a good deal since 1875, and the further reclamation of which will be much hastened by forming a nanel plantation there.

The cut through the laterite mass at the point just below this bay should be steadily proceeded with. A few charges of dynamite would enable more rapid progress to be made than is possible so long as the work done is confined to taking away such material as is needed for the roads in the neighbourhood. The north side of the cut should be on the normal alignment of this margin of the river.

6. CHARTS OF THE RIVER NEAR THE ANICUT.—At different times surveys of the river have been made, but many of these are now not to be found, and, moreover, they have not been prepared in a sufficiently systematic way to show clearly either the state of the river bed near the anicut at the time, or the changes which have occurred. Commencing with the current year, an annual chart should be prepared so as to give the necessary particulars of that part of the river which is liable to affect the anicut. In future years the chart should be prepared at about the same date, and the end of February or beginning of March will be a convenient time for this work.

(1.) The chart will extend from one mile above the anicut to about half a mile below the weir.

(2.) It will be plotted on a single sheet of Imperial paper and a scale of $\frac{1}{3000}$ should be used if practicable; otherwise $\frac{1}{1000}$ may be adopted.

(3.) At 1 mile, at $\frac{1}{2}$ mile, and at $\frac{1}{4}$ mile above the anicut, and at $\frac{1}{4}$ mile and $\frac{1}{2}$ mile below the anicut, transverse lines will be laid down, at right angles to the normal axis of the river, for the annual cross sections of the bed, and at the ends of these lines permanent bench-mark stones will be fixed on which to close the levels. These stones should be placed at the foot of the rear slope of the flood embankments where these exist, and otherwise about 200 feet from the edge of the river.

The datum for these levels will be mean sea level, and the anicut crest level should be shown on each by a red line drawn across the section. The flood level of 1874 should be similarly denoted by a blue line, and the sectional area of the waterway up to this line should be taken out and noted against each section so that it may be seen what variations may take place.

These sections will be plotted on a second sheet as an accompaniment to the charts, and on the latter the lines on which they may be taken and the position of the

bench marks at the ends will be shown. Horizontal scale same as survey. Vertical scale $\frac{1}{100}$.

(4.) For the indication in greater detail of the state of the river bed close to the anicut the bed levels, *with reference to the crest of the anicut*, will be noted as follows:—

Above the anicut—

On line at 50 feet from crest, at 100 feet intervals.
" at 150 " " at 150 " "
" at 300 " " at 200 " "

Below the anicut—

On line immediately below outer edge of rough stone apron at 100 feet intervals.
" at 50 feet from " of " at 100 " "
" at 150 " " of " at 150 " "
" at 300 " " of " at 200 " "

The measurements in the direction of the anicut to be made from the south wing or abutment. The levels or depth of bed below the anicut crest will be entered in black figures to two places of decimals, and the heights above the crest in black figures underlined. There will be but few of the latter.

(5.) The references on the chart should explain all the indications.

(6.) All work, other than ordinary repairs, which may be carried out during and up to the end of the year (official) should be stated in notes on the chart itself, *e.g.*:—

"The rough stone apron below the retaining wall was widened from 80 to 100 feet from 225 to 900 feet, making, with the work previously done, the whole of this apron of the normal width of 100 feet.

"No. 3 groyne, at 833 feet, above anicut crest wall was much damaged during the fresh of November 1880, and was restored with heavier stone.

"The cut through ground above left end of anicut was widened from 30 to 137 feet. The total area of ground to be removed was 24,200 square yards, and that remaining to be removed is 13,135 square yards."

(7.) The cost of upkeep to be shown in abstract below the notes, *e.g.*:—

		RS.
Capital Outlay.		
Widening rough stone apron		2,000
Revenue Extensions and Improvements.		
Clearing away projecting ground		215
Maintenance and Repairs.		
Groyne above crest wall	47	
Ordinary repairs	1,833	
		1,880

7. SURVEY OF PENNER FROM SUNGUM TO THE SEA.—In this part of the river more or less conservancy work will have to be carried out annually, and such work cannot be properly done without a good survey. There have been surveys of all or nearly all this part of the river, and if these or the field books can be found they may, with or without the aid of the Revenue Survey sheets, be compiled into a suitable general survey. Otherwise a complete survey must be made, and for it a special Surveyor will be sanctioned. The survey should show—

(1) the normal axis of the river;
(2) the normal right and left margins;
(3) the present margins or river banks;
(4) the flood embankments;
(5) the Nellore tank supply channels, and generally all works in charge of the department within half a mile or so of the axis of the river.

It should be plotted continuously and then divided into sheets, 30 by 22 inches. The scale will be 8 inches to the mile, and the survey will be therefore in nine or ten sheets. A smaller scale survey, 2 inches to the mile, should also be prepared.

These surveys will be for divisional use. The larger survey should not be taken out of the Divisional Office, but tracings of any sheets required should be made for use in river conservancy or other work.

8. NELLORE TANK.—The bund is generally in good order, but it needs the small repairs which should be attended to by coolies who should be kept constantly at work upon it and paid out of the annual repair estimate. Some huts, one of which was close to the temple, and others on the rear part of the bund further west, are recent encroachments which should be put a stop to at once.

Surplus Weirs.—The calingulah at the east end has not yet been converted into a weir with the crest at or about F.T.L. The present arrangement is very objectionable, and the instructions regarding the discharge of as much surplus as possible into the river above the west end of the river embankment have not yet been attended to, though a new weir has been there built for the purpose and has not yet discharged more than an inch or two of water. The east weir should be of ample length, but its crest should be higher than that of the west weir.

Inspection Notes of 1875, paragraph 13.

The west weir is a well-built work, but part of the revetments in connection with the rear (main) wing returns will need rebuilding, and it will be desirable to remove the revetment or pitching from that part of the rear slope of the bund which is above the wing returns as now the drainage washes out the soil, and this will be prevented by making up the slope with earth to the level of the top of the return.

9. TANK SUPPLY CHANNEL.—This channel is very greatly in need of improvement. It has three heads from the Pennér, and it receives the drainage of about 150 square miles of country. The upper head is at 16 miles 25 chains from the east weir of the tank, and runs from the Pennér into the Gollakondakur ludum, which drains 89 square miles. This head is a short piece of channel which has never been cut to a proper level, and which therefore is at present of very little use. The ludum, or upland stream, runs a little way in the direction of the supply channel, and then flows into the river; just below this point is the second head, and from the ludum to this head, at a short distance from the river, there is a connecting channel which is much above the proper level.

At $7\frac{1}{2}$ miles from the first head the Mulumudi ludum drainage, 61 square miles, crosses the channel, and there is here, on the line of the outfall into the river, a weir 72 feet long.

From this point a channel of fair capacity was cut about thirty years ago to the channel from the third head, which it joins at $9\frac{1}{2}$ miles from the first head. This third head was the original source of supply, and it is on too low a level to do more than about fill the tank up to 3 or 4 feet below F.T.L., but for this purpose it has been in the past of very considerable value; at 10 miles 60 chains is the head-sluice, near Baba Row's chattram, which regulates the admission of water to the tank, and attached thereto is a weir for the discharge of surplus into the river. Some levels were taken in August 1880, and from these it appears that the proper level of the channel bed

at the first head is about	82·00
at the Mulumudi ludum weir do.	64·13
the sill of the tank head-sluice is	58·05

These levels would give an average fall of 2·38 feet a mile for the first $7\frac{1}{2}$ miles, and of 1·87 feet a mile thence to the head-sluice. So far as could be judged from an inspection of the longitudinal section, these bed falls will suit the circumstances.

10. TANK SUPPLY CHANNEL, FIRST REQUIREMENTS.—The channel has been repeatedly breached to the east of (below) the Mulumudi ludum; a breach occurred this year, and such accidents are inevitable so long as adequate means of getting rid of the

ludum floods are wanting. The present weir is extremely inadequate, for the flood discharge of the ludum is about 6,975 cubic feet a second, and, instead of a length of 72 feet, from 200 to 400 feet will be necessary, according to the difference between the crest and M.W. levels which may be fixed; this will depend, first, upon the full supply depth in the channel, and, secondly, upon the M.F.L. in the Pennér. It seems probable that 8 feet will be an economical and suitable depth of water in the channel, and it is slightly less than the difference of level between the head-sluice sill and its connected surplus weir.

C. 450.

11. TANK SUPPLY CHANNEL, No. 1 HEAD.—The ryots interested appear to think that the old head from the river, about 2 miles above the Jennawada gorge, and rather less than a mile below the ludum weir, might with advantage be closed and abandoned. This head has at its upper end a small masonry work of the calingulah form, which would seem to have been intended to prevent the return of water from the tank to the river, as it is entirely submerged even in moderate freshes. Near also the lower end of this head there was formerly a sluice with gates which were intended to close on the river falling below the level of the tank water; this sluice was entirely destroyed in one of the floods, probably in 1874. The chief objection to this head, as it is at present, is that it allows much of the water flowing down from the westward to escape into the river instead of going on to fill the tank, and this is a very important objection. Were the head to be retained, it would be necessary to construct a head-sluice which would regulate the admission of water from the river and the discharge of surplus from the channel. On the whole it is considered that all requirements may be met by designing the required weir for the Mulumudi ludum with a set of under-sluices therein, so that these may be used, as may be desirable, either for admitting river water or discharging surplus. The outfall of this weir channel is into the same bend of the river—the permanent deep bed—which supplies No. 1 head, and the corambu or oblique dam connected with the latter used to run up as far as the weir outfall, though of late years its upkeep has been neglected and much of it has disappeared.

12. TANK SUPPLY CHANNEL—PRESENT DISPOSAL OF SURPLUS.—Until suitable permanent arrangements are carried out at the Mulumudi ludum it will, it is considered, be advisable (1) to leave No. 1 head as it is, taking care, however, to close the calingulah after every considerable fresh in the river or channel, so as to avoid waste of water; (2) to provide temporarily for the safety of the left bank of the channel in the $1\frac{1}{4}$ miles between the junction of No. 1 head therewith and the head-sluice. It was at first thought that the only way of doing this would be to level the left bank for a distance of 600 to 1,000 feet, near the breach of 1880, down to M.F.L. in the river, but it seems probable that a better plan will be to divert the left bank, above the point where the channel passes through a depression in the northern spur of Nursimah Conda, to the higher ground close to the river, and then by levelling the ground to the east of the diverted bank, which ground is rocky and suitable, to form an escape, which possibly would be permanently useful. In this position the crest or discharging level of the escape could be somewhat lower than M.F.L. in the river opposite thereto, as the outfall would be into the river a little lower down.

13. TANK SUPPLY CHANNEL, SECOND HEAD.—This is not required, but when designing the surplus work for the Gollakundakur ludum it will be desirable to insert some sluice vents, and these will serve the double purpose as at the Mulumudi ludum weir.

14. TANK SUPPLY CHANNEL, THIRD OR UPPER HEAD.—It seems probable that a head-sluice will not be required for this channel unless it should be found necessary to prevent undue enlargement. Were the bottom width of this head to be 20 feet width, side slopes of 1 to 1, and were 12 feet of water to pass down it, the mean velocity would be 4·87 feet and the discharge 1,870 cubic feet a second, which is not much more than about a fifth of the ludum flood discharge, and but little more than would be required were the ludum not in fresh. However, the soil of the bed and sides of this head must be taken into account. Another consideration is that, if the Sungum anicut be built, the Nellore tank channel will be a branch of the right main

2225/T

channel, and this separate head on the river will not be required. Sooner or later the Sungum project will be carried out, though perhaps not soon enough to prevent work, which will then have been only of temporary value, being undertaken.

15. TANK SUPPLY CHANNEL—DATA FOR IMPROVEMENTS.—The first thing necessary is of course to show (1) what the acreage which has to be supplied solely from the tank is (2) what river water, in addition to that from the catchment basin proper of the tank, should be provided; (3) what water has been, since the head-sluice was built and a register kept there, passed through, exclusive, of course, of the flood water which breached the connected banks and had to be discharged to waste; and (4) what extra water should therefore be secured; as also (5) what the F.T.L. is and what have been the actual W.L^{s}. in the tank at intervals during the cultivation season. It then will have to be determined how the supply can be improved to the extent shown to be needed, and the chief points to be determined are (1) the fall of each part of the channel from the upper head to the head-sluice near Baba Row's chattram; (2) the dimensions to be given to upper head; to the channel from the Gollakundakur to the Mulumudi ludum, bearing in mind that when the local rainfall is heavy the discharge from the latter ludum will be larger than the channel below will be able to carry; and to this latter channel (3) the full supply depths in each part, which may be the same throughout, or may increase from the upper end to the lower, the crests (fixed or moveable) of surplus weirs will coincide with the F.S.L.; (4) the M.W.L^{s}. in the several parts and the relation of these to the M.F.L. in the Pennér; upon these will depend the capacity and arrangement of the surplus works for the two ludums, and it must be borne in mind that the quantity of water passed on into the channel below the Mulumudi ludum should not exceed that which can be disposed of by the surplus weir immediately above the head-sluice and by the head-sluice into the tank, when the latter is full; it may be noticed that the rule for the regulation of the head-sluice should be that a certain maximum water level above it is not to be exceeded, unless under the special order of the Executive Engineer, and that when the discharge at the weir is insufficient to prevent the water rising above the fixed limit, the head-sluice should be opened, even if the tank be full, sufficiently to just prevent the water rising too high in front; (5) the proper margin of the left bank of the channel above the M.W.L. therein, or above M.F.L. in the river, whichever may be the higher, and both should of course be indicated by lines on the L. Section, as well as F.S.L. in the channel; (6) the places, if any, *e.g.*, a little to the west of the Mulumudi ludum surplus weir, at which the channel bank may with advantage be left lower than elsewhere, but not lower than M.F.L. in the Pennér, in order to allow of spill of inland drainage without risk of material damage in the event of the calculated flood discharge being at any time considerably exceeded.

16. DETERMINATION OF PENNER F.L. OF 1874.—It may be useful to note here that much care will have to be used in determining the Pennér F.L. of 1874 at the several points. It is understood that investigations were made in connection with the left flood bank from Sungum to the anicut, but the values found for that side of the river should not be accepted for the other bank without inquiry, as the great change in the direction of the axis of the river between latitude 14·30 and the Jennawada gorge makes it probable that the F.L.S. in this part were higher on the right than on the left bank.

17. PRESENT STATE OF THE SUPPLY CHANNEL.—This, so far as inspected, *i.e.*, below the Mulumudi ludum, is very far from satisfactory. This is partly due to the excessive discharge resulting from the extreme inadequacy of the ludum surplus weir, but the banks are irregular, and the repair of damage, closing of breaches, &c., appear to have been carried out without much thought as to whether the channel had been made safe or not. There has been in fact patch-work, but nothing better, for a long time past; and at one old breach there will be inevitably a repeated accident ere long if the bank be not properly consolidated and the revetments put to rights. The quantities of prickly-pear also make the occasional rapid inspections, which are necessary to see that all is in order, or to remedy defects, impracticable and indeed complete inspection impossible, for it is necessary in places to leave the channel and go along the bed of the river. There should be mile and furlong stones all along the channel and

tank so that instructions to subordinates may be capable of being definitely given. At present on the tank bund, and after things have been put to rights on the channel bank also, there should be some labor always employed in maintaining the embankments in complete order.

Head-sluice.—The face walls which had to be raised several feet after the flood of 1874 have given way under the pressure caused by the expansion of the clay with which the space was filled. They have been taken down preparatory to rebuilding; if the space be filled with small stone or sand and drained, there will be no risk of future failure. The state of the aprons should be ascertained.

Surplus Weir.—This needs only slight repairs. There should be a shutter shed for these regulating works as near to the sluice as may be practicable, and some of the conservancy establishment or mile coolies should be hutted alongside.

18. MATERIAL IMPROVEMENTS WILL REQUIRE SANCTION UNDER P. P. W. CAPITAL.—As the Nellore tank belongs to the Pennér Anicut System, all work which cannot properly be charged to Revenue will have to be sanctioned under Productive Public Works, Capital Account, and it will be necessary, therefore, to include in the next estimate for that system not only the revised estimate for the Survapalli channel, but all other work found to be required.

19. REVENUE INFORMATION.—The Capital and Revenue Accounts which are under preparation in the Examiner's office will give the financial results of past Capital outlay. In support of proposals for further outlay it will be necessary to obtain the Collector's opinion, with statements of the return which may be anticipated either from extension of irrigation or saving of remissions, &c.

20. SURVAPALLI PROJECT REVISED ESTIMATE.—This estimate and all work under it has been at a standstill for years owing to no one having been available to take up the estimate and complete it, and there is still no one to do it. In March 1875 the revision was well advanced under the late Mr. R. Smith, the then District Engineer, and he having drawn up the original project was fully acquainted with the circumstances. Mr. Smith died not very long afterwards, and information as to the exact state of the investigation was sent to this office in February 1876. The next District Engineer's No. 104, 21st February.

District Engineer could not for some time pay any attention to it; then came the famine which engrossed the time of every one in the district, and thereafter the department was re-organised. The records of the District Engineer's office were sent* to the Superintending Engineer at Bellary, and among them all the papers of this project; when subsequently wanted at Nellore they were reported as having been despatched† from Bellary, and what became of them is unknown.

* November 1878.

† January 1879.

Further inquiries have now been directed to be made, as it is not at all clear what papers were in the two packets said to have been sent, and only one bundle of papers‡ of comparatively little value was received at Nellore. All Mr. Smith's plans and estimates, both the rough designs and the fair copies, are at present missing; and if they be really lost, all the results of that officer's experience of the results of his project as carried out, and of the defects to be set to rights, has gone with them; but there is at Nellore a list of the papers sent to Bellary, and it seems unlikely that such numerous and bulky papers can have been lost in transmission, the probability being that only a few of them were ever packed up for retransmission to Nellore.

‡ Two comparative statements. One bundle of correspondence.

The present circumstances of the project are briefly these—

						RS.
Amount of sanctioned estimate	...	...	...	...	...	4,20,060
Expenditure against do.	...	...	...	...	...	4,11,872
					Balance ...	8,188

Expenditure on unsanctioned works Rs. 21,097. The Survapalli tank was in much danger of breaching during the last rains, and was, it is stated, saved only by making a cut in the bund. In paragraph 14 of the Inspection Notes of 1875 it was shown that the surplus weir needed lengthening from 170 to 350 feet; this and other similar work in the channel for the disposal of surplus were directed to be carried out that season, but nothing was done, and this great reservoir is still in a dangerous state. Pending the construction of the weir extension, at least 200 feet of bund must be cleared away and the ground cut to F.T.L.

21. STOREYARD AND WORKSHOPS OFFICE.—The storeyard was until recently in disorder, and was choked with useless accumulations of years, of which nearly all have been got rid. There is a set of steam pumps with a 4-horse power boiler and engine, which have been there for many years and have never been used; so it will be desirable to transfer them to some place where they would be useful. At the dry dock at Dowlaishweram, with the surki mill close by, or at the proposed dock at Bezváda, they would do very well. The cast-iron work being heavy, the pumps would not do for unwatering foundations unless the work was expected to occupy a long time. Then probably much more powerful pumps would be required.

The workshops possess a lathe, drill, circular saw and band saw, and there is an engine of 4-horse power, and an indifferent line of shafting. Formerly the machinery was much used. The Executive Engineer had contemplated taking down and getting rid of the engine and the machinery except the lathe and the circular saw, but there will be a good deal to be done in the way of iron aqueducts, shutter fittings, &c., and the machinery, though left unused for many years, does not seem to have suffered. The only repair required is to the bearings of the shafting and the resetting of the latter in a true line. The machinery can be driven by the engine more cheaply and much more efficiently than by coolies, and the storeyard hedge with refuse from the carpenters' shop will keep the boiler supplied with fuel. A fitter can look after the engine, when running, and work at the bench as well, and a lascar can stoke and clean the engine. On the whole, then, it is thought that it would be wise to retain the means of doing mechanical work properly, but if it be decided to have no machinery but the saws, and to use a fly wheel with coolies to drive these, the Dowlaishweram or Bezváda shop will no doubt be very glad to have the drill, which is a good one, as also the lathe.

The office is in the same enclosure. The Executive Engineer is endeavoring to get the records into order, but they will probably never recover from the treatment to which constant changes have subjected them. For the plans some plan almirahs with plenty of shelves are required. The number of valuable plans lost or not to be found is, it is feared, great. The office buildings need thorough repair, and it would be a good plan to asphalte the floors, as white-ants are troublesome and damp has been very destructive of the paper records.

22. PENNER RIGHT FLOOD BANK ABOVE ANICUT.—This starts from the Nellore tank bund just to the east of the new west weir of that tank, and the first section ends at the Civil Dispensary, which stands on high ground. It is generally in good order. The soil at the upper part is light sandy loam, and it will be necessary to gravel the top and to dress the slopes with 6 inches or so of good soil (silt from the tank or other), as it is impracticable to maintain the bank properly at present, and it is waste of money to repair with loam. In some places the flat slope of the bank has been placed on the land instead of the river side. Fencing is wanted especially near the rather numerous ramps, which latter should be gravelled. The land has not been demarcated, and this matter should be attended to without delay; as might be expected there are already disputes as to what are the boundaries of the land, though it has been so recently acquired.

Preparations for revetting a length of the river slope near Pootapolliem were in progress; the excavations for the foundations were not deep enough; a vertical trench, about 2 feet deeper, will be needed. In many districts such a place would be protected by a panel plantation, which would be perfectly efficient, as the set is by no

means a severe one, but unfortunately the use of nanel has so far made no progress in Nellore, though special attention was called to the subject in 1875. Mile coolies should be employed in maintaining this section of the bank in complete order, including ramps and fences. The next section runs from the high ground north of the town to the temple wall at Runganaiklupet. It will need close attention, as there is a large population alongside, and there are many paths across it. Aloe fences would probably be the best protection, a sufficient number of gaps with openings only for foot passengers and ramps being provided. From the east side of the temple there is a short bank to the head-sluice, and here a laterite wall was under construction along the river face.

Inspection Notes, paragraph 44.

23. PENNER RIGHT FLOOD BANK BELOW ANICUT.—Of the section* below the anicut a longitudinal section has lately been taken to show the work remaining to be done. In the 4, 7, and 8 miles parts of this bank were made of sand which has been blown away, leaving gaps in several places considerably below flood level. A casing or coating of good soil and rabbit wort are the remedies to be applied. Although the quantity of work done on this bank is much in excess of the estimate provision, the rates have been lower, and it is expected that the whole will be finished in a satisfactory manner without exceeding the sanction.

* Not inspected.

24. PENNER LEFT FLOOD BANK ABOVE ANICUT.—This embankment,† which is to extend from Sungum to the anicut, was commenced as a famine relief work. In the first 9 miles or so from Sungum nothing was done, though it would have been desirable to commence the section above the Jennawada hill from the upper end. Two miles above this hill have been formed, but they are useless at present, and the earthworks of the 7 miles below the hill are complete, but a sluice is required for the Jennawada tank surplus, which it is understood must fall into the river. Near the left wing of the anicut there is a gap through which one of the tramways ran, and this was hastily and but partially filled with sand when the river was in fresh last November. The gap was most dangerous, and it should be cleared of sand and properly made up without delay. So long as the old chattram, formerly a refuge for travellers, and a very indifferent one, as its floor was about 5 feet below FL., is used as an anicut store, there must be a ramp over the flood bank, but it is intended to dismantle the chattram and to build a shed on the other side of the flood bank. It will be best to move the stores to a temporary shed at once; then there will be no need to make ramps at the flood bank.

† Not finished.

Some of the plans and surveys connected with this bank, which were prepared in order to settle the proper alignment with reference to the axis of the river, and the provision of sufficient waterway, appear to be missing. No complete estimate has been sanctioned or sent in, and it should be completed and submitted as soon as possible. There was a sort of estimate submitted to the Famine Department for the sanction of the outlay incurred, but it was not in a shape, or supported by the information necessary, to allow of its being reviewed in this office, or sanctioned in the Public Works Department.

25. NELLORE GUNDLAPALEM CHANNEL.—The water-supply of this channel is conveyed across the Survapalli channel by an iron aqueduct just above the Kistnapatam road bridge. Just below the crossing a small channel, which may be here distinguished as the Nellore north channel, takes off, on the left side, and there was a similar offtake for a small area of irrigation on the right. The rest of the water was conveyed by a channel on the north side of the road, and therefrom water was passed by three or four culverts to Nellore lands. What water was not taken for these went on to Gundlapalem, a Shrotriem village, and, as was to be expected, this village, did not get its proper share of the water, which led to disputes which had extended over a great many years. To remedy this state of affairs it was resolved to distribute the water according to the recognized shares immediately below the aqueduct, a very reasonable and suitable proceeding, but, (1) the details were not suitable; and (2) while the culverts under the road were blocked up, the necessary measures for conveying

2225/9

the water on the other side of the road to the field channels therewith connected were not taken. No doubt the Nellore ryots could very easily have done this for themselves, as the cutting of a few feet of channel would have remedied most of the inconvenience, but they were averse to the change of arrangements which virtually removed the control over the entire supply out of their hands, and they would do nothing with, as a result it is understood, a considerable loss of revenue.

With regard to the unsuitability of the details of the distributing weirs, it may be noticed that the requirements were evidently not properly understood. Weirs having their crests at the same level and having a clear overfall will, if so arranged as to have a uniform depth going over, distribute the supply, whatever it may be, in shares proportioned to the lengths of the crest, but directly the crests become drowned or submerged to differing depths below the tail water, the conditions become essentially changed, and the discharges can be determined only from accurate gaugings of the water levels above and below each weir so circumstanced. Lieutenant Henderson found the crests much too low, and he raised them temporarily with laterite blocks, but not sufficiently so to give a clear overfall.

Moreover, weir crests for minor distribution require to be narrow, so that the depth on the crest may be the same for the entire width, otherwise the calculations of discharge become unreliable and complicated. An angle or ⊥ iron is a good material for such crests, and if inserted into the side walls and bolted down to the masonry it cannot easily be tampered with.

In order to dispose of a petition received from the Nellore ryots interested, with the Executive Engineer's assistance the discharge over the aqueduct and to the several distributaries were gauged, and though, from the defects of the weirs, a considerable discrepancy was found between the former and the total of the latter, viz.:—

		Cubic Feet.	Proper share of	
Discharge over aqueduct		7·89	6·44	7·89
Do.	to Nellore north channel	1·15	0·64	0·79
Do.	to Gundlapalem	1 62	1·93	2·37
Do.	to Nellore channels	3·67	3·87	4·73
		6·44		
	Difference ...	1·45		

it was clear that Gundlapalem rather than Nellore was getting an inadequate share and the Nellore north channel a great deal too much. However, it would be impracticable to say without gauges what would be the distribution of any larger quantity of water than that which happened on the 19th February to be passing over the aqueduct, and there are no gauges, or any convenient means, such as shutters would afford, of correcting inequalities, while it would not be practicable, even with gauges and shutters, to construct a table of openings suited to all circumstances without the expenditure of much time and trouble.

The Executive Engineer should now ascertain from the Collector whether the number and distribution of the shares as stated is correct, viz. :—

Nellore north channel	3
Gundlapalem	9
Nellore south	18
Total ...	30

and if not, what the proper shares are; also the total acreage under the aqueduct must be ascertained, and the maximum quantity of water for irrigation which the aqueduct has carried or may be required to convey. Then bearing in mind that the greater the length of crest of the distributing weirs the higher this may be placed without injuriously heading back the water on the aqueduct, the crest should be fixed above the highest water level of any of the channels below, and should be adjusted as to level and length so as to secure the full discharge over the aqueduct without spill. Care must also be taken that the pond above the weirs is large enough to make the water

9

practically level opposite all, and to do away with appreciable velocity of approach. If, then, the weir crests be perfectly horizontal and at the same exact level, they will distribute in direct proportion to their lengths, subject to the very small error to the prejudice of the shorter weirs, due to lateral contraction, which may be reduced to a minimum by making the wings on convex curves something like abutment half cut-waters.

BUCKINGHAM CANAL,
21st February 1881.

(Signed) JOHN MULLINS, Col., R.E.,
Chief Engineer for Irrigation.

SUBMITTED to Government.

(Signed) JOHN MULLINS, Col., R.E.,
Chief Engineer for Irrigation.

No. 30. ORDER THEREON, 12th March 1881, No. 187 I.

COMMUNICATED to the Superintending Engineer, First Circle, for information and guidance.

(True Extract.)

(Signed) JOHN MULLINS, Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Superintending Engineer, First Circle.
„ Chief Engineer for Irrigation.

Exd. A. F. Goodall.
Spare Copies

3325/10

10

R1881

CHIEF ENGINEER
25 MAR
1881
FOR IRRIGATION

IRRIGATION.

Govt. of {1881} Madras.

PUBLIC WORKS.

To

THE SUPERINTENDING ENGINEER,
FIRST CIRCLE,

&c., &c., &c.

Dated March, 12th.

Issued

Recd. Encl.

G. O., 12th March 1881, No. 187 I.

MARCH.

Nos. 29-30.

Inspection Notes of the Chief Engineer for Irrigation, First Circle, Nellore Division, February 1881, communicated to the Superintending Engineer, First Circle, for information and guidance.

2225
II

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

No. 87.

READ—the following papers :—

G.O., dated 26th October 1882, Mis. No. 1717, Judicial.

Read—the following letter from Colonel T. E. TENNANT, Inspector-General of Jails, to the Chief Engineer and Secretary to Government, Public Works Department, dated Vellore, 19th October 1882, No. 283 :—

I have the honor to submit, for the approval and sanction of Government, the accompanying plan and estimates, amounting to Rs. 4,920, for reconstructing certain buildings in the District Jail at Nellore.

1 Report.
1 Specification.
1 Abstract Estimate.
1 Detailed do.
1 Plan.
1 Letter from the Superintendent of the Jail, No. 193, dated 6th October 1882.
1 Letter from the District Magistrate, No. 492, dated 19th May 1882.

2. In November 1880 Mr. Grose, the District Magistrate of Nellore, recommended to Government the construction of a Subsidiary Jail at an estimated cost of Rs. 6,500. On the Magistrate's letter being referred to me for remark, I stated that as a new District Jail must be built at Nellore I was not in favor of erecting a separate building for a Subsidiary Jail, as when the new prison is ready there will be ample accommodation in the old buildings for Subsidiary Jail prisoners. I further proposed, as a temporary arrangement, all Subsidiary Jail prisoners should be received into the District Jail. This suggestion was approved of by Government, and a sum of Rs. 800 was sanctioned to provide the necessary accommodation.

G.O., dated 25th January 1881, No. 160, Judicial Department.

3. The District Magistrate, in his letter, No. 763, dated 8th August 1881, represented that these arrangements did not meet the difficulty as to the disposal of remand prisoners ; the correspondence was again referred to me with G.O., No. 1908, dated 14th September 1881. I thereon desired the Jail Superintendent to explain the proposed alterations to the District Magistrate, and to ascertain from that officer whether the alterations met with his approval.

G.O., dated 22nd August 1881, No. 1715.

4. Some delay took place in revising the estimates, but when they were resubmitted the amount, instead of being Rs. 800 as stated by Surgeon-Major Ross, came to Rs. 8,120. I accordingly again addressed the District Magistrate (Mr. Lee-Warner), pointing out that as it was contemplated to construct a new District Jail, it did not appear to me advisable to ask Government to spend so large a sum as Rs. 8,120 on these buildings. Mr. Lee-Warner replied "that if it is true that a new District Jail will be constructed at Nellore at no distant date, the expenditure of Rs. 8,120 upon new Subsidiary Jail buildings, for which there will be no need when the old jail is vacated, would be wasteful in the extreme," and he agreed with me that, pending the construction of the new District Jail, all Subsidiary Jail prisoners may continue to be sent to the District Jail.

II

5. Meanwhile, the condition of the buildings in the old jail became in such a dangerous state that the Executive Engineer and Jail Superintendent, in order to prevent any possible loss of life by the sudden collapse of the old wards, recommended that the buildings should be immediately vacated and pulled down. The buildings were accordingly demolished by convict labor, and the present estimate, amounting to Rs. 4,920, is for reconstructing the buildings as noted in the specification.

6. I am still of opinion that on sanitary grounds a new District Jail at Nellore is required; the old buildings have over and over again been condemned by Surgeon-General Cornish (when Sanitary Commissioner) and by the late Inspector-General of Jails. I therefore request the sanction of Government to have the necessary plans and estimates for a new jail prepared. A suitable site has been selected on the high ground outside the town, and if called upon, I am prepared to submit a block plan together with a memorandum of the accommodation required.

7. As some time must elapse before the new jail can be built, it will be necessary to make the present jail habitable and secure, and the estimate of Rs. 4,920 now submitted should be sanctioned, but I would not recommend any great expenditure be incurred on the present jail buildings, which are radically defective in construction.

8. Funds are available from the allotment provided in the budget grant for the Kurnool District Jail.

Order—dated 26th October 1882, Mis. No. 1717, Judicial.

Approved and transferred to the Public Works Department.

(True Extract.)

(Signed) G. S. FORBES,
Acting Under Secretary.

No. 87-A.

From J. W. RUNDALL, Esq., Superintending Engineer, Second Circle, to the Chief Engineer, Public Works Department, dated Masulipatam, 25th December 1882, No. 993 N.L.

I have the honor to forward estimates, amounting to Rs. 6,770, for Nellore Jail improvements, in lieu of those, amounting to Rs. 4,920, returned for revision with your memorandum, No. 2036 C., of the 11th ultimo.

1 Nellore Zillah Surgeon's letter, No. 193, of 6th October 1882.
1 Nellore District Magistrate's No. 422 of 19th May 1882.
1 Inspector-General of Jails' No. 283 of 19th October 1882.
1 Proceedings of the Madras Government, Judicial Department, Mis. No. 1717, of 26th October 1882.
1 Plan of Nellore Jail.
1 Detail and Abstract Estimates.
1 General Abstract.
1 Duplicate Abstract.
1 Specification.
1 Report.

2. The alterations ordered by you have been embodied in the estimates, but they involve a considerably larger expenditure, while, since the present old jail at Nellore has been condemned and the construction of a new jail is recommended, it is desirable that whatever is done to the old jail should be as cheap as is consistent with efficiency.

3. Moreover, the present Superintendent of the Jail (Surgeon W. O'Hara) is of opinion that the eave ventilation provided in the former estimate is much better than the ridge ventilation now provided, as the latter makes the wards damp during heavy rain.

4. Flat tiles have been omitted in the latrine roof, and allowance has been made in the estimate for tarring the walls, although this is a work which generally is done by the prisoners themselves.

5. The well shown in the plan is an old one, and is provided with a grating.

2225/12

6. The planking, though suitable for permanent wards, might, as it adds considerably to the expense, be omitted in these buildings, which are confessedly temporary, but in accordance with your instructions has been provided.

7. The original papers forwarded with your memorandum under reply are herewith returned.

No. 87-B.

No. 264 C.

MEMORANDUM.

Forwarded to the Inspector-General of Jails for remarks, and for countersignature to the revised estimates if approved.

2. The estimates, amounting to Rs. 6,770, now submitted are in lieu of those for Rs. 4,920 previously prepared, which have been revised in accordance with the Chief Engineer's memorandum, No. 2036 C., dated 11th November 1882.

3. Under the circumstances stated by the Superintending Engineer, however, and in view of the proposed construction of a new jail at Nellore, it seems a question whether the smaller estimates originally submitted should not be adopted.

(By Order.)

(Signed) J. PENNYCUICK, Major, R.E.,
Under Secy. to Govt., P.W.D.

25th January 1883.

No. 87-C.

From Colonel T. E. TENNANT, Inspector-General of Jails, to the Chief Engineer and Secretary to Government, Public Works Department, dated Madras, 2nd February 1883, No. 28.

In returning the plans and estimates received with your memorandum noted in the margin, I have the honor to state that, in view of the proposed construction of the new jail at Nellore, I think it undesirable to expend a larger amount than is absolutely necessary on the restoration of the old jail buildings, and I would propose that the smaller estimates originally submitted should be adopted.

No. 264 C., dated 25th January 1883.

No. 87-D.

Telegram from the Superintending Engineer, Second Circle, to the Chief Engineer, Public Works Department, dated Masulipatam, 6th February 1883.

Your telegram 3rd. Executive Engineer, Nellore, instructed to forward direct to you original estimate for jail improvements.

No. 87-E.

From Captain C. B. HENDERSON, R.E., Executive Engineer, Nellore Division, to the Chief Engineer, Public Works Department, dated 9th February 1883, No. 45.

Under instructions from the Superintending Engineer, Second Circle, I have the honor to forward, herewith, the marginally-noted plan and estimates for Nellore Jail improvements. These estimates were originally submitted to the Chief Engineer, but were returned to me for alteration, and revised estimates were subsequently prepared.

1 Plan.
4 Detailed and Abstract Estimates.
2 General Abstracts.
1 Specification.
1 Report.

12/

No. 88.

ORDER—dated 13th February 1883, No. 472 W., Public Works.

The estimate, amounting to Rs. 4,920, for improvements to the Nellore Jail, is sanctioned.

2. The work should be proceeded with at once, the Superintending Engineer reporting, as early as practicable, what appropriation of funds is required during the current official year.

3. This sanction has been registered as Provincial No. 231 W. of 1882-83 and classified as Civil Buildings, Original Works.

4. With reference to paragraph 5 of the earlier letter from the Inspector-General of Jails above recorded, the Superintending Engineer, Second Circle, will, in communication with the Inspector-General, submit plans and estimates for a new jail at Nellore on the site indicated.

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineer, Second Circle, with 24 Enclosures.
" Examiner, Public Works Accounts, with duplicate Abstract Estimate.
" Inspector-General of Jails.
" Judicial Department.

Exd. A. F. Goodall.
Spare Copies

2225/13

13

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1883} Madras.

PUBLIC WORKS.

Dated February, 13*th*.

Recd. *Encl.*

G.O., 13th Feb. 1883, No. 472 W.

FEBRUARY.
Nos. 37 88.

Nellore Jail.

An estimate for improvements to the —, sanctioned.

2225
14

Appendix to G.O., dated 15*th August* 1883, *No.* 2276 *W.*

Statement of Provincial Jail Works requiring Funds in 1883-84.

Division.	Item No.	Name of Work.	Amount of Estimate.	Number and Date of Sanction.	Past Expenditure.	Balance of Estimate.	Appropriation. Applied for	Amount appropriated.	Item No.	Remarks.
1	2	3	4	5	6	7	8	9	10	11
			Rs.		Rs.	Rs.	Rs.	Rs.		
Ganjam ..	1	Erecting a wall round the old general latrine and re-roofing the under-trial ward in the District Jail at Berhampore.	2,190	G.O., No. 507 W., dated 15th Feb. 1883.	1,834	356	2,190	..	1	No appropriation necessary as the balance of estimate is only Rs. 356.
Vizagapatam ..	2	Constructing quarters for the Deputy Jailor, Warders and Head Constables attached to the District Jail at Vizagapatam.	5,100	G.O., No. 203 W., dated 18th Jan. 1883.	1,099	4,001	5,100	4,000	2	
Do ..	3	Constructing Police lines for the Jail guard attached to the Parvatipur Hill Jail.	4,570	G.O., No. 799 W., dated 12th Mar. 1883.	847	3,723	4,570	3,723	3	
Godávari Eastern.	4	For water-supply and drainage of Central Jail at Rajahmundry	22,164	G.O., No. 2507 W., dated 28th Sept. 1882.	285	21,879	15,160	10,000	4	
	5	Constructing a close prison at the Central Jail at Rajahmundry.	..	....	..	..	4,000	..	5	Appropriation of funds can be considered after the estimate has been sanctioned.
Nellore ..	6	Alterations to the District Jail at Nellore ..	4,920	G.O., No. 472 W., dated 13th Feb. 1883.	637	4,283	4,920	4,283	6	
Bellary ..	7	Constructing Deputy Jailor's quarters with out-houses at the District Jail at Bellary.	5,037	G.O., No. 201 W., dated 18th Jan. 1883.	..	5,037	5,037	5,037	7	
North-Arcot ..	8	Constructing a close prison at the Central Jail at Vellore.	..	....	..	..	10,000	..	8	Appropriation of funds can be considered after the estimate has been sanctioned.
Do. ..	9	Constructing a residence for the Superintendent of the Central Jail at Vellore.	26,080	G.O., No. 279 W., dated 26th Jan. 1883.	6,820	19,260	19,080	10,000	9	
Do. ..	10	Repairs to the roof of the Central Jail at Vellore.	10,104	G.O., No. 864 W., dated 16th Mar. 1883.	..	10,104	10,104	..	10	Funds separately provided, *vide* G.O., No. 1086 W., dated 11th April 1883.
Trichinopoly ..	11	Constructing a close prison at the Central Jail at Trichinopoly.	..	....	..	..	5,000	..	11	Appropriation of funds can be considered after the estimate has been sanctioned.
Do ..	12	Constructing a District Jail at the Central Jail at Trichinopoly to contain the prisoners of the District Jail, Trichinopoly.	..	....	..	..	5,000	..	12	Appropriation of funds can be considered after the estimate has been sanctioned.
Coimbatore ..	13	Converting the unused general latrine attached to the District Jail at Calicut, into a Civil Jail for Debtors, and constructing a bathing cistern with enclosure.	4,100	G.O., No. 2162 W., dated 22nd Aug. 1882.	3,174	926	5,104	926	13	

14

Statement of Provincial Jail Works requiring Funds in 1883-84—*cont.*

Division.	Item No.	Name of Work.	Amount of Estimate.	Number and Date of Sanction.	Past Expenditure.	Balance of Estimate.	Appropriation. Applied for	Amount appropriated.	Item No.	Remarks.
1	2	3	4	5	6	7	8	9	10	11
			Rs.		Rs.	Rs.	Rs.	Rs.		
Coimbatore ..	14	Constructing Medical Subordinates quarters with out-houses at the Central Jail at Cannanore.	1,500	G.O., No. 3277 W., dated 12th Dec. 1882.	..	1,500	1,500	1,500	14	
Do. ..	15	Extension to the Workshop accommodation at the Central Jail at Cannanore.	1,750	G.Os., No. 2692 W., dated 16th Oct. 1882, and No. 323 W., 30th Jan. 1883.	..	1,750	1,750	1,750	15	
Do. ..	16	Repairing the roof of the Jail Superintendent's quarters attached to the Central Jail at Cannanore.	916	....	..	916	916	916	16	
Do. ..	17	Constructing three cells for the condemned prisoners at the District Jail at Mangalore.	..	....	..	..	1,200	..	17	Appropriation of funds can be considered after the estimate has been sanctioned.
Do. ..	18	Constructing a close prison at the Central Jail at Coimbatore.	..	....	..	..	5,000	..	18	Appropriation of funds can be considered after the estimate has been sanctioned.
Nilgiri ..	19	Constructing quarters for eight warders attached to the District Jail at Ootacamund.	2,863	....	..	..	2,863	2,663	19	
Presidency ..	20	Constructing a store-room for keeping paper, &c., of the Printing Department attached to H. M. Penitentiary at Madras.	..	....	..	..	5,714	..	20	Estimate not yet sanctioned.
Kistna Western.	21	Constructing 20 police-huts for the guard of the Guntur Jail (excluding prison labor Rs. 1,712).	4,848	G.O., No. 909 W., dated 12th April 1882.	4,786	62	..	1,600	21	Convict labor not available to the extent provided in estimate.
South Arcot ..	22	Sub-jail with out-houses at Manargudi ..	6,660	G.O., No. 1063 W., dated 28th April 1882.	5,751	909	..	909	22	
Tanjore ..	23	Improvements to the Sub-jail at Nannilam ..	1,100	G.O., No. 663 W., dated 1st Mar. 1883.	..	1,100	..	..	23	No funds.
Nagapatam ..	24	Constructing compound wall with gate around the Sub-jail at Negapatam.	1,165	G.O., No. 2305 W., dated 14th Oct. 1880.	920	245	..	..	24	Appropriation not necessary under Code 2298, III.
Nellore ..	25	Constructing Sub-jail at Davi ..	4,550	G.O., No 1994 W., dated 18th July 1883.	..	4,550	..	..	25	Full sum provided in the Provincial Budget for 1883-84.
Bellary ..	26	Subsidiary Jail at Alûr	10,770	G.O., No. 2143 W., dated 13th May 1878.	..	10,770	..	..	26	No funds.
Coimbatore ..	27	Constructing an Upper Story to the Jailor's Quarters in the Central Jail at Coimbatore.	1,350	G.O., No. 1993 W., dated 19th July 1883.	..	1,350	..	..	27	
Presidency ..	28	Repairing the Civil Debtors Jail at Madras ..	2,691	G.O., No. 2185 W., dated 8th Aug. 1883.	..	2,691	..	2,691	28	To be executed from Jail Funds by the Jail Department.
		Total ..	..		..	..	..	50,000		

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Account.

READ—the following papers :—

From Colonel T. E. TENNANT, Inspector-General of Jails, to the Chief Engineer and Secretary to Government, Public Works Department, dated Ootacamund, 4th July 1883, No. 170.

I have the honor to submit a statement showing the sanctioned works for which provision of funds is required.

2. In surrendering the Convict Labor Fund, Government promised "to allot on jails, for some years to come, at least the equivalent of the average annual expenditure on jails from Convict Labor Fund and Provincial."

3. The balance to the credit of the Convict Labor Fund on the 31st March 1882 amounted to Rs. 1,60,533-4-5 and the subsequent credits up to March 1883 amount to Rs. 82,532-5-0, making a total of Rs. 2,43,065-9-5. I have not received from the Accountant-General the particulars of the amounts expended, but there are ample funds to provide for all the works entered in the statement under the head "Convict Labor Fund."

4. There is also the sum of Rs. 30,000 provided in this year's budget for the new District Jail at Kurnool, as the construction of this new Jail must be deferred pending the decision of Government on the prospective removal of the Kurnool Court. I request that this amount may be transferred to other jail works requiring allotment, such as the Store-room at the Penitentiary, Warders' quarters at the District Jail at Ootacamund, the Close Cellular Prisons at Vellore and Coimbatore, and the new District Jail and Close Prison at Trichinopoly.

G.O., dated 1st August 1883, No. 1623, Financial.

Read—the following papers :—

Memorandum from the Public Works Department, dated 13th July 1883, No. 224 E.

Letter from the Inspector-General of Jails, dated 20th July 1883, No. 182.

ABSTRACT.—Intimating that a statement showing the sanctioned works for which provision of funds is required was forwarded to the Chief Engineer on the 4th July 1883.

Order—dated 1st August 1883, No. 1623, Financial.

The sum of Rs. 50,000 will be placed at the disposal of the Public Works Department, with request that it may be allotted to *sanctioned* estimates for jail buildings.

(True Extract.)

(Signed) E. F. WEBSTER,
Acting Chief Secretary.

Order—dated 15th August 1883, No. 2276 W., Public Works.

The Government, in the Financial Department, having placed at the disposal of the Public Works Department the sum of Rs. 50,000 to be allotted for sanctioned jail works, that sum has been appropriated as shown in column 9 of the statement of jail works requiring funds which accompanies this resolution.

2. The appropriations already made for the marginally noted works from the Provincial Reserve are resumed and credited to the reserve with Government, as funds for their completion have been assigned from the grant made by the Financial Department.

	Rs.
Constructing Police lines for the Jail guard attached to the Párvatipur Jail	3,723
Converting the unused general latrine attached to the District Jail at Cannanore into a Civil Debtors Jail, &c.	926
Constructing 20 Police-huts for the guard for the Guntúr Jail	1,600
Sub-Jail with out-houses at Mannárgudi	909
Repairing the Civil Debtors Jail at Madras	2,691

(True Extract.)

(Signed) R. H. SANKEY, Major-General, R.E.,
Secretary to Govt., P.W.D.

To Superintending Engineers.
To the Examiner, Public Works Accounts.
" Inspector-General of Jails.
" Judicial Department.
" Financial do.

Exd. E. Fernandez.
Spare Copies

2225
16

16

GENERAL.
ACCOUNT.

Govt. of {1883} Madras.

PUBLIC WORKS.

Dated August, 15th.

Recd. *Encl.*

G.O., 15th Aug. 1883, No. 2276 W.

AUGUST.

Sanctioned Jail Works

The sum of Rs. 50,000 *placed by the Financial Department at the disposal of the Public Works Department to be allotted for* — distributed among the several works requiring funds.

2225/17

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following letter from Colonel T. E. TENNANT, Inspector-General of Jails, to the Chief Secretary to Government, dated Madras, 1st February 1884, No. 33 :—

I have the honor to submit, for sanction, an estimate, amounting to Rs. 1,452, for constructing two cells, in the district jail at Nellore, for prisoners under sentence of death. The plan of the cells is similar to that on which cells are built in other jails. It is stated that the rates are suitable.

2. There are no cells for condemned prisoners in the Nellore jail, and the want is much felt. Recently, a prisoner escaped from the building which, for the want of a better one, was used as a condemned cell.

No. 298, Judicial.

Approved and transferred to the Public Works Department.

(By Order.)

(Signed) M. HAMMICK,
Ag. Asst. Secy. to Govt.

15th February 1884.

ORDER—dated 22nd February 1884, No. 489 W., Public Works.

The plan and estimate, amounting to Rs. 1,452, for constructing two cells for condemned prisoners, in the district jail at Nellore, is sanctioned, as supplemental to the estimate for improvements to the district jail at Nellore, referred to in Proceedings of Government, No. 472 W., of the 13th February 1883. The total sanctions amount to Rs. 6,372.

2. An appropriation of Rs. 4,283 was made in G.O., No. 2276 W., of the 15th August 1883, and if further funds are required for the current year, the Superintending Engineer, II Circle, will submit the necessary application as early as practicable.

3. This sanction has been registered as Provincial No. 224 W. of 1883-84, and classified as Civil Buildings, Original Works.

(True Extract.)

(Signed) J. SHAW-STEWART, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineer, II Circle, with seven enclosures.
" Examiner, Public Works Accounts.
" Judicial Department.

Exd. E. Fernandez.
Spare Copies

17

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1884} Madras.

PUBLIC WORKS.

Dated February, 22nd.

Read. *Encl.*

G.O., 22nd Feb. 1884, No. 489 W.

FEBRUARY.

District Jail at Nellore

Plan and estimate, amounting to Rs. 1,452, for constructing two cells for condemned prisoners in the —, sanctioned.

No. 460 N.L.

Superintending Engineer's Office
2nd Circle, Masulipatam
26th August 1884.

2325/84

From

The Superintending Engineer,
2nd Circle.

To

The Chief Engineer,
Public Works Department.
Madras.

Sir,

In acknowledging the receipt of your Telegram of yesterday's date, and in annexing a copy of the reply sent by wire, I have the honor to state that I am not certain what works are referred to in your Telegram.

2. There is no work in progress on the Nellore Tank supply Channel, except on a repair Estimate. The work consists in closing breaches and building a rough stone Escape, and is nearly finished.

3. As regards the Collector's Cachéri, a design for a new Building has been prepared by the Consulting Architect and

forwarded for an Estimate to be made. I ascertained on my recent visit to Kellore, that the Executive Engineer Captain Henderson, had not commenced the preparation of this Estimate, and it will have to stand over till his return from privilege leave.

4. There is no work in progress on current Sanctions to the existing Collectors Cachéri.

5. As regards the Jail, the Improvements Sanctioned in G.O. No. 472 W of the 13th February 1883, and the condemned cells Sanctioned in G.O. No. 489 W of the 22nd February 1884 are practically completed.

6. The preparation of Estimates for a new Jail has been ordered, Copies of the Sanctioned designs for Layjore Jail, have been obtained, and have been sent to the Executive Engineer; but the work of preparing the Estimate for the new Building has not been commenced.

Copy of Telegram dated 26. 8. 84. — Vide Ch. 7280 ooty Rcpt of Friday. 19.

Your Telegram 25th. Kellore Tank Supply Channel closing breaches and building rough stone Escape for Repair Estimate nearly completed. Collectors Cachéri, No Estimate and no work. Kellore Jail Condemned Cells and Improvements Completed.

2225/19

I have the honor to be,
Sir,
Your most Obdt. Servant.

J. W. Rundall
Superintending Engineer
2nd Circle.

19

Compd. W.

G.O. No 1724 W. 13-2-83
" " 2276 W 15.8.83
" " 489 W. 22.2.84.
" " 3457 W 3.12.83.
No. 108 C. 16-1-84

against Item 64 of the action paper on H.E. the Governor's Tour minutes, it is stated that the subject of improvements necessary to secure a better water supply to the Nellore tank is receiving attention. The Supty Engr does not seem to be taking any action in the matter.

4-9-84

No 5838 C. 28.8.84
5486 C. 25.8.84.
G.O. 937 I. 22.11.83.
1873 I. 12.3.87.

O.S. 7/9.
O. 2.9.84. R. 10.9.84.

From
The Superintending Engineer
2nd Circle

(1)

To
The Chief Engineer
P. W. D.
Madras

Dated 26th August 1884
Despd 27th —do—
Recd

No 460 NL

Nellore Tank Supply channel Collector's Cutcherry & Jail at Nellore — Reports on the present state of the works —

Octacamund Septr 5. 1884

No. 626 E.

To, EI.

For remarks with reference to para 2 of the Supty Engr's letter.

In the note —

Dr Mdu 7575

2/2

Rec 10/9/84. Ex 1

To W.

No 2205 W of 11th Septr 84

Improvements to the Nellore Tank Supply channel have been estimated for, and are included in the completion estimates of the Penner anicut System which have lately been sent down; and will shortly be forwarded to G of I. The Nellore Tank having been included in the System improvements to supply channel being also System also.

Dr
4/9/84.

2225 W

20

P.S. 3/9.
R. 10.9.84.

P.T. Rule

PUBLIC WORKS DEPARTMENT.

2225

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the

READ the following

From the Supdg. Engr. II Circle (H.E. No. 460 N.L. dd Augt. 26. 1884)
" 3 " Chief Engr. for Irrign. (" " dd Septr. 6. 1884)

The inquiry as to the supply channels of the Nellore Tank was made with reference to H.E. the Governor's Tour Minute, dealt with in G.O. No. 737 I dd 22nd. November 1883 - vide para 5. The Chief Engineer for Irrigation explains that improvements to the Nellore Tank Supply Channel have been estimated for, and are included in the completion estimates of the Sanctioned

Ancient system, of which
they form a part. The
completion estimates of that
system will shortly be
forwarded to the Govt
of India.

The Supty. Engineer will
make early arrangements
for preparation of the
estimates for the Collectors'
Cutcherry and the new Jail
at Nellore, referred to
in paras 3 & 6 of this
letter above recorded.

W.
8.9.84

I. W.

S.E. II Circle ✓
C.E. for Irrigation ✓
Revenue Dept ✓
Judicial Dept ✓

2225/22

22

7575

Govt. of {1884} Madras.

PUBLIC WORKS.

1379/84

Dated

Rect. Encl.

G.O. 11 Septr 1884, No. 2225

Works at Nellore

Orders on a Report
by the Supt Engr
on the present state of
progress
of certain

To

Cost 1319

Id. 134