

Revenue (1898) Department.

MISCELLANEOUS SERIES.

G.O., No. 4078

DATED 12 Oct. 98

[Despatch Abstract.]

Coming to the Bd of Rev. Profr of the P.W.  
Dept. Sanctioning with remarks revised  
estimate of Rs 1,16,390 for additions and  
improvements to the Collis office at  
Cuddalore in the S. Asst of

# BACK PAPERS.

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BUILDINGS AND ROADS.  
CIVIL WORKS.

# Government (1898) of Madras. PUBLIC WORKS.

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G.O., No. 2289 W., 3rd September 1898.

SEPTEMBER.

Rs 8-10-98

16th Sept (LR)  
17-10-98

Collector's Office at Cuddalore

Revised estimate of Rs. 1,16,390 for additions and improvements to the — in the South Arcot district, sanctioned with remarks.

## GOVERNMENT OF MADRAS.

## PUBLIC WORKS DEPARTMENT.

## Buildings and Roads.

## Civil Works.

READ—the following papers:—

From the Superintending Engineer, V Circle, dated 27th May 1897, No. 90 W./C.  
 " " " " " 12th September 1897, No. 368 W.  
 " " " " " 16th October 1897, No. 98 W./C.  
 " " " " " 19th December 1897, No. 534 W.  
 " " " " " 15th February 1898, No. 113 W.  
 " " " " " 6th May 1898, No. 318 W.

*Note by the Chief Engineer, Public Works Department, on Revised Estimate for Collector's Office at Cuddalore.*

An estimate, amounting to Rs. 1,02,230, for alterations and additions to the Collector's office at Cuddalore, South Arcot district, was sanctioned in G.O., No. 582 W., dated 12th March 1895. Shortly after the work was started, the Superintending Engineer applied for sanction to various deviations (as noticed below in paragraph 6) which were authorized by this office, a revised estimate being called for in the event of the excess caused by the deviations amounting to over 5 per cent of the estimate.

2. In April 1897 a revised estimate, amounting to Rs. 1,18,200, was submitted by the Superintending Engineer. The excess of Rs. 15,970 over the original estimate was mainly due to the inadequacy of the rates provided in the original estimate. The cost of brickwork in particular greatly exceeded the provision in the original estimate, this result being due, in addition to the inadequacy of the original rates, to the unauthorized grinding of mortar by steam, and to the superior description of facework put into the building. Another considerable cause of excess was on the sub-head "concrete in foundations," the Superintending Engineer stating that, in parts where the building was founded on made earth, it was necessary to carry the foundations down to 13 feet in depth, and that surki concrete had to be used owing to the large amount of water met with in foundations.

3. This estimate, after two further revisions, and after prolonged examination of the comparative statement, and of the rates at which the work was actually executed, has now been reduced to Rs. 1,16,390, involving a total excess of Rs. 14,160, or 14 per cent, on the original estimate, and the sanction of Government to this excess is now required. The reduction in the amount of excess below that of the first revised estimate has been principally effected by eliminating items 60 to 69 of the comparative statement.

4. The comparative statement is composed of a large number of items, and the causes of excess can be grouped under the five following main heads:—

|                                                                                            | RS.    |
|--------------------------------------------------------------------------------------------|--------|
| (a) Increase in rates .....                                                                | 10,515 |
| (b) Deviations of design approved by the Chief Engineer .....                              | 1,073  |
| (c) Deviations in materials and in quantity of concrete .....                              | 2,680  |
| (d) Errors and omissions in original estimate .....                                        | 2,394  |
| (e) Insufficient provision for demolition of old masonry .....                             | 1,380  |
|                                                                                            | <hr/>  |
| Deduct—Sum due to savings and to omission of items 60 to 69 of comparative statement ..... | 18,042 |
|                                                                                            | <hr/>  |
| Total excess .....                                                                         | 3,882  |
|                                                                                            | <hr/>  |
|                                                                                            | 14,160 |

The increase due to (a), together with the causes thereof, is shown in the following table:—

| Sub-heads.                                              | Rate in original estimate. | Rate in final estimate. | Causes of increase.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------|----------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Excavation of foundations.                           | RS. 4                      | RS. A. P. 4 0 0         | Increased rates were unavoidable, and were due to the poor soil, earth slips occurring during rains, and it being necessary to thoroughly water and ram the loose soil on which the building is founded.                                                                                                                                                                                                                                                                                     |
| 2. Earth filling basement.<br>Brickwork in foundations. | 19                         | 21 4 0                  | The original rate of Rs. 19 was based on that of the district schedule. Excess said to be due to the expense entailed by grinding mortar by steam, and to the erection of pug and mortar mills, though this is not borne out by the data supplied.                                                                                                                                                                                                                                           |
| 3. Brickwork in super-structure.                        | 20                         | * 23 12 0<br>† 27 2 0   | The lower rate is for interior work built of bricks supplied by the contractor. Data for this item are not given, and the excess is mainly due to the same cause as given for (2). The higher rate for facework is partly due to the same cause as for (2), but is more especially due to the rejection of the contractor's bricks, and to the facework being done departmentally, with very superior bricks, costing as much as Rs. 12-12-0 per 1,000, by bricklayers imported from Madras. |
| 4. Brick work in upper floor.                           | 21                         | 24 12 0                 | The rate of Rs. 24-12-0 follows on the above rate of Rs. 23-12-0 for interior work in superstructure, the usual addition of Rs. 1 being allowed for the upper floor.                                                                                                                                                                                                                                                                                                                         |
| 5. Brick parapets ..                                    | 22                         | 28 0 0                  | Increase due to causes entered against (2) and (3).                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 6. Archwork in mortar.                                  | 22                         | 30 2 0                  | Increase due to causes entered against (2) and (3), and to inadequacy of original rate.                                                                                                                                                                                                                                                                                                                                                                                                      |
| 7. Terrace roofing ..                                   | 22                         | 26 4 0                  | Original rate based on that of the district schedule, but found insufficient.                                                                                                                                                                                                                                                                                                                                                                                                                |
| 8. Cuddalore slab ..                                    | 23                         | 34 12 0                 | No proper calculations were made for original rates, which are wholly inadequate.                                                                                                                                                                                                                                                                                                                                                                                                            |
| Do. slab flooring.                                      | 24                         | 37 8 0                  | Original rate based on that of the district schedule, but found too low.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 9. Painting .. ..                                       | 2½                         | 3 2 0                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

\* For interior work.

† For facework.

5. It will be apparent from the above table that the inadequate rates originally allowed, the grinding of mortar by steam, and the execution of a superior class of facework are the causes of the large excess in rates. The original estimate was prepared by Mr. Irwin, the late Consulting Architect to Government, and though the rates were based, in three cases, on the district schedule, it is apparent that the rates generally were not properly considered in the first instance, and to this fact, as well as to the omission to consult the local officers as regards rates, is primarily to be attributed the large excess on the original estimate. The district schedules of rates are usually little to be depended upon, and steps are now being taken to make them more complete and trustworthy. The Consulting Architect should in future, when he prepares estimates for buildings outside Madras, invariably consult the local officers before finally determining the rates. It is not apparent from the papers who is responsible for the excess involved in grinding mortar by machinery, but the Executive Engineer Mr. J. S. Wilson is presumably to blame.

6. *Item (b) of paragraph 4.*—The deviations from the sanctioned estimate, approved by this office, as mentioned in paragraph 1 above, are: increased width of foundations from 3' 10½" to 5' 10½"; provision of damp proof course of ¾" asphalt; and an additional staircase, steps and doors. These additions were all necessary and can be passed.

7. *Item (c) of paragraph 4.*—The excess is on the sub-head "concrete in foundations", and the cause has already been explained in paragraph 2 above. The extra cost was unavoidable, but formal sanction should have been applied for.

8. *Item (d) of paragraph 4.*—The excess is due to the entire omission of any provision for flooring the verandah, to errors in the measurement of the sub-head painting, to the omission of provision for whitewashing, and to necessary additions to the lightning conductor and to the thickness of archwork, the latter being increased from 1' 1½" to 1' 6". The defective manner in which the estimate was originally prepared is responsible for the excess.

9. *Item (e) of paragraph 4.*—The sum of Rs. 1,380 was the actual cost of demolition of the old masonry, the provision for this item in the original estimate being only Rs. 150. Against the cost of Rs. 1,380, a sum of Rs. 479 was realized from the sale of old materials. The original provision was thus much under-estimated.

10. The Superintending Engineer reports that the contractor has already collected 70,000 bricks for improving the adjacent buildings, so as to make them outwardly of the same design as the new building. The Chief Engineer, on inspection of the building in March last, decided that this was a needless expense, being entirely for the sake of appearance. The amount allowed for doing this work, items 60 to 69 of the comparative statement, has therefore been cut out of the estimate, and a lump sum of Rs. 400 has been allowed for repairs to the out-buildings. The cost of the bricks already collected can be charged to stock.

11. With these remarks, the revised estimate is recommended for the sanction of Government.

12th August 1898.

(Signed) W. B. DEWINTON,  
Chief Engineer.

ORDER—No. 2289 W., dated 3rd September 1898.

The revised estimate, amounting to Rs. 1,16,390, for additions and improvements to the Collector's office at Cuddalore, in the South Arcot district, is sanctioned in supersession of the estimate of Rs. 1,02,230, sanctioned in G.O., No. 582 W., dated 12th March 1895.

2. The outlay on the work to end of March 1898 was Rs. 1,14,995, and a sum of Rs. 3,211 has been provided in the current year's budget. The excess provision of Rs. 1,816 is withdrawn and credited to the Provincial reserve.

3. The attention of the Superintending Engineer, V Circle, is drawn to the Chief Engineer's note read above, and of the Consulting Architect to paragraph 5 of the note.

4. The sanction accorded in paragraph 1 has been registered as Provincial No. 58 W. of 1898-99, and classified as Civil Buildings—Original Works.

(True Extract.)

*A. Russell*  
Under Secretary to Government.

To the Superintending Engineer, V Circle, with enclosures.  
" Superintending Engineer, II Circle.  
" Consulting Architect to Government.  
" Examiner, Public Works Accounts.  
" Revenue Department.

*20/9/98*

Ext. T. K. Narayana Aiyangar

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