

Public Works (1899) Department.

G.O., No. 468 W

DATED 14th Feb 1899.

[Despatch Abstract.]

Port Office's London at local and

Relating the Estimate of Rs 1050 for repairs
to the _____ to the J. S. T. C. for Internal &
Shedding and minor work to be made for the work
in the Budget Estimate for 1898-1899

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

Thro' the Secretary to Govt P. W. Department

Marine (1899) Department.

P.W. CURRENT No. 1055

From

Order

No: 468W of 14.2.99

The Presidency Port Officer,
Madras

The estimate of Rs 1,050 for
repairs to the Port Officer's residence at Loca-
nada is returned to the Suptg Engineer, I
Circle, for disposal.

No. 54
47

Provision will be made for the
work in the budget estimate for 1899-1900

ACK

2.2.99.

and
8/2/99
W.

Major

Dated 2nd February 1899

Received

Registered

Enclosures

Spare copies

SUBJECT.

Forwarding for sanction
and allotment of funds
an Estimate of Rs 1,050 for
repairs and improvements
to the Port Officer's residence
at Locanada.

2

The S.E.I Circle with 4 enclos
P.P.G

TX
BPR

HC

BACK PAPERS.

FURTHER PAPERS.

No.

Date.

No.

Date.

4700 C 1726.10.98

Thro' the Secretary, P.W. Dept.

No. 54 G
47

Heading

Presidency Port Office,

Madras, *January* 1899.
2nd February

From

Commander H. A. Street, R.N.M.
Presidency Port Officer,
Madras,

To

THE SECRETARY TO GOVERNMENT,
MARINE DEPARTMENT,
CHEPAK.

Sir,

I have the honour to forward
(duly countersigned) for sanction of
Government and allotment of
funds an estimate of Rupees (6,050
one thousand and fifty for repairs
and improvements to the Port Officer's
residence ('Marine Villa') at Cocanada.
As the work is proposed to be carried
out after 31st March next, the expendi-
ture can be met from the provision
made for the purpose in the Budget
for 1899/1900.

I have the honour to be,
Sir,
your obedt. servt.,
H. A. Street
for Presy. Port Officer

1898.
PUBLIC WORKS DEPARTMENT.

Recd.

Regd.

} 1898.

Enclosures

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Circular, No. 4700 C., 26th October 1898.

OCTOBER.

Mangalore tiles

Observing, with remarks, that the expensive roof-covering of — and ceiling boards should no longer be adopted as a general rule; that the ordinary flat and pan tile roof is quite sufficient for buildings of inferior importance; and that a beginning should now be made to adopt Mangalore tiles bedded in $\frac{3}{4}$ " of mortar over flat tiles.

PUBLIC WORKS DEPARTMENT.

No. 4700 C., dated 26th October 1898.

CIRCULAR.

The Chief Engineer has the honour to point out that excesses on sanctioned estimates, providing for ordinary roofing of flat and pan tiles, have been caused in several cases by officers substituting, without authority, Mangalore tiles, with ceiling boards underneath, in place of flat and pan tiles. Mangalore tiled roofs have been advocated in the various circulars accompanying type-designs, but experience has shown that such roofs, when provided with ceiling boards underneath, are considerably more expensive than the ordinary flat and pan tile roof. If, however, the Mangalore tiles are bedded solid in mortar over a layer of flat tiles and ceiling boards are omitted, such a roof-covering, laid at the usual slope for Mangalore tiles of rise = $\frac{1}{4}$ span, is actually cheaper for spans exceeding 12 feet (at the ordinary Madras rates of Rs. 3-8-0 per cubic foot for teak and Rs. 48 per 1,000 for Mangalore pattern tiles made by Arbuthnot & Co.) than flat and pan tile roofs.

2. As Mangalore pattern tiles possess many advantages over ordinary pan tiles, viz., (1) durability and immunity from repairs, (2) extreme lightness, thus effecting considerable saving in timber, (3) accurate shape and locking arrangements, whereby slipping and shifting is prevented, and (4) adaptability to a slope as flat as rise = $\frac{1}{4}$ span, thereby lessening wind pressure, it is probable that they are, in the long run, far more economical than pan tiles even when their cost, owing to the distance from the place of their production, is as much as Rs. 60 or 65 per 1,000 since, owing to the small number of Mangalore tiles required per square, viz., 150, the prime cost of the tiles does not greatly affect the total cost per square, and as they are now obtainable at Calicut, Mangalore, Palamcottah and Madras at prices varying from Rs. 40 to Rs. 57 per 1,000, it is only in the Northern Circars that their cost is likely to be prohibitive.

3. The disadvantages of pan tile roofs are: (1) their considerable weight, 30 lb. per square foot, inclusive of flat tiles, against 15 lb. per square foot, inclusive of flat tiles for Mangalore tiles; (2) the inferior quality, as a rule, of the clay of which they are composed; and (3) their generally inaccurate shape, which results in a tendency to unduly overload the roof with tiles owing to the slipping of the tiles in consequence of the lap not being fixed by the shape.

4. Taking these points into consideration, it is thought that the expensive roof covering of Mangalore tiles and ceiling boards should no longer be adopted as a general rule; that the ordinary flat and pan tile roof is quite sufficient for buildings of inferior importance; and that a beginning should now be made to adopt Mangalore tiles bedded in $\frac{3}{4}$ " of mortar over flat tiles, as it is believed, judging from the small experience gained of such roofs, that they will prove satisfactory in every way. The Mangalore tiles should be bedded in ordinary mortar and not in cement mortar which would render it difficult to cut them out, should this be wanted at any time. Superintending Engineers are requested to report, after a roof of this kind has been erected, whether it makes as efficient protection from the sun as an ordinary flat and pan tile roof, since this is the only point remaining to be determined.

3

For Mangalore and flat tiles	...	...	15
For $\frac{3}{4}$ " mortar	...	...	6
			21

5. The total weight per square foot of a Mangalore tiled roof bedded in mortar over flat tiles is 21 lb.* and scantlings should be calculated accordingly. This is now being done in this office and tables of such scantlings will be circulated when ready.

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

To Superintending Engineers.
" the Consulting Architect to Government.
" the Superintendent of Works, Lighthouse Division.
" the Chief Engineer for Irrigation.

Exd. W. D'Moss.