

(1) Number of pages _____

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No.	2267	Press
B.P. No.		Mis.
Dated	24-8-	C876 195.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
24th August 1876. No. 2,247.*

No. 569. Read the following letter from Major H. M. VIBART, R.E., District Engineer, Bangalore, to Major-General G. W. WALKER, R.E., Chief Engineer, Public Works Department, dated Bangalore, 10th August 1876, No. 105 :—

With reference to G.O., No. 164, dated 22nd June 1876, I have the honor to forward herewith for sanction a plan and estimate, amounting to Rupees 2,000, for certain additions to the present Armourer's Shops of the two Native Infantry Regiments at this station.

2. The plan and estimate have been approved of both by the Major-General Commanding the Division and His Excellency the Commander-in-Chief.

No. 570. ORDER THEREON, 24th August 1876, No. 2,247.

MILITARY WORKS, No. 21.

(a) *Head of Service.*—Imperial.
Fund.—Ordinary.
Class.—Original Works.
Main-head.—Military.
Sub-head.—Military Buildings, Accommodation for Native Infantry.
Name of Work.—Additions to Armourer's Shops of the two Native Infantry Regiments at Bangalore.
Amount.—Rupees 2,000.
To be carried out by the Public Works Department.

HIS GRACE the Governor in Council sanctions the estimate of Rupees 2,000 for certain additions to the present Armourer's Shops of the two Native Infantry Regiments at Bangalore.

2. No funds are available for the work at present.

3. This sanction has been registered as Imperial No. 66-W. of 1876-77.

(True Extract.)

Colonel,
Offg. Under Secy. to Govt., P.W.D.

To the District Engineer, Bangalore.
„ Examiner of Public Works Accounts.
„ Military Department.

Exd. W. H. French.
Spare Copies

Imperial

Military

Original works

Abstract Estimate No. 60 of 1876/77

District Bangalore

Work Certain additions to the present Armourers
shops of the two Native Infantry Regiments at
Bangalore Vide G. O. Number 164 dated
22nd June 1876.

Quantity	Description of work	Rate	Per	Amount	Total
1130	Qty of Dismantling brick work and removing rubbish	3	6ft	2	1
852	Qty of Excavation	1	1	4	1
800	Qty Foundation stone in chunam	3	1	150	1
215	Qty Basement stone in chunam	3	1	40	1
2213	Qty Superstructure brick in chunam	3	1	415	1
264	Qty Brick in clay	2	1	33	1
132	Qty Fire brick in fire clay	6	7	54	1
39	Qty Arch work	8	1	20	1
32	Qty Flat Arch work brick in chunam	3	10	8	1
104	Qty of Larnier work brick in chunam	3	6	23	1
24	Qty Bond stones	4	1	6	1
2	Lintel stones $6\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{2}$	8	1	3	1
35.86	Sq. of Plastering with two coats of chunam	2	8	90	1
46.91	Qty white washing two coats	2	9	8	1
26.64	Qty Blue washing two coats	3	3	5	1
	Carried over			861	1

Quantity	Description of work	Rate	Per Amount	Total	Quantity	Description of work	Rate	Per Amount	Total
	Brought Over			861		Brought Over			1454 ✓
66 1/8	Lft. of Oak wood wrought and put up	3 8	1/8	231	1	2 Pairs of Batten doors with frames and iron fittings complete for Drying room 4 x 7 1/2	30 15	1/8	62 ✓
7.54	Lys. of Roofing with Lead nails flat and frame	20	1/8	151	1	40 Lft. of wrought Iron chimney & inner ~~Dr~~ with cap complete	1 12	1/8	70 ✓
131	Lft. of Filling in basement with earth	1	1/8	1	2	Small sheet Iron troughs for Forge 1 1/2 x 3/4 x 3/4	3	1/8	6 ✓
2.63	Lys. of Stone flooring laid on 3 concrete & neatly pointed	17 8	1/8	46	~~0002~~	5 Lvs. bars grating under boilers	15	1/8	30 ✓
5.22	Lys. of Wood oiling, two coats	1 8	1/8	8	1	2 wooden frames for supporting Bellows & firing Complete	35	1/8	70 ✓
2	Present pannelled shutters of the Doors to be removed and refixed to the outside Doors with new door frames and Iron fittings complete (5 x 8)	15	1/8	30	5.2	2 Lys. of Barrel racks 9" wide	1	1/8	52 ✓
2	Pairs of Batten shutters with Iron fittings to be fixed in the present door frames 4 1/2 x 7 1/2	25	1/8	50	1	2 Iron door with Iron frames hinges hooks bolts & for boiler	15	1/8	30 ✓
2	Pairs of Barred windows glazed shutters inside and pannelled shutters outside with frames & Iron fittings Complete 3 x 5	38	1/8	76	1	2 Sheet Iron cover with wooden frames & for Forge	25	1/8	50 ✓
	Brought Over			1454 ✓	7.86	Lys. of Painting with two coats of chocolate color	4	1/8	31 ✓
						Brought Over			1855 ✓

Quantity	Description of work	Rate	Per Amt	Total
P.W.D.				
Brought Over 1855				
To be supplied by the Ordnance Dept				
2	Fixing Iron horse boilers for boiling the barrels	5	Each	10
2	Do Drivels of about 80 lbs	3		6
2	Do Bellows for the Forges	3		6
2	Do Standing vice of 40 lbs	3		6

Jan 1. 680

1883
 Sundries 117
Total Estimate Rupees 2000

Brown
 Munsham
 Ad

Per Mr. [Signature]
 Major P. C.
 District Engineer

District Engineer's office
 Bangalore
 26th July 1876

L. B.
 H. S. [Signature]

Central Office
 [Signature]
 [Signature]

Specification to accompany Plan and Estimate for certain additions to the present Armourers shops of the two Native Infantry Regiments at Bangalore.
Amount of Estimate Rupees 2000.
 Additional Drying room and room for Forge and Browning trough are to be added on each side of the present Armourers shops of the two Native Infantry Regiments, according to the Standard plan of Armourers shops in Musketry Instructions for Native Troops.

A new doorway is to be opened in the Northern wall of each armourers shops for entrance.

Excavation.

Foundation to walls is to be excavated to a depth of 3 feet and of 6 inches to Forge and Browning trough or to such other depths as may be necessary to be watered and tamped well to a good level.

Foundation

Walls are to be built

2. with stone in mortar and properly bonded 3 feet deep and to have an offset of 8 inches on either side more than the basement. Foundations to Storge and Drowning trough are to be of bricks in clay to a depth of 6 inches.

Basement

Walls are to be built with stone in mortar properly bonded and raised one foot above the foundation and to have an offset of 8 inches on either side. Basement to Storge and Drowning trough to be of brick in clay.

The mortar is to be composed of two parts of soorkee to one of fresh and well burnt lime to be ground before slaked.

Superstructure

Walls $1\frac{1}{2}$ feet thick and 10 feet high are to be built of best bricks ($9 \times 4\frac{1}{2} \times 2\frac{1}{2}$) in chunam (consisting of 3 parts of sand to two of lime) and properly bonded. Storgs to Storge and

Drowning trough are to be of bricks in clay excepting top and around the iron trough (to a depth of 9") also arch behind the Storge which shall be built of fire bricks in fire clay.

The old and new works to be well bonded together, by bond stones 3 feet long $1\frac{1}{2}$ feet wide and 6" thick.

Splays

All openings will have splay edges measuring 4" on the face of the splay.

Flat arches

Over doors and windows ways to be gauged and the bricks set in mortar.

A lintel stone is to be inserted over entrance door in the northern wall of each armourers shops instead of arch work. The stone to be $6\frac{1}{2} \times 1\frac{1}{2} \times \frac{1}{2}$ and to extend 9 inches in the wall.

Cornice

The description of the cornice

should be of the pattern supplied by the Officer in charge of the work. Cornice bricks to have proper bearings not less than 4" and set with strong lime.

Plastering

All exterior and interior walls are to be plastered after the joints have been scraped out with two coats of chunam.

Colouring

The old and new buildings to be color washed outside and white washed inside each with two coats.

Teakwood.

The whole of the timber to be of well seasoned and sound teak free from all shakes and knots and neatly finished off.

Roofing.

To consist of teakwood rafters $2\frac{1}{2} \times 5$ placed at intervals of $1\frac{1}{2}$ feet from centre to centre nailed on

on the purlins and ridge pole $5\frac{1}{2} \times 8$. Ropers of teakwood $2\frac{1}{2} \times \frac{1}{2}$ to be nailed over the rafters at 6" inches from centre to centre, covered with a course of flat tiles ($6 \times 6 \times \frac{1}{2}$) in mortar and this again with the best burnt pan tiles. The latter will overlap each other by not less than one half of their length and over these will be laid a secured course of same tiles, so as to cover the intervals between the rows of the first. Ridges will be finished with semi circular tiles set in mortar and plastered. Gable borders 9 inches wide will also be given to the sides at intervals of 6 feet from centre to centre, and a similar border will be given to the eaves.

Flooring

The basement to be filled in with earth well watered and rammed till thoroughly consolidated over this a flooring of stone slabs having a smooth surface not less

should be ^{than 4"} thick to be laid on 8" concrete
Off and neatly pointed.

The wood works of the roof
not to be coated with two coats of
lin wood oil.

The pannelled shutters of the
present doors to be removed and re-
fixed to the Entrance doors in the
join Northern wall with new door
two frames and iron fittings &c.

The new batten shutters with
Iron fittings &c. to be fixed to the pre-
sent door frames in the wall
between armourers shops & new Forge rooms.

Two pairs of batten doors
with frames and iron fittings com-
plete 4' x 1 1/2' to be provided and fixed
to be led to the Drying room.

Two pairs of barred windows
with glazed shutters inside and batten shutters
outside with frames 3' x 5' and iron
fittings complete to be provided and
fixed to the Forge rooms.

A flue with wrought iron

chimney 8" inner diameter with cap
should be carried from the Brown-
ing trough through drying room
in order to give warmth to that
room without the necessity for
any stone therein, and the flue of
the Forge should be carried up as
a distinct flue from that of Brown-
ing trough

A small sheet iron trough
1 1/2 feet long 9" wide and 9" deep to be
fixed in front of each Forge as
shown on the plan.

A set of fire bars grating
to be fixed under each Browning
trough or Boiler as shown on the
plan.

A wooden stand to consist
of dealwood uprights 9" ~~diam~~ with
cross frame 9' x 8' to be made and
fitted for supporting the Bellows
to each Forge.

The racks 9" wide and 1" thick
supported on wooden brackets, for
Drying Barrels should be provided for

all round the Drying rooms.

An Iron Door of the size and dimensions shewn on the plan is to be provided and fixed to each Browning Boiler.

A sheet iron cover with teak frames is to be fixed to the wall on top of each stage, so as to admit the smoke into the chimney hole.

The whole of the doors and windows to be painted with two coats of chocolate color.

The undermentioned description of iron articles are to be supplied by the Ordnance Department.

Two Troughs or Boilers $4-2\frac{1}{2} \times 1-6\frac{1}{2} \times 1$ with covers for boiling the barrels

Two stovils of about 80 lbs in weight each

Two Bellows for the stoves

Two standing vices of 40 lbs each

The above iron articles to be casted from the Ordnance Department and fixed in the steam rooms.

Distt. Engr's Office
Bangalore
26th July 1876

Hurufur Rahman
Major R. E.
District Engineer

P.W.D.
12/12/73
5763
2

Imperial Military Original works
Detail Estimate No. of 1876/77
District Bangalore 91

Work 1 Certain additions to the present Armourers shop of the two Native Infantry Regiments at Bangalore. Vide G. O. Number 164 dated 22nd June 1876.

Particulars of work ^{measurement} ^{Contents} ^{Total}
L O D

Dismantling

Doorway to be opened in the north wall	2	5	1½	8	120	✓
Lintel stones to do	1	2	6½	1½	½	9¾ ✓
Total cft. of Dismantling brickwork					129¾	

Excavation

Front and rear walls of new rooms	4	13 1/2	2 1/2	3	405	✓
Side walls to do	2	17	2 1/2	3	255	✓
Partition walls to do	2	11	2 1/8	3	140 1/4	✓
Foundation to Forges	2	5 1/2	4	1/2	22	✓
do Drawing, Loughs	2	6 1/2	3 1/2	1/2	22 3/4	✓
do Chimney to do in drying	2	3 1/4	2	1/2	6 1/2	✓
Total cft. of Excavation					851 1/2	

Foundation

Front and rear walls of new rooms	4	13 1/2	2 1/2	3	405	✓
Side walls to do	2	17	2 1/2	3	255	✓
Partition walls to do	2	11	2 1/8	3	140 1/4	✓
Total cft. of Foundation stone in chunam					800 1/4	

From
The S. & L. Engineer
Bangalore
To
The Chief Engineer
P.W.D.
Madras
Date 10th August 1876
Recd
Estimate for certain
additions to the Armourers
shop of the two Native Infantry
Regiments at Bangalore
Amounting to Rs 2,000
@ Rs 1000 per 1000

Particulars of work	No.	measurement	Contents	Total	
<u>Basement</u>					
Front and rear walls of new rooms	4	$13\frac{1}{2} \times 2$	1	108	
Side walls to do	2	$17\frac{1}{2} \times 2$	1	70	
Partition walls to do	2	$11\frac{1}{2} \times 1\frac{3}{4}$	1	37 $\frac{3}{4}$	
Total bft. of Basement stone in chunam				215 $\frac{3}{4}$	
<u>Superstructure</u>					
Front and rear walls of new rooms	4	$13\frac{1}{2} \times 1\frac{1}{2}$	13	1053	
Side walls to do	2	$18 \times 1\frac{1}{2}$	13	702	
Gables to do	2	$18 \times 1\frac{1}{2}$	3	162	
Partition walls to do	2	$12 \times 1\frac{1}{8}$	13	351	
Wall over roofs	2	$24 \times 1\frac{1}{4}$	$\frac{3}{4}$	45	
Chimney over roofs to Forges	2	$2\frac{1}{2} \times 1\frac{1}{2}$	6	45	
Total				2358	
<u>Deduction</u>					
Doorways	{	Rectangular portions	2	$4 \times 1\frac{1}{8} \times 7\frac{1}{2}$	67 $\frac{1}{2}$
		Arch work	2	$5\frac{1}{2} \times 1\frac{1}{8} \times 1\frac{1}{4}$	15 $\frac{15}{32}$
Windows	{	Rectangular portions	2	$3 \times 1\frac{1}{2} \times 5$	45
		Arch work	2	$4\frac{1}{2} \times 1\frac{1}{2} \times 1\frac{1}{4}$	16 $\frac{7}{8}$
Total Deduction				144 $\frac{27}{32}$	
Total bft. of Superstructure brick in chunam				2213 $\frac{5}{32}$	
<u>Brick in clay</u>					
Foundation to Forges	2	$5\frac{1}{2} \times 4 \times \frac{1}{2}$		22	
do Browning Troughs	2	$6\frac{1}{2} \times 3\frac{1}{2} \times \frac{1}{2}$		22 $\frac{3}{4}$	
do Chimney in Drying room	2	$3\frac{1}{4} \times 2 \times \frac{1}{2}$		6 $\frac{1}{2}$	
Carried Over				51 $\frac{1}{4}$	

Particulars of work	No.	measurement			Contents	Total
		L	B	D		
Brought Over						51 1/4 ✓
Basement to Forges	2	5 1/2	4	1	44	✓
do to Browning Troughs	2	6 1/2	3 1/2	1	45 1/2	✓
do Chimney to the Drying room	2	3 1/4	2	1	13	✓
Forges	2	3 1/2	3 1/2	1 3/4	42 7/8	✓
Browning Troughs	2	6 1/2	3 1/2	1	45 1/2	✓
Wall for chimney in the Drying room	2	3 1/4	1 1/2	1 3/4	17 1/16	✓
do above do	2	1 1/2	1 1/2	1	4 1/2	✓
Total bft. of Brick in clay					263 11/16	
Five brick in clay						
Forges	2	3 1/2	3 1/2	3/4	18 3/8	✓
Browning Troughs	2	6 1/2	3 1/2	2 1/2	113 3/4	✓
Total bft. of Five brick in fire clay					132 1/8	✓ 13 1/2
Arch work five brick in clay						
Behind the forges	2	3 1/2	1 1/8	5	39 3/8	✓
Total bft. of Arch work five brick in fire clay					39 3/8	✓
Arch work						
Over doors	2	5 1/2	1 1/8	1 1/4	15 15/32	✓
do windows	2	4 1/2	1 1/2	1 1/4	16 7/8	✓
Total bft. of Arch work brick in chunam					32 11/32	✓
Total bft. of Arch work brick in chunam					104	✓ 4
bft. of cornice work brick in chunam	2	4			24	24
Bond stones	2	(6 1/2	1 1/2	1/2)	2	2
Lintel stones for Doors						

Particulars of work	No.	measurement	Contents	Total
		L B D		
<u>Plastering</u>				
Around the Forge rooms	2	38 . 13½	1026	
do. Drying rooms	2	31 . 13½	837	
Gable ends	2	18 . 3	108	
Jambos & soffits of Doors to Drying rooms	2	19 . 1½	42¾	
do. do. do.	2	21 . 3	126	
do. do. windows	2	16 . 1½	48	
Around the new rooms outside	2	50 . 12½	1250	
Basement to do.	2	50 . 1	100	
Walls over roof	2	24 . 2¾	132	
Around the chimneys	2	8 . 6	96	
Total			3765¾	
<u>Deduction</u>				
Doors both side	2	4 . 7½	120	
Windows do.	2	3 . 5	60	
Total Deduction			180	
Total Sq. of Plastering with two coats of chunam			3585	
<u>White washing</u>				
Around the armourers shop	2	76 . 13½	2052	
do. Forge rooms	2	47¾ . 13½	1289½	
do. Drying rooms	2	34 . 13½	918	
Gable ends	8	18 . 3	432	
Total Sq. of white washing two coats			4692	

Particulars of work	No.	Measurement			Contents	Total
		L	B	D		
<u>Blue washing</u>						
Around the building	1	185	.	12½	2312½	✓
Gable ends	2	21	.	3	126	✓
Chimneys on the roof	2	8	.	6	96	✓
Walls over roof	2	24	.	2¾	132	✓
Basement around the building	1	187	.	1	187	✓
Total					2853½	✓
<u>Deduction</u>						
Doors	2	5	.	8	80	✓
Windows	4	4	.	5	80	✓
do. do.	2	3	.	5	30	✓
Total Deduction					190	✓
Total Sq. of Blue washing two coats					2663½	✓
<u>Wood work</u>						
Overlins and ridge poles	6	14	5½	8"	2548	✓
Common rafters	36	12	2½	5"	376	✓
Wall plates	4	13	4"	2"	2108	✓
Total lft. of Teak wood wrought and put up					6608	✓
<u>Roofing</u>						
Over new rooms	2	14½	26	.	754	✓
Total Sq. of Roofing with Teak & copper nails of flat and pan tiles & chunam borders					754	✓

Particulars of work	Measurement	C.W.	Contents	Enter
	L B D			
Sheet Iron cover with wooden frames &c on top of Forge	2 . . .	2	2	2
<u>Painting</u>				
Doors Pannelled	4 5½ 2 8½	366½		
Do	2 4½ 2 8	144		
Windows Pannelled shutters outside and glazed shutters inside	4 4½ 2 5½	198		
Do	2 3½ 2 5½	77		
Total Sqrs of Painting with chocolate color		785½		
To be supplied by the Ordnance Dept.				
Fixing Lugs or bolters for bolting the barrels	2 . . .	2	2	2
Anvils of about 80 lbs	2 . . .	2	2	2
Bellows for the Forges	2 . . .	2	2	2
Standing vices of 40 lbs	2 . . .	2	2	2

L. B. D.
H. B. D.

5786

Imp. Secy.

No 105.

From

District Engineer's Office
Bangalore 10th August 1876
131

The District Engineer
Bangalore.

To

The Chief Engineer
Public Works Dept.
Madras.

Sir,

With reference to G. O.

No 164 dated 22nd June 1876, I have the honor to forward herewith for sanction a Plan and Estimate amounting to Rupees 2,000 for certain additions to the present Ammunition shops of the two Native Infantry Regiments at this Station.

The plan and estimate have been approved of both by the Major General Commanding the Division and His Excellency the Commander-in-Chief.

I have the honor to be
Sir,

Your most Obedt Servt.
H. R. S. West Major D. B.
District Engineer.

Qd 12-6-76 No 162

P.W.D.
12/7/76
No 5726

to the present estimate
of the two native
Infantry Regiments at
Bangalore - towards
for sanction of Rs.
and estimate for
Rs. 2000.

From
The District Engineer
Bangalore
To the District Engineer
Bangalore
Dated 11/8/76
14/

(a) Heads of Service - *Supplies*
Fund. *Ordinary*
Class. *Original Works*
Main-head. *Military*
Sub-head. *Accommodation for Native Regt*
Name of Work. *Additional to the present estimate of the two Native Infantry Regts at Bangalore*
Amount. *2000*
To be carried out by the *Public Works* Department.

No 2247 Public Works Department.
PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 24 Aug 76.
Read the following:-

From
The District Engineer
Bangalore } (H.E. No 1058 of 10 Aug 76)

His Grace the Governor
in Council sanctions
the estimate of Rs 2000
for certain additions
to the present estimate
Shops of the two Native
Infantry Regiments
at Bangalore.

2. No funds are available
for the work at present.

3. This sanction has
been registered as Gen-
eral No 66 of 1876-77.

H. Bangalore. ✓
G. H. Accts. ✓
M. Dept. ✓
D. B. B. B.

G. H. 16.0.76

5786

Gobt. of Madras.

PUBLIC WORKS.

To

The N. S. Bangalore

Dated

Issued

Recd.

Encl.

G. O., 24th Sept 1876, No.

2247

No. 569-570

Ammares' shops of the
two Native Infantry Re
giments at Bangalore

Estimate for certain
additions to the
canal-

179-180