(1) Number of pages 60

(2) Date of repair 9/87

(3) Initials of the Referencer Lens

TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P.W.D DEPARTMENT

G.O. No. / B.P. No:	1262 - W 1263 - W	Press. / Mis.
Dated	30-4-1883	198 .

ed or roughly handled

80.

1262/1

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Military Works.

Read—the following papers:—

From K. F. NORDMANN, Esq., Officiating Superintending Engineer, Third Circle, to the Chief Engineer, Public Works Department, dated Bellary, 19th March 1883, No. 2412.

I have the honor to submit, for the sanction of Government, an estimate for Rs. 22,380 for constructing stables for the Field Battery at Bellary with corrugated iron roofing, as per standard design approved in G.O., No. 2985 W., dated 13th November 1882.

1 Detailed and Abstract Estimate.
1 Abstract (duplicate).
1 Specification.
1 Report.
1 Site Plan.

2. Provision is made for three blocks of stables, each to accommodate thirty-eight horses, or 114 horses in all. In the standard design the cost of stabling per horse is estimated at Rs. 137-8-0, but according to the present estimate the cost is Rs. 196-5-0.

3. With a view to meet the wishes of His Excellency the Commander-in Chief a reduction has been effected in the estimate by substituting "yen teak" for "Moulmein teak," and the estimate has now been finally approved by the Military authorities.

4. A quantity of teak wood, valued at Rs. 6,879, has been purchased on the authority given in paragraph 2 of G.O., No. 1610 W., dated 27th June 1882; but, as the scantlings are for a different design, this timber can only partly be utilized for the stables on the present design. Endeavours will be made to use the timber on other works; but, in the meantime, sanction is solicited to the value being debited to "Stock."

No. 689 C.

Submitted for the approval of Government in the Military Department.

(By Order)

(Signed) J. PENNYCUICK, Major, R.E.,
Dy. Chief Engineer, P.W.D.

28th March 1883.

No. 1927, Military.

Approved.

(By Order.)

31st March 1883. (Signed) E. L. HANKIN, Colonel,
Secretary to Government.

Report to accompany the estimate for constructing three blocks of stables for the Royal Artillery at Bellary, each block to accommodate 38 horses. Amount of estimate Rs. 8,850.

The estimate and plan have been prepared at the request of His Excellency the Commander-in Chief.

2. The object in view in the present design is to reduce the cost of stabling horses to a minimum consistently with suitable shelter and accommodation for the animals. This has now been brought down to an average of Rs. for each horse.

3. Those parts of the foundations on which the structure may be said to rest have been allowed a depth of 3 feet, as at that distance below the surface hard gravel is said to be met with. All the pillars are to be of hammer dressed stone in mortar, as stone is easily procured in Bellary and answers well the purpose for which it is required; should other material be used, such as brick or wood, no great difference in price would result. The end walls are to be of burnt brick in mortar and the dividing walls of burnt brick in mud.

4. The wood to be used is ven teak, sufficient scantlings being allowed. The roof will consist of rafters, reepers and pantiles with plaster stripes and borders. The omission of flat tiles may be looked on as an advantage as contributing in some degree to roof ventilation.

5. Gravelled flooring and concrete drains have been provided. Asphalte over concrete.

6. The three blocks should, under ordinary circumstances, be completed in six months.

17th April 1883. (Signed) R. H. SANKEY, Colonel, R.E.,
Chief Engineer, Public Works Department.

Specification to accompany the estimate for constructing three blocks of stables for the Royal Artillery at Bellary for accommodating 38 horses in each block. Amount of estimate Rs. 8,850.

Excavation.—The trenches to be excavated to the required depth and breadth and the bottoms to be well watered and tamped.

Masonry.—Brick in mortar, and brick in mud to be carried out as laid down in Section XI of the Public Works Department standard specifications.

Hammer dressed stone in mortar to be carried out as laid down in Section XII of Public Works Department standard specifications.

Flooring.—The floor will be covered with gravel to a depth of 9 inches well watered and tamped.

Drains.—The drains will be of concrete prepared as per instructions in Section XXII of the Public Works Department standard specification.

Wood-work.—The wood-work to be of the best obtainable ven teak cut to proper scantling.

Roofing.—The roofing to consist of reepers and pantiles with plaster stripes and borders 3 feet apart and 9 inches wide.

Asphalte.—A coat of asphalte will be spread over the concrete drains.

DETAILED ESTIMATE.

Construction of Stabling for Horses; each Block for 38 Horses.

Detail of Work.	Number.	Measurement in Feet. Length. Each.	Length. Total.	Length. Total Length.	Breadth or Thickness.	Height or Depth.	Content.	Total Quantity of each Description of Work.
		FT.	FT.		FT.	FT.		
Excavation.								
End walls	2	23	46	46	2½	3	345	
Walls down centre	17	6	102	...	...	...	...	
Do. do. at ends	2	6¾	13½	115½	1½	1½	260	
Centre pillars	18	2	36	36	2	3	216	
Outer pillars	36	1½	54	54	1½	3	243	
Total C. feet of Earthwork.	...	...	...	...	...	...	...	1,064
FOUNDATION.								
Brick in Mortar.								
End walls	2	23	46	46	2¼	3	310½	
Brick in Mud.								
Walls down centre	17	6	102	...	...	...	...	
Do. do. at ends	2	6¾	13½	115½	1½	1½	260	
Rough dressed Stone.								
Centre pillars	18	2	36	36	2	3	216	
Outer pillars	36	1½	54	54	1½	3	243	
Total C. feet of Rough dressed Stone ...	...	...	...	...	...	...	...	459
SUPERSTRUCTURE.								
Brick in Mortar.								
End walls (including gables)...	2	22½	45	45	1½	12	810	
Total C. feet of Brick in Mortar	...	...	...	...	...	...	...	1,120½
Brick in Mud.								
Walls between centre pillars ...	17	7	119	...	...	...	...	
Do. do. at ends ...	2	7½	15	134	¾	8	804	
Total C. feet of Brick in Mud	...	...	...	...	...	...	...	1,064
Hammer dressed Stone.								
Centre pillars	18	14½	261	261	1	1	261	
Outer pillars	36	6½	234	234	¾	¾	132	
Total C. feet of Hammer dressed Stone ...	...	...	...	...	...	...	...	393
Wood-work.								
Ridge piece	1	154	154	154	⅓	⅔	51⅓	
Bressummers	2	154	308	308	1⅓	1⅔	74⅔	
Rafters	204	15	3,060	3,060	¼	⅓	382½	
Total C. feet of Wood-work	...	...	...	...	...	...	...	508⅓

Construction of Stabling for Horses; each Block for 38 Horses—cont.

Detail of Work.	Number.	Measurement in Feet.					Content.	Total Quantity of each Description of Work.
		Length.			Breadth or Thickness.	Height or Depth.		
		Each.	Total.	Total Length.				
Roofing.		Ft.	Ft.	Ft.	Ft.	Ft.		
With reepers, pantiles with plaster stripes and borders ...	2	155	310	310	15	...	46·50	
Total Squares of Roofing ...	...	...	...	...	...	...	...	46·5
Concrete.								
Drains	2	160	320	320	3	1	960	
Total C. feet of Concrete ...	...	...	...	...	...	...	...	960
Asphalte.								
Drains	2	160	320	320	3	$\frac{1}{12}$	960	
Total Squares of Asphalte.	...	...	...	...	...	...	...	960
Plastering with one Coat and Whitewash.								
End walls	4	24	96	96	12	...	1,152	
Centre walls	1	109½	109½	109½	17	...	1,861½	Both sides of walls.
Total Squares of Plastering	...	...	...	...	...	...	...	30·14
Gravelling.								
Stable floor (9")	2	152	304	304	11	...	3,344	
Total Squares of Plastering.	...	...	...	...	...	...	...	33·44

Abstract of the foregoing estimate.

Quantity.	Description of Work.	Rate. Per	Rate. Price.	Amount.	Total.	Remarks.
			Rs. A. P.	Rs. A. P.	Rs.	
1,034 C. ft. ...	Earthwork	1,000 C. ft.	3 8 0	3 12 0		
1,120 " ...	Brick in mortar	100 " ...	15 0 0	168 0 0		
1,064 " ...	Brick in mud	100 " ...	10 0 0	106 6 0		
459 " ...	Rough dressed stone ...	100 " ...	12 0 0	55 1 0		
393 " ...	Hammer dressed stone...	100 " ...	13 14 0	54 8 0		
509 " ...	Wood-work	1 C. ft. ...	3 0 0	1,527 0 0		
46·5 Sqrs. ...	Roofing	1 Sqre. ...	11 12 0	546 6 0		
960 C. ft. ...	Concrete	100 C. ft. ...	12 8 0	120 0 0		
96·0 Sqrs. ...	Asphalte	1 Sqre. ...	11 0 0	105 9 0		
30·00 " ...	Plastering	1 " ...	1 12 0	52 8 0		
33·5 " ...	Gravelling	1 " ...	2 0 0	67 0 0		
	Total ...	...	...	2,806 0 0		
	Contingencies at 5 per cent.	...	...	144 0 0		
	Grand Total ...	...	...	...	2,950	For one block.
	Grand Total for 3 blocks, 3 × 2,950				8,850	

Order—dated 30th April 1883, No. 1262 W., Public Works.

The plan of stabling approved in G.O., No. 2985 W., dated 13th November 1882, being found too costly, a revised design has been prepared by the Chief Engineer, the cost per horse at Bellary being reduced to Rs. 78. The plan, estimate, specification and report will now be circulated for information and guidance in supersession of the design previously approved.

2. As, however, the Government of India have recently declined to allow any expenditure on stables, the sanction of that Government will be necessary before the funds provided in the budget for 1883-84 can be utilised. The Government of India will now be addressed on the subject.

(Here enter No. 1262 W., dated 30th April 1883.)

(True Extract.)

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

To the Superintending Engineers, Third, Fourth, and Fifth Circles, with copies of Plan.
" Military Department,
" Examiner, Public Works Accounts,

Exd. C. Howarth.
Spare Copies

BUILDINGS AND ROADS.
MILITARY WORKS.

Govt. of {1883} Madras.

PUBLIC WORKS.

Dated April, 30th.

Read. *Encl.*

G.O., 30th April 1883, No. 1262 W.

APRIL.

Horse Stables at Bellary

Passing orders on revised plans and estimates for — and on the question of stabling Government horses generally.

30TH APRIL 1883, No. 1263 W., PUBLIC WORKS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Military Works.

LETTER—from
COLONEL R. H. SANKEY, C.B., R.E.,
Secretary to the Government of Madras,
Public Works Department,

To
THE SECRETARY TO THE GOVERNMENT OF INDIA,
PUBLIC WORKS DEPARTMENT.

SIR,

In my letter, No. 1956 W., dated 2nd August 1882, the views of His Excellency the Commander-in-Chief as to the necessity for providing shelter for horses in Southern India were laid before the Government of India, and it was intimated that the Chief Engineer had under consideration the question of an inexpensive design of stable suitable for the purpose. The design has now been submitted and approved by His Excellency the Commander-in-Chief and Government. The cost per horse will not exceed Rs. ~~78~~, as estimated for the station of Bellary. Accommodation for 114 horses at that station can thus be provided for Rs. ~~8,850~~,* and I am to request the approval of the Government of India to the utilization of the funds provided in the Final Issue of the Military Works Budget of the current official year on definite estimates being sanctioned.

* As per estimate.

2. Copies of the plan, estimate and specification are herewith forwarded for information.

3. I am to take this opportunity to intimate that on further consideration of the subject of providing shelter for the Cavalry and Artillery horses of this Presidency, and in deference to the views of the Government of India as conveyed in the Budget Orders, No. 232 M.W., dated 12th March 1883, His Excellency the Commander-in-Chief has no desire to press for stables being constructed at Bangalore and Secundera-bad, though holding that such shelter, in the interests of men as well as horses, is very necessary at Bellary, Kamptee, and Madras. In these views His Excellency the Governor in Council entirely concurs.

I have the honor to be,
Sir,
Your most obedient servant,

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

OOTACAMUND,
27th April 1883.

Exd. C. Howarth.
Spare Copies

BUILDINGS AND ROADS.
MILITARY WORKS.

Govt. of {1883} Madras.

PUBLIC WORKS.

Dated April, 30th.

Recd. *Encl.*

30th April 1883, No. 1263 W.

APRIL.

Horse Stables at Bellary

PASSING orders on revised plans and estimates for — and on the question of stabling Government horses generally.

SUPERINTENDING ENGINEER'S OFFICE,

~~Madras~~,

No. 2412 Bellary ~~Cuddapah~~, 19th March 1883.

From

THE SUPERINTENDING ENGINEER,

III ~~Ist~~ CIRCLE,

To

THE Chief Engineer

PWD

Madras

SIR,

Enclosures. 5

Details relat-
Estimate
Abst (duplicate)
Certificate
Extract
Plan

I have the honour to submit, for the sanction of Government, an Estimate of Rs 22,380 for constructing Stables for the Field Battery at Bellary, with corrugated iron roofing, as per standard design approved in G.O. No. 2985 W dated 13th Nov. 82.

2. Provision is made for 3 Blocks of Stables, each to accommodate 38 horses, or 114 horses in all. In the standard design the cost of stabling per horse is estimated at Rs 137-8-0; but according to the present Estimate, the cost is Rs 196-5-0.

3. With a view to meet the wishes of His Excellency the Commander-in-Chief, a reduction has been effected in the Estimate,

by substituting "Ven teak" for "moulmein teak", and the Estimate has now been finally approved by the Military authorities.

4 A quantity of teak wood, valued at Rs 6879, has been purchased on the authority given in para 2 of G O No 1610 F dated 27th June 1827 but as the scantlings are for a different design, this timber can only partly benefit the stables on the present design. Endeavours will be made to use the timber on other works; but in the meantime sanction is solicited to the value being debited to "Stock".

I have the honour to be
Sir
Your most obed. Servant.

W. Montmain
Offg: Supdg: Engineer.
III Circle

1252/6

PW. 21 - A - 89 - 82/PR
P 7 - 82 - 40/99
No 689C - 2-3-83. Gr 2985 W. 15.11.82
636C. 15. 3. 83 24
604W. 23. 2-83 16/025-1-27-6.82.
530 W - 14.12.82
603C 24-3-83 No
No 689C d/28 March/83.

Submitted for the approval of Government in the Military department

By order

Major RE
Dy Chief Engineer
P.W. Dept

For Sir George.
31. March 1883.

No. 1927.

Approved.

/Byades/
Col
Secretary to Govt.

Cir. 2/4 R 28/4.
To the P. W. Dept
with papers.

1883

From The Superintending Engineer,
No. 1402
III Circle,

To The Chief Engineer
P.W.D.
Madras

From The P. W. Dept
689.C.

D/28 Mar.
K/30

Dated 19th March 1883.
Recd.

ENCLOSURES.

No. 2412

Stables for the Field Battery at Bellary.

Forwarding for sanction an Estimate Rs. of Rs. 22380 for Constructing 3 blocks of—

W. D.

12/83

2/2

Report to accompany the estimate for constructing three blocks of stables for the Royal Artillery at Bellary, each block to accommodate 38 horses. Amount of estimate Rs. 9570.

The estimate and plan have been prepared at the request of His Excellency the Commander-in-Chief

2. The object in view in the present design is to reduce the cost of stabling horses to a minimum consistently with suitable shelter and accommodation for the animals. This has now been brought down to an average of Rs 84 for each horse.

3. Those parts of the foundations on which the structure may be said to rest, have been allowed a depth of 3 feet, the lowest of the 3 feet being of concrete, as at that distance below the ground surface hard gravel is met with. All the pillars are to be of hammer dressed stone in mortar, as stone is easily procured in Bellary and answers well the purpose for which it is required; should other material be used such as brick or wood, no great difference in price would result. The end walls are to be of burnt brick in mortar and

Specification to accompany the estimate for constructing three blocks of Stables for the Royal Artillery at Bellary; each block to accommodate 38 horses. Amount of estimate Rs. 9,570.

Excavation – The trenches to be excavated to the required depth and breadth and the bottoms well watered and tamped.

Concrete – For foundation to be laid down as directed in Section VII of the Public Works Department Standard Specifications

Masonry. Brick in mortar and brick in mud to be carried out as directed in Section XI; and the dressed stone in accordance as directed in Section XII of the Public Works Department Standard Specifications

Wood-work – The wood to be of the best obtainable Gen. teak, cut to proper scantlings

Roofing – The roofing to consist of rafters, cupboards and pan tiles, with plaster stripes (9 inches wide and 3 feet apart) and borders.

Flooring. The floor will be covered with gravel to a depth of 9 inches, well watered and tamped.

Drains – The drains will be concrete, coated with ½ inch asphalte and prepared in accordance with Section XXII of the Public Works Department Standard Specifications

D.T.K
16/5/53

the dividing walls of brick in mud.

2. The wood work to be used is Gen. teak; and of correct scantlings. The roof will consist of rafters, cupboards and pantiles with plaster stripes and borders. The omission of flat tiles may be looked on as an advantage as contributing in some degree to roof ventilation.

3. The flooring to be of gravel 9" inches deep; the drains of concrete coated over with asphalte ½ inch deep.

4. The three blocks should, under ordinary circumstances, be completed in six months.

D.T.K
16/5/53

1262

Report to accompany the Estimate for constructing three blocks of — Stables for the Royal Artillery at Bellary — each block to accommodate 38 horses.

Amount of estimate Rs 8850 — 0 —

1. The estimate and plan now submitted have been prepared ~~by order of the Chief Engineer~~ (Accomb ~~—~~ dated 13/4/83) at the request of H. E. the Commander in Chief.

2. The object in view in the present design is to reduce the ~~Stabling of~~ Cost of horses to a minimum cost consistent with suitable shelter and accommodation for the animals — ~~and this may be considered to have been effected~~ if not fully at least to a very great extent as an examination of both plan and ~~estimate gives~~ an average of Rs 78 for each horse.

3. Those parts of the foundations on which the structure may be said to rest have been allowed a depth of 3 fat as at that distance below the surface hard gravel is said to be met with. All the pillars are to be of hammer dressed stone in mortar, as stone is easily procured in Bellary and is answers well the purpose for which it is required — Should other materials be

be used such as brick or wood no great difference in price would result.
The end walls are to be of burnt brick in mortar + the dividing walls of burnt brick in mud.

4. The wood to be used is Ven-teak and it may be seen the various scantlings allowed are liberal. The roof will consist of rafters, reepers and pan tiles with plaster stripes and borders. The omission of flat tiles may be looked on as an advantage as contributing in some degree to proof Ventilation

5. Gravelled flooring and concrete drains have been provided. Asphalte over concrete

6. The three blocks may, under ordinary circumstances, be completed in nine months.

7. Rates allowed are fair.

BSH
17/4/83

A Mackay
Capt
R.A.

126/10

Specification to accompany the estimate for constructing three blocks of Stables for the Royal Artillery at Bellary for accommodating 38 horses in each block)

Amount of estimate Rs 8850-0-0

Excavation — The trenches to be excavated to the required depth and breadth and the bottoms to be well watered and tamped.

Masonry — Brick in mortar — and brick in mud to be carried out as laid down in Sec. XI of the D. P. W. Standard Specifications.

" — Hammer dressed stone in mortar to be carried out as laid down in Sec. XII of D. P. W. Standard Specifications.

Flooring — The floor will be covered with grano to a depth of 9" well watered + tamped.

Drains — The drains will be of concrete prepared as per instructions in Sec. XXII of the D. P. W. Standard Specification.

Wood work — The wood work to be of the best obtainable Ven-teak cut to proper scantling.

Roofing — The roofing to consist of reepers and pantiles with plaster stripes and

and borders 3 feet a part and
9" wide.

A coat of Asphalte will be spread over the concrete drains. Asphalte

B3H
17/4/83

12b2
11

Specification to accompany the Estimate for constructing three Blocks of Stables for the Royal Artillery at Bellary, each block to accommodate 38 horses.

Amount of Estimate Rupees 27,270/- 27,380/-

Excavation

The trenches for foundation will be excavated as per detailed Estimate. Gravel is met with at 3 feet depth from surface.

Bottoms of the trenches are to be made quite level, and to be well tamped, previous to laying any stones in the foundation.

Masonry

The masonry to be of hammer dressed stone in chunam and to be built of good flat large stones, and headers, as bond stones at intervals; as will be pointed out by the Officer in charge of the work.

The pillars and walls between them will be built of hammer dressed stone in chunam. The mortar will be composed of 2 and to 1 lime well mixed and ground; bond stones (or headers, right through the wall) will be used as pointed out by the Officer in charge of the work.

Pointing

The whole of the exposed parts of the masonry and floor will be neatly pointed with mortar of 1 sand to 1 lime.

Flooring

The floors will be covered with gravel 9" thick well watered and rammed.

The side drains will be coated with asphalte ½" thick, a layer of concrete below 1 foot thick.

1262
12

The centre and side posts, trusses, purlins and rafters are to be of the best teak wood, free from cracks. Wood work

The roof over side stalls, will be covered with corrugated iron sheets laid overlapping at the joints and fastened and nailed to the purlins. Roofing

The roof over the centre portion will likewise be covered with corrugated iron sheets fastened and nailed over iron rod trusses which will be placed over centre of each post

Exec: Engineers Office
28 January December 1882

H.C
27-12-82

I forward.
Sub Engineer in charge
Bellary Division

Mc Ewe
245 9/83

Report to accompany the Estimate for—
Constructing 3 Blocks of Stables for Royal Artillery
at Bellary each to accommodate 38 horses.

Amount of Estimate Rs 27270-0-0

The Estimate now submitted has been prepared as called for in G O No 2985 W of 13th November 1882 - At present there is not a suitable building for the Royal Artillery Stables and it is proposed to construct a new—building, with Corrugated iron roof.

The building is proposed to be constructed at the site already Selected, and site plan forwarded with the Estimate submitted for Constructing Royal Artillery Stables with Tiled roofing.

The accompanying Estimate provides for all that is required to complete the building.

After the Completion of the work of all the debris will be removed and the place left clean and tidy.

If the Estimate is Sanctioned in time the work will be completed within a year.

Executive Engr's office
Bellary 28 December 1882

Sub Engineer
In Charge Bellary Divn

28-12-82

No 1732 of 83

12 62
14

12 62
14

Tw order

As reported by
H.E. Lt Col C
I have had a design
of the Chabutra-chute
erected with
Sound construction
proposed in the
three blocks of proposed
Stables at Bellary

As will be observed
from the plan & Section
the dimensions are
those adopted &
recommended by H.E.

Allowing 2 feet
in length for each
horse the average
Cost would come
to Rs 78 for horse

Tw plan & Estimate

Remarks Enclosed all accepted information

If approved the Plan can be at once advertised

Abbott

15.6.83

Specials approved. Nothing more is required.

JR

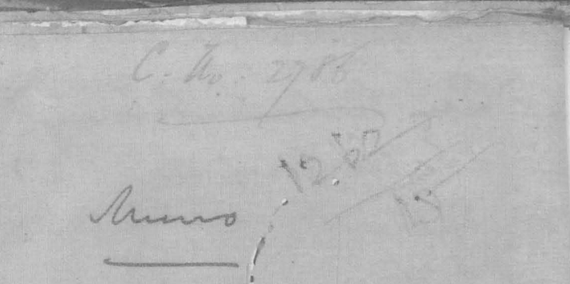
20-6-83

C. No. 2756

Memo 1280

H.E. the C in C requires a design & estimate for a dry mule Shelter Shed & Stable which if reducible to 70 or 80 Rs per horse he will be prepared to recommend as an Improvement to the Govt

The Section of the proposed Stable is as follows



The roof of each shed & tiles side pillars and arches may be either of stone or wooden posts — if the latter should be found to last off their ends

Centre wall brick in mud

Floor gravel

No Partitions between the Stable but a standing space of 8 ft in length to be

Dftd 17/4.
Subs Dft S. 4/5

Encl. technical branch
could endorse on
Estimate on the data
to the 3 proposed stables
at Bellary

Attn
6/12/02

For early attention

RA
10/12.

Can

Plan & estimate
prepared by Tech. Branch.
Submitted for Wit
Approval.

CG
17/4/03

Wit
Salvage Hd
Ld Supt

12/2
1/3

Dear

The revised plan
& estimate for the
Bellary Stables,
prepared by Engineer
your orders, are
submitted for
approval -

If approved
by you, instructions
should where
the horses need go
on to W before
printing - Otherwise
the Pros. will be
returned.

CG

S.a.W.
16/4

approved - They need not
go on to W, as he has given
his approval to the alterations.
CG
16/5.

Click on Photo 1016

Note
Blue lines denote the proposed positions of the 3 new Blocks

Scale 1/16 = 1' 0 10 20 30 40 50 60 70 80 feet

Engineer's Office
Railway & Harbour Dept

Contractor
Engineer



Site Plan
of
Royal Irish Railway Stables at Bellary

Detailed Estimate

Construction of three blocks of Stables for the Royal Artillery at Bellary; each block to accommodate 38 Horses

Detail of Work	Number of Similar Works	Measurements in feet L	B	D	Area or Contents	Total Quantity of each Description of Work
Excavation						
End Walls	2	25	2½	3	375	
Dividing Walls (between center pillars)	1	115½	1½	1½	260	
Center Pillars	18	2½	2½	3	337½	
Outer Pillars	36	2¼	2¼	3	546¾	
Drains	2	160	3	1	960	
Total c. feet of Earthwork						2479
Foundation						
Concrete						
End Walls	2	25	2½	1	125	
Center Pillars	18	2½	2½	1	112½	
Outer Pillars	36	2¼	2¼	1	182¼	
Drains	2	160	3	1	960	
Total c. feet of Concrete						1380
Brick in Mortar						
End Walls	2	24½	2	2	196	
Brick in Mud						
Dividing Walls (between center pillars)	1	115½	1½	1½	260	
Rough dressed Stone in Mortar						
Center Pillars	18	2	2	2	144	
Outer Pillars	36	1¾	1¾	2	220½	
Total c. feet of Rough dressed Stone in Mortar						365
Superstructure						
Brick in Mortar						
End Walls (including gables)	2	24	1½	12	864	
Total c. feet of Brick in Mortar						1060
Brick in Mud						
Dividing Walls (between center pillars)	1	125	6½	8	750	
Total c. feet of Brick in Mud						1010

Detail of Work	No	L	B	D	Nos of each or Length Breadth & Depth	Quantity
Superstructure (contd)						
Hammer-dressed Stone in Mortar						
Centre Pillars	18	14½	1½	1½	587¼	
Side Pillars	36	8½	1¼	1¼	382½	
Total c.ft of Hammer dressed Stone in Mortar						953
Wood-work						
Ridge piece	1	154	½	⅔	51⅓	
Breastsummers	2	154	½	½	74⅔	
Rafters	204	16	¼	½	408	
Total c.ft of Teakwood, wrought & fixed						534
Roofing						
Mild pressers, pantiles, ridges & eaves	2	155	16		4960	
Total Squares of Roofing						49.60
Plaster (1 coat) with Whitewash						
End Walls, including gables	2	95½	½		1324	
Dividing Walls (between centre pillars)	1	125	17		2125	
Total Squares of Plaster &c						33½
Flooring						
Gravelling	1	152	24		3648	
Deduct for Pillars & Dividing Walls					190	
Total Squares of Flooring less Deductions						34½
Asphalte						
Drains	2	160	3		960	
Total Squares of Asphalte						960

5

Abstract of the foregoing Estimate

Quantity	Description of Work	Rate	Rs	Amount	Total Rs	As	P	Rs.	As	P
2479	c.feet of Earthwork	3 c.ft = 1 cu.ft			8	11				
1380	Do of Concrete	12 c.ft = 1 cu.ft			172	8				
1060	Do of Brick in Mortar	15 " = 1 "			159					
1010	Do of Brick in Mud	10 " = 1 "			101					
365	Do Rough dressed Stone in Mortar	12 " = 1 "			43	3				
953	Do Hammer dressed Stone in Mortar	13 14 " = 1 "			132	3				
534	Do Teakwood, wrought & fixed	3 " = 1 c.ft			1602					
50	Sqs Roofing	11 12 = 1 Sq			587	8				
33½	Do Plastering	1 12 = 1 "			58	10				
34½	Do Gravelling	2 " = 1 "			69					
9½	Do Asphalte	11 " = 1 "			104	8				
	Total				3038	13				
	Contingencies @ 5 per cent				151	3				
	Total Cost of 1 Block of Stabling							3190		
	or average cost per horse									
	Rs $\frac{3190}{38}$ = Rs. 84									
	Total Cost of 3 Blocks of Stabling		3 X 3190		=			9570		

B.S.H.
16/5/83

Third Circle

Bellary Division

Detailed Estimate № 63 of 1882-83

Work - Constructing 3 Blocks of Stables for Royal Artillery at Bellary each to accommodate 38 Horses vide G.O № 2985 of 13th November 1882.

Particulars	№	Measurement L	B	D	Contents
Excavation					
Pillars	80	3½	2½	4	2800
Walls between Pillars	38	3	2	1	228
Total excavation		Cft	..	..	3028
Foundation					
Pillars	80	3	2	4	1920
Walls between Pillars	38	4½	1½	1	256
Total Cft Stone in Chunam for foundation					2176
Superstructure					
Pillars	80	2½	1½	2½	750
Walls between Pillars	38	5	1	2½	475
Total Cft Hammerdressed Stone in Chunam for Sup[r]					1225
Total foundation & Superstructure		Cft	..	..	3401
Drains					
Drains at sides	2	145½	3	1½	1309
Total Concrete in Chunam		Cft	..	..	1309
Gravel flooring					
Flooring to Stalls	2	145½	13	¾	2837.25
Do Centre portion	1	145½	5	¾	545.62
Do Do	38	5	½	¾	71.25
Total Gravel flooring well rammed		Cft			3454

Asphalte flooring for drains ½" thick.

Drains at sides	2	145½	3	"	873
Total Sft	"	"	"	"	873

Painting

Pillars at sides	40	8	2½	"	800
Do centres	40	6	2½	"	600
Wall between Pillars	38	5	6	"	1140
Total painting Sft	"	"	"	"	2540

Wood work

Tie beam Lab Packs	40	10	½	1½	300
Centre Do	40	16	½	1½	480
Tie beams	40	16	4"	4"	341.1
Struts	40	8	4"	4"	85.5
Principal rafters	40	16 3/4	4"	6½	445.55
Purline including eaves	10	147	4"	1½	183.75
12 sockets	200	6"	4"	4"	11.11
Planking over principal rafters	2	147	15	½	183.75
Total wood work Sft	"	"	"	"	1830.16
Ornamental Eaves board (9"×½")	2	147	"	"	294
Total Sft	"	"	"	"	294

Iron work

Straps for Truss Large	40	24"	2"	½	960
Do Small	80	20"	2"	½"	1600
Bridge Iron nails	20	11	¾		97.47
Do Tee nails	20	8½	¾		75.09
Total cubic inches	"	"	"	"	2732.26
Total lbs 2.26×2732.26 =					710.35

Roofing with Corrugated Iron

Shallo	2	147	17	"	4998
Centre	1	147	11	"	1617
Total corrugated Iron with cross Lapping and fastenings Do					6615
Do for 3 Blocks	3				

Execr Engineers office Bellary
28th January 1883

J. Turner Sub Engineer
In Charge Bellary Do

Abstract Estimate

For erecting 3 Blocks of Stables for Royal Artillery at Bellary to accommodate 38 horses.
Vide G. O. No 2485 W Dated 13th November 1882

Quantity	Description of work	Rate	Per	Amount	Total
3.10 / 3.028	Inlets Excavation for foundation	3 8 "	100 Sft	11	
31.76 / 34.01	Do Burnt Stone in Chunam work for foundation and Superstructure	12 " "	100 Sft	261 / 408	
12.25 / 13.39	Do. Burnt Stone in Chunam for Sides Drains	13 12 "	do.	170	
36.67 / 34.54	Do Concrete in Chunam for Side Drains	12 8 "	Do	164	
	Do Flooring with hard gravel and wet Rammed	2 " "	Do	73 69	
5.73 /	Do Asphalte flooring ½" thick for Sides Drains	3 11 "	100 Sft	96	
25.40 /	Do Painting with Chunam	1 8 "	Do	38	
1386.24 / 1380.82	Sft Teak wood work for Put up	3 " "	Sft	4159 / 4124	
294 /	Sft ornamental eaves board (9"×½")	" 3 "	Sft	55	
710.38 /	lbs wrot Cast Iron work	" 4 "	lbs	178	
66.15 /	Inlets Corrugated iron with cross Lapping & Fastenings Do Complete	3 27 "	100 Sft	1786	
	Total	" " "	"	6991 6929	
	Contingencies @ 5 per cent	" " "	"	1349 / 346	
	1 Bricklayer for Six months @ 20 Rs per mensem	3 " "	"	120	
	Total for 1 Block	" " "	"	7460 7394	
	Total for 3 Blocks	" " "	"	"	22380 / 22182

Execr Engineers office
28th January 1883

J. Turner Sub Engineer
In Charge Bellary Do

Abstract Sheet

No. 63 of 1882-83.

Fund— Imperial ordinary

Service Head— Military

Departmental Head— Civil works

Main Head— Accommodation for Royal Artillery Troops

Sub-head(a)— " "

Project of which the work forms part(a)—

Name of Work— Constructing 3 Blocks of Barracks for Royal Artillery at Bellary each to accommodate 150 Men

Amounting to Rupees 22,380

To be carried out by Vide P.W.D. G.O. No. 2985 dated 13th November 1882

No.	Sub-head.	Quantity.	Rate. Rs.	A.	P.	Per	Amount. Rs.	A.	P.
1	Inside Excavation for foundation	13.10	3	8	-	100 Cft	11	-	-
2	Cft Burnt Stone in Cumam for foundation & superstructure	21.70	12	-	-	100 Cft	261	-	-
3	Do - Burnt Stone in Cumam for Superstructure	12.25	13	-	-	Do	170	-	-
4	Cft Concrete in Cumam for Side Drains	13.09	12	8	-	Do	164	-	-
5	Sft Flooring with Burnt grouted and well rammed	136.67	2	-	-	Sft	73	-	-
6	Sft Asphalte flooring 1/2 thick for Side Verandah	8.73	11	-	-	100 Sft	96	-	-
7	Sft Cement Concrete flooring 1" thick	125.40	1	8	-	Sft	188	-	-
8	Cft Teak Wood wrought into Post &c	1386.24 1380.82	3	-	-	Cft	4159 4142	-	-
9	Rft Ornamental eaves board 9"x1/2"	294	-	3	-	Rft	55	-	-
10	Sft Cast iron work	710.38	-	4	-	Sft	178	-	-
11	Inch Corrugated iron sheets with iron Capping & fastenings &c complete	66.15	27	-	-	100 Sft	1786	-	-
	Total	-	-	-	-	-	6991 6927	-	-
12	Contingencies @ 5 per cent	-	-	-	-	-	349	-	-
13	1 Watchman for 12 months @ 20 Rs per mensem	-	-	-	-	-	120	-	-
	Total for 1 Block	-	-	-	-	-	7460 7396	-	-
	Total for 3 Blocks	-	-	-	-	-	22380 22188	-	-
	Total Rupees	-	-	-	-	-	22380 22188	-	-

(a) These lines will not be required in the case of Minor Works and Repairs.

Recd: Engd approx
28th January 1883

Executive Engineer
for Chief Engineer

NOTES.

REFERENCE TO MADRAS P. W. D. CODE.

CHAPTER VII.—PARAS. 998, 1019, 1029 AND 1034.

1. In this Form the Examiner should be furnished by sanctioning authorities with abstracts of estimates for all works estimated to cost more than Rs. 200, immediately after sanction has been accorded.

2. The abstract of the sanctioned estimate to be furnished to the Examiner is to be an *exact* copy of the abstract of the detailed estimate sanctioned. In framing this abstract, however, care should be taken only to enter such of the sub-heads as are to be separately shown in the accounts of the work.

3. The abstracts of estimates submitted for the sanction of Government should be in duplicate, one copy being intended for the Examiner, the other being returned after sanction to the Superintending Engineer or Superintendent of Works, for record.

4. In the duplicate copies of abstracts intended for the Examiner, the following information should be filled in by the Executive Engineer.

Probable duration of execution of work .. .. .. Months.

Probable No. of Work Vouchers that will be required ..

5 of 1885
711 61

P. W. D. Madras. Form No. M 77.

SE 3rd CIRCULAR 385

BUILDINGS AND ROADS.

DIVISION Bellary

Abstract of Estimate framed by Executive Engineer

for* Constructing 3 Blocks of Stables for Royal Artillery at Bellary to accommodate 38 horses.

* Here enter name of work.

No. 63 of 1882-83

Financial Head— Imperial ordinary

Revised Budget Head— Military

Departmental Head— Original works

Main Head— Accommodation for Royal Artillery horses.

Sub-Head— — " —

Project of which the work forms part— — " —

Section— Bellary Cantonment

Name of work— Constructing 3 Blocks of Stables for Royal Artillery at Bellary to be accommodate 38 horses.

Amount of Estimate— 32,380/ 27270

To be carried out by— P. W. D.

REFERENCES.

G. O. No. 1610 M dt 27-6-82
G O No 2948 M dt 8-11-82
G. O No. 2985 M dt 13-11-82
Qr M. Genls letter No. 477 dt. 18-1-83

REFERENCE TO MADRAS, P. W. D. CODE.

CHAPTER VII—PARAS. 955 AND 968 A.

!

6538 C/1887-3

P. W. D. Madras. Form No. M 77.

ESTIMATE FORM—WRAPPER OR OUTER SHEET.

2nd CIRCLE

2nd Bijapur 1888. P.W. Co's 2658/83 2781

DIVISION— Bellary

TALUQ— Bellary Cantonment

Estimate for* Constructing 3 Blocks of Non Royal Artillery at Bellary to be accommodate 38 Married 22380

Amount of Estimate Rs. 27270 —

Detailed Estimate No. 63 of 1882-83

*Here enter name and description of work in full

SEE 3rd C. 2421 60/1883

No 1932/83

MD Pm 2121. 28.

Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT

Under date the

Read the following

From the Supdg Engr 2d Circle No 2412 C/7 19th March 1883.

Address the Mily Dept No 1927 C/7 31st March 1883.

The estimate amounting to Rs 22,380. for construction three blocks of Barracks for Horses of the Field Battery at Bellary is sanctioned.

2. Orders with regard to the allotment of funds for the work will be issued on receipt of a reply from the Govt Mr General to a reference recently made on the subject, & in the meantime no further la-

bour in

*P.W.D. Madras No 6538 C/7 dated 26th March 1883.

expenditure should be incurred thereon.

3. The proposal in para 4 of the Supdg Engr's letter above recorded is sanctioned as a temporary arrangement, but the timber must be disposed of, either by sale, or transfer to other works, before the end of the year 1883-84.

4. The sanction accorded in heads of this order has been registered as Imperial Ordinary No. W for 1883-84, & classified as Imdy. Original Works.

C4

2/4

1262W

S.E. Mint Circle, with Cuddapah Div. No. 2, with duplicate abstract.

Irrig. Dept.

Offg 1)/4. Rect 30/4

Offg 4/4 Rect 12/4

No. 1262W

Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 30th April 83

Read the following

From the Supdg Engineer, Third Circle (A.E. No 2412 dy 19th March 83)

Proceedings in the Military Dept (.. .. 1927 dy 31st ..)

Report by the Chief Engineer, S.W.D. with Specification and Estimate } dy 10th April

78

The plan of stabling approved in GO 2985 W dy 13th November 1882 being found too costly, a revised design has been prepared by the Chief Engineer, the cost per horse at Bellary being reduced to Rs 78-

The plan Specification estimate and report will now be circulated for information

and guidance in
supersession of the design
previously approved.

2. As however the Govt
of India have recently
declined to allow any
Expenditure on Stables, the
sanction of that Government
will be necessary before
the funds provided in the
Budget for 1883/84 can
be utilized. The Govt
of India will now be
addressed on the subject.

(H.E. No. 1263W d/30th April 83)

To

The Secretary to the
Govt of India. P.W.D.

Sir,

In my letter No.

Supdg Engineer Nilgiri Dn.
Southern & Field Circles
Military Supt 2d
Do of P.W. Accts

12b2/27

1956 W dated 2nd August
1882, the views of His
Excellency the Commander-
in-Chief as to the necessity
for providing shelter for
horses in Southern India
were laid before the Govt of India
and it was intimated
that the Chief Engineer
had under consideration
the question of an inex-
pensive design of Stables
suitable for the purpose.
The design has now been
submitted and approved
by His Excellency the
Commander-in-Chief and
Government. The cost
per horse will not exceed
Rs 78-/ as estimated for

the Station of Bellary-
Accommodation for 1114
horses at that Station
can thus be provided for
Rs 8,850- and I am to
request the approval
of the Government of
India to the obligation
of the funds provided
in the Final Issue
of the Military Works
Budget of the current
official year on definite
estimates being sanctioned.

2. Copies of the plans,
estimate and specification
are herewith forwarded

to enable

The Asst. Q.M.G. Madras
for the Q.M.G.

x as per Estimate

See para 3. Mar.

add para

3. I am to take
this opportunity
to intimate that
in future considera-
tion of the subject of provi-
-ding shelter for
the Cavalry & Artillery
horses of the Presidency
and in reference
to the views of the
Govt. of India as
conveyed in the
Budget orders No 232
M.W
d/12th March/83 HE in Cl
has no desire to
press the Stables being
constructed at Bangalore
and Secunderabad
through holding that
in the interests of economy as well as humanity
such shelter is
necessary at Bellary
Hampte
and Madras.
In these views H.E.

1262/29

Eg. 1955: fr 2. f. fl
1956

Eg. 2069. fr 14. f. fl
- 2277. fr 5. g. fl
- 1945. fr 8. 11. fl
- 1963. fr 13. 11. fl

1262
30

4/16

Govt. of (1883) Madras.

PUBLIC WORKS.

Dated

Rcvd. Encl.

G. O. 30 April 1883, No. 1267 1267

Nos.

Horse Stables at Bellary

Missing orders on revised Plans Rcvd fm —; and on the question of Stables for Govt Horses generally

67

6

Entered in Record Register