(1) பக்கங்களின் எண்ணிக்கை 30

(2) புதுக்கித் திருப்பிய நாள் 13/90

(3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம்

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

P. W. D துறை

அரசாணை எண்.
மு. கோப்புத் தாள் எண். 2867

அச்சகம்
பலவகை

நாள் : 12-10-1889 198 .

மடிக்கவோ கண்டபடி கையாளவோ கூடாது

15. Sheets

ஆவண. கா-1—18,006—15-6-87.

2867

12th October 1889, No. 2867 W., Public Works.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Military Works.

Read—the following paper:—

From Colonel C. COWIE, R.A., Officiating Inspector-General of Ordnance, to the Secretary to Government, Military Department, dated Fort St. George, 18th September 1889, No. G. 68.

With reference to para. 2 of the enclosed copy of Government of India Military Department letter No. 535 M.W., dated Fort William, the 14th March 1889, to the address of the Director-General of Ordnance in India, I have the honor to forward, duly countersigned in token of approval, an estimate, amounting to Rs. 84,830, with the marginally cited annexures, for constructing new workshops in lieu of the existing smiths' and turners' shops and steam-hammer and boiler sheds at the Gun Carriage Factory, Madras, with a view to its being approved by Government in the Military Department, and transferred, if approved, to the Public Works Department for disposal.

1 Plan, original.
1 Plan, revised, with three attachments.
1 Plan of engines.
1 Plan of boilers.
1 Estimate, abstract.
1 Estimate, abstract, general.
1 Report.

2. The original estimate for constructing the new workshops according to the plan, one of the annexures, marked "original" amounted to Rs. 1,13,000, but this has been revised as far as possible in accordance with the wishes of the Government of India, and reduced to the amount now stated. The original estimate included provision, at a cost of Rs. 41,440, of 56 cast-iron forges, Cyclop's pattern, but in the revised estimate now submitted 28 double smiths' hearths 6′×4′ complete with Tuyere's cistern and hearth backs, estimated to cost Rs. 9,240, have been substituted.

3. A copy of letter No. 264 C., dated 31st ultimo, from the Superintending Engineer, V Circle, is enclosed, from which it will be seen how far the modifications proposed by the Government of India have been effected.

4. Rupees 19,483 has been allotted in the current year's budget, circulated with G.O., No. 1159 W., Public Works, dated 1st May 1889, *vide* item 9, class B. works, but, as the Superintending Engineer has informed me that with this amount only materials can be purchased, and that a grant of the balance of the estimate must be awaited before the work can be proceeded with, but that if sufficient funds were now allotted the work could be carried on to completion, I wired to the Director-General of Ordnance in India asking that a further allotment of Rs. 65,347 may be provided.

5. So that no delay may take place in commencing the work, should the balance of funds be allotted, I have the honor to request that sanction may be given to the estimates as soon as possible, and that in the meantime Government in the Public Works Department may be asked to authorize the Superintending Engineer to proceed with the work at once, as it is one of a very urgent nature. During the dismantling of the old and the building of the new shops the outturn by the Gun Carriage Factory will necessarily be very small.

1

Enclosures.

From the Secretary to the Government of India, Military Department, to the Director-General of Ordnance in India, dated Fort William, 14th March 1889, No. 535 M.W. (Ordnance Works).

I am directed to acknowledge the receipt of your letter No. 142, dated 10th January 1889, submitting for the orders of the Government of India a project for the erection of new workshops, &c., in the Gun Carriage Factory at Madras, the estimated cost of the work being approximately Rs. 1,13,000.

2. In reply, I am to state that, after consideration of the facts brought forward, the Government of India accept the proposed work as necessary in the interests of the public service, and the project for the building should now be placed in the hands of the Government of Madras who will deal finally with the estimate in communication with the Ordnance Department.

3. I am to communicate the following remarks regarding the design and arrangement of the proposed new building for such action as you may deem necessary.

The style of building seems suitable. But the placing of the workshops close to the boundary of the factory and using the boundary wall as the back wall of the new building appears open to objection, as it interferes with ventilation, makes the lighting of the building difficult and unsatisfactory and the drainage of the water from the roof on to the public road would probably give rise to difficulties; the height also seems insufficient for buildings of such width.

The position of the boilers and engines appears objectionable, being completely closed in, and it is not clear how the fuel is to be stored and the boilers worked in such a position.

The area of the building and the number of forges absolutely necessary should be carefully considered, and nothing superfluous provided; the new shed for the 15 cwt. steam-hammer for instance would appear to admit of considerable reduction.

4. The enclosures of your letter are returned herewith.

From Colonel W. H. BURTON, R.E., Superintending Engineer, V Circle, to the Inspector-General of Ordnance, Fort St. George, dated Bangalore, 31st August 1889, No. 264 C.

With reference to your letter No. O/19680, dated 29th March 1889, I have the honor to return the plans and estimate for the new workshops at Gun Carriage Factory revised so far as is possible or advisable in view of the purposes for which the work is required, in accordance with the letter of Government of India No. 535 M.W., dated 14th March 1889.

2. I would point out in view of the remarks made in the above letter regarding the former estimate that placing the steam-hammer shed, smiths' shops, engine and boiler house and turners' shop against the boundary wall of the factory and using it as a rear wall of these buildings is unavoidable for want of space within the factory.

3. In order to remove the objection as to want of ventilation and in steam-hammer shed a portion of the roof is proposed to be raised 3 feet above the level of adjoining roofs, as may be seen in the drawings.

4. To remove a similar objection made in regard to the smiths' shop, engine and boiler house an open space about 18 inches deep will be left between the top of the wall and the underside of the roof covering.

5. To increase the ventilation and improve the lighting of the turners' shop provision has now been made in the plan and estimate for eight additional windows six square, and one 10′ × 12″ in the south and east walls; these will be secured in all respects against misuse from within and without.

6. To further improve the lighting of this shop provision is made for increasing area of glass lights in the roof to 1,920 f.s. Similar lighting in the roof of the smiths' shop will be 1,360 f.s. in area and 490 f.s. in that of steam-hammer shed.

7. The drip of rain water from off these roofs into the surface drain alongside of the Poonamallee road will not prejudice the public in any way, and is not locally objectionable. Moreover, generally speaking the paucity of funds available for Military works in this Presidency prevents any provision for cast-iron eaves, gutters and rain-water pipes.

8. The position of the boiler engine and in the boiler house has been reconsidered and the supports of roof modified as will enable the Superintendent of the Factory setting up the boilers, &c., as shown on the drawings.

9. A special fuel store is certainly desirable near the boiler house, but for want of space it is very difficult to put one there, but as the local departmental officers are satisfied with existing arrangements in regard to fuel storage, and as these estimates have been returned once or twice in order to be reduced in amount, no provision for a new fuel store has been made.

2867

10. I was told at the factory that the proposed floor area for the different buildings does not exceed actual present requirements.

11. I would request you to place the plans and estimates after approving the same in the hands of Madras Government in order that they may be finally dealt with as ordered in para. 2 of Government of India letter No. 535 M.W., dated 14th March 1889, as early as possible; the Executive Engineer should be enabled to make a fair start well before the commencement of north-east monsoon or very little will be done before January next.

No. 6465, Military.

Approved and transferred to the Public Works Department for disposal.

Fort St. George,
21st September 1889.

(Signed) H. R. SHELLEY, Colonel,
for Secretary to Government.

Note by the Chief Engineer, General Buildings and Roads Branch, Public Works Department.

The common rafters should be spaced 2½ feet apart from centre to centre to avoid any sag in the reepers.

2. The details of the manner in which the ventilation under the eaves is to be secured should be shown in the drawings, and it should be explained why the section of roofing shown on GH has been adopted in place of continuing the section shown on EF. It is observed that although the sections on AB and CD give details of eaves ventilation, there are no corresponding details in the plan to show how the roof is supported, and to indicate the lateral extent of the openings provided for ventilation.

3. It is not clear from the estimate whether 14 double Cyclop's forges are to be provided as shown in the plan, for the estimate refers to 28 double forges at a cost of Rs. 330 each. This may lead to a serious mistake if not rectified before the forges are ordered.

Chepâk, (Signed) R. R. E. DRAKE-BROCKMAN, Lt.-Col., R.E.,
8th October 1889. Ag. Chief Engineer, P.W.D.,
General Buildings and Roads Branch.

Order—dated 12th October 1889, No. 2867 W., Public Works.

The estimate, amounting to Rs. 84,830, for constructing new workshops in lieu of the existing smiths' and turners' shops and steam-hammer and boiler sheds at the Gun Carriage Factory, Madras, is sanctioned.

2. Attention is drawn to the note by the Chief Engineer, Public Works Department, above recorded.

3. A sum of Rs. 19,483 has been provided for the work in the current year's Military Works budget. The Inspector-General of Ordnance states that this grant will only suffice for the collection of materials, and requests that the Superintending Engineer may be authorised to proceed with the work at once in anticipation of an additional allotment, for which application has been made to the Director-General of Ordnance in India. As it seems doubtful whether that officer will be able to provide the amount applied for, the Government regrets its inability to authorise expenditure on the work in excess of the sanctioned grant. The Superintending Engineer will, however, see that the current year's grant is fully utilised, and that arrangements are made to prosecute the work in the event of funds being provided by the Director-General of Ordnance.

2

4. The sanction accorded in para. 1 of these Proceedings has been registered as Imperial No. 18 W. of 1889-90, and classified as Military, Original Works.

(True Extract.)

(Signed) R. R. E. DRAKE-BROCKMAN, Lt.-Col., R.E.,
Ag. Joint Secy. to Govt., P.W.D.

To the Superintending Engineer, V Circle, with eight enclosures.
" Examiner, Public Works Accounts, with the general abstract estimate.
" Military Department.

Exd. J. Moses,
Spare Copies

2867

3

BUILDINGS AND ROADS.
MILITARY WORKS.

Govt. of {1889} Madras.

PUBLIC WORKS.

Dated October, 12th.

Recd.

Encl.

G.O., 12th Oct. 1889, No. 2867 W.

OCTOBER.

Gun Carriage Factory, Madras

Orders sanctioning estimate for new workshops at the —.

Public Works Department.

2867

Current No. 8920
Letter No. 6465
Dated 21st September 89
From the Military Dept.

Note of Remarks

The plans and estimate under review amounting to Rs 84,830 provide for constructing new Workshops in lieu of the existing Smiths' & Turners' Shops & Steam Hammer & Boiler Sheds at the Gun Carriage Factory, Madras.

The amount of Rs 84,830 is distributed as follows:—

Smiths' Shop	= Rs 28,067
Turners' do	= 40,372
15 Cwt. Steam Hammer Sheds	= 10,470
Petty Supervision @ 2½ per cent.	= 1,976
Contingencies @ 5 per cent.	= 3,945
Total Rupees	84,830.

Report is submitted.

The particulars of construction is as follows:—

The masonry work of the Turners' & Smiths' Shops &c is to be of brick in mortar.

Flooring of Turners' & Smiths' Shops is to be of laterite & gravel, as for Machine & Engine room &c the flooring is to be of granite.

Roofing over Turners' & Smiths' Shops is to be of Mangalore tiles on teakwood roof timbers, as for 15 Cwt. Steam Hammer shed, the roof is to be of old corrugated iron with rivets, bolts &c complete on teakwood roof timbers.

The scantlings of roof timbers are correct; but it is estimated that the common rafters are to be placed 3 ft. from centre to centre.

The rates as far as can be checked are fair.

The S.E.E. Circle in his letter No. 264C dt 31st August 99 to the Inspector General of Ordnance writes as follows:

As to want of Ventilation in Steam Hammer shed a portion of the roof is proposed to be raised 3 ft. above the level of adjoining roofs as may be seen in the drawing.

As regards the Smiths' shop Engine & Boiler House an open space about 18" deep will be left between the top of the wall & the under side of the roof coverings.

To increase the ventilation & improve the lighting of the Turners' shop provision has now been made in the

the plan & estimate for
8 additional windows &
for further improvements
& the lighting of the shop
provision is made for
~~increasing~~ ~~area~~ of glass
lights in the roof. Similar
lighting is provided for
the roof of the Smiths'
& in the Steam Hammer Shed.

It is stated in the con-
-cluding para of the letter No. 68
of 18th Septr 89 from the
Offg Inspector General of
Ordnance Fort St George
to the Secretary to Govt. in the Military Depte
that the Government in the
P.W. Deptt may be asked to
authorize the S.E. to proceed
with the work at once, as
it is one of a very urgent
nature.

The plans & estimate have
been countersigned by the
Military authorities & appd
in the Military Department.

27-9-89.

Ordnance Works.

No. 68.

Ordnance Office,
Fort Saint George,
18 September 1889.

From Colonel CROMBIE COWIE, R. A.
Officiating Inspector General of Ordnance,

To The Secretary to Government,
Military Department.

Fort Saint George.

Sir,

With reference to para 2 of the endorsed copy of Government of India Military Department letter No. 635 dated Fort William, the 14th March 1889, to the address of the Director General of Ordnance in India, I have the honor to forward, duly countersigned in token of approval, an estimate amounting to Rupees 24,830, with the marginally cited annexures, for constructing new Workshops in lieu of the existing Smiths and Turners shops and Steam Hammer and Boiler Sheds at the Gun Carriage Factory Madras, with a view to its being approved by Government in the Military Department, and transferred, if approved, to the Public Works Department for disposal.

1 Plan original.
1 Plan revised with three attachments.
1 Plan of Engines.
1 Plan of Boilers.
1 Estimate - plinth.
1 Estimate - plinth - General.
1 Report.

I have

2. The original estimate for constructing the new Workshops according to the plans, one of the annexures, marked 'original' amounted to Rupees 113000, but this has been revised so far as possible in accordance with the wishes of the Government of India, and reduced to the amount now stated. The original estimate included provision, at a cost of Rupees 41,440, of 56 Cast iron forges Cyclops pattern, but in the revised estimate now submitted 28 Double Smiths' Hearths 6'x4' complete with Tuyeres Tistern and Hearth Backs, estimated to cost Rupees 9,240 have been substituted.

3. A copy of letter No. 264 C dated 31st ultimo from the Superintending Engineer V Circle is enclosed, from which it will be seen how far the modifications proposed by the Government

of

of India have been effected. 28857 02 10

4. Rupees 17,483 has been allotted in the current years budget, circulated with G.O. No. 1159 W. Public Works dated 1st May 1889, vide item 9 class B. Works, but, as the Superintending Engineer has informed me that with this amount only materials can be purchased, and that no grant of the balance of the estimate must be awaited before the work can be proceeded with, but that if sufficient funds were now allotted the work could be carried on to completion, I wired to the Director General of Ordnance in India asking that a further allotment of Rupees 65,347, may be provided.

5. So that no delay may take place in commencing the work, should the balance of funds be allotted, I have the honor to request that

sanction

sanction may be given to the estimates as soon as possible, and that in the meantime Government in the Public Works Department may be asked to authorize the Superintending Engineer to proceed with the work at once, as it is one of a very urgent nature. During the dismantling of the old and the building of the new shops the out-turn by the Gun Carriage Factory will necessarily be very small.-

I have the honor to be,
Sir,
Your most obedient Servant,
Hamilton Lewis Colonel R. A.,
Offg Inspector General of Ordnance.

Ordnance works

No. 535 M.W.
Govt of India
Military Department
Fort William the 11th March/59

To
The Director General of Ordnance
in India

Sir,

I am directed to acknowledge the receipt of your letter No. 142, of 10th Jany, 1859, submitting for the orders of the Government of India a project for the erection of new workshops in the Gun Carriage Factory at Madras. the estimated cost of the work being approximately Rs 1,13,000.

2. In reply, I am to state that after consideration of the facts brought forward, the Government of India accept the proposed work as necessary in the interests of the public service, and the project for the building should now be placed in the hands of the Government of Madras who will deal finally with the estimate in communication with the Ordnance Department.

6

3. I am to communicate the following remarks regarding the design and arrangement of the proposed

proposed new building for such action as you may deem necessary.

The style of building seems suitable. But the placing of the workshops close to the boundary of the Factory and using the boundary wall as the back wall of the new building appears opens to objection, as it interferes with ventilation, makes the lighting of the building difficult and unsatisfactory and the drainage of the water from the roof on to the public road would probably give rise to difficulties: the height also seems insufficient for buildings of such width.

The position of the boilers and engines appears objectionable, being completely closed in and it is not clear how the fuel is to be stored and the boilers worked in such a position.

The area of the building and the number of forges absolutely necessary should be carefully considered and nothing superfluous provided; the new shed for the 15 cwt steam hammer for instance, would appear to admit of considerable reduction

4. The enclosures of your letter are returned herewith.

I have &c
(Sd) J. C. Broadbent Major
for Secy: to the Govt of India

/True Copy/
(Sd) Colonel R.A.
Asst. Inspr Genl of Ords

Superintending Engineer's Office
V Circle, Madras
Bangalore 31st Decr 1889

No. 2640

From Colonel W. H. Barlow R.E.
Superintending Engineer, V Circle

To The Inspector General of Ordnance
Fort Saint George.

Sir,

With reference to your letter No. a/19680 dated 29th March 1889, I have the honor to return the Plans and Estimate for the new Workshops at Gun Carriage Factory revised so far as is possible or advisable in view of the purposes for which the work is required, in accordance with the letter of Government of India No. 535 M.W. dated 14th March 1889.

2. I would point out in view of the remarks made in the above letter regarding the former estimate that placing the steam Hammer shed, Smiths' shops, Engine and Boiler House and Turners' shop against the boundary wall of the Factory, and using it as a rear wall of these buildings is unavoidable for want of space within

Enclosures 9
3 revised Plans
3 original do
1 Detailed Estimate
2 Abstract Estimates

within the Factory.

3. In order to remove the objection as to want of ventilation and in steam Hammer shed. a portion of the roof is proposed to be raised 3 feet above the level of adjoining roofs. as may be seen in the drawings.

4. To remove a similar objection made in regard to the Smiths' shop Engine and Boiler House an open space about 15" deep will be left between the top of the wall and the underside of the roof covering.

5. To increase the Ventilation and improve the lighting of the Turners shop provision has now been made in the plan and estimate for 8 additional Windows 6 square, and one 10'×12" in the South & East walls, these will be secured in all respects against mis-use from within and without.

6. To further improve the lighting of this shop provision is made for increasing area of glass lights in the roof to 1920 f.s. - Similar lighting in the roof of the Smiths' shop will be 1260 f.s. in area and 490 f.s. in that of steam Hammer shed.

7. The drip of rain water from off these roofs into the surface drain alongside of the Poonamallee road will not prejudice the public in any way. and is not locally objectionable. Moreover generally speaking the paucity of funds available for Military Works in this Presidency prevents any provision for cast iron leaves gutters and rain water pipes.

8. The position of the boiler Engine & in the Boiler House has been re-considered and the supports of roof modified as will enable the Superintendent of the Factory setting up the boilers &c as shewn on the drawings.

9. A special fuel store is certainly desirable near the boiler house, but for want of space it is very difficult to put one there, but as the local departmental Officers are satisfied with existing arrangements in regard to fuel storage and as these Estimates have been returned once or twice in order to be reduced in

amount

amount no provision for a new fuel store has been made.

10. I was told at the Factory that the proposed floor area for the different buildings does not exceed actual present requirements

11. I would request you to place the plans & estimates after approving the same in the hands of Madras Government in order that they may be finally dealt with as ordered in para 2 of Government of India letter No. 535 M.W. dated 14th March 1889 as early as possible. the Executive Engineer should be enabled to make a fair start well before the commencement of North East monsoon or very little will be done before January next.

I have &c

/Sd/ W. H. Burton Coll R.E.

Supt. Engineer 5th Circle

/True Copy/

C. W. Hamilton Colonel Ret

Asstt. Surgr. Genl. of Ords

Jan 1890

2867
11

Pd 6. 6. 1889 n°. 3699. R

WRCh. 5920.

Military {1889} Department.

No. 68

From

Colonel CROMBIE COWIE R. A.,

Offg. Inspector General of Ordnance,

Fort Saint George,

To

The Secretary to Government,

Military Department.

Fort Saint George

DATED 18

RECEIVED 19th September } 1889.

No. 6

68 E. 9.

Forwards Estimates &c for Workshops at Gun Carriage Factory for approval —

6P No. 6465

Approved and transferred to the Public Works Department for disposal.

H P Shelley Colonel

For Secretary to Govt.

Fort Saint George
21st September 1889

Read 23 Sept 89

23 SEP

P. W. D.

2867
19/7 P

Note by the Chief Engineer, General Buildings and Road Branch, P. W. D.

The common rafters should be spaced 2½ feet apart from centre to centre to avoid any sag in the purlins.

2. The details of the manner in which the Ventilation under the eaves is to be secured should be shown in the drawings, and it should be explained why the Section of roofing shown on GH has been adopted in place of continuing the Section shown on EF. It is observed that although the Sections on AB and CD give details of eaves Ventilation, there are no corresponding details in the plan to show how the roof is supported, and to indicate the lateral extent of the openings provided for Ventilation.

3.

10

3. It is not clear from the Estimate whether 14 double Cyclops' forges are to be provided as shown in the plans, for the Estimate refers to 28 double forges at a cost of Rs 330 each. This may lead to a revision with short receipts before the forges are ordered.

Hurs
7.10.89

Ewo.
Rudd
8-10-89

E. I. Form No. 22. No 18674 PUBLIC WORKS DEPARTMENT. 7487

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the October 12, 1889.

READ the following:—

1 From the Inspector General of Ordnance: No Q. 65 of 18th September 1889.

2 Endorsement thereon in the Military Department No 6465 of 21st Septr 1889.

3 Vde by the Chief Engineer P.W. Department dated October 8, 1889.

The estimate amounting to Rs 84,830 for constructing new workshops in lieu of the existing Smiths' and Turners' shops and steam-hammer and boiler sheds at the Gun Carriage Factory, Allandoor, is sanctioned.

Sud
11 Oct

2. Attention is drawn to the note by the Chief Engineer, P.W. Department, above recorded.

3. A sum of Rs 19,483 has been provided for the work in the current year's Military Works Budget. The Inspector General of Ordnance states that the other grant will only suffice for the collection of materials, and

and requests that the Superintending Engineer may be authorised to proceed with the work at once in anticipation of an additional allotment for which application has been made to the Director General of Ordnance in India. As it seems doubtful whether that officer will be able to provide the amount applied for, the Government regrets its inability to authorise ~~expenditure upon~~ the work ~~in excess of the sanctioned grant~~. The Superintending Engineer will however see that the current year's grant is fully utilised, and that arrangements are made to prosecute the work in the event of funds being provided by the Director General of Ordnance.

No — The sanction accorded in para 1 of these Proceedings has been registered as Imperial No 1018 W of 1889-90 and classified as

as Military Original Works.

9P

2867

H.B. Lees Rudd 8.10.89
7.10.89

2/11

To
The Supdg Engineer Cuddalore
with 8 Enclosures.
Exam P.W. accounts
with the general abstract
estimate.
a Military Department

2/14/10

To
(The Secy to Govt, Mily Dept,
for favor of countersignature)

14

Cr

Mag

Govt. of 18 Madras.

PUBLIC WORKS.

Dated Soon 1874

Recd.

Encl.

G.O. 12 Oct 1869 No. 2867

From Carriage Factory, Madras

Orders, sanctg Estt. for new workshops at site.

15

12/10-