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MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

G.O. No. 3765-66	Press
56-63	Mis.
Dated 2 12 1962.	

Not to be folded or roughly handled

1

*Proceedings of the Madras Government, Public Works Department,
2nd December 1868.*

Read the following papers :—

No. 56. From the Superintending Engineer, 3rd Division, to the Secretary to Government, Public Works Department, dated Bellary, 1st October 1868, No. 2,394.

With reference to G. O., No. 2,998, of the 22nd ultimo, I have the honor to inform you that, in my opinion, the simplest and fairest way would be to give credit for the value of the work done according to the rates prevailing at the place where the Sappers should be employed.

No. 57. From the Superintending Engineer, 7th Division, to the Secretary to Government, Public Works Department, dated Bhowany, 10th October 1868, No. 126.

1. In reporting on the subject of G. O., No. 2,998, of the 22nd September, I have the honor to state my opinion, that if it be determined that the Madras Sappers and Miners are to be maintained on the same footing, and employed in the same manner as hitherto, it would be more equitable to charge the Public Works Department for the actual value of the work done, than to debit to it the entire pay of the Officers and men placed at its disposal. Civil Works estimates are not calculated to stand the cost of hutting; nor of the Commissioned and Non-Commissioned staff which the Military organization of Sapper Corps requires. Ten per cent. on the value of work performed by the men is all that could be allowed as extra remuneration to their Superintendents of all ranks. And as such value could not be calculated beforehand, no previous deduction from the Military, and addition to the Public Works Budget, appear to me to be feasible.

2. Should it be determined eventually that the strength of the Madras Sappers shall be reduced, and their services be no longer available on the present terms, I think it may be necessary to resort to the raising of Pioneer Corps for work in particular localities. In a letter printed with G. O., No. 760, of 12th March 1864, I gave the details of the probable cost of two such corps, each consisting of 900 men and boys; and I do not find much to alter in the scales or numbers therein laid down. Only it might be better to divide the entire number of 1,800 into six corps, of 300 each. Substituted for four Companies of Sappers, and each corps attached to one of the remaining six Companies, which it should accompany on field service as a works corps, and under whose guidance and protection it should be employed on every useful work required for army operations, I think such a body of Pioneers could be turned to good account both in peace and war, without any difficulty as to how its cost should be debited in whole or in part.

No. 58. From the Officiating Secretary to the Commissioner for the Government of the Territories of his Highness the Rajah of Mysore, to the Secretary to Government, Public Works Department, Madras, dated Bangalore, 13th October 1868, Account, Nos. 6,327/5,666.

In reply to your letter Nos. 417/2,999, of 22nd September 1868, on the subject of payment of Corps of Sappers and Miners, I have the honor, by order of Commissioner, to inform you that for many years no Sappers have been employed in the

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2nd December 1868.*

Mysore country, with the exception of the year 1867, when Captain Raynsford's Company was employed for three or four months on Gonsecopal bridge, in Coorg, on the Auneechowkoo and Periembody road. They were paid for work done on the rates laid down in the sanctioned estimate, which seems an equitable way of paying for services rendered.

No. 59. From the Superintending Engineer, 5th Division, to the Secretary to Government, Department Public Works, dated Salem, 14th October 1868, No. 125.

With reference to the Order of Government of the 22nd September, No. 2,998, I have the honor to state that no detachment of Sappers has been employed in the 5th Division since I have had charge, but I am of opinion that when Sappers are employed on Public Works, the value of the work done by them should be charged to the Public Works Department. The total cost of the detachment could not fairly be charged to the Department. At the same time, as it may be assumed the Sappers will not be employed where ordinary labor is easily procurable, the work done by them, at places where skilled labor is not otherwise to be obtained, will always be valued at a high rate.

No. 60. From the Secretary to the Chief Commissioner of British Burmah, Public Works Department, to the Secretary to Government of Fort St. George, Public Works Department, Madras, dated Rangoon, 19th October 1868, No. 770/107 A.

I am directed to acknowledge the receipt of your letter No. 3,000, dated 22nd ultimo, and to annex notes by the Chief and Superintending Engineers of this Province on the subject of employment of the Madras Sappers and Miners on Public Works, from which it will be observed that Lieutenant Colonels Fraser and Oliphant recommend that the credit to be afforded to the Military Department for their work should be for the value of the work done, and I am to state that the Chief Commissioner concurs in this view.

Read letter No. 418, dated 22nd September 1868, and annexures from Secretary to Government, Fort St. George, Public Works Department, relative to the Madras Sappers and Miners.

1. In the above communication the Government of Fort St. George have referred to the Chief Commissioner for an expression of his views as to the credit which should be afforded to the Military Department for the services rendered in the Public Works Department of his Administration by the corps of Sappers and Miners, i. e., whether the credit should be for the value of work performed, or for the actual pay of the Officers and men employed.

2. This reference has resulted in consequence of the Government of India requiring information as to the actual requirements of the Madras Presidency in regard to Sappers and Miners, and as to the feasibility of gradually reducing the strength of the corps, as it was deemed inadvisable with reference to the expense which their maintenance involves, to have more men than are really required.

3. The Madras Government apparently represented that the Madras Corps of Sappers and Miners were largely employed on Public Works, and, in my opinion, conclusively show the value of the Sappers' work on Public Works; the Military Department require credit from the Public Works Department to show on paper that it is worthwhile to keep them up. I say to show on

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2nd December 1868.*

paper, because there can be no reasonable doubt on any one's mind capable of judging, and who knows the corps, of the eminent value to the State it has proved, and are proving every day either as soldiers or laborers. My opinion on their value is such that if the four Native Infantry Regiments now in British Burmah were Corps of Sappers and Miners, and half were available to the Public Works Department, half their cost might be paid by Public Works Department, and save a great deal of money, while the Military protection of the country would be equally well provided for at half the cost to the Military Department.

4. This of course specially applies to British Burmah, where the cost of ordinary labor is so high, and that of skilled labor and supervisors so dear, and so scarce at any price.

5. It is perhaps not desirable to make comparisons, but having seen and worked with both Bengal and Madras Sappers, I am decidedly of opinion that while the Madras Sapper is the best laborer I have ever seen, he is not a worse soldier than his Bengal comrade, and I am quite sure, if the Madras Government would be willing to send us over the whole of their Corps of Sappers and Miners, the Chief Commissioner would be very glad to pay for half of them out of his Public Works Budget. We should certainly get more than the *quid pro quo*.

6. Under these circumstances, it is with much regret to me that the reduction of the Madras Sappers and Miners is even thought of; rather to my mind should they be largely increased, and if we could even get a number of Companies over here equal to a Madras Native Infantry Regiment, we might fairly let the Military Department have the benefit of the reduction in the Provincial Military strength of one Regiment of Native Infantry, while the Public Works might pay (advantageously to the Province) for half the cost of the Sappers and Miners, provided, of course, they were entirely at the disposal of the Public Works Department, except in cases of Military emergency.

7. The Chief Commissioner has already asked for two Companies of Sappers and Miners, and so far as I am concerned I would rather that they were fully paid for than not get them.

8. Under these circumstances, I feel sure that the Chief Commissioner will fully endorse the sentiments expressed by Sir Gaspard LeMarchant, in His Excellency's Minute dated 17th April 1867.

9. Turning, however, to the direct questions put, as regards the modes of payment for work done by the Sappers and Miners in the Public Works Department: I agree with Colonel Hill's observations in the 9th and 11th paragraphs of his Memorandum, dated 9th April 1867. The Madras system of working the Sappers is of mutual benefit to the Military and Public Works Department, and it would be difficult to estimate the exact money value each receives, except at the cost of putting upon the Sapper Officers and Executive Engineers a host of returns, which would be extremely vexatious and troublesome, if the actual pay of Officers and men placed at the disposal of this department were credited to the Military Department; but there would be probably not much difficulty in estimating the value of work done by Sappers on regular estimates, and such value might be credited at the end of (say) each year to the Military Department.

10. Colonel Oliphant, R.E., the Superintending Engineer, whose opinion is valuable, and is recorded in the accompanying note, agrees on this point, and thinks that the value of work done at market rates should be credited to the Military Department.

11. The value of the Sappers would thus soon become apparent to the Government of India, and would demand an increase rather than a decrease of their strength if, as I think, I have not over-estimated the value of their labor.

RANGOON,
15th October 1868.

(Signed) A. FRASER, Lieut.-Colonel, R. E.,
Chief Engineer, British Burmah, P. W. D.

Memorandum by Lieutenant-Colonel W. S. OLIPHANT, R. E., on the credit which should be afforded to the Military Department for the services rendered in the Public Works Department by the Madras Corps of Sappers and Miners.

1. Of the value which such labor would be to this Province I have no doubt whatever. The men, I understand, are able to execute carpentry, stone cutting and masonry, brick and iron work, as well as all ordinary laborer's work.

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It will undoubtedly be necessary, if any thing like a proper organization as soldiers is to be maintained, that two days in the week, in addition to Sundays, should be allowed for Military training and rest, and if we allow twenty-six days for military instruction, half the labor of a body of Sappers and Miners would be theoretically available for utilization in the Public Works Department. But no doubt some other deductions would have to be made for guards, sick, detachments, depots, &c. The deductions, it may be argued with some force by those who are acquainted with the value of a Sapper's work, will be more than compensated by the smaller cost of a Sapper's labor, as compared with that of hired market labor in a country like this, where both ordinary and skilled labor commands such high prices.

2. In order, however, to eliminate all doubt as to the value of the Sappers' labor, I will simply advocate that the Military Department should be credited with the market value of all labor executed by Sappers for the Public Works Department. I will make no distinction between fortifications or other Military works and Civil works in affecting this credit, as we have already a main head in the Public Works Accounts, under which all Military works are classed.

3. If, therefore, we got, say, eight Companies of Sappers at Bangalore or in the Province, and the value of the work done by them in a year, at British Burma rates, amounted to the total annual cost of four Companies, there would be, practically, saving in the Military Department accounts of the Province to the extent, and yet the effective force, by substituting eight Companies of Sappers for one Regiment of Native Infantry, would be increased.

4. By crediting only the value of the work, the Officers in charge of the Sappers would have an *esprit de corps* inciting them to show a high value for the labor of the corps, and by paying the men extra for extra tasks, undoubtedly a high value could be easily secured. Besides, I think the only true way of showing the value of a thing is testing it by market rates. If the value of the labor to this Department is proved to be equal only to the market rate, yet there will be a great gain in having such a stock of skilled labor generally at command. The gain to the State in the Military Department is self evident.

Rangoon,
15th October 1868.

(Signed) W. S. OLIPHANT, Lieut.-Colonel, R. E.,
Superintending Engineer, British Burma.

No. 61. From the Officer in charge of operations in the Wynnad, to the Secretary to Government, Public Works Department, dated Luckadic, 7th November 1868, No. 609.

1. With reference to Government Order No. 2,998, dated 22nd September last, I have the honor to submit the following reply.

2. Organized as the Sapper Corps now is, and consisting as it does, for purposes of Civil work, almost entirely of a body of simply skilled laborers, with a very small admixture of men acquainted with any trade, and of those few scarcely any fit to be rated as first class artisans, I think it would be quite out of the question to entertain the idea of defraying the whole cost of pay and other expenses from the estimates of Public Works, if a *quid pro quo* in proportion is expected; for I have no hesitation in saying that in any locality better workmen could be obtained on such high terms.

3. On the other hand, as the principal use of Sappers is in connection with gangs of hired laborers to take the lead in, and direct the work of the latter, it is somewhat difficult to estimate the value of the work actually done by them, and therefore that mode of accounting for their labor is scarcely practicable.

4. The conclusion I arrive at in paragraph 2 would be materially altered were the organization and rules of the corps somewhat changed; for while its

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2nd December 1868.*

present Military character doubtless offers some advantages, there are many drawbacks caused by the somewhat incongruous position held in consequence; the too frequent clashing of their Military duties with Public Works requirements, and, perhaps, more than all, the altogether independent position, which interferes seriously, and injuriously with the proper control over every one employed upon a work, which should naturally rest with the responsible Executive Officer. As regards the second of these objections: Sappers are never available for work more than five days in each week, the sixth being given up to their Military duties, while guards, court-martials, orderly duties, escorts and various other extra calls, which custom and etiquette make rather more than are really necessary, deteriorate very much from the value of a Sapper detachment supposed to be employed on Public Work; in fact I doubt if, on the whole, an average of more than three and a half to four days per week of work is obtained from each man. The entirely independent position held by the Officer in command of a detachment is also calculated still further to operate in the same direction in a variety of ways, which it would take too long for me to describe; suffice it to say that the Executive Officer has no check of any description, not even so far as knowing the number of men daily employed, and his arrangements as to superintendence of hired labor, &c., are constantly liable to be upset by a distribution of Sappers made entirely without consultation with him; and by many other modes with which he has no power to interfere, and can only control by the one means, never desirable except in extreme cases, of a complaint to higher authority, with all its troublesome and inconvenient concomitant correspondence.

5. There are two modes in which I would deal with the subject: the one would be by reducing the Sapper corps, as a Military body, to the actual Military requirements of the Presidency, and keeping that reduced force entirely for Military purposes; while for Public Works I would propose an increased number under the name of Pioneers, bringing their Military organization to a minimum, cutting down the number of Commissioned and Non-Commissioned Officers, making their pay much more dependent than now on their actual work, and while keeping the corps entirely for civil purposes in time of peace, it might be made available in war time as an Army Work Corps, with just sufficient Military element infused into it, as would preserve the discipline which would then come into useful play, in fact about as much as is kept up in the Police force. By way of retainer for such Military service, a small proportion of the pay of the men might be drawn from the Military Department.

6. As I have started objections both to the entire cost of the Sappers being debited to the Public Works Department, and made a difficulty about an estimated value for the work actually performed by them, I think if the present Military organization is preferred, that without interfering with the latter, a slight change might be introduced which would relieve the Military expenditure without too much burdening the Public Works estimates, premising, however, that such modification of the existing rules of the corps be made as to place the Officers and men so far as work is concerned, somewhat more under the direct control of the responsible Executive Officer. I would recommend, in the case of Officers, a return to the former condition under which extra remuneration was drawn, and, as an equivalent, that when employed on Public Works they should be considered as Assistant,

2. Should it be determined eventually

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2nd December 1868.*

ants of the Departmental Officer; in the case of the men, that the rates of working pay should be increased slightly in excess of what they now receive in the shape of field batta, which I would abolish, except under circumstances similar to those under which it is drawn by Native Infantry Sepoys; this might be effected by doubling the present rates of working pay for each class and rank. This would relieve the Military Department of the field batta, as well as of the extra remuneration to Officers; and, taking twenty days per month as working days, would have the effect of raising the pay sufficiently to make it worthwhile for skilled artizans to enter the corps, which it certainly now is not, and judging from the experience I have had during the last ten years, the system of instruction carried on at the head-quarters of the corps cannot be calculated to make good workmen of those who enter it unacquainted with any trade; in fact so few are the skilled tradesmen, that it appears to have led to a practice of keeping at the head-quarters such few workmen of decidedly superior qualification as there may be, even when the Companies to which they belong are serving on detached duty: a practice that acts most perniciously in preventing a Public Works Officer from utilising the services of many men, who under good superintendence and the guiding of superior workmen might be made very useful; and also deprives the men themselves of all chance of practice and improvement in their trades. No Public Works Officer can afford to risk materials being spoiled by inefficient workmen, and the alternative of placing Sappers under guidance of hired Maistries does not work well, owing to the difficulty of the latter preserving sufficient control, so long as each side has a different authority to appeal to, and be adjudged by.

7. In these remarks I hope I shall not be thought to have any intention of depreciating the services of the Sappers: no one has more cause to speak well of the corps than I have; but I merely look on the subject as a matter of figures, and whether, taking all the pros and cons into consideration, the undoubted advantages are, or are not deteriorated by existing circumstances which might beneficially be altered.

No. 62.

ORDER THEREON, 2nd December 1868, No. 3,765.

ESTABLISHMENT, No. 7.

Ordered that the foregoing papers be forwarded to the Government of India:—
(Here enter No. 3,766 dated 2nd December 1868.)
(True Extract.)

Colonel, R. E.,
Secretary to Government.

Exd. S. T. Augustin.

PUBLIC WORKS DEPARTMENT,
FORT ST. GEORGE, 2nd December 1868.

No. 3,766.

No. 63.

To

THE SECRETARY TO THE GOVERNMENT OF INDIA.

SIR,

ESTABLISHMENT, No. 8.

* Superintending Engineer of the 3rd Division.
Do. do. 5th do.
Do. do. 7th do.
Officer in charge of Public Works operations in the Wynaad.

On the receipt of your letter of the 24th August 1868, No. 623A, the Commissioners of Mysore and British Burmah, and the Officers* named in the margin, who have had considerable experience in the employment of Sappers, were invited to give their opinions on the question raised by the Government of

India as to the credit which should be afforded to the Military Department for services rendered in the Public Works Department by the corps of Sappers and Miners. From the papers which are herewith forwarded it will be observed that all of these Officers, more or less, agree in thinking that the proposed credit should be for the value of work actually performed, and I am to state that, in this opinion, the Madras Government fully concur.

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

Colonel, R. E.,
Secretary to Government.

Exd. S. T. Augustin.

No. 126.

Supr. Engineer's Office II.
7th Division

From

Bhowany, 10th October 1888.

No. 2394

Supr. Eng. Office II.
Bhowany, 15th October 1888.

To

The Superintending Eng.
3rd Division. Madras.

To

The Secretary to Government
Public Works (Deptt.) O. No. 2998

Sir

With reference to G. O. No. 2998 of the 22nd ultimo, I have the honor to inform you that in my opinion the simplest and fairest way would be to give credit for the value of the work done according to the rates prevailing at the place where the Sappers should be employed.

I have seen

A. M. S. of Major General
Supr. Eng. Office II. 3rd Division

the value of work performed by the men is all that could be allowed as extra remuneration to their Superintendents of all ranks. And as such value could not be calculated beforehand, no previous deduction from the Military and addition to the Public Works Budget, appear to me to be feasible.

2. Should it be determined eventually

1868. 69. Sept.
No. of Cont for 3836
From
The Suppy. Engr.
300.

The Secy. to Govt.
M.D.

Dated 1st October 1868.
Recd. 5

No. 2394.

Supplies. It would
be best to give credit for
the work done according
to the rates prevailing
at the place when the sap-
pers should be employed.

103765-2^d Decr/68

C. 16th Decr/68 - A. 23d

No. 126.

2
Suppy. Engineers Office. 11.
7th Division

Bhowany, 10th October 1868.

From,
Colonel G.W. Walker R.E.
Superintending Engineer 7th Division

To,
Colonel C. A. Orr R.E.
Secretary to Government D.P.W., Madras.
Sir,

In reporting on the subject of G.O. No. 2998
of 22^d September I have the honor to state
my opinion that if it be determined that
the Madras Sappers and Miners are to be
maintained on the same footing, and em-
ployed in the same manner, as hitherto,
it would be more equitable to charge the
Public Works Department for the actual va-
lue of the work done, than to debit to it
the entire pay of the Officers & men placed
at its disposal. Civil Works Estimates
are not calculated to stand the cost of
hutting; nor of the Commissioned & Non-com-
missioned Staff which the Military Organi-
zation of Sapper Corps requires. 10 per cent on
the value of work performed by the men
is all that could be allowed as extra remun-
eration to their Superintendents of all ranks.
And as such value could not be calculated
beforehand, no previous deduction from the
Military, and addition to the Public Works
Budget, appear to me to be feasible.

2. Should it be determined eventually

that the strength of the Madras Corps shall be reduced; and their services no longer available on the present terms, I think it may be necessary to resort to the raising of Pioneer Corps for work in particular localities. In a letter printed with Ld. No. 760 of 12th March 1854, I gave the details of the probable cost of such Corps each consisting of 900 men and boys. And I do not find much to alter in its scales or numbers therein laid down. Only it might be better to divide the entire number of 1800 into 6 Corps of 300 each. Substituted for 4 Companies of 500 men, and 6 Companies, which it should accompany on Field Service as a Works Corps, and under whose guidance and protection it should be employed on every useful work required for Army operations. I think such a body of Pioneers could be turned to good account both in peace and war, without any difficulty as to how its cost should be debited, in whole or in part.

I have the honor to be
Sir,

Your most obedient servant

Wm. M. M. M.
Superintendent Engineer

P.O. 1868, 3960
From, The Supg. Engineer, D.
To, The Secy. to Govt. D.P.W.
Madras

Dated 10th & 13th Oct. 1868.
Recd. 13th 6
No 3765-2^d Decr 18
No. 126.

Reports opinion with re-
gard to the credit to be
afforded to the Milg. Supt.
for services of the Sappers
in D.P.W. - And also
as to the formation of a
Pioneer Corps.

to 57

C. 16/9/1868 A. 28W

Account No 6324 Mysore Commissioner's Office
5666 Public Works Department

From, The Offy Secretary to the Commissioner
for the Government of the Territories
of His Highness the Rajah
of Mysore.

To, The Secretary to the Government
Public Works Department
Madras.

Sir, Dated Bangalore 13th October
1868.

In reply to your letter No 414
of 2^d September 1868, on the subject
of payment of Corps of Sappers
and Miners, I have the honor
by order of Commissioner to inform
you that for many years, no
Sappers have been employed
in the Mysore Country, with
the exception of the year 1864,
when Captain Reynsford's
Company was employed for
3 or 4 months on Government
Bridge, in long, on the Au-
neechnahow and Perisimbray
Road - They were paid for
work done on the rates laid.

down in the sanctioned estimate,
which seems an equitable way
of paying for services rendered.

I have the honor to be

Sir,

Your most Obedt^t Serv^t

Winnipeg Colonel R.E.
Offg. Secretary to the Commissioner
in the Public Works Dept.

Dr. 1868 Rept
 From Secy of Govt for Dec 1868
 No 3978.
 The Secy. Genl. to the Commissioner
 in the Public Works Deptt
 To the Secy. to the Government
 Public Works Department
 Madras.
 Dated Bangalore 13th October 1868.
 Despatched by _____

Received 14th _____

Enclosure - none.
 Account No 6324.
 5666

No 3765. 2nd Dec 1868

Subject -
 Replies to letter No 414 of the
 22nd September 1868 on the sub-
 ject of the payment of wages
 of Sappers and miners for
 work done for the Department.

ch 58

No 125. Superintg Engr's Office 5th Dec 1868
 Salem 11th October 1868 19

From The Superintending Engineer
 5th Division.

To The Secretary to
 Government G. P. W.

Sir,
 With reference to the order of
 Government of the 22nd September No 2978,
 I have the honor to state that no detach-
 ment of Sappers has been employed in
 the Fifth Division, since I have had charge,
 but I am of opinion that, when Sappers
 are employed in Public Works, the value
 of the work done by them should be
 charged to the Public Works Department.
 The total cost of the detachment could
 not fairly be charged to the Department.
 At the same time, as it may be assum-
 ed the Sappers will not be employed
 when ordinary labor is easily procurable,
 the

the work done by them, at places where
skilled labor is not otherwise to be obtained,
will always be valued at a high rate -

I have the honor to be,
Sir,
Your most obedient servant.
E A and Leitch & Co. R.E.
Superintg Eng & B Division.

300

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21

mm

the work done by them, at places where
skilled labor is not otherwise to be obtained
will also

1868 Dept
Pro of Govt for December
No 3997.
From
The Deputy Eng^r
To The Secretary to
to Government
S. P. W.

Dated 14th } October 1868
Recd 15 }

No 125.
No 3765-2^d Dec 1868
Stating that when
Sappers are employed
on Public Works, the
work done by them should
be charged to the P. W.
Department-

Sp 59

C. 16th Nov 1868 (M. 22nd)

300

23

Read letter No 118 dated 22nd September
1868 and annexures from Secretary to Govern-
ment Port St George S. P. W. Department
relative to the Madras Sappers & Miners

Dated Rangoon 15th October 1868

In the above communication the
Government of Port St George have referred
to the Chief Commissioner for an expression
of his views as to the credit which should
be afforded to the Military Department, for
the services rendered in the S. P. W. Department
of his administration by the Corps of
Sappers and Miners, i.e. whether the credit
should be for the value of work performed,
or for the actual pay of the officers and

min

men employed.

This reference has resulted in consequence of the Government of India requiring information as to the actual requirements of the Madras Presidency in regard to Sappers & Miners, and as to the feasibility of gradually reducing the strength of the Corps, as it was deemed inadvisable, with reference to the expense which their maintenance involves, to have more men than are really required.

The Madras Government apparently represented that the Madras Corps of Sappers & Miners were largely employed on Public Works and, in my opinion, conclusively show the value of the Sappers' work on Public Works; the Military Department.

25 12
Department require credit from the Public Works Department to show on paper that it is worth while to keep them up. I say to show on paper because there can be no reasonable doubt on any one's mind capable of judging and who knows the Corps, of the eminent value to the State it has proved, and are proving every day either as soldiers or labourers. My opinion on their value is such that, if the 40 Native Infantry Regiments now in British Burmah were Corps of Sappers & Miners, and half were available to the Public Works Department, half their cost might be paid by Public Works Department, and save a great deal of money, while the Military protection of the Country would be equally well provided

provided for at half the cost to the Military Department.

This of course specially applies to British Burma where the cost of ordinary labour is so high and that of skilled labour and Supervisors so dear and so scarce at any price.

It is perhaps not desirable to make comparisons, but having seen and worked with, both Bengal & Madras Sappers.

I am decidedly of opinion that while the Madras Sapper is the best labourer I have ever seen, he is not a worse soldier than his Bengal comrade, and I am quite sure, if the Madras Government would be willing to stand up over the whole of their Corps of Sappers & Miners the Chief Commissioner would be very glad to pay for half of them out of his Public

Public Works budget. We should certainly get more than the quid pro quo.

Under these circumstances it is with much regret to me that the reduction of the Madras Sappers & Miners is even thought of; rather to my mind should they be largely increased, and if we could even get a number of companies over here equal to a Madras M. S. Regiment we might fairly let the Military Department have the benefit of the reduction in the Provincial Military Strength of one Regiment of M. S. while the Public Works might pay advantageously to the Province for half the cost of the Sappers and Miners, provided of course, they were entirely at the disposal of the P.W. Department except in cases of Military emergency. The Chief Commissioner has already asked

asked for 2 Companies of Sappers and
Miners, and so far as I am concerned
I would rather that they were fully paid
for than not get them.

Under these circumstances I feel
sure that the Chief Commissioner will
fully endorse the sentiments expressed
by Sir Gaspard Le Marchant in His
Excellency's minute dated 17th April 1867.

Turning however to the direct questions
put as regards the modes of payment
for work done by the Sappers & Miners,
in the Public Works Department.

I agree with Colonel Mills observations
in the 9th & 11th paras of his Memoir dated
9th April 1867. The Madras System
of working the Sappers is of mutual

benefit

83/1
benefit to the Military and P. W. Depart-
ment, and it would be difficult to
estimate the exact money value each
receives, except at the cost of putting upon
the Sapper Officers and Executive Engineers
a host of returns, which would be extremely
onerous and troublesome; if the actual
pay of officers and men placed at the
disposal of this Department were credited
to the Military Department; but there
would be probably not much difficulty
in estimating the value of work done
by Sappers on regular estimates and such
value might be credited at the end of
(say) each year to the Military Department.

Colonel Cleghorn R.E., the Super-
intending Engineer, whose opinion is

valuable

as valuable and is recorded in the accounts.
Myself note agrees on this point and
I would think that the value of work done at
for market rates should be credited to the
Military Department.

The value of the Sappers would soon
soon become apparent to the Government
of India, and would demand an
increase rather than a decrease of
their strength if, as I think, I have
not over estimated the value of their
labour.

(Signed) Alex. Fraser

Lieut Colonel R.C.
Secretary to the Chief Quarter Master B.B.
P.W. Department

W. B. Maunier
Capt Ch Eng. 1885.

MS. 4.279/62

31
Memo by Lieut Colonel W. S.
Elephant R.C. on the credit which
should be afforded to the Military
Department for the services rendered
in the Public Works Department by the
Madras Corps of Sappers & Miners.

Dated Rangoon 15th October 1885

Of the value which such labour
would be to this Province I have no
doubt whatever.

The men I understand are able
to execute carpentry, stone cutting
and masonry, Brick and Ironwork
as well as all ordinary labourer's work.

It will undoubtedly be necessary,
if any thing like a proper organization
as soldiers is to be maintained, that
two days in the week in addition to
Sundays should be allowed for
Military.

Military training and rest, and
if we allow 26 days for marching
instruction. half the labour of a
body of Sappers and Miners, would
be theoretically available for utilization
in the Public Works Department. But
no doubt some other deductions would
have to be made for guards, sick,
detachments, depôts &c. The de-
ductions, it may be argued with
some force by those who are acquainted
with the value of a Sapper's work,
will be more than compensated by
the smaller cost of a Sapper's labour,
as compared with that of hired
market labour in a Country like
this where both ordinary and skilled
labour commands such high prices.
2. In order however to eliminate
all doubt as to the value of the
Sappers'

55.
Sappers' labour, I would like to
advocate that the Military Department
should be credited with the amount
of labour executed by
Sappers in the Public Works Dept.
making a distinction
between fortifications or other
Military Works and Civil works
in affording this credit as we
have already a main head in the
Public Works accounts under
which all Military Works are
classified.

3. Therefore we get say 8
Companies of Sappers at Rangoon
at 1000 men each, and the value
of the work done by them, in a
year at British Burmah rates
amounted to the total annual con-
sumption of the Sappers, there would be
proportion

practically saving in the Military
Department accounts of the Province
to the extent, and get the effective
force by substituting 8 Companies
of Sappers for one regiment of
Native Infantry would be increased.

10. By crediting only the value of
the work the officers in charge of the
Sappers would have an esprit de corps
inciting them to show a high value
for the labour of the Corps, and by
paying the men extra for extra tasks,
undoubtedly a high value could be
easily secured. Besides I think
the only true way of showing the
value of a thing is testing it by
market rates. If the value of the
labour to this Department is proved
to be equal only to the market rate
yet there will be a great gain in
having

35
having such a stock of skilled
labour generally at command -
The gain to the State in the Military
Department, is self evident.

Leitch & Co
Superintending Engineer R.M.

440
A-

Public Works Department,
BRITISH BURMA.

Rangoon, dated 19th October 1868.

From The Secretary to the Chief Commissioner.

To the Secy. to the Govt. of Fort St. George
Public Works Department
Madras.

Sir

I am directed to acknowledge the receipt of your letter No. 3000 dated 22nd ultimo and to annex notes by the Chief and Superintending Engineers of this Province on the subject of employment of the Madras Sappers and Miners on Public Works from which it will be observed that Lieut. Colonel Fraser and Oliphant recommended that the credit to be afforded to the Military Department for their work should be for the value of the work done, and I am to state that the Chief Commissioner concurs in this view.

I have the honor to be

Sir

Yours most Obedt. Servt.
H. B. Mansel

for Alex Fraser Lieut. Col. R.E.C.B.
Secy. to Chief Commr. B. Burma

20/10/68

No 609-

39
Special Executive Engineer's
Office, Wynaud Lucknow
7th November 1868.

From, The Special Executive Engineer
Wynaud.

To, The Secretary to Government
Department Public Works.
Lucknow.

Sir,
With reference to Government
Order of 1898 dated 22nd September last I have
the honour to submit the following reply:-
Organized as the Sapper Corps
now is, and consisting as it does, for purposes
of Civil Work, almost entirely of a body of
simply skilled labourers, with a very small
admixture of men acquainted with any trade,
and of these few scarcely any fit to be called
as first class artisans. I think it would be
quite out of the question to entertain the idea
of defraying the whole cost of pay and other
expences from the estimates of Public Works if
a good progno in proportion is expected for.
I have no hesitation in saying that in any locality
better workmen could be obtained on such
high terms.

3. On the other hand as the principal
use of Sappers is in connection with gangs of
hired labourers, to take the lead in, and direct
the work of the latter, it is somewhat difficult
to estimate the value of the work actually done
by them, and therefore that mode of accounting
for

Received
No. of Govt. Order 11278

From

The Secy to the Chief Engineer

to

Wynaud

The Secy to the Chief Engineer

Wynaud

8/11/68

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for their labor is scarcely practicable.

The conclusion I arrive at in para 2. would be materially altered were the organization and Rules of the Corps somewhat changed; for while its present Military Character doubtless offers some advantages, there are many drawbacks caused by the somewhat incongruous position held in consequence, the too frequent clashing of their Military duties with Public Works requirements, and perhaps more than all the altogether independent position which interferes seriously, and injuriously with the proper control over every one employed upon a work, which should naturally rest with the responsible Executive Officer. As regards the second of these objections, Sappers are never available for work more than 5 days in each week, the sixth being given up to their Military duties; while Guards, Court Marshals, Orderly duties, Escorts and various other extra calls, which custom and etiquette make rather more than are really necessary, deteriorate very much from the value of a Sapper Detachment supposed to be employed on Public Works. In fact I doubt if on the whole an average of more than $3\frac{1}{2}$ to 4 days per week of work is obtained from each man. The entirely independent position held by the Officer in command of a Detachment is also calculated still further to operate in the same direction in a variety of ways, which it would take too long for me to describe; suffice it to say that the Executive Officer has no check of any description, not even so far as knowing the number of men daily employed, and his arrangements as to superintendence of hired labor are constantly liable to be upset by a distribution

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of Sappers made entirely without consultation with him; and by many other modes with which he has no power to interfere, and can only control by the one means, never desirable except in extreme cases, of a complaint to higher authority, with all its troublesome and inconvenient concomitant correspondence.

There are two modes in which I would deal with the subject; the one would be by reducing the Sapper Corps, as a Military body, to the actual Military requirements of the Presidency, and keeping that reduced force entirely for Military purposes, while for Public Works, I would propose an increased number under the name of Pioneers, bringing their Military organization to a minimum, cutting down the number of Commissioned and non-Commissioned Officers, making their pay much more dependent than now on their actual work, and while keeping the Corps entirely for Civil purposes in time of peace, it might be made available in war time as an Army work Corps, with just sufficient Military element infused into it as would preserve the discipline which would then come into useful play; in fact about as much as is kept up in the Police Force. By way of retainer for such a Military Service a small proportion of the pay of the men might be drawn from the Military Department.

As I have started objections both to the entire cost of the Sappers being debited to the Public Works Department, and made a difficulty about an estimated value for the work actually performed by them, I think if the present

present Military organization is preferred,
that without interfering with the latter, a
slight change might be introduced which
would relieve the Military expenditure without
too much burdening the Public Works estimates,
premising, however, that such modification of
the existing rules of the corps be made as to
place the Officers and men, so far as work
is concerned, somewhat more under the direct
control of the responsible Executive Officers. I
would recommend in the case of Officers a
return to the former condition under which
extra remuneration was drawn, and as an
equivalent that when employed on Public Works
they should be considered as Assistants of
the Departmental Officer; in the case of the
men that the rates of working pay should
be increased slightly in excess of what they now
receive in the shape of Field Batta, which I
would abolish except under circumstances
similar to those under which it is drawn
by Native Infantry troops; this might be
effected by doubling the present rates of
working pay for each class, and paying this
in Field Batta, as well as of the extra remunera-
tion to Officers; and, taking 20 days per month
as working days, would have the effect of
raising the pay sufficiently to make it worth
while for skilled workmen to enter the corps;
which it certainly now is not; and judging from
the experience I have had during the last few
years, the system of instruction carried on at
the Head Quarters of the Corps cannot be
calculated to make good workmen of those
who

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who enter it unacquainted with any trade; in
fact so few are the skilled tradesmen that
it appears to have led to a practice of keeping
at the Head Quarters such few workmen
of decidedly superior qualification as there
may be, even when the Companies to which
they belong are serving on detached duty: a
practice that acts most perniciously in pre-
venting a Public Works Officer from
utilizing the services of many men who
under good superintendence, and the giving
of superior workmen, might be made very
useful; and also deprives the men themselves
of all chance of practice and improvements in
their trades. No Public Works Officer can afford
to risk materials being spoiled by inefficient
workmen, and the alternative of placing Sappers
under guidance of hired artificers does not work
well owing to the difficulty of the latter preserving
sufficient control so long as each side has a
different authority to appeal to, and be adjudged
of. In these remarks I hope I shall
not be thought to have any intention of deprecia-
ting the services of the Sappers; no one has
more cause to speak well of the corps than I
have; but I merely touch on the subject as a
matter of figures, and whether taking all the
pros and cons into consideration, the undoubted
advantages are, or are not deteriorated by existing
circumstances which might beneficially be
altered.

I have the honor to be,
Sir,

Your most obedient servant
Rt. Hon. Kennedy Captain
Special Executive Engineer. Wynan.

Public Works Dept
No. 3765
Proceedings of the Madras Government
under the 2^d Dec. 1868.
Read the following

From the Supy Engineer of the
3^d Div (Here enter No 2394 of 1st Oct 1868)

From — Do — Do (Here enter " 125 of 10th — —")

From the Offg Secy to the Comr
in the P.W. Dept Mysore (Here enter " 1327 " 13 — —")
5866

From the Supy Engineer S. Div (Here enter " 125 " 14 — —")

From the Secretary to the Chief
Commissioner
B. Blumhardt (Here enter " 1708 " 19 — —")
1717

From the Special Exp. Sug^r Wynnad (Here enter " 609 — 7th Nov 2^d —")

Ordered that the
foregoing papers be
forwarded to the Gov^t
of India.

(Here Enter of)

To No 3766.

The Secretary to the
Gov^t of India

Sir,
On the receipt
of

2160 from 1650 3 24 2

Ab

No 3765-220 Dec 2^d 1868

Report relative to
the services rendered
by Agents to Department
Public Works.

Dated 17th 3rd Nov 1868
16609
The Secretary to Gen^l
ment Department
Public Works.
The Special Engineer
of Engineer Wynnad.
The Chief Engineer
of Mysore
The Chief Engineer
of S. Div

of your letter of the 4th
August/68 to 623 A
the Commissioners of
Bengal and British
Burmah, and the Officers
named in the margin
who have had considerable
experience in
the employment of
Sappers, were invited
to give their opinions
on the question raised
by the Govt of India
as to the credit which
should be afforded
to the Military Dept
for services rendered
in the Public Works Dept
by

Lt Col Rugg of the 3rd S.W.
" " " 5th " "
" " " 7th " "
Officer in charge of Public
Works operations in the Mysore

by the corps of Sappers
and Miners. From the
papers which are here-
with forwarded it will
be observed that all
of these Officers, more or
less, agree in thinking
that the proposed credit
should be for the value
of work actually per-
formed, and I am
so struck that, in this
opinion, the Madras
Government fully
concur.

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A.P.

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Curr 3836, 3960, 3978, 3997
4278 & 4371
Govt. of 1868 Madras.

PUBLIC WORKS.

To The Secretary to the
Govt. of Madras.

Dated

th

Recd

Exd

G. O. 2d Dec 1868. No 37537/66

Nos. 62 & 63

Sappers & Miners Copying orders on papers
relative to the credit which should
be afforded to the Sappers for the ser-
vices rendered in the M.D. by the Corps
of Sappers & Miners.

Sappers & Miners Papers regarding
the credit which should be afforded
to the Sappers for the services rendered
in the M.D. by the Corps of Sappers
& Miners, forwarded to the Secy of
P.W. with the opinion of an
examination thereon.