

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

READ—the following papers :—

From Lieutenant-Colonel P. MONTGOMERIE, R.E., in special charge of Tank Divisions, to the Chief Engineer for Irrigation, dated Chepâk, 30th March 1883, No. 3.

With reference to G.O., No. 743 W., dated 7th March 1883, appointing me for special duty in your office in connection with the work of the new Tank divisions authorized in Proceedings of Madras Government, No. 143 L., dated 12th February 1883, I have the honor to submit a statement of the establishment required to make up one Tank division, costing Rs. 32,000 per annum, as proposed in your note* on minor irrigation works, dated 27th November 1882, and to request permission to appoint, temporarily, from the 1st April 1883, the draughtsmen and office establishments included therein, to enable me to put in hand the preparatory work required in connection with the professional investigations on which the Tank divisions have to be employed.

2. As you are aware, there is a vast quantity of information in the Revenue Survey office, connected with the districts in which these operations will be carried out, although unfortunately this information has not been arranged altogether in a manner suitable for our purpose. There is also a good deal of data with reference to the grouping of the minor irrigation works generally, in a more or less disconnected form, available in your office, and perhaps also in some of the district offices. And I need hardly point out that the more completely this information is utilized, preparatory to the field work in the districts being taken up, the less will be the delay in completing the professional investigation which is the fundamental work required in the practical treatment of the minor irrigation works of the presidency.

3. I propose carrying out these professional investigations somewhat on the system followed for the Mysore tank scheme, but the same detail will not be necessary if the information in the Revenue Survey office can be utilized. The detailed instructions for a systematic prosecution of these investigations will be forwarded to you, in due course, for approval; they will be based on the Irrigation circulars which have, from time to time, been issued from your office. And I am in hopes of being able to embody, in a more comprehensive manner, the substance of these circulars with other hydraulic data in the form of a Manual, for the use and guidance of the tank divisions or for the conservancy establishment that may supersede them in the future. This, however, must take time.

4. From the tenor of your remarks, in your note above referred to, it would appear that it is proposed to utilize the new Tank divisions not only in the work of investigation, estimating and registering, but also in the actual execution and supervision of work at the same time. If this be the intention, I would venture respectfully to point out that these absolutely necessary and essential investigations will

never be completed within a definite period: for it is very certain that, before the period of fifty-five years, which you allow will be necessary to complete the work, has elapsed, famines, wars and other distracting influences must be reckoned upon, and the collapse of the operations will be as complete as that of the Mysore scheme apparently was under the pressure of the last famine. Whereas, on the contrary, if the investigation and estimating is in an advanced state, the mere accident of a famine must advance rather than retard any scheme for actually carrying out the work.

5. Without asking you, therefore, to commit yourself to any scheme for the actual maintenance and repair of the minor irrigation works of the Madras presidency, which must necessarily be more of a revenue than a professional question, and which will depend, in a great measure, on the intentions of Government, with reference to the revival of Kudimaramut, the enforcement of an Irrigation Act, and the extent to which the Revenue Department will be required to carry out all necessary unskilled labor, by means of the cultivators themselves, I would most strongly recommend that, in the treatment of the subject generally, the principle of carrying out the professional investigations separately and distinctly from the actual execution of the work be strictly followed, at least for some time to come. Should this principle meet with approval, I shall attend to this portion of the scheme with the view to insuring the systematic examination and record of all the minor irrigation works throughout the presidency within a definite period.

6. The importance and magnitude of these preliminary operations do not appear to be fully realized; and I would venture to draw your attention to the remarks of the late Colonel W. R. Johnson, Superintending Engineer, Mysore, who, in the 6th paragraph of his memorandum of the 14th February 1882, stated: "It may be as I pointed out that this work would be necessary before the restoration of the tanks could be commenced, and estimated that the establishment charges alone would probably amount to 50 per cent. of the total cost of the work." Captain Woodward, R.E., in his report on the working of the Ceylon Ordinance, dated 22nd August 1874,intended for the irrigation of about 1,000 acres..... The extensive surveys required to ascertain the capabilities of this tank occupied two officers for eight months." And again: "The repairs of the Mahawema Madawachiya, a tank..... to irrigate 300 acres..... The survey occupied one officer nearly five months."

In drawing up the Mysore tank scheme it was estimated that one individual could examine and dispose of 47 tanks in a year, but whether so much was actually accomplished is not clear. If, however, we take 50 minor irrigation works as the most which one individual can dispose of, it will take the entire strength of the six Tank divisions fifteen years to deal with the 50,000 minor irrigation works of Madras.

7. This investigation work is even more necessary for the treatment of the minor irrigation works than the revenue survey is for the settlement of the land revenue, and it must be carried out in as complete and systematic a manner as possible, whatever other arrangements are made for the execution of the work thereafter. And the only possible circumstances under which the carrying out of these investigations might be considered unnecessary would be in the event of the entire abandonment of all the minor irrigation works being decided upon. The abandonment of a few, or even of a considerable number, of them would not lessen the investigation work in the least; for, until the investigations have been carried out, it cannot possibly be decided which tanks may be abandoned.

8. As I understand that it is the wish of Government to commence operations in the Madura district as soon as practicable, I have written to the Superintendent of the Revenue Survey Department to put in hand at once the detailed irrigation maps required for that district, and to complete them so far as information is available in his office; and the Tank divisions, if appointed, will probably be in a position to commence work energetically in about a couple of months' time.

9. There are other localities for which information is much more complete than for Madura, and the collection of these data will also be proceeded with, if the temporary establishment now asked for is allowed. And as soon as I have some office establishment, I shall prepare and submit estimates for the maps to be prepared by the Revenue Survey Department, &c.

ENCLOSURE.

STATEMENT showing the proposed scale of special establishment required for improving tanks. 1

PRESENT SCALE.			PROPOSED SCALE.			INCREASE.		DECREASE.		Grounds of Proposition.
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.	Number.	Amount of Pay.	Number.	Amount of Pay.	
					Minimum. Maximum. Average.					
		RS.			RS. RS. RS.		RS.		RS.	
	1		1	Superintending Engineer, 3rd grade, staff and military pay as Major ..	 1,341 650	1	1,341 650			
	1		1	Executive Engineer, 3rd grade.						
				<i>Office Establishment.</i>						
	1		1	Clerk, 2nd class, 1st grade ..	160 200 180	1	180			
	1		1	Do. 3rd do. 3rd do. ..	50 60 55	1	55			
	1		1	Do. 4th do. 2nd do. ..	30 40 35	1	35			
	1		1	Do. 4th do. 3rd do. ..	20 30 25	1	25			
	1		1	Do. 4th do. 3rd do. ..	80 100 90	1	90			
	1		1	Draughtsman ..	50 70 60	1	60			
	1		1	Do. ..	35 50 42½	1	42½			
	1		1	Do. ..	35 50 42½	1	42½			
	1		1	Do. ..	18 8 8	1	8			
	1		1	Do. ..	18 3 18	1	18			
	1		1	Moochee ..		1				
	3		3	Messengers at Rs. 6 each ..		3	18			
	3		3	Lascars at Rs. 6 each ..		3	18			
					2,565	..	2,565			
				Travelling allowances ..		..				
				Contingencies ..		..				
				Total per mensem ..		..	135 100			
				Total per annum ..		..	2,800			
					33,600	..	33,600			
				<i>Establishment for one Tank Division.</i>						
	1		1	Executive Engineer, 3rd grade.	 650	1	650			
	1		1	Assistant Engineer, 1st grade ..	 450	1	450			
	1		1	Sub-Engineer, 2nd grade ..	 300	1	300			
	1		1	Supervisor, 2nd grade ..	 150	1	150			
	4		4	Overseers, 2nd grade ..	 320	4	320			
					1,870	..	1,870			
				<i>Office Establishment.</i>						
	1		1	Clerk, 3rd class, 2nd grade ..	60 80 70	1	70			
	1		1	Do. 4th do. 1st do. ..	40 50 45	1	45			
	1		1	Do. 4th do. 2nd do. ..	30 40 35	1	35			
	1		1	Do. 4th do. 3rd do. ..	20 30 25	1	25			
	1		1	Do. 4th do. 3rd do. ..	20 30 25	1	25			
	1		1	Do. 4th do. 3rd do. ..	50 70 60	1	60			
	1		1	Draughtsman, 1st class ..	20 30 25	1	25			
	1		1	Do. 3rd do. ..	 7	1	7			
	1		1	Messenger ..	 6	1	6			
	1		1	Do. ..	 18	1	18			
	3		3	Lascars at Rs. 6 each ..		3	18			
					316	..	316			
				<i>Sub-Divisional Office Establishment.</i>						
	1		1	Clerk, 4th class, 3rd grade ..	20 30 25	1	25			
	1		1	Do. do. ..	20 30 25	1	25			
	1		1	Do. do. ..	20 30 25	1	25			
	3		3	Messengers at Rs. 6 each ..	 18	3	18			
					93	..	93			
				Travelling allowances ..		..	287 100			
				Contingencies ..		..	2,666			
				Total per mensem ..		..	31,992			
				Total per annum ..		..	32,000			
				Or, say ..		..	65,600			
				Grand Total ..		..	65,600			

(Signed)

P. MONTGOMERIE, Lieut.-Col., R.E.,
In Special Charge of Tank Divisions.

No. 26 E.W.

Note by the Acting Chief Engineer for Irrigation.

The list of establishment submitted by Lieutenant-Colonel Montgomerie is recommended for sanction. The scale is the same as laid down in the note submitted to the Honorable Major Baring, and, while the Superintending Engineer and Executive Engineer, with their office establishment, are intended to be temporary, the Tank division will, it is hoped, be made permanent. Permission has been given to the Superintending Engineer to employ temporarily such office establishment and upper subordinates as he requires to start the work, but I have no proposal to make for filling the appointments of Executive and Assistant Engineers, as I am aware that there is not a man whose services can be spared from the permanent staff of the department. At present I should only ask for the Executive Engineer for the Tank division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India, who may be able to supply them.

2. The arrangements to be made in starting the Tank divisions have been discussed with Lieutenant-Colonel Montgomerie, and his action thus far is approved. I am not prepared at present to lay down any rule regarding the agency by which the works estimated as necessary for the restoration of irrigation works are to be carried out. It has been fully realized that the work of investigation will occupy the special establishment employed for a very long time, and it was intended originally that the work estimated for should be carried out under this establishment. This need not be the invariable rule, but I think that, while the work of investigation is progressing in a district, the requirements of various groups will have been ascertained, and the establishment being on the spot, an upper subordinate can be detached to superintend the carrying out of the required work, which could be examined by one of the officers of the special establishment. It may be that some of the work could well be handed over to the Executive Engineer of the division, in cases where his subordinates were employed on work near at hand, but it must be remembered that at present Executive Engineers are unable to spend their ordinary allotments, and to throw more work on them would be to delay all. In other cases the Revenue Department might be willing to carry out work, and occasionally it may be that earthwork might be entrusted to the villagers themselves, but in these instances the work would have to be laid out and examined by an officer of the special establishment. I think it is advisable first to work out the requirements of a part of the Vigay basin, and then, with the maps and estimates prepared, for Lieutenant-Colonel Montgomerie to bring forward proposals for carrying out the works. The establishment now recommended for appointment will cost Rs. 65,600, and from the balance of the 1½ lakhs available, estimates for surveying, putting down bench mark stones, clearing tank bunds, emergently lengthening escapes, &c., will have to be sanctioned, so that, if, as I hope, a considerable part of the basin has been worked out before the north-east monsoon, there should be no difficulty in expending on the works the remainder of the grant.

OOTACAMUND,
11th April 1883.(Signed) J. O. HASTED, Col., R.E.,
Ag. Chief Engineer for Irrigation.

To the Chief Engineer, Public Works Department.

ORDER—dated 16th April 1883, No. 1133 W., Public Works.

Ordered that the proposed scale of establishment be forwarded for the sanction of the Government of India. Meanwhile authority is granted for the entertainment of the office establishment required by Colonel Montgomerie.

(Here enter No. 1134 W., dated 16th April 1883.)

(True Extract.)

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

To the Chief Engineer for Irrigation.

„ Examiner, Public Works Accounts.

„ Superintending Engineer, Tank Divisions.

Exd. E. Fernandez.

PUBLIC WORKS DEPARTMENT.

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,

Adverting to your letter, No. 40 I., dated 26th January 1883, communicating the approval of the Government of India to the financial programme which has been prepared for dealing with the minor irrigation works of the Madras Presidency, I am now directed to forward, for sanction, a statement showing the scale of special establishment required for dealing systematically with the tank systems. The scale is the same as that laid down in the note by the Chief Engineer for Irrigation, copy of which accompanied my letter, No. 3273 W., dated 11th December 1882. The establishment of the Tank division should, in the opinion of this Government, form an addition to the permanent sanctioned scale, while the Superintending Engineer and the Executive Engineer attached to his office, with their establishment of clerks, are intended to be temporary only. The cost will be met from the grants sanctioned in your letter, No. 40 I., dated 26th January 1883, which are to cover expenditure both under Works and Establishment.

2. As regards the officers required to fill appointments as Executive and Assistant Engineers, I am to invite attention to my letter, No. 1132 W., of this day, in which it is explained that this Government are not in a position to provide suitable incumbents, and to request that the Government of India will, if possible, engage the services of officers with the requisite qualifications.

3. Should the Government of India be pleased to sanction a permanent increase in the strength of the establishment to meet the requirements, I am to express a hope that no transfer of a senior officer be made from another province, as looking to the unduly retarded promotion of the officers in this department and for other reasons His Excellency the Governor in Council would venture strongly to deprecate any such measure.

4. I am to add that the Superintending Engineer has been authorized to at once entertain his office establishment to admit of a commencement being made with the inquiry on which he is to be engaged, and to this proceeding I am to request the confirmation of the Government of India.

I have the honor to be,

Sir,

Your most obedient servant,

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Government, P.W.D.FORT ST. GEORGE,
16th April 1883.

Exd. E. Fernandez.

Shepards
30th March 1883

N^o 3.

From

Lt. Col. O. Montgomery R.E.

In special charge of

Tank Divisions

To

The Chief Engineer
for Irrigation.

Sir,

With reference to

Enc. 1

to G. O. N^o 743 W. dated 7th March 1883

appointing me for special duty in your
Office in connection with the work of the
new Tank Divisions authorized in O.

M. G. N^o 143 B dated 12th February 1883,

I have the honor to submit a statement

of the establishment required to make up

one Tank Division, costing Rs. 32,000

X
Also a statement of

the Special Estab^t for per annum, as proposed in your note

attached to your note

Rs 33,600

on Minor Irrigation Works dated 27th

November 1882, and to request permis-

sion to appoint, temporarily, from the

1st April 1883 the Surveyors, Draughtsmen

and Office establishments included

therein;

therein; to enable me to put in hand the preparatory work required in connection with the professional Investigations, on which the Tank Divisions have to be employed.

2. As you are aware there is a vast quantity of information in the Revenue Survey Office, connected with the Districts in which these operations will be carried out; although unfortunately this information has not been arranged altogether in a manner suitable for our purpose. There is also a good deal of data with reference to the grouping of the Minor Irrigation Works generally, in a more or less disconnected form available in your Office and perhaps also in some of the District Offices. And I need hardly point out that the more completely this information is utilized, preparatory to the field work in the Districts being taken up, the less will ^{be} the delay in completing the Professional Investigation which is the fundamental work required in the practical treatment of the Minor Irrigation Works of the Presidency.

Presidency.

3. I propose carrying out these Professional Investigations somewhat on the system followed for the Mysore Tank scheme - but the same detail will not be necessary, if the information in the Revenue Survey Office can be utilized. The detailed instructions for a systematic prosecution of these investigations will be forwarded to you, in due course, for approval; they will be based on the Irrigation Circulars which have from time to time been issued from your Office. And I am in hopes of being able to embody, in a more comprehensive manner, the substance of these Circulars with other hydraulic data in the form of a manual, for the use and guidance of the Tank Divisions or for the conservancy establishment that may supersede them in the future. This, however, must take time.

4. From the tenor of your remarks in your note, above referred to, it would appear that it is proposed to utilize the new Tank Divisions, not only in the work

work of investigation, estimating and registering, but also in the actual execution & supervision of work at the same time. If this be the intention, I would venture respectfully to point out, that these absolutely necessary and essential investigations will never be completed within a definite period: for it is very certain, that before the period of 55 years, which you allow will be necessary to complete the work, has elapsed - famines, wars and other distracting influences must be reckoned upon - and the collapse of the operations will be as complete as that of the Mysore scheme, apparently, was under the pressure of the last famine. Whereas, on the contrary, if the investigation and estimating is in an advanced state, the mere accident of a famine must advance rather than retard any scheme for actually carrying out the work.

5. Without asking you, therefore, to commit yourself to any scheme for the actual maintenance and repair of the minor Irrigation Works of the Madras Presidency; which must necessarily be more

123
more of a Revenue than a professional question, and which will depend in a great measure on the intentions of Government, with reference to the revival of Kuddimaramat, the enforcement of an Irrigation Act, and the extent to which the Revenue Department will be required to carry out all necessary unskilled labor, by means of the cultivators themselves. I would most strongly recommend that, in the treatment of the subject generally, the principle of carrying out the Professional Investigations separately and distinctly from the actual execution of the work, be strictly followed at least for some time to come.

Should this principle meet with approval, I shall attend to this portion of the scheme, with the view to insuring the systematic examination and record of all the minor Irrigation Works, throughout the Presidency, within a definite period.

6. The importance and magnitude of these preliminary operations do not appear to be fully realized; and I would venture to draw your attention to the

remarks

remarks of the late Colonel W. B. Johnson
Superintending Engineer Mysore, who in the
IInd para of his Memo. of the 14th February
1882 stated - "It may be as well here to
give some idea of the amount of Preli-
minary Work this scheme entailed....."

"I pointed out that this work would
be necessary before the restoration of the
tanks could be commenced, and estima-
ted that the establishment charges alone
would probably amount to 50 per cent
of the total cost of the work." Captain
Woodward R.E. in his report on the
working of the Poylon Ordinance dated
22nd August 1874 says, with reference to
preliminary operations, - "The large
tank of Bapsara Kurlaur ----- intended
for the irrigation of about 1000 acres -

"The extensive surveys required to
ascertain the capabilities of this tank
occupied two officers for eight months -
and again - "The repairs of the Mahavenna
Madawachiya a tank ----- to irrigate
300 acres ----- The survey occupied
one officer nearly five months."

In drawing up the Mysore Tank
scheme

126
scheme it was estimated, that one in-
dividual could examine and dispose
of 47 tanks in a year - but whether so
much was actually accomplished is
not clear. If, however, we take 50 Minor
Irrigation Works, as the most which one
individual can dispose of, it will take
the entire strength of the 6 Tank Divisions
15 years to deal with the 50,000 Minor
Irrigation Works of Madras.

7. This investigation work is even
more necessary for the treatment of the
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the land revenue, and it must be carried
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decided upon - The abandonment of a
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of

of them would not begin the investigation work in the least, for, until the investigations have been carried out, it cannot possibly be decided which tanks may be abandoned.

8. As I understand that it is the wish of Government to commence operations in the Madura District as soon as practicable, I have written to the Superintendent of the Revenue Survey Department to put in hand at once the detailed irrigation maps required for that District and to complete them so far as information is available in his Office, and the Tank Divisions, if appointed, will probably be in a position to commence work energetically in about a couple of months time.

9. There are other localities for which information is much more complete than for Madura, and the collection of these data will also be proceeded with, if the temporary establishment now asked for is allowed. And as soon as I have some office establishment, I shall

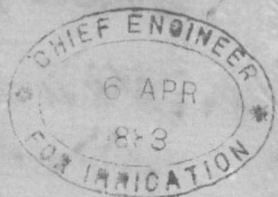
h 5
shall prepare and submit estimates for the maps to be prepared by the Revenue Survey Department &c.

I have the honor to be,
Sir,

Your most obedt. servant

Montague Lt. Col. R. G.

In special charge of
Tank Divisions

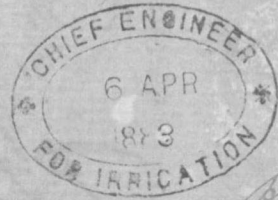


R17

P.O. En 1
32/8/83

Statement showing the proposed scale of special Establishment required for improving tanks.

Present scale			Proposed scale			Increase		Decrease		Amount of proposition	
Number	Designation	Amount of pay	Number	Designation	Amount of pay			Number	Amount of pay		
					Minimum	Maximum	Average				
2	3	Rs. 15	2	15	Rs.	Rs.	Rs.		Rs.	Rs.	
			1	Superintending Engr. 3 rd grade. Staff and Military pay as Major	3	3	4	3	4	3	3
			1	Ex. Engineer 3 rd grade Office Establishment			650	1	650		
			1	Clerk, 2 nd Clasp, 2 nd grade	160	200	180	1	180		
			1	do, 3 rd " 3 rd "	100	120	110	1	110		
			1	do, 4 th " 1 st "	50	60	55	1	55		
			1	do, 4 th " 2 nd "	40	50	45	1	45		
			1	do, 4 th " 3 rd "	30	40	35	1	35		
			1	do, 4 th " 3 rd "	20	30	25	1	25		
			1	do, 4 th " 3 rd "	20	30	25	1	25		
			1	Draughtsman	80	100	90	1	90		
			1	do	50	70	60	1	60		
			1	do	35	50	42½	1	42½		
			1	do	35	50	42½	1	42½		
			1	Moochee Inspektor			8	1	8		
			3	do @ 6 Rs each			18	3	18		
			3	Lascans @ 6 Rs each			18	3	18		
							2565		2565		
				Travelling allowances			135		135		
				Contingencies			100		100		
				Total per mensem			2,000		2,000		
				Total per annum			33,600		33,600		



R/T

P.W.
3218/8

will be comm.
municated

Letter from Lt Col: Montgomery R.R. No. 3
dated 30 March 1883.

No. 26. En. —

Note by the Ag: Chief Engineer for Irrigation

The list of Establishment submitted by
Lt-Colonel Montgomery is ^{ack} recommendation
for sanction. The scale is the same as laid
down in the Note submitted to the Hon'ble
Major Baring, and while the Supg: Engineer
and Executive Engineer with their Office
Establishment are intended to be temporary,
the Tank Division will, it is hoped, be made
permanent. Permission has been given
to the Superintending Engineer to employ
temporarily such Office Establishment
and upper Subordinates as he requires
to start the work, but I have no proposal
to make for filling the appointments of
Executive and Assistant Engineers, as
I am aware that there is not a man
whose services can be spared from the
permanent staff of the Department.
At present I should only ask for the

Executive Engineer for the Tank Division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India who may be able to supply them.

2. The arrangements to be made in starting the Tank Divisions have been discussed with Lt Colonel Montgomery, and his action thus far is approved. I am not prepared at present to lay down any rule regarding the agency by which the works estimated as necessary for the restoration of Irrigation works are to be carried out. It has been fully realised that the work of investigation will occupy the Special Establishment employed for a very long time, and it was intended originally that the work estimated for should be carried out under this Establishment. This need not be the invariable rule, but I think that while the work

of investigation is progressing in a District, the requirements of various groups will have been ascertained, and the Establishment being on the spot, an upper subordinate can be detached to superintend the carrying out of the required work, which could be examined by one of the officers of the Special Establishment. It may be that some of the work could well be handed over to the Executive Engineer of the Division, in cases where his subordinates were employed on work near at hand, but it must be remembered that at present Executive Engineers are unable to spend their ordinary allotments, and to throw more work on them would be to delay in all. In other cases the Revenue Department might be willing to carry out work, and occasionally it may be that earthwork might be entrusted to the villagers themselves, but in these instances the work would have to be laid out

and examined by an officer of the Special
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first to work out the requirements
of a part of the Vijay basin and
then with the maps and estimates
prepared, for Lt. Colonel Montgomery
to bring forward proposals for carrying
out the works. The establishment now
recommended for appointment will
cost Rs. 65,600 and from the balance
of the 1½ lacs available estimates for surveying,
putting down B.M. Stones, clearing Tank
brunds, emergently lengthening escapes, &c.
will have to be sanctioned, so that, if, and
hope, a considerable part of the basin
has been worked out before the S.E. monsoon
there should be no difficulty in expending
on the works the remainder of the grant.

Not recommended }
11th April 1883 }

In acted. Colonel R.E.

Ag: Chief Engineer for Drg.

To. The Chief Engineer, P.W. Dept.

22.6.4

P.W.C. No. 3218

C. No. called for 14/4

Recd 16/4/83

See 2

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 16th April 1883
Read the following:—

+ Note by the Chief Engineer
for irrigation on letter from
+ Lt. Col. Montgomery R.E.
No. 3 of 30th March 1883

A.E. No. of 11th April 1883.

+ Retained
by the
for
further disposal
S. S. Tank

Ordered that the
proposed scale of Establish-
ment be forwarded for
the sanction of the Govt
of India. Meanwhile
authority is granted for
the entertainment of the
office Establishment
required by Colonel
Montgomery.

Chief Engr. for irrigation
Examiner of Accounts
S. S. Tank Division

Des^d
17/4

per
20/4

(A.E.)

(H.E. No 1134 Waf 16th April 83)

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

Sir,

Adverting to your
letter No 40 I dated 26th
January 1883 Communicating
the approval of the
Government of India to the
financial programme
which has been prepared
for dealing with the
Minor Irrigation Works
of the Madras Presidency,
I am now directed to
forward for sanction a
Statement showing the

scale of Special Establish-
ment ^{dealing systematically}
^{with the} required for ^{improving}
Tank systems. The scale
is the same as that
laid down in the note
by the Chief Engineer
for Irrigation - copy of
which accompanied my

letter No 3273 W dated
11th December 1882. The

Establishment of the
Tank Division ^{should in}
^{the opinion of the Government} ^{be}
^{an addition to the permanent}
^{required permanently,} while
Sanctioned Scale

the Superintending Engineer
and the Executive Engineer
attached to his ^{Office} with
their office Establishment ^{of clerks}

are intended to be temporary only. The cost will be met from the grants sanctioned in your letter No 409 dated 26th January 1883

which are to cover Expenditure both under Works and Establishment.

2. As regards the officers required to fill appointments as Executive and Assistant Engineers I am to invite attention to my letter

No 1132 W of this day in which it is explained that this Government are not in a position

+ C No 2912-

3. Should the Govt of India be pleased to sanction a permanent increase in the strength of the Estab^t to meet the requirements I am to express a hope that the transfer of a Senior Officer be made from another Province, as looking to the unduly retarded promotion of the Officers in this Dept^t and for other reasons H.E. the Govt could venture strongly to deprecate any such measure

to provide suitable incumbents, and to request that the Government of India will, if possible, engage the Services of officers with the requisite qualifications.

4. I am to add that the Suptg Engineer has been authorised to at once entertain his office Establishment to admit of a Commencement being made with the enquiry on which he is ^{to be} engaged - and to this proceeding I am to request the confirmation of

6-12-86

of the Government
of India.

Att

14-4-83

Depd
17/4

Phanbhat
rospus

Bp 11337 of 16-4-83
1134

13
rospus
Phanbhat
To be printed with
Gandhi's portrait
20/4/83

R.S.
From 1874. Supd-

GOVERNMENT OF MADRAS.

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READ—the following papers :—

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3. I propose carrying out these professional investigations somewhat on the system followed for the Mysore tank scheme, but the same detail will not be necessary if the information in the Revenue Survey office can be utilized. The detailed instructions for a systematic prosecution of these investigations will be forwarded to you, in due course, for approval; they will be based on the Irrigation circulars which have, from time to time, been issued from your office. And I am in hopes of being able to embody, in a more comprehensive manner, the substance of these circulars with other hydraulic data in the form of a Manual, for the use and guidance of the tank divisions or for the conservancy establishment that may supersede them in the future. This, however, must take time.

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ENCLOSURE.

STATEMENT showing the proposed scale of special establishment required for improving tanks.

PRESENT SCALE.			PROPOSED SCALE.				INCREASE.		DECREASE.		Grounds of Proposition.	
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.			Number.	Amount of Pay.	Number.		Amount of Pay.
					Minimum.	Maximum.	Average.					
Nil.	..	RS.			RS.	RS.	RS.		RS.		RS.	
		1	Superintending Engineer, 3rd grade, staff and military pay as Major	..	..	1,341	1	1,341				
		1	Executive Engineer, 3rd grade.	..	..	650	1	650				
		Office Establishment.										
		1	Clerk, 2nd class, 1st grade ..	160	200	180	1	180				
		1	Do. 3rd do. 3rd do. ..	50	60	55	1	55				
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35				
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25				
		1	Draughtsman	80	100	90	1	90				
		1	Do.	50	70	60	1	60				
		1	Do.	35	50	42½	1	42½				
		1	Do.	35	50	42½	1	42½				
		1	Moochee	..	..	8	1	8				
		3	Messengers at Rs. 6 each ..	..	..	18	3	18				
		3	Lascars at Rs. 6 each ..	..	..	18	3	18				
							2,565	..	2,565			
		Travelling allowances					135	..	135			
		Contingencies					100	..	100			
		Total per mensem					2,800	..	2,800			
		Total per annum					33,600	..	33,600			
		Establishment for one Tank Division.										
		1	Executive Engineer, 3rd grade.	..	..	650	1	650				
		1	Assistant Engineer, 1st grade ..	..	..	450	1	450				
		1	Sub-Engineer, 2nd grade ..	..	..	300	1	300				
		1	Supervisor, 2nd grade ..	..	..	150	1	150				
		4	Overseers, 2nd grade ..	..	..	320	4	320				
							1,870	..	1,870			
		Office Establishment.										
		1	Clerk, 3rd class, 2nd grade ..	60	80	70	1	70				
		1	Do. 4th do. 1st do. ..	40	50	45	1	45				
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35				
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25				
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25				
		1	Draughtsman, 1st class ..	50	70	60	1	60				
		1	Do. 3rd do. ..	20	30	25	1	25				
		1	Messenger	..	..	7	1	7				
		1	Do.	..	..	6	1	6				
		1	Do.	..	..	18	3	18				
		3	Lascars at Rs. 6 each ..	..	..	18	3	18				
							316	..	316			
Sub-Divisional Office Establishment.												
1	Clerk, 4th class, 3rd grade ..	20	30	25	1	25						
1	Do. do. ..	20	30	25	1	25						
1	Do. do. ..	20	30	25	1	25						
3	Messengers at Rs. 6 each ..	..	..	18	3	18						
					93	..	93					
Travelling allowances					287	..	287					
Contingencies					100	..	100					
Total per mensem					2,666	..	2,666					
Total per annum					31,992	..	31,992					
Or, say					32,000	..	32,000					
Grand Total					65,600	..	65,600					

(Signed)

P. MONTGOMERIE, Lieut.-Col., R.E.,
In Special Charge of Tank Divisions.

No. 26 E.W.

Note by the Acting Chief Engineer for Irrigation.

The list of establishment submitted by Lieutenant-Colonel Montgomerie is recommended for sanction. The scale is the same as laid down in the note submitted to the Honorable Major Baring, and, while the Superintending Engineer and Executive Engineer, with their office establishment, are intended to be temporary, the Tank division will, it is hoped, be made permanent. Permission has been given to the Superintending Engineer to employ temporarily such office establishment and upper subordinates as he requires to start the work, but I have no proposal to make for filling the appointments of Executive and Assistant Engineers, as I am aware that there is not a man whose services can be spared from the permanent staff of the department. At present I should only ask for the Executive Engineer for the Tank division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India, who may be able to supply them.

2. The arrangements to be made in starting the Tank divisions have been discussed with Lieutenant-Colonel Montgomerie, and his action thus far is approved. I am not prepared at present to lay down any rule regarding the agency by which the works estimated as necessary for the restoration of irrigation works are to be carried out. It has been fully realized that the work of investigation will occupy the special establishment employed for a very long time, and it was intended originally that the work estimated for should be carried out under this establishment. This need not be the invariable rule, but I think that, while the work of investigation is progressing in a district, the requirements of various groups will have been ascertained, and the establishment being on the spot, an upper subordinate can be detached to superintend the carrying out of the required work, which could be examined by one of the officers of the special establishment. It may be that some of the work could well be handed over to the Executive Engineer of the division, in cases where his subordinates were employed on work near at hand, but it must be remembered that at present Executive Engineers are unable to spend their ordinary allotments, and to throw more work on them would be to delay all. In other cases the Revenue Department might be willing to carry out work, and occasionally it may be that earthwork might be entrusted to the villagers themselves, but in these instances the work would have to be laid out and examined by an officer of the special establishment. I think it is advisable first to work out the requirements of a part of the Vigay basin, and then, with the maps and estimates prepared, for Lieutenant-Colonel Montgomerie to bring forward proposals for carrying out the works. The establishment now recommended for appointment will cost Rs. 65,600, and from the balance of the $1\frac{1}{2}$ lakhs available, estimates for surveying, putting down bench mark stones, clearing tank bunds, emergently lengthening escapes, &c., will have to be sanctioned, so that, if, as I hope, a considerable part of the basin has been worked out before the north-east monsoon, there should be no difficulty in expending on the works the remainder of the grant.

OOTACAMUND,
11th April 1883.(Signed) J. O. HASTED, Col., R.E.,
Ag. Chief Engineer for Irrigation.

To the Chief Engineer, Public Works Department.

ORDER—dated 16th April 1883, No. 1133 W., Public Works.

Ordered that the proposed scale of establishment be forwarded for the sanction of the Government of India. Meanwhile authority is granted for the entertainment of the office establishment required by Colonel Montgomerie.

(Here enter No. 1134 W., dated 16th April 1883.)

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.To the Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Superintending Engineer, Tank Divisions.
Exd. E. Fernandez.

ENCLOSURE.

STATEMENT showing the proposed scale of special establishment required for improving tanks.

PRESENT SCALE.			PROPOSED SCALE.						INCREASE.		DECREASE.		Grounds of Proposition.
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.			Number.	Amount of Pay.	Number.	Amount of Pay.		
					Minimum.	Maximum.	Average.						
Nil.	..	RS.			RS.	RS.	RS.		RS.		RS.		
		1	Superintending Engineer, 3rd grade, staff and military pay as Major ..	..	..	1,341	1	1,341					
		1	Executive Engineer, 3rd grade.	..	..	650	1	650					
		Office Establishment.											
		1	Clerk, 2nd class, 1st grade ..	160	200	180	1	180					
		1	Do. 3rd do. 3rd do. ..	50	60	55	1	55					
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35					
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
		1	Draughtsman ..	80	100	90	1	90					
		1	Do. ..	50	70	60	1	60					
		1	Do. ..	35	50	42½	1	42½					
		1	Do. ..	35	50	42½	1	42½					
		1	Moochee ..	..	..	8	1	8					
		3	Messengers at Rs. 6 each ..	..	..	18	3	18					
		3	Lascars at Rs. 6 each ..	..	..	18	3	18					
							2,565	..	2,565				
		Travelling allowances ..					135	..	135				
		Contingencies ..					100	..	100				
		Total per mensem ..					2,800	..	2,800				
		Total per annum ..					33,600	..	33,600				
		Establishment for one Tank Division.											
		1	Executive Engineer, 3rd grade.	..	..	650	1	650					
		1	Assistant Engineer, 1st grade ..	..	..	450	1	450					
		1	Sub-Engineer, 2nd grade ..	..	..	300	1	300					
		1	Supervisor, 2nd grade ..	..	..	150	1	150					
		4	Overseers, 2nd grade ..	..	..	320	4	320					
							1,870	..	1,870				
		Office Establishment.											
		1	Clerk, 3rd class, 2nd grade ..	60	80	70	1	70					
		1	Do. 4th do. 1st do. ..	40	50	45	1	45					
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35					
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
		1	Draughtsman, 1st class ..	50	70	60	1	60					
		1	Do. 3rd do. ..	20	30	25	1	25					
		1	Messenger ..	..	..	7	1	7					
		1	Do. ..	..	..	6	1	6					
		1	Do. ..	..	..	18	3	18					
		3	Lascars at Rs. 6 each ..	..	..	..	..	..					
							316	..	316				
		Sub-Divisional Office Establishment.											
		1	Clerk, 4th class, 3rd grade ..	20	30	25	1	25					
		1	Do. do. ..	20	30	25	1	25					
		1	Do. do. ..	20	30	25	1	25					
		3	Messengers at Rs. 6 each ..	..	..	18	3	18					
					93	..	93						
Travelling allowances ..					287	..	287						
Contingencies ..					100	..	100						
Total per mensem ..					2,666	..	2,666						
Total per annum ..					31,992	..	31,992						
Or, say ..					32,000	..	32,000						
Grand Total ..					65,600	..	65,600						

(Signed) P. MONTGOMERIE, Lieut.-Col., R.E.,
In Special Charge of Tank Divisions.

No. 26 E.W.

Note by the Acting Chief Engineer for Irrigation.

The list of establishment submitted by Lieutenant-Colonel Montgomerie is recommended for sanction. The scale is the same as laid down in the note submitted to the Honorable Major Baring, and, while the Superintending Engineer and Executive Engineer, it is hoped, be made permanent. Permission has been given to the Superintending Engineer to employ temporarily such office establishment and upper subordinates as he requires to start the work, but I have no proposal to make for filling the appointments of Executive and Assistant Engineers, as I am aware that there is not a man whose services can be spared from the permanent staff of the department. At present I should only ask for the Executive Engineer for the Tank division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India, who may be able to supply them.

2. The arrangements to be made in starting the Tank divisions have been discussed with Lieutenant-Colonel Montgomerie, and his action thus far is approved. I am not prepared at present to lay down any rule regarding the agency by which the works estimated as necessary for the restoration of irrigation works are to be carried out. It has been fully realized that the work of investigation will occupy the special establishment employed for a very long time, and it was intended originally that the work estimated for should be carried out under this establishment. This need not be the invariable rule, but I think that, while the work of investigation is progressing in a district, the requirements of various groups will have been ascertained, and the establishment being on the spot, an upper subordinate can be detached to superintend the carrying out of the required work, which could be examined by one of the officers of the special establishment. It may be that some of the work could well be handed over to the Executive Engineer of the division, in cases where his subordinates were employed on work near at hand, but it must be remembered that at present Executive Engineers are unable to spend their ordinary allotments, and to throw more work on them would be to delay all. In other cases the Revenue Department might be willing to carry out work, and occasionally it may be that earthwork might be entrusted to the villagers themselves, but in these instances the work would have to be laid out and examined by an officer of the special establishment. I think it is advisable first to work out the requirements of a part of the Vigay basin, and then, with the maps and estimates prepared, for Lieutenant-Colonel Montgomerie to bring forward proposals for carrying out the works. The establishment now recommended for appointment will cost Rs. 65,600, and from the balance of the $1\frac{1}{2}$ lakhs available, estimates for surveying, putting down bench mark stones, clearing tank bunds, emergently lengthening escapes, &c., will have to be sanctioned, so that, if, as I hope, a considerable part of the basin has been worked out before the north-east monsoon, there should be no difficulty in expending on the works the remainder of the grant.

OOTACAMUND,
11th April 1883.

To the Chief Engineer, Public Works Department.

(Signed) J. O. HASTED, Col., R.E.,
Ag. Chief Engineer for Irrigation.

ORDER—dated 16th April 1883, No. 1133 W., Public Works.

Ordered that the proposed scale of establishment be forwarded for the sanction of the Government of India. Meanwhile authority is granted for the entertainment of the office establishment required by Colonel Montgomerie.

(Here enter No. 1134 W., dated 16th April 1883.)

(True Extract.)

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

To the Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Superintending Engineer, Tank Divisions.
Exd. E. Fernandez.

ENCLOSURE.

STATEMENT showing the proposed scale of special establishment required for improving tanks.

PRESENT SCALE.			PROPOSED SCALE.				INCREASE.		DECREASE.		Grounds of Proposition.		
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.			Number.	Amount of Pay.	Number.		Amount of Pay.	
					Minimum.	Maximum.	Average.						
Nil.	..	RS.			RS.	RS.	RS.		RS.		RS.		
		1	Superintending Engineer, 3rd grade, staff and military pay as Major ..	..	..	1,341	1	1,341					
		1	Executive Engineer, 3rd grade.	..	..	650	1	650					
		Office Establishment.											
		1	Clerk, 2nd class, 1st grade ..	160	200	180	1	180					
		1	Do. 3rd do. 3rd do. ..	50	60	55	1	55					
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35					
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
		1	Draughtsman ..	80	100	90	1	90					
		1	Do. ..	50	70	60	1	60					
		1	Do. ..	35	50	42½	1	42½					
		1	Do. ..	35	50	42½	1	42½					
		1	Moochee ..	..	..	8	1	8					
		3	Messengers at Rs. 6 each ..	..	..	18	3	18					
		3	Lascars at Rs. 6 each ..	..	..	18	3	18					
							2,565	..	2,565				
		Travelling allowances ..					135	..	135				
		Contingencies ..					100	..	100				
		Total per mensem ..					2,800	..	2,800				
		Total per annum ..					33,600	..	33,600				
		Establishment for one Tank Division.											
		1	Executive Engineer, 3rd grade.	..	..	650	1	650					
		1	Assistant Engineer, 1st grade ..	..	..	450	1	450					
		1	Sub-Engineer, 2nd grade ..	..	..	300	1	300					
		1	Supervisor, 2nd grade ..	..	..	150	1	150					
		4	Overseers, 2nd grade ..	..	..	320	4	320					
							1,870	..	1,870				
		Office Establishment.											
		1	Clerk, 3rd class, 2nd grade ..	60	80	70	1	70					
		1	Do. 4th do. 1st do. ..	40	50	45	1	45					
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35					
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
		1	Draughtsman, 1st class ..	50	70	60	1	60					
		1	Do. 3rd do. ..	20	30	25	1	25					
		1	Messenger ..	..	..	7	1	7					
		1	Do. ..	..	..	6	1	6					
		1	Do. ..	..	..	18	3	18					
		3	Lascars at Rs. 6 each ..	..	..	18	3	18					
							316	..	316				
Sub-Divisional Office Establishment.													
1	Clerk, 4th class, 3rd grade ..	20	30	25	1	25							
1	Do. do. ..	20	30	25	1	25							
1	Do. do. ..	20	30	25	1	25							
3	Messengers at Rs. 6 each ..	..	..	18	3	18							
					93	..	93						
Travelling allowances ..					287	..	287						
Contingencies ..					100	..	100						
Total per mensem ..					2,666	..	2,666						
Total per annum ..					31,992	..	31,992						
Or, say ..					32,000	..	32,000						
Grand Total ..					65,600	..	65,600						

(Signed) P. MONTGOMERIE, Lieut.-Col., R.E.,
In Special Charge of Tank Divisions.

No. 26 E.W.

Note by the Acting Chief Engineer for Irrigation.

The list of establishment submitted by Lieutenant-Colonel Montgomerie is recommended for sanction. The scale is the same as laid down in the note submitted to the Honorable Major Baring, and, while the Superintending Engineer and Executive Engineer, with their office establishment, are intended to be temporary, the Tank division will, it is hoped, be made permanent. Permission has been given to the Superintending Engineer to employ temporarily such office establishment and upper subordinates as he requires to start the work, but I have no proposal to make for filling the appointments of Executive and Assistant Engineers, as I am aware that there is not a man whose services can be spared from the permanent staff of the department. At present I should only ask for the Executive Engineer for the Tank division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India, who may be able to supply them.

2. The arrangements to be made in starting the Tank divisions have been discussed with Lieutenant-Colonel Montgomerie, and his action thus far is approved. I am not prepared at present to lay down any rule regarding the agency by which the works estimated as necessary for the restoration of irrigation works are to be carried out. It has been fully realized that the work of investigation will occupy the special establishment employed for a very long time, and it was intended originally that the work estimated for should be carried out under this establishment. This need not be the invariable rule, but I think that, while the work of investigation is progressing in a district, the requirements of various groups will have been ascertained, and the establishment being on the spot, an upper subordinate can be detached to superintend the carrying out of the required work, which could be examined by one of the officers over to the Executive Engineer of the division, in cases where his subordinates were employed on work near at hand, but it must be remembered that at present Executive Engineers are unable to spend their ordinary allotments, and to throw more work on them would be to delay all. In other cases the Revenue Department might be willing to carry out work, and occasionally it may be that earthwork might be entrusted to the villagers themselves, but in these instances the work would have to be laid out and examined by an officer of the special establishment. I think it is advisable first to work out the requirements of a part of the Vigay basin, and then, with the maps and estimates prepared, for Lieutenant-Colonel Montgomerie to bring forward proposals for carrying out the works. The establishment now recommended for appointment will cost Rs. 65,600, and from the balance of the $1\frac{1}{2}$ lakhs available, estimates for surveying, putting down bench mark stones, clearing tank bunds, emergently lengthening escapes, &c., will have to be sanctioned, so that, if, as I hope, a considerable part of the basin has been worked out before the north-east monsoon, there should be no difficulty in expending on the works the remainder of the grant.

OOTACAMUND,
11th April 1883.

To the Chief Engineer, Public Works Department.

(Signed) J. O. HASTED, Col., R.E.,
Ag. Chief Engineer for Irrigation.

ORDER—dated 16th April 1883, No. 1133 W., Public Works.

Ordered that the proposed scale of establishment be forwarded for the sanction of the Government of India. Meanwhile authority is granted for the entertainment of the office establishment required by Colonel Montgomerie.

(Here enter No. 1134 W., dated 16th April 1883.)

(True Extract.)

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

To the Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Superintending Engineer, Tank Divisions.
Exd. E. Fernandez.

ENCLOSURE.

STATEMENT showing the proposed scale of special establishment required for improving tanks.

PRESENT SCALE.			PROPOSED SCALE.				INCREASE.		DECREASE.		Grounds of Proposition.	
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.			Number.	Amount of Pay.	Number.		Amount of Pay.
					Minimum.	Maximum.	Average.					
NIL.	RS.				RS.	RS.	RS.		RS.		RS.	
	1	Superintending Engineer, 3rd grade, staff and military pay as Major ..	..	..	..	1,341	1	1,341				
	1	Executive Engineer, 3rd grade.	..	..	650	1	650					
	Office Establishment.											
	1	Clerk, 2nd class, 1st grade ..	160	200	180	1	180					
	1	Do. 3rd do. 3rd do. ..	50	60	55	1	55					
	1	Do. 4th do. 2nd do. ..	30	40	35	1	35					
	1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
	1	Draughtsman ..	80	100	90	1	90					
	1	Do. ..	50	70	60	1	60					
	1	Do. ..	35	50	42½	1	42½					
	1	Do. ..	35	50	42½	1	42½					
	1	Moochee ..	..	..	8	1	8					
	3	Messengers at Rs. 6 each ..	..	..	18	3	18					
	3	Lascars at Rs. 6 each ..	..	..	18	3	18					
						2,565	..	2,565				
						135	..	135				
						100	..	100				
						2,800	..	2,800				
						33,600	..	33,600				
	Establishment for one Tank Division.											
	1	Executive Engineer, 3rd grade.	..	..	650	1	650					
	1	Assistant Engineer, 1st grade ..	..	..	450	1	450					
	1	Sub-Engineer, 2nd grade ..	..	..	300	1	300					
	1	Supervisor, 2nd grade ..	..	..	150	1	150					
	4	Overseers, 2nd grade ..	..	..	320	4	320					
						1,870	..	1,870				
	Office Establishment.											
	1	Clerk, 3rd class, 2nd grade ..	60	80	70	1	70					
	1	Do. 4th do. 1st do. ..	40	50	45	1	45					
	1	Do. 4th do. 2nd do. ..	30	40	35	1	35					
	1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
	1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
	1	Draughtsman, 1st class ..	50	70	60	1	60					
	1	Do. 3rd do. ..	20	30	25	1	25					
	1	Messenger ..	..	..	7	1	7					
	1	Do. ..	..	..	6	1	6					
	1	Do. ..	..	..	18	3	18					
	3	Lascars at Rs. 6 each ..	..	..	18	3	18					
						316	..	316				
Sub-Divisional Office Establishment.												
1	Clerk, 4th class, 3rd grade ..	20	30	25	1	25						
1	Do. do. ..	20	30	25	1	25						
1	Do. do. ..	20	30	25	1	25						
1	Do. do. ..	..	..	18	3	18						
3	Messengers at Rs. 6 each ..	..	..	18	3	18						
					93	..	93					
					287	..	287					
					100	..	100					
					2,666	..	2,666					
					31,992	..	31,992					
					32,000	..	32,000					
					65,600	..	65,600					

(Signed) P. MONTGOMERIE, Lieut.-Col., R.E.,
In Special Charge of Tank Divisions.

No. 26 E.W.

Note by the Acting Chief Engineer for Irrigation.

The list of establishment submitted by Lieutenant-Colonel Montgomerie is recommended for sanction. The scale is the same as laid down in the note submitted to the Honorable Major Baring, and, while the Superintending Engineer and Executive Engineer, with their office establishment, are intended to be temporary, the Tank division will, it is hoped, be made permanent. Permission has been given to the Superintending Engineer to employ temporarily such office establishment and upper subordinates as he requires to start the work, but I have no proposal to make for filling the appointments of Executive and Assistant Engineers, as I am aware that there is not a man whose services can be spared from the permanent staff of the department. At present I should only ask for the Executive Engineer for the Tank division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India, who may be able to supply them.

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OOTACAMUND,
11th April 1883.

To the Chief Engineer, Public Works Department.

(Signed) J. O. HASTED, Col., R.E.,
Ag. Chief Engineer for Irrigation.

ORDER—dated 16th April 1883, No. 1133 W., Public Works.

Ordered that the proposed scale of establishment be forwarded for the sanction of the Government of India. Meanwhile authority is granted for the entertainment of the office establishment required by Colonel Montgomerie.

(Here enter No. 1134 W., dated 16th April 1883.)

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.To the Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Superintending Engineer, Tank Divisions.
Exd. E. Fernandez.

ENCLOSURE.

STATEMENT showing the proposed scale of special establishment required for improving tanks.

PRESENT SCALE.			PROPOSED SCALE.			INCREASE.		DECREASE.		Grounds of Proposition.		
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.			Number.	Amount of Pay.		Number.	Amount of Pay.
					Minimum.	Maximum.	Average.					
		RS.			RS.	RS.	RS.		RS.		RS.	
Nil.	..	1	Superintending Engineer, 3rd grade, staff and military pay as Major ..	..	..	..	1,341	1	1,341			
		1	Executive Engineer, 3rd grade.	..	..	..	650	1	650			
		Office Establishment.										
		1	Clerk, 2nd class, 1st grade ..	160	200	180	1	180				
		1	Do. 3rd do. 3rd do. ..	50	60	55	1	55				
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35				
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25				
		1	Do. 4th do. 3rd do. ..	80	100	90	1	90				
		1	Draughtsman ..	50	70	60	1	60				
		1	Do. ..	35	50	42½	1	42½				
		1	Do. ..	35	50	42½	1	42½				
		1	Do. ..	..	..	8	1	8				
		1	Moochee ..	..	..	18	3	18				
		3	Messengers at Rs. 6 each ..	..	..	18	3	18				
		3	Lascars at Rs. 6 each ..	..	..	18	3	18				
							2,565	..	2,565			
							135	..	135			
							100	..	100			
							2,800	..	2,800			
							33,600	..	33,600			
		Establishment for one Tank Division.										
		1	Executive Engineer, 3rd grade.	..	..	..	650	1	650			
		1	Assistant Engineer, 1st grade ..	..	..	..	450	1	450			
		1	Sub-Engineer, 2nd grade ..	..	..	..	300	1	300			
		1	Supervisor, 2nd grade ..	..	..	..	150	1	150			
		1	Supervisor, 2nd grade ..	..	..	..	320	4	320			
		4	Overseers, 2nd grade ..	..	..	..	320	4	320			
							1,870	..	1,870			
		Office Establishment.										
		1	Clerk, 3rd class, 2nd grade ..	60	80	70	1	70				
		1	Do. 4th do. 1st do. ..	40	50	45	1	45				
		1	Do. 4th do. 1st do. ..	30	40	35	1	35				
		1	Do. 4th do. 2nd do. ..	20	30	25	1	25				
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25				
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25				
		1	Do. 4th do. 3rd do. ..	50	70	60	1	60				
		1	Draughtsman, 1st class ..	20	30	25	1	25				
		1	Do. 3rd do. ..	..	..	7	1	7				
		1	Messenger ..	..	..	6	1	6				
		1	Do. ..	..	..	18	3	18				
3	Lascars at Rs. 6 each ..	..	..	18	3	18						
					316	..	316					
Sub-Divisional Office Establishment.												
1	Clerk, 4th class, 3rd grade ..	20	30	25	1	25						
1	Do. do. ..	20	30	25	1	25						
1	Do. do. ..	20	30	25	1	25						
1	Do. do. ..	..	..	18	3	18						
3	Messengers at Rs. 6 each ..	..	..	18	3	18						
					93	..	93					
					287	..	287					
					100	..	100					
					2,666	..	2,666					
					31,992	..	31,992					
					32,000	..	32,000					
					65,600	..	65,600					

(Signed) P. MONTGOMERIE, Lieut.-Col., R.E.,
In Special Charge of Tank Divisions.

No. 26 E.W.

Note by the Acting Chief Engineer for Irrigation.

The list of establishment submitted by Lieutenant-Colonel Montgomerie is recommended for sanction. The scale is the same as laid down in the note submitted to the Honorable Major Baring, and, while the Superintending Engineer and Executive Engineer, with their office establishment, are intended to be temporary, the Tank division will, it is hoped, be made permanent. Permission has been given to the Superintending Engineer to employ temporarily such office establishment and upper subordinates as he requires to start the work, but I have no proposal to make for filling the appointments of Executive and Assistant Engineers, as I am aware that there is not a man whose services can be spared from the permanent staff of the department. At present I should only ask for the Executive Engineer for the Tank division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India, who may be able to supply them.

2. The arrangements to be made in starting the Tank divisions have been discussed with Lieutenant-Colonel Montgomerie, and his action thus far is approved. I am not prepared at present to lay down any rule regarding the agency by which the works estimated as necessary for the restoration of irrigation works are to be carried out. It has been fully realized that the work of investigation will occupy the special establishment employed for a very long time, and it was intended originally that the work estimated for should be carried out under this establishment. This need not be the invariable rule, but I think that, while the work of investigation is progressing in a district, the requirements of various groups will have been ascertained, and the establishment being on the spot, an upper subordinate can be detached to superintend the carrying out of the required work, which could be examined by one of the officers employed on work near at hand, but it must be remembered that at present Executive Engineers are unable to spend their ordinary allotments, and to throw more work on them would be to delay all. In other cases the Revenue Department might be willing to carry out work, and occasionally it may be that earthwork might be entrusted to the villagers themselves, but in these instances the work would have to be laid out and examined by an officer of the special establishment. I think it is advisable first to work out the requirements of a part of the Vigay basin, and then, with the maps and estimates prepared, for Lieutenant-Colonel Montgomerie to bring forward proposals for carrying out the works. The establishment now recommended for appointment will cost Rs. 65,600, and from the balance of the $1\frac{1}{2}$ lakhs available, estimates for surveying, putting down bench mark stones, clearing tank bunds, emergently lengthening escapes, &c., will have to be sanctioned, so that, if, as I hope, a considerable part of the basin has been worked out before the north-east monsoon, there should be no difficulty in expending on the works the remainder of the grant.

OOTACAMUND,
11th April 1883.(Signed) J. O. HASTED, Col., R.E.,
Ag. Chief Engineer for Irrigation.

To the Chief Engineer, Public Works Department.

ORDER—dated 16th April 1883; No. 1133 W., Public Works.

Ordered that the proposed scale of establishment be forwarded for the sanction of the Government of India. Meanwhile authority is granted for the entertainment of the office establishment required by Colonel Montgomerie.

(Here enter No. 1134 W., dated 16th April 1883.)

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.To the Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Superintending Engineer, Tank Divisions.
Exd. E. Fernandez.

ENCLOSURE.

STATEMENT showing the proposed scale of special establishment required for improving tanks.

STATEMENT showing the proposed scale of special pay											Grounds of Proposition.		
PRESENT SCALE.			PROPOSED SCALE.				INCREASE.		DECREASE.				
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.			Number.	Amount of Pay.	Number.		Amount of Pay.	
					Minimum.	Maximum.	Average.						
		RS.			RS.	RS.	RS.		RS.		RS.		
Nil.	..	1	Superintending Engineer, 3rd grade, staff and military pay as Major ..	..	..	..	1,341	1	1,341				
		1	Executive Engineer, 3rd grade.	..	..	..	650	1	650				
		Office Establishment.											
		1	Clerk, 2nd class, 1st grade ..	160	200	180	1	180					
		1	Do. 3rd do. 3rd do. ..	50	60	55	1	55					
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35					
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
		1	Do. 4th do. 3rd do. ..	80	100	90	1	90					
		1	Draughtsman ..	50	70	60	1	60					
		1	Do. ..	35	50	42½	1	42½					
		1	Do. ..	35	50	42½	1	42½					
		1	Do. ..	..	..	8	1	8					
		1	Moochee ..	..	..	18	3	18					
		3	Messengers at Rs. 6 each ..	..	..	18	3	18					
		3	Lascars at Rs. 6 each ..	..	..	18	3	18					
									2,565	..	2,565		
									135	..	135		
									100	..	100		
									2,800	..	2,800		
									33,600	..	33,600		
		Establishment for one Tank Division.											
		1	Executive Engineer, 3rd grade.	..	..	..	..	650	1	650			
		1	Assistant Engineer, 1st grade ..	..	..	..	..	450	1	450			
		1	Sub-Engineer, 2nd grade ..	..	..	..	..	300	1	300			
		1	Supervisor, 2nd grade ..	..	..	..	..	150	1	150			
		4	Overseers, 2nd grade ..	..	..	..	..	320	4	320			
									1,870	..	1,870		
		Office Establishment.											
		1	Clerk, 3rd class, 2nd grade ..	60	80	70	1	70					
		1	Do. 4th do. 1st do. ..	40	50	45	1	45					
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35					
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
		1	Do. 4th do. 3rd do. ..	50	70	60	1	60					
		1	Draughtsman, 1st class ..	20	30	25	1	25					
		1	Do. 3rd do. ..	..	..	7	1	7					
		1	Messenger ..	..	..	6	1	6					
		1	Do. ..	..	..	18	3	18					
		3	Lascars at Rs. 6 each ..	..	..	18	3	18					
							316	..	316				
Sub-Divisional Office Establishment.													
1	Clerk, 4th class, 3rd grade ..	20	30	25	1	25							
1	Do. do. ..	20	30	25	1	25							
1	Do. do. ..	20	30	25	1	25							
3	Messengers at Rs. 6 each ..	..	..	18	3	18							
							93	..	93				
							287	..	287				
							100	..	100				
							2,666	..	2,666				
							31,992	..	31,992				
							32,000	..	32,000				
							65,600	..	65,600				
</													

(Signed)

P. MONTGOMERIE, Lieut.-Col., R.E.,
In Special Charge of Tank Divisions.

No. 26 E.W.

Note by the Acting Chief Engineer for Irrigation.

The list of establishment submitted by Lieutenant-Colonel Montgomerie is recommended for sanction. The scale is the same as laid down in the note submitted to the Honorable Major Baring, and, while the Superintending Engineer and Executive Engineer, with their office establishment, are intended to be temporary, the Tank division will, it is hoped, be made permanent. Permission has been given to the Superintending Engineer to employ temporarily such office establishment and upper subordinates as he requires to start the work, but I have no proposal to make for filling the appointments of Executive and Assistant Engineers, as I am aware that there is not a man whose services can be spared from the permanent staff of the department. At present I should only ask for the Executive Engineer for the Tank division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India, who may be able to supply them.

2. The arrangements to be made in starting the Tank divisions have been discussed with Lieutenant-Colonel Montgomerie, and his action thus far is approved. I am not prepared at present to lay down any rule regarding the agency by which the works estimated as necessary for the restoration of irrigation works are to be carried out. It has been fully realized that the work of investigation will occupy the special establishment employed for a very long time, and it was intended originally that the work estimated for should be carried out under this establishment. This need not be the invariable rule, but I think that, while the work of investigation is progressing in a district, the requirements of various groups will have been ascertained, and the establishment being on the spot, an upper subordinate can be detached to superintend the carrying out of the required work, which could be examined by one of the officers of the special establishment. It may be that some of the work could well be handed over to the Executive Engineer of the division, in cases where his subordinates were employed on work near at hand, but it must be remembered that at present Executive Engineers are unable to spend their ordinary allotments, and to throw more work on them would be to delay all. In other cases the Revenue Department might be willing to carry out work, and occasionally it may be that earthwork might be entrusted to the villagers themselves, but in these instances the work would have to be laid out and examined by an officer of the special establishment. I think it is advisable first to work out the requirements of a part of the Vigay basin, and then, with the maps and estimates prepared, for Lieutenant-Colonel Montgomerie to bring forward proposals for carrying out the works. The establishment now recommended for appointment will cost Rs. 65,600, and from the balance of the $1\frac{1}{2}$ lakhs available, estimates for surveying, putting down bench mark stones, clearing tank bunds, emergently lengthening escapes, &c., will have to be sanctioned, so that, if, as I hope, a considerable part of the basin has been worked out before the north-east monsoon, there should be no difficulty in expending on the works the remainder of the grant.

OOTACAMUND,
11th April 1883.

(Signed)

J. O. HASTED, Col., R.E.,
Ag. Chief Engineer for Irrigation.

To the Chief Engineer, Public Works Department.

ORDER—dated 16th April 1883, No. 1133 W., Public Works.

Ordered that the proposed scale of establishment be forwarded for the sanction of the Government of India. Meanwhile authority is granted for the entertainment of the office establishment required by Colonel Montgomerie.

(Here enter No. 1134 W., dated 16th April 1883.)

(True Extract.)

(Signed)

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

To the Chief Engineer for Irrigation.

" Examiner, Public Works Accounts.

" Superintending Engineer, Tank Divisions.

Exd. E. Fernandez.

ENCLOSURE.

STATEMENT showing the proposed scale of special establishment required for improving tanks.

STATEMENT showing the proposed scale of special rates.												
PRESENT SCALE.			PROPOSED SCALE.				INCREASE.		DECREASE.		Grounds of Proposition.	
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.			Number.	Amount of Pay.	Number.		Amount of Pay.
					Minimum.	Maximum.	Average.					
		RS.			RS.	RS.	RS.		RS.		RS.	
Nil.			1	Superintending Engineer, 3rd grade, staff and military pay as Major	..	..	1,341	1	1,341			
			1	Executive Engineer, 3rd grade.	..	..	650	1	650			
				<i>Office Establishment.</i>								
			1	Clerk, 2nd class, 1st grade	160	200	180	1	180			
			1	Do. 3rd do. 3rd do.	50	60	55	1	55			
			1	Do. 4th do. 2nd do.	30	40	35	1	35			
			1	Do. 4th do. 3rd do.	20	30	25	1	25			
			1	Draughtsman	80	100	90	1	90			
			1	Do.	50	70	60	1	60			
			1	Do.	35	50	42½	1	42½			
			1	Do.	35	50	42½	1	42½			
			1	Do.	..	..	8	1	8			
			1	Moochee	..	..	18	3	18			
			3	Messengers at Rs. 6 each	..	..	18	3	18			
			3	Lascars at Rs. 6 each	..	..	18	3	18			
							2,565	..	2,565			
							135	..	135			
					Travelling allowances	..	..	100	..	100		
					Contingencies	..	..	2,800	..	2,800		
					Total per mensem	..	..	33,600	..	33,600		
					Total per annum	..	..					
					<i>Establishment for one Tank Division.</i>							
				1	Executive Engineer, 3rd grade.	..	..	650	1	650		
				1	Assistant Engineer, 1st grade	..	..	450	1	450		
				1	Sub-Engineer, 2nd grade	..	..	300	1	300		
				1	Supervisor, 2nd grade	..	..	150	1	150		
				4	Overseers, 2nd grade	..	..	320	4	320		
								1,870	..	1,870		
					<i>Office Establishment.</i>							
				1	Clerk, 3rd class, 2nd grade	60	80	70	1	70		
				1	Do. 4th do. 1st do.	40	50	45	1	45		
				1	Do. 4th do. 2nd do.	30	40	35	1	35		
				1	Do. 4th do. 3rd do.	20	30	25	1	25		
				1	Do. 4th do. 3rd do.	20	30	25	1	25		
				1	Do. 4th do. 3rd do.	50	70	60	1	60		
				1	Draughtsman, 1st class	20	30	25	1	25		
				1	Do. 3rd do.	..	..	7	1	7		
				1	Messenger	..	..	6	1	6		
				1	Do.	..	..	18	3	18		
				3	Lascars at Rs. 6 each	..	..	316	..	316		
				<i>Sub-Divisional Office Establishment.</i>								
			1	Clerk, 4th class, 3rd grade	20	30	25	1	25			
			1	Do. do.	20	30	25	1	25			
			1	Do. do.	20	30	25	1	25			
			3	Messengers at Rs. 6 each	..	..	18	3	18			
							93	..	93			
							287	..	287			
				Travelling allowances	..	..	100	..	100			
				Contingencies	..	..	2,666	..	2,666			
				Total per mensem	..	..	31,992	..	31,992			
				Total per annum	..	..	32,000	..	32,000			
				Or, say	..	..	65,600	..	65,600			
				Grand Total	..	..						

(Signed)

P. MONTGOMERIE, Lieut.-Col., R.E.,
In Special Charge of Tank Divisions.

No. 26 E.W.

Note by the Acting Chief Engineer for Irrigation.

The list of establishment submitted by Lieutenant-Colonel Montgomerie is recommended for sanction. The scale is the same as laid down in the note submitted to the Honorable Major Baring, and, while the Superintending Engineer and Executive Engineer, with their office establishment, are intended to be temporary, the Tank division will, it is hoped, be made permanent. Permission has been given to the Superintending Engineer to employ temporarily such office establishment and upper subordinates as he requires to start the work, but I have no proposal to make for filling the appointments of Executive and Assistant Engineers, as I am aware that there is not a man whose services can be spared from the permanent staff of the department. At present I should only ask for the Executive Engineer for the Tank division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India, who may be able to supply them.

2. The arrangements to be made in starting the Tank divisions have been discussed with Lieutenant-Colonel Montgomerie, and his action thus far is approved. I am not prepared at present to lay down any rule regarding the agency by which the works estimated as necessary for the restoration of irrigation works are to be carried out. It has been fully realized that the work of investigation will occupy the special establishment employed for a very long time, and it was intended originally that the work estimated for should be carried out under this establishment. This need not be the invariable rule, but I think that, while the work of investigation is progressing in a district, the requirements of various groups will have been ascertained, and the establishment being on the spot, an upper subordinate can be detached to superintend the carrying out of the required work, which could be examined by one of the officers over to the Executive Engineer of the division, in cases where his subordinates were employed on work near at hand, but it must be remembered that at present Executive Engineers are unable to spend their ordinary allotments, and to throw more work on them would be to delay all. In other cases the Revenue Department might be willing to carry out work, and occasionally it may be that earthwork might be entrusted to the villagers themselves, but in these instances the work would have to be laid out and examined by an officer of the special establishment. I think it is advisable first to work out the requirements of a part of the Vigay basin, and then, with the maps and estimates prepared, for Lieutenant-Colonel Montgomerie to bring forward proposals for carrying out the works. The establishment now recommended for appointment will cost Rs. 65,600, and from the balance of the $1\frac{1}{2}$ lakhs available, estimates for surveying, putting down bench mark stones, clearing tank bunds, emergently lengthening escapes, &c., will have to be sanctioned, so that, if, as I hope, a considerable part of the basin has been worked out before the north-east monsoon, there should be no difficulty in expending on the works the remainder of the grant.

OOTACAMUND,
11th April 1883.(Signed) J. O. HASTED, Col., R.E.,
Ag. Chief Engineer for Irrigation.

To the Chief Engineer, Public Works Department.

ORDER—dated 16th April 1883, No. 1133 W., Public Works.

Ordered that the proposed scale of establishment be forwarded for the sanction of the Government of India. Meanwhile authority is granted for the entertainment of the office establishment required by Colonel Montgomerie.

(Here enter No. 1134 W., dated 16th April 1883.)

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.To the Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Superintending Engineer, Tank Divisions.
Exd. E. Fernandez.

ENCLOSURE.

STATEMENT showing the proposed scale of special establishment required for improving tanks.

PRESENT SCALE.			PROPOSED SCALE.				INCREASE.		DECREASE.		Grounds of Proposition.		
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.			Number.	Amount of Pay.	Number.		Amount of Pay.	
					Minimum.	Maximum.	Average.						
Nil.	..	RS.			RS.	RS.	RS.		RS.		RS.		
		1	Superintending Engineer, 3rd grade, staff and military pay as Major ..	..	..	1,341	1	1,341					
		1	Executive Engineer, 3rd grade.	..	..	650	1	650					
		Office Establishment.											
		1	Clerk, 2nd class, 1st grade ..	160	200	180	1	180					
		1	Do. 3rd do. 3rd do. ..	50	60	55	1	55					
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35					
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
		1	Draughtsman ..	80	100	90	1	90					
		1	Do. ..	50	70	60	1	60					
		1	Do. ..	35	50	42½	1	42½					
		1	Do. ..	35	50	42½	1	42½					
		1	Moochee ..	..	..	8	1	8					
		3	Messengers at Rs. 6 each ..	..	..	18	3	18					
		3	Lascars at Rs. 6 each ..	..	..	18	3	18					
						2,565	..	2,565					
		Travelling allowances ..				..	..	135	..	135			
		Contingencies ..				..	..	100	..	100			
		Total per mensem ..				..	..	2,800	..	2,800			
		Total per annum ..				..	..	33,600	..	33,600			
		Establishment for one Tank Division.											
		1	Executive Engineer, 3rd grade.	..	..	650	1	650					
		1	Assistant Engineer, 1st grade ..	..	..	450	1	450					
		1	Sub-Engineer, 2nd grade ..	..	..	300	1	300					
		1	Supervisor, 2nd grade ..	..	..	150	1	150					
		4	Overseers, 2nd grade ..	..	..	320	4	320					
						1,870	..	1,870					
		Office Establishment.											
		1	Clerk, 3rd class, 2nd grade ..	60	80	70	1	70					
		1	Do. 4th do. 1st do. ..	40	50	45	1	45					
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35					
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
		1	Do. 4th do. 3rd do. ..	50	70	60	1	60					
		1	Draughtsman, 1st class ..	20	30	25	1	25					
		1	Do. 3rd do. ..	..	..	7	1	7					
		1	Messenger ..	..	..	6	1	6					
		1	Do. ..	..	..	18	3	18					
		3	Lascars at Rs. 6 each ..	..	..	..	..	..					
						316	..	316					
		Sub-Divisional Office Establishment.											
		1	Clerk, 4th class, 3rd grade ..	20	30	25	1	25					
		1	Do. do. ..	20	30	25	1	25					
		1	Do. do. ..	20	30	25	1	25					
		1	Do. do. ..	..	..	18	3	18					
3	Messengers at Rs. 6 each ..	..	..	..	..	..							
				93	..	93							
				287	..	287							
Travelling allowances ..				..	..	100	..	100					
Contingencies ..				..	..	..	..	..					
Total per mensem ..				..	..	2,666	..	2,666					
Total per annum ..				..	..	31,992	..	31,992					
Or, say ..				..	..	32,000	..	32,000					
Grand Total ..				..	..	65,600	..	65,600					

(Signed) P. MONTGOMERIE, Lieut.-Col., R.E.,
In Special Charge of Tank Divisions.

No. 26 E.W.

Note by the Acting Chief Engineer for Irrigation.

The list of establishment submitted by Lieutenant-Colonel Montgomerie is recommended for sanction. The scale is the same as laid down in the note submitted to the Honorable Major Baring, and, while the Superintending Engineer and Executive Engineer, with their office establishment, are intended to be temporary, the Tank division will, it is hoped, be made permanent. Permission has been given to the Superintending Engineer to employ temporarily such office establishment and upper subordinates as he requires to start the work, but I have no proposal to make for filling the appointments of Executive and Assistant Engineers, as I am aware that there is not a man whose services can be spared from the permanent staff of the department. At present I should only ask for the Executive Engineer for the Tank division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India, who may be able to supply them.

2. The arrangements to be made in starting the Tank divisions have been discussed with Lieutenant-Colonel Montgomerie, and his action thus far is approved. I am not prepared at present to lay down any rule regarding the agency by which the works estimated as necessary for the restoration of irrigation works are to be carried out. It has been fully realized that the work of investigation will occupy the special establishment employed for a very long time, and it was intended originally that the work estimated for should be carried out under this establishment. This need not be the invariable rule, but I think that, while the work of investigation is progressing in a district, the requirements of various groups will have been ascertained, and the establishment being on the spot, an upper subordinate can be detached to superintend the carrying out of the required work, which could be examined by one of the officers of the special establishment. It may be that some of the work could well be handed over to the Executive Engineer of the division, in cases where his subordinates were employed on work near at hand, but it must be remembered that at present Executive Engineers are unable to spend their ordinary allotments, and to throw more work on them would be to delay all. In other cases the Revenue Department might be willing to carry out work, and occasionally it may be that earthwork might be entrusted to the villagers themselves, but in these instances the work would have to be laid out and examined by an officer of the special establishment. I think it is advisable first to work out the requirements of a part of the Vigay basin, and then, with the maps and estimates prepared, for Lieutenant-Colonel Montgomerie to bring forward proposals for carrying out the works. The establishment now recommended for appointment will cost Rs. 65,600, and from the balance of the 1½ lakhs available, estimates for surveying, putting down bench mark stones, clearing tank bunds, emergently lengthening escapes, &c., will have to be sanctioned, so that, if, as I hope, a considerable part of the basin has been worked out before the north-east monsoon, there should be no difficulty in expending on the works the remainder of the grant.

OOTACAMUND,
11th April 1883.(Signed) J. O. HASTED, Col., R.E.,
Ag. Chief Engineer for Irrigation.

To the Chief Engineer, Public Works Department.

ORDER—dated 16th April 1883, No. 1133 W., Public Works.

Ordered that the proposed scale of establishment be forwarded for the sanction of the Government of India. Meanwhile authority is granted for the entertainment of the office establishment required by Colonel Montgomerie.

(Here enter No. 1134 W., dated 16th April 1883.)

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.To the Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Superintending Engineer, Tank Divisions.
Exd. E. Fernandez.

ENCLOSURE.

STATEMENT showing the proposed scale of special establishment required for improving tanks.

PRESENT SCALE.			PROPOSED SCALE.			INCREASE.		DECREASE.		Grounds of Proposition.
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.	Number.	Amount of Pay.	Number.	Amount of Pay.	
					Minimum. Maximum. Average.					
		RS.			RS. RS. RS.		RS.		RS.	
	1		1	Superintending Engineer, 3rd grade, staff and military pay as Major	 1,341	1	1,341			
	1		1	Executive Engineer, 3rd grade.	 650	1	650			
				<i>Office Establishment.</i>						
	1		1	Clerk, 2nd class, 1st grade ..	160 200 180	1	180			
	1		1	Do. 3rd do. 3rd do. ..	50 60 55	1	55			
	1		1	Do. 4th do. 2nd do. ..	30 40 35	1	35			
	1		1	Do. 4th do. 3rd do. ..	20 30 25	1	25			
	1		1	Do. 4th do. 3rd do. ..	80 100 90	1	90			
	1		1	Draughtsman ..	50 70 60	1	60			
	1		1	Do. ..	35 50 42½	1	42½			
	1		1	Do. ..	35 50 42½	1	42½			
	1		1	Do. ..	 8	1	8			
	1		1	Moochee ..	 18	3	18			
	3		3	Messengers at Rs. 6 each ..	 18	3	18			
	3		3	Lascars at Rs. 6 each ..	 18	3	18			
					2,565	..	2,565			
					135	..	135			
				Travelling allowances ..	 100	..	100			
				Contingencies ..	 2,800	..	2,800			
				Total per mensem ..	 33,600	..	33,600			
				Total per annum ..	 33,600	..	33,600			
				<i>Establishment for one Tank Division.</i>						
	1		1	Executive Engineer, 3rd grade.	 650	1	650			
	1		1	Assistant Engineer, 1st grade ..	 450	1	450			
	1		1	Sub-Engineer, 2nd grade ..	 300	1	300			
	1		1	Supervisor, 2nd grade ..	 150	1	150			
	4		4	Overseers, 2nd grade ..	 320	4	320			
					1,870	..	1,870			
				<i>Office Establishment.</i>						
	1		1	Clerk, 3rd class, 2nd grade ..	60 80 70	1	70			
	1		1	Do. 4th do. 1st do. ..	40 50 45	1	45			
	1		1	Do. 4th do. 2nd do. ..	30 40 35	1	35			
	1		1	Do. 4th do. 2nd do. ..	20 30 25	1	25			
	1		1	Do. 4th do. 3rd do. ..	20 30 25	1	25			
	1		1	Do. 4th do. 3rd do. ..	50 70 60	1	60			
	1		1	Draughtsman, 1st class ..	20 30 25	1	25			
	1		1	Do. 3rd do. ..	 7	1	7			
	1		1	Messenger ..	 6	1	6			
	1		1	Do. ..	 18	3	18			
	3		3	Lascars at Rs. 6 each ..	 18	3	18			
					316	..	316			
				<i>Sub-Divisional Office Establishment.</i>						
	1		1	Clerk, 4th class, 3rd grade ..	20 30 25	1	25			
	1		1	Do. do. ..	20 30 25	1	25			
	1		1	Do. do. ..	20 30 25	1	25			
	3		3	Messengers at Rs. 6 each ..	 18	3	18			
					93	..	93			
					287	..	287			
				Travelling allowances ..	 100	..	100			
				Contingencies ..	 2,666	..	2,666			
				Total per mensem ..	 31,992	..	31,992			
				Total per annum ..	 32,000	..	32,000			
				Or, say ..	 65,600	..	65,600			
				Grand Total ..	 65,600	..	65,600			

(Signed) P. MONTGOMERIE, Lieut.-Col., R.E.,
In Special Charge of Tank Divisions.

No. 26 E.W.

Note by the Acting Chief Engineer for Irrigation.

The list of establishment submitted by Lieutenant-Colonel Montgomerie is recommended for sanction. The scale is the same as laid down in the note submitted to the Honorable Major Baring, and, while the Superintending Engineer and Executive Engineer, with their office establishment, are intended to be temporary, the Tank division will, it is hoped, be made permanent. Permission has been given to the Superintending Engineer to employ temporarily such office establishment and upper subordinates as he requires to start the work, but I have no proposal to make for filling the appointments of Executive and Assistant Engineers, as I am aware that there is not a man whose services can be spared from the permanent staff of the department. At present I should only ask for the Executive Engineer for the Tank division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India, who may be able to supply them.

2. The arrangements to be made in starting the Tank divisions have been discussed with Lieutenant-Colonel Montgomerie, and his action thus far is approved. I am not prepared at present to lay down any rule regarding the agency by which the works estimated as necessary for the restoration of irrigation works are to be carried out. It has been fully realized that the work of investigation will occupy the special establishment employed for a very long time, and it was intended originally that the work estimated for should be carried out under this establishment. This need not be the invariable rule, but I think that, while the work of investigation is progressing in a district, the requirements of various groups will have been ascertained, and the establishment being on the spot, an upper subordinate can be detached to superintend the carrying out of the required work, which could be examined by one of the officers of the special establishment. It may be that some of the work could well be handed over to the Executive Engineer of the division, in cases where his subordinates were employed on work near at hand, but it must be remembered that at present Executive Engineers are unable to spend their ordinary allotments, and to throw more work on them would be to delay all. In other cases the Revenue Department might be willing to carry out work, and occasionally it may be that earthwork might be entrusted to the villagers themselves, but in these instances the work would have to be laid out and examined by an officer of the special establishment. I think it is advisable first to work out the requirements of a part of the Vigay basin, and then, with the maps and estimates prepared, for Lieutenant-Colonel Montgomerie to bring forward proposals for carrying out the works. The establishment now recommended for appointment will cost Rs. 65,600, and from the balance of the 1½ lakhs available, estimates for surveying, putting down bench mark stones, clearing tank bunds, emergently lengthening escapes, &c., will have to be sanctioned, so that, if, as I hope, a considerable part of the basin has been worked out before the north-east monsoon, there should be no difficulty in expending on the works the remainder of the grant.

OOTACAMUND,
11th April 1883.

To the Chief Engineer, Public Works Department.

(Signed) J. O. HASTED, Col., R.E.,
Ag. Chief Engineer for Irrigation.

ORDER—dated 16th April 1883, No. 1133 W., Public Works.

Ordered that the proposed scale of establishment be forwarded for the sanction of the Government of India. Meanwhile authority is granted for the entertainment of the office establishment required by Colonel Montgomerie.

(Here enter No. 1134 W., dated 16th April 1883.)

(True Extract.)

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

To the Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Superintending Engineer, Tank Divisions.
Exd. E. Fernandez.

ENCLOSURE.

STATEMENT showing the proposed scale of special establishment required for improving tanks.

STATEMENT showing the proposed scale of special establishment.												
PRESENT SCALE.			PROPOSED SCALE.				INCREASE.		DECREASE.		Grounds of Proposition.	
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.			Number.	Amount of Pay.	Number.		Amount of Pay.
					Minimum.	Maximum.	Average.					
		RS.			RS.	RS.	RS.		RS.		RS.	
Nil.			1	Superintending Engineer, 3rd grade, staff and military pay as Major ..	..	..	1,341	1	1,341			
			1	Executive Engineer, 3rd grade.	..	..	650	1	650			
				<i>Office Establishment.</i>								
			1	Clerk, 2nd class, 1st grade ..	160	200	180	1	180			
			1	Do. 3rd do. 3rd do. ..	50	60	55	1	55			
			1	Do. 4th do. 2nd do. ..	30	40	35	1	35			
			1	Do. 4th do. 3rd do. ..	20	30	25	1	25			
			1	Do. 4th do. 3rd do. ..	80	100	90	1	90			
			1	Draughtsman ..	50	70	60	1	60			
			1	Do. ..	35	50	42½	1	42½			
			1	Do. ..	35	50	42½	1	42½			
			1	Do. ..	..	..	8	1	8			
			1	Moochee ..	..	..	18	3	18			
			3	Messengers at Rs. 6 each ..	..	..	18	3	18			
			3	Lascars at Rs. 6 each ..	..	..	18	3	18			
							2,565	..	2,565			
					Travelling allowances ..	..	..	135	..	135		
					Contingencies ..	..	..	100	..	100		
								2,800	..	2,800		
					Total per mensem ..	..	..	33,600	..	33,600		
					Total per annum ..	..	..	33,600	..	33,600		
					<i>Establishment for one Tank Division.</i>							
				1	Executive Engineer, 3rd grade.	..	..	650	1	650		
				1	Assistant Engineer, 1st grade ..	..	..	450	1	450		
				1	Sub-Engineer, 2nd grade ..	..	..	300	1	300		
				1	Supervisor, 2nd grade ..	..	..	150	1	150		
				4	Overseers, 2nd grade ..	..	..	320	4	320		
								1,870	..	1,870		
					<i>Office Establishment.</i>							
				1	Clerk, 3rd class, 2nd grade ..	60	80	70	1	70		
				1	Do. 4th do. 1st do. ..	40	50	45	1	45		
				1	Do. 4th do. 2nd do. ..	30	40	35	1	35		
				1	Do. 4th do. 3rd do. ..	20	30	25	1	25		
				1	Do. 4th do. 3rd do. ..	20	30	25	1	25		
				1	Do. 4th do. 3rd do. ..	50	70	60	1	60		
				1	Draughtsman, 1st class ..	20	30	25	1	25		
				1	Do. 3rd do. ..	..	..	7	1	7		
				1	Messenger ..	..	..	6	1	6		
				1	Do. ..	..	..	18	3	18		
				3	Lascars at Rs. 6 each ..	..	..	18	3	18		
							316	..	316			
				<i>Sub-Divisional Office Establishment.</i>								
			1	Clerk, 4th class, 3rd grade ..	20	30	25	1	25			
			1	Do. do. ..	20	30	25	1	25			
			1	Do. do. ..	20	30	25	1	25			
			3	Messengers at Rs. 6 each ..	..	..	18	3	18			
							93	..	93			
				Travelling allowances ..	..	..	287	..	287			
				Contingencies ..	..	..	100	..	100			
				Total per mensem ..	..	..	2,666	..	2,666			
				Total per annum ..	..	..	31,992	..	31,992			
				Or, say ..	..	..	32,000	..	32,000			
				Grand Total ..	..	..	65,600	..	65,600			

(Signed) P. MONTGOMERIE, Lieut.-Col., R.E.,
In Special Charge of Tank Divisions.

No. 26 E.W.

Note by the Acting Chief Engineer for Irrigation.

The list of establishment submitted by Lieutenant-Colonel Montgomerie is recommended for sanction. The scale is the same as laid down in the note submitted to the Honorable Major Baring, and, while the Superintending Engineer and Executive Engineer, with their office establishment, are intended to be temporary, the Tank division will, it is hoped, be made permanent. Permission has been given to the Superintending Engineer to employ temporarily such office establishment and upper subordinates as he requires to start the work, but I have no proposal to make for filling the appointments of Executive and Assistant Engineers, as I am aware that there is not a man whose services can be spared from the permanent staff of the department. At present I should only ask for the Executive Engineer for the Tank division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India, who may be able to supply them.

2. The arrangements to be made in starting the Tank divisions have been discussed with Lieutenant-Colonel Montgomerie, and his action thus far is approved. I am not prepared at present to lay down any rule regarding the agency by which the works estimated as necessary for the restoration of irrigation works are to be carried out. It has been fully realized that the work of investigation will occupy the special establishment employed for a very long time, and it was intended originally that the work estimated for should be carried out under this establishment. This need not be the invariable rule, but I think that, while the work of investigation is progressing in a district, the requirements of various groups will have been ascertained, and the establishment being on the spot, an upper subordinate can be detached to superintend the carrying out of the required work, which could be examined by one of the officers of the special establishment. It may be that some of the work could well be handed over to the Executive Engineer of the division, in cases where his subordinates were employed on work near at hand, but it must be remembered that at present Executive Engineers are unable to spend their ordinary allotments, and to throw more work on them would be to delay all. In other cases the Revenue Department might be willing to carry out work, and occasionally it may be that earthwork might be entrusted to the villagers themselves, but in these instances the work would have to be laid out and examined by an officer of the special establishment. I think it is advisable first to work out the requirements of a part of the Vigay basin, and then, with the maps and estimates prepared, for Lieutenant-Colonel Montgomerie to bring forward proposals for carrying out the works. The establishment now recommended for appointment will cost Rs. 65,600, and from the balance of the $1\frac{1}{2}$ lakhs available, estimates for surveying, putting down bench mark stones, clearing tank bunds, emergently lengthening escapes, &c., will have to be sanctioned, so that, if, as I hope, a considerable part of the basin has been worked out before the north-east monsoon, there should be no difficulty in expending on the works the remainder of the grant.

OOTACAMUND,
11th April 1883.(Signed) J. O. HASTED, Col., R.E.,
Ag. Chief Engineer for Irrigation.

To the Chief Engineer, Public Works Department.

ORDER—dated 16th April 1883, No. 1133 W., Public Works.

Ordered that the proposed scale of establishment be forwarded for the sanction of the Government of India. Meanwhile authority is granted for the entertainment of the office establishment required by Colonel Montgomerie.

(Here enter No. 1134 W., dated 16th April 1883.)

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.To the Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Superintending Engineer, Tank Divisions.
Exd. E. Fernandez.

ENCLOSURE.

STATEMENT showing the proposed scale of special establishment required for improving tanks. 1

PRESENT SCALE.			PROPOSED SCALE.			INCREASE.		DECREASE.		Grounds of Proposition.	
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.			Number.	Amount of Pay.		
					Minimum.	Maximum.	Average.				
Nil.	..	RS.			RS.	RS.	RS.		RS.		
		1	Superintending Engineer, 3rd grade, staff and military pay as Major ..	..	..	1,341	1	1,341			
		1	Executive Engineer, 3rd grade.	..	..	650	1	650			
		Office Establishment.									
		1	Clerk, 2nd class, 1st grade ..	160	200	180	1	180			
		1	Do. 3rd do. 3rd do. ..	50	60	55	1	55			
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35			
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25			
		1	Draughtsman ..	80	100	90	1	90			
		1	Do. ..	50	70	60	1	60			
		1	Do. ..	35	50	42½	1	42½			
		1	Do. ..	35	50	42½	1	42½			
		1	Moochee ..	..	..	18	3	18			
		3	Messengers at Rs. 6 each ..	..	..	18	3	18			
		3	Lascars at Rs. 6 each ..	..	..	18	3	18			
							2,565	..	2,565		
							135	..	135		
							100	..	100		
							2,800	..	2,800		
							33,600	..	33,600		
		Establishment for one Tank Division.									
		1	Executive Engineer, 3rd grade.	..	..	650	1	650			
		1	Assistant Engineer, 1st grade ..	..	..	450	1	450			
		1	Sub-Engineer, 2nd grade ..	..	..	300	1	300			
		1	Supervisor, 2nd grade ..	..	..	150	1	150			
		4	Overseers, 2nd grade ..	..	..	320	4	320			
							1,870	..	1,870		
		Office Establishment.									
		1	Clerk, 3rd class, 2nd grade ..	60	80	70	1	70			
		1	Do. 4th do. 1st do. ..	40	50	45	1	45			
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35			
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25			
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25			
		1	Do. 4th do. 3rd do. ..	50	70	60	1	60			
		1	Draughtsman, 1st class ..	20	30	25	1	25			
		1	Do. 3rd do. ..	..	..	7	1	7			
		1	Messenger ..	..	..	6	1	6			
		1	Do. ..	..	..	18	3	18			
		3	Lascars at Rs. 6 each ..	..	..	18	3	18			
							316	..	316		
Sub-Divisional Office Establishment.											
1	Clerk, 4th class, 3rd grade ..	20	30	25	1	25					
1	Do. do. ..	20	30	25	1	25					
1	Do. do. ..	20	30	25	1	25					
1	Do. do. ..	..	..	18	3	18					
3	Messengers at Rs. 6 each ..	..	..	93	..	93					
					287	..	287				
					100	..	100				
					2,666	..	2,666				
					31,992	..	31,992				
					32,000	..	32,000				
					65,600	..	65,600				
					65,600	..	65,600				

(Signed) P. MONTGOMERIE, Lieut.-Col., R.E.,
In Special Charge of Tank Divisions.

No. 26 E.W.

Note by the Acting Chief Engineer for Irrigation.

The list of establishment submitted by Lieutenant-Colonel Montgomerie is recommended for sanction. The scale is the same as laid down in the note submitted to the Honorable Major Baring, and, while the Superintending Engineer and Executive Engineer, with their office establishment, are intended to be temporary, the Tank division will, it is hoped, be made permanent. Permission has been given to the Superintending Engineer to employ temporarily such office establishment and upper subordinates as he requires to start the work, but I have no proposal to make for filling the appointments of Executive and Assistant Engineers, as I am aware that there is not a man whose services can be spared from the permanent staff of the department. At present I should only ask for the Executive Engineer for the Tank division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India, who may be able to supply them.

2. The arrangements to be made in starting the Tank divisions have been discussed with Lieutenant-Colonel Montgomerie, and his action thus far is approved. I am not prepared at present to lay down any rule regarding the agency by which the works estimated as necessary for the restoration of irrigation works are to be carried out. It has been fully realized that the work of investigation will occupy the special establishment employed for a very long time, and it was intended originally that the work estimated for should be carried out under this establishment. This need not be in a district, the requirements of various groups will have been ascertained, and the establishment being on the spot, an upper subordinate can be detached to superintend the carrying out of the required work, which could be examined by one of the officers of the special establishment. It may be that some of the work could well be handed over to the Executive Engineer of the division, in cases where his subordinates were employed on work near at hand, but it must be remembered that at present Executive Engineers are unable to spend their ordinary allotments, and to throw more work on them would be to delay all. In other cases the Revenue Department might be willing to carry out work, and occasionally it may be that earthwork might be entrusted to the villagers themselves, but in these instances the work would have to be laid out and examined by an officer of the special establishment. I think it is advisable first to work out the requirements of a part of the Vigay basin, and then, with the maps and estimates prepared, for Lieutenant-Colonel Montgomerie to bring forward proposals for carrying out the works. The establishment now recommended for appointment will cost Rs. 65,600, and from the balance of the $1\frac{1}{2}$ lakhs available, estimates for surveying, putting down bench mark stones, clearing tank bunds, emergently lengthening escapes, &c., will have to be sanctioned, so that, if, as I hope, a considerable part of the basin has been worked out before the north-east monsoon, there should be no difficulty in expending on the works the remainder of the grant.

OOTACAMUND,
11th April 1883.

To the Chief Engineer, Public Works Department.

(Signed) J. O. HASTED, Col., R.E.,
Ag. Chief Engineer for Irrigation.

ORDER—dated 16th April 1883, No. 1133 W., Public Works.

Ordered that the proposed scale of establishment be forwarded for the sanction of the Government of India. Meanwhile authority is granted for the entertainment of the office establishment required by Colonel Montgomerie.

(Here enter No. 1134 W., dated 16th April 1883.)

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.To the Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Superintending Engineer, Tank Divisions.
Exd. E. Fernandez.

ENCLOSURE.

STATEMENT showing the proposed scale of special establishment required for improving tanks.

STATEMENT showing the proposed scale of pay												
PRESENT SCALE.			PROPOSED SCALE.				INCREASE.		DECREASE.		Grounds of Proposition.	
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.			Number.	Amount of Pay.	Number.		Amount of Pay.
					Minimum.	Maximum.	Average.					
		RS.			RS.	RS.	RS.		RS.		RS.	
Nil.	..	1	Superintending Engineer, 3rd grade, staff and military pay as Major ..	..	..	..	1,341	1	1,341			
		1	Executive Engineer, 3rd grade.	..	..	..	650	1	650			
		Office Establishment.										
		1	Clerk, 2nd class, 1st grade ..	160	200	180	1	180				
		1	Do. 3rd do. 3rd do. ..	50	60	55	1	55				
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35				
		1	Do. 4th do. 2nd do. ..	20	30	25	1	25				
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25				
		1	Draughtsman ..	80	100	90	1	90				
		1	Do. ..	50	70	60	1	60				
		1	Do. ..	35	50	42½	1	42½				
		1	Do. ..	35	50	42½	1	42½				
		1	Do. ..	..	..	8	1	8				
		1	Moochee ..	..	..	18	3	18				
		3	Messengers at Rs. 6 each ..	..	..	18	3	18				
		3	Lascars at Rs. 6 each ..	..	..	18	3	18				
								2,565	..	2,565		
								135	..	135		
								100	..	100		
								2,800	..	2,800		
								33,600	..	33,600		
			</									

(Signed) P. MONTGOMERIE, Lieut.-Col., R.E.,
In Special Charge of Tank Divisions.

No. 26 E.W.

Note by the Acting Chief Engineer for Irrigation.

The list of establishment submitted by Lieutenant-Colonel Montgomerie is recommended for sanction. The scale is the same as laid down in the note submitted to the Honorable Major Baring, and, while the Superintending Engineer and Executive Engineer, with their office establishment, are intended to be temporary, the Tank division will, it is hoped, be made permanent. Permission has been given to the Superintending Engineer to employ temporarily such office establishment and upper subordinates as he requires to start the work, but I have no proposal to make for filling the appointments of Executive and Assistant Engineers, as I am aware that there is not a man whose services can be spared from the permanent staff of the department. At present I should only ask for the Executive Engineer for the Tank division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India, who may be able to supply them.

2. The arrangements to be made in starting the Tank divisions have been discussed with Lieutenant-Colonel Montgomerie, and his action thus far is approved. I am not prepared at present to lay down any rule regarding the agency by which the works estimated as necessary for the restoration of irrigation works are to be carried out. It has been fully realized that the work of investigation will occupy the special establishment employed for a very long time, and it was intended originally that the work estimated for should be carried out under this establishment. This need not be the invariable rule, but I think that, while the work of investigation is progressing in a district, the requirements of various groups will have been ascertained, and the establishment being on the spot, an upper subordinate can be detached to superintend the carrying out of the required work, which could be examined by one of the officers of the special establishment. It may be that some of the work could well be handed over to the Executive Engineer of the division, in cases where his subordinates were employed on work near at hand, but it must be remembered that at present Executive Engineers are unable to spend their ordinary allotments, and to throw more work on them would be to delay all. In other cases the Revenue Department might be willing to carry out work, and occasionally it may be that earthwork might be entrusted to the villagers themselves, but in these instances the work would have to be laid out and examined by an officer of the special establishment. I think it is advisable first to work out the requirements of a part of the Vigay basin, and then, with the maps and estimates prepared, for Lieutenant-Colonel Montgomerie to bring forward proposals for carrying out the works. The establishment now recommended for appointment will cost Rs. 65,600, and from the balance of the $1\frac{1}{2}$ lakhs available, estimates for surveying, putting down bench mark stones, clearing tank bunds, emergently lengthening escapes, &c., will have to be sanctioned, so that, if, as I hope, a considerable part of the basin has been worked out before the north-east monsoon, there should be no difficulty in expending on the works the remainder of the grant.

OOTACAMUND,
11th April 1883.

(Signed) J. O. HASTED, Col., R.E.,
Ag. Chief Engineer for Irrigation.

To the Chief Engineer, Public Works Department.

ORDER—dated 16th April 1883, No. 1133 W., Public Works.

Ordered that the proposed scale of establishment be forwarded for the sanction of the Government of India. Meanwhile authority is granted for the entertainment of the office establishment required by Colonel Montgomerie.

(Here enter No. 1134 W., dated 16th April 1883.)

(True Extract.)

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

To the Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Superintending Engineer, Tank Divisions.
Exd. E. Fernandez.

ENCLOSURE.

STATEMENT showing the proposed scale of special establishment required for improving tanks.

PRESENT SCALE.				PROPOSED SCALE.			INCREASE.		DECREASE.		Grounds of Proposition.		
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.			Number.	Amount of Pay.	Number.		Amount of Pay.	
					Minimum.	Maximum.	Average.						
		RS.			RS.	RS.	RS.		RS.		RS.		
Nil.	..	1	Superintending Engineer, 3rd grade, staff and military pay as Major ..	..	..	..	1,341	1	1,341				
		1	Executive Engineer, 3rd grade.	..	..	..	650	1	650				
		Office Establishment.											
		1	Clerk, 2nd class, 1st grade ..	160	200	180	1	180					
		1	Do. 3rd do. 3rd do. ..	50	60	55	1	55					
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35					
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
		1	Draughtsman ..	80	100	90	1	90					
		1	Do. ..	50	70	60	1	60					
		1	Do. ..	35	50	42½	1	42½					
		1	Do. ..	35	50	42½	1	42½					
		1	Do. ..	..	..	8	1	8					
		1	Moochee ..	..	..	18	3	18					
		3	Messengers at Rs. 6 each ..	..	..	18	3	18					
		3	Lascars at Rs. 6 each ..	..	..	18	3	18					
									2,565	..	2,565		
									135	..	135		
									100	..	100		
									2,800	..	2,800		
									33,600	..	33,600		
		Establishment for one Tank Division.											
		1	Executive Engineer, 3rd grade.	..	..	..	650	1	650				
		1	Assistant Engineer, 1st grade ..	..	..	..	450	1	450				
		1	Sub-Engineer, 2nd grade ..	..	..	..	300	1	300				
		1	Supervisor, 2nd grade ..	..	..	..	150	1	150				
		4	Overseers, 2nd grade ..	..	..	..	320	4	320				
									1,870	..	1,870		
		Office Establishment.											
		1	Clerk, 3rd class, 2nd grade ..	60	80	70	1	70					
		1	Do. 4th do. 1st do. ..	40	50	45	1	45					
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35					
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
		1	Draughtsman, 1st class ..	50	70	60	1	60					
		1	Do. 3rd do. ..	20	30	25	1	25					
		1	Messenger ..	..	..	7	1	7					
		1	Do. ..	..	..	6	1	6					
		1	Do. ..	..	..	18	3	18					
		3	Lascars at Rs. 6 each ..	..	..	18	3	18					
									316	..	316		
Sub-Divisional Office Establishment.													
1	Clerk, 4th class, 3rd grade ..	20	30	25	1	25							
1	Do. do. ..	20	30	25	1	25							
1	Do. do. ..	20	30	25	1	25							
3	Messengers at Rs. 6 each ..	..	..	18	3	18							
							93	..	93				
							287	..	287				
							100	..	100				
							2,666	..	2,666				
							31,992	..	31,992				
							32,000	..	32,000				
							65,600	..	65,600				

(Signed) P. MONTGOMERIE, Lieut.-Col., R.E.,
In Special Charge of Tank Divisions.

No. 26 E.W.

Note by the Acting Chief Engineer for Irrigation.

The list of establishment submitted by Lieutenant-Colonel Montgomerie is recommended for sanction. The scale is the same as laid down in the note submitted to the Honorable Major Baring, and, while the Superintending Engineer and Executive Engineer, with their office establishment, are intended to be temporary, the Tank division will, it is hoped, be made permanent. Permission has been given to the Superintending Engineer to employ temporarily such office establishment and upper subordinates as he requires to start the work, but I have no proposal to make for filling the appointments of Executive and Assistant Engineers, as I am aware that there is not a man whose services can be spared from the permanent staff of the department. At present I should only ask for the Executive Engineer for the Tank division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India, who may be able to supply them.

2. The arrangements to be made in starting the Tank divisions have been discussed with Lieutenant-Colonel Montgomerie, and his action thus far is approved. I am not prepared at present to lay down any rule regarding the agency by which the works estimated as necessary for the restoration of irrigation works are to be carried out. It has been fully realized that the work of investigation will occupy the special establishment employed for a very long time, and it was intended originally that the work estimated for should be carried out under this establishment. This need not be the invariable rule, but I think that, while the work of investigation is progressing in a district, the requirements of various groups will have been ascertained, and the establishment being on the spot, an upper subordinate can be detached to superintend the carrying out of the required work, which could be examined by one of the officers of the special establishment. It may be that some of the work could well be handed over to the Executive Engineer of the division, in cases where his subordinates were employed on work near at hand, but it must be remembered that at present Executive Engineers are unable to spend their ordinary allotments, and to throw more work on them would be to delay all. In other cases the Revenue Department might be willing to carry out work, and occasionally it may be that earthwork might be entrusted to the villagers themselves, but in these instances the work would have to be laid out and examined by an officer of the special establishment. I think it is advisable first to work out the requirements of a part of the Vigay basin, and then, with the maps and estimates prepared, for Lieutenant-Colonel Montgomerie to bring forward proposals for carrying out the works. The establishment now recommended for appointment will cost Rs. 65,600, and from the balance of the $1\frac{1}{2}$ lakhs available, estimates for surveying, putting down bench mark stones, clearing tank bunds, emergently lengthening escapes, &c., will have to be sanctioned, so that, if, as I hope, a considerable part of the basin has been worked out before the north-east monsoon, there should be no difficulty in expending on the works the remainder of the grant.

OOTACAMUND,
11th April 1883.(Signed) J. O. HASTED, Col., R.E.,
Ag. Chief Engineer for Irrigation.

To the Chief Engineer, Public Works Department.

ORDER—dated 16th April 1883, No. 1133 W., Public Works.

Ordered that the proposed scale of establishment be forwarded for the sanction of the Government of India. Meanwhile authority is granted for the entertainment of the office establishment required by Colonel Montgomerie.

(Here enter No. 1134 W., dated 16th April 1883.)

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.To the Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Superintending Engineer, Tank Divisions.
Exd. E. Fernandez.

ENCLOSURE.

STATEMENT showing the proposed scale of special establishment required for improving tanks.

PRESENT SCALE.			PROPOSED SCALE.						INCREASE.		DECREASE.		Grounds of Proposition.
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.			Number.	Amount of Pay.	Number.	Amount of Pay.		
					Minimum.	Maximum.	Average.						
Nil.	..	RS.			RS.	RS.	RS.		RS.		RS.		
		1	Superintending Engineer, 3rd grade, staff and military pay as Major ..	..	..	1,341	1	1,341					
		1	Executive Engineer, 3rd grade.	..	..	650	1	650					
		Office Establishment.											
		1	Clerk, 2nd class, 1st grade ..	160	200	180	1	180					
		1	Do. 3rd do. 3rd do. ..	50	60	55	1	55					
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35					
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25					
		1	Draughtsman ..	80	100	90	1	90					
		1	Do. ..	50	70	60	1	60					
		1	Do. ..	35	50	42½	1	42½					
		1	Do. ..	35	50	42½	1	42½					
		1	Moochee ..	..	..	8	1	8					
		3	Messengers at Rs. 6 each ..	..	..	18	3	18					
		3	Lascars at Rs. 6 each ..	..	..	18	3	18					
							2,565	..	2,565				
		Travelling allowances ..					135	..	135				
		Contingencies ..					100	..	100				
		Total per mensem ..					2,800	..	2,800				
		Total per annum ..					33,600	..	33,600				
		Establishment for one Tank Division.											
		1	Executive Engineer, 3rd grade.	..	..	650	1	650					
		1	Assistant Engineer, 1st grade ..	..	..	450	1	450					
		1	Sub-Engineer, 2nd grade ..	..	..	300	1	300					
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		1	Clerk, 3rd class, 2nd grade ..	60	80	70	1	70					
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		1	Do. 3rd do. ..	20	30	25	1	25					
		1	Messenger ..	..	..	7	1	7					
		1	Do. ..	..	..	6	1	6					
		1	Do. ..	..	..	18	3	18					
		3	Lascars at Rs. 6 each ..	..	..	..	..	..					
							316	..	316				
Sub-Divisional Office Establishment.													
1	Clerk, 4th class, 3rd grade ..	20	30	25	1	25							
1	Do. do. ..	20	30	25	1	25							
1	Do. do. ..	20	30	25	1	25							
3	Messengers at Rs. 6 each ..	..	..	18	3	18							
					93	..	93						
Travelling allowances ..					287	..	287						
Contingencies ..					100	..	100						
Total per mensem ..					2,666	..	2,666						
Total per annum ..					31,992	..	31,992						
Or, say ..					32,000	..	32,000						
Grand Total ..					65,600	..	65,600						

(Signed) P. MONTGOMERIE, Lieut.-Col., R.E.,
In Special Charge of Tank Divisions.

No. 26 E.W.

Note by the Acting Chief Engineer for Irrigation.

The list of establishment submitted by Lieutenant-Colonel Montgomerie is recommended for sanction. The scale is the same as laid down in the note submitted to the Honorable Major Baring, and, while the Superintending Engineer and Executive Engineer, with their office establishment, are intended to be temporary, the Tank division will, it is hoped, be made permanent. Permission has been given to the Superintending Engineer to employ temporarily such office establishment and upper subordinates as he requires to start the work, but I have no proposal to make for filling the appointments of Executive and Assistant Engineers, as I am aware that there is not a man whose services can be spared from the permanent staff of the department. At present I should only ask for the Executive Engineer for the Tank division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India, who may be able to supply them.

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OOTACAMUND,
11th April 1883.(Signed) J. O. HASTED, Col., R.E.,
Ag. Chief Engineer for Irrigation.

To the Chief Engineer, Public Works Department.

ORDER—dated 16th April 1883, No. 1133 W., Public Works.

Ordered that the proposed scale of establishment be forwarded for the sanction of the Government of India. Meanwhile authority is granted for the entertainment of the office establishment required by Colonel Montgomerie.

(Here enter No. 1134 W., dated 16th April 1883.)

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.To the Chief Engineer for Irrigation.
" Examiner, Public Works Accounts.
" Superintending Engineer, Tank Divisions.
Exd. E. Fernandez.

PUBLIC WORKS DEPARTMENT.

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,

Adverting to your letter, No. 40 I., dated 26th January 1883, communicating the approval of the Government of India to the financial programme which has been prepared for dealing with the minor irrigation works of the Madras Presidency, I am now directed to forward, for sanction, a statement showing the scale of special establishment required for dealing systematically with the tank systems. The scale is the same as that laid down in the note by the Chief Engineer for Irrigation, copy of which accompanied my letter, No. 3273 W., dated 11th December 1882. The establishment of the Tank division should, in the opinion of this Government, form an addition to the permanent sanctioned scale, while the Superintending Engineer and the Executive Engineer attached to his office, with their establishment of clerks, are intended to be temporary only. The cost will be met from the grants sanctioned in your letter, No. 40 I., dated 26th January 1883, which are to cover expenditure both under Works and Establishment.

2. As regards the officers required to fill appointments as Executive and Assistant Engineers, I am to invite attention to my letter, No. 1132 W., of this day, in which it is explained that this Government are not in a position to provide suitable incumbents, and to request that the Government of India will, if possible, engage the services of officers with the requisite qualifications.

3. Should the Government of India be pleased to sanction a permanent increase in the strength of the establishment to meet the requirements, I am to express a hope that no transfer of a senior officer be made from another province, as looking to the unduly retarded promotion of the officers in this department and for other reasons His Excellency the Governor in Council would venture strongly to deprecate any such measure.

4. I am to add that the Superintending Engineer has been authorized to at once entertain his office establishment to admit of a commencement being made with the inquiry on which he is to be engaged, and to this proceeding I am to request the confirmation of the Government of India.

I have the honor to be,

Sir,

Your most obedient servant,

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Government, P.W.D.FORT ST. GEORGE,
16th April 1883.

Exd. E. Fernandez.

PUBLIC WORKS DEPARTMENT.

LETTER—from

COLONEL R. H. SANKEY, C.B., R.E.,

Secretary to the Government of Madras,

Public Works Department,

To

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FORT ST. GEORGE,
16th April 1883.

Exd. E. Fernandez.

16TH APRIL 1883, No. 1134 W., PUBLIC WORKS.

PUBLIC WORKS DEPARTMENT.

LETTER—from

COLONEL R. H. SANKEY, C.B., R.E.,

Secretary to the Government of Madras,

Public Works Department,

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PUBLIC WORKS DEPARTMENT.

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Secretary to Government, P.W.D.

FORT ST. GEORGE,
16th April 1883.

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PUBLIC WORKS DEPARTMENT.

LETTER—from

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16th April 1883.

Exd. E. Fernandez.

16TH APRIL 1883, No. 1134 W., PUBLIC WORKS.

PUBLIC WORKS DEPARTMENT.

LETTER—from

COLONEL R. H. SANKEY, C.B., R.E.,

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Your most obedient servant,

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

FORT ST. GEORGE,
16th April 1883.

Exd. E. Fernandez.

16TH APRIL 1883, No. 1134 W., PUBLIC WORKS.

PUBLIC WORKS DEPARTMENT.

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.

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GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

READ—the following papers:—

From Lieutenant-Colonel P. MONTGOMERIE, R.E., in special charge of Tank Divisions, to the Chief Engineer for Irrigation, dated Chepâk, 30th March 1883, No. 3.

With reference to G.O., No. 743 W., dated 7th March 1883, appointing me for special duty in your office in connection with the work of the new Tank divisions authorized in Proceedings of Madras Government, No. 143 I., dated 12th February 1883, I have the honor to submit a statement of the establishment required to make up one Tank division, costing Rs. 32,000 per annum, as proposed in your note* on minor

* Also a statement of the special establishment irrigation works, dated 27th November 1882, and to request permission to appoint, to be attached to your office, Rs. 33,600. temporarily, from the 1st April 1883, the

draughtsmen and office establishments included therein, to enable me to put in hand the preparatory work required in connection with the professional investigations on which the Tank divisions have to be employed.

2. As you are aware, there is a vast quantity of information in the Revenue Survey office, connected with the districts in which these operations will be carried out, although unfortunately this information has not been arranged altogether in a manner suitable for our purpose. There is also a good deal of data with reference to the grouping of the minor irrigation works generally, in a more or less disconnected form, available in your office, and perhaps also in some of the district offices. And I need hardly point out that the more completely this information is utilized, preparatory to the field work in the districts being taken up, the less will be the delay in completing the professional investigation which is the fundamental work required in the practical treatment of the minor irrigation works of the presidency.

3. I propose carrying out these professional investigations somewhat on the system followed for the Mysore tank scheme, but the same detail will not be necessary if the information in the Revenue Survey office can be utilized. The detailed instructions for a systematic prosecution of these investigations will be forwarded to you, in due course, for approval; they will be based on the Irrigation circulars which have, from time to time, been issued from your office. And I am in hopes of being able to embody, in a more comprehensive manner, the substance of these circulars with other hydraulic data in the form of a Manual, for the use and guidance of the tank divisions or for the conservancy establishment that may supersede them in the future. This, however, must take time.

4. From the tenor of your remarks, in your note above referred to, it would appear that it is proposed to utilize the new Tank divisions not only in the work of investigation, estimating and registering, but also in the actual execution and supervision of work at the same time. If this be the intention, I would venture respectfully to point out that these absolutely necessary and essential investigations will

never be completed within a definite period: for it is very certain that, before the period of fifty-five years, which you allow will be necessary to complete the work, has elapsed, famines, wars and other distracting influences must be reckoned upon, and the collapse of the operations will be as complete as that of the Mysore scheme apparently was under the pressure of the last famine. Whereas, on the contrary, if the investigation and estimating is in an advanced state, the mere accident of a famine must advance rather than retard any scheme for actually carrying out the work.

5. Without asking you, therefore, to commit yourself to any scheme for the actual maintenance and repair of the minor irrigation works of the Madras presidency, which must necessarily be more of a revenue than a professional question, and which will depend, in a great measure, on the intentions of Government, with reference to the revival of Kudimaramut, the enforcement of an Irrigation Act, and the extent to which the Revenue Department will be required to carry out all necessary unskilled labor, by means of the cultivators themselves, I would most strongly recommend that, in the treatment of the subject generally, the principle of carrying out the professional investigations separately and distinctly from the actual execution of the work be strictly followed, at least for some time to come. Should this principle meet with approval, I shall attend to this portion of the scheme with the view to insuring the systematic examination and record of all the minor irrigation works throughout the presidency within a definite period.

6. The importance and magnitude of these preliminary operations do not appear to be fully realized; and I would venture to draw your attention to the remarks of the late Colonel W. R. Johnson, Superintending Engineer, Mysore, who, in the 6th paragraph of his memorandum of the 14th February 1882, stated: "It may be as well here to give some idea of the amount of preliminary work this scheme entailed. I pointed out that this work would be necessary before the restoration of the tanks could be commenced, and estimated that the establishment charges alone would probably amount to 50 per cent. of the total cost of the work." Captain Woodward, R.E., in his report on the working of the Ceylon Ordinance, dated 22nd August 1874, says with reference to preliminary operations: "The large tank of Bassawakulamintended for the irrigation of about 1,000 acres..... The extensive surveys required to ascertain the capabilities of this tank occupied two officers for eight months." And again: "The repairs of the Mahawema Madawachiya, a tank..... to irrigate 300 acres..... The survey occupied one officer nearly five months."

In drawing up the Mysore tank scheme it was estimated that one individual could examine and dispose of 47 tanks in a year, but whether so much was actually accomplished is not clear. If, however, we take 50 minor irrigation works as the most which one individual can dispose of, it will take the entire strength of the six Tank divisions fifteen years to deal with the 50,000 minor irrigation works of Madras.

7. This investigation work is even more necessary for the treatment of the minor irrigation works than the revenue survey is for the settlement of the land revenue, and it must be carried out in as complete and systematic a manner as possible, whatever other arrangements are made for the execution of the work thereafter. And the only possible circumstances under which the carrying out of these investigations might be considered unnecessary would be in the event of the entire abandonment of all the minor irrigation works being decided upon. The abandonment of a few, or even of a considerable number, of them would not lessen the investigation work in the least; for, until the investigations have been carried out, it cannot possibly be decided which tanks may be abandoned.

8. As I understand that it is the wish of Government to commence operations in the Madura district as soon as practicable, I have written to the Superintendent of the Revenue Survey Department to put in hand at once the detailed irrigation maps required for that district, and to complete them so far as information is available in his office; and the Tank divisions, if appointed, will probably be in a position to commence work energetically in about a couple of months' time.

9. There are other localities for which information is much more complete than for Madura, and the collection of these data will also be proceeded with, if the temporary establishment now asked for is allowed. And as soon as I have some office establishment, I shall prepare and submit estimates for the maps to be prepared by the Revenue Survey Department, &c.

ENCLOSURE.

STATEMENT showing the proposed scale of special establishment required for improving tanks.

PRESENT SCALE.			PROPOSED SCALE.			INCREASE.		DECREASE.		Grounds of Proposition.		
Number.	Designation.	Amount of Pay.	Number.	Designation.	Amount of Pay.			Number.	Amount of Pay.		Number.	Amount of Pay.
					Minimum.	Maximum.	Average.					
		RS.			RS.	RS.	RS.		RS.		RS.	
NIL.	..	1	Superintending Engineer, 3rd grade, staff and military pay as Major ..	..	..	1,341	1	1,341				
		1	Executive Engineer, 3rd grade.	..	..	650	1	650				
		<i>Office Establishment.</i>										
		1	Clerk, 2nd class, 1st grade ..	160	200	180	1	180				
		1	Do. 3rd do. 3rd do. ..	50	60	55	1	55				
		1	Do. 4th do. 2nd do. ..	30	40	35	1	35				
		1	Do. 4th do. 2nd do. ..	20	30	25	1	25				
		1	Do. 4th do. 3rd do. ..	80	100	90	1	90				
		1	Draughtsman ..	50	70	60	1	60				
		1	Do. ..	35	50	42½	1	42½				
		1	Do. ..	35	50	42½	1	42½				
		1	Do. ..	..	..	8	1	8				
		1	Moochee ..	..	..	18	3	18				
		3	Messengers at Rs. 6 each ..	..	..	18	3	18				
		3	Lascars at Rs. 6 each ..	..	..	18	3	18				
							2,565	..	2,565			
							135	..	135			
							100	..	100			
							2,800	..	2,800			
							33,600	..	33,600			
		<i>Establishment for one Tank Division.</i>										
		1	Executive Engineer, 3rd grade.	..	..	650	1	650				
		1	Assistant Engineer, 1st grade ..	..	..	450	1	450				
		1	Sub-Engineer, 2nd grade ..	..	..	300	1	300				
		1	Supervisor, 2nd grade ..	..	..	150	1	150				
		1	Supervisor, 2nd grade ..	..	..	320	4	320				
		4	Overseers, 2nd grade ..	..	..	320	4	320				
							1,870	..	1,870			
		<i>Office Establishment.</i>										
		1	Clerk, 3rd class, 2nd grade ..	60	80	70	1	70				
		1	Do. 4th do. 1st do. ..	40	50	45	1	45				
		1	Do. 4th do. 1st do. ..	30	40	35	1	35				
		1	Do. 4th do. 2nd do. ..	20	30	25	1	25				
		1	Do. 4th do. 3rd do. ..	20	30	25	1	25				
		1	Do. 4th do. 3rd do. ..	50	70	60	1	60				
		1	Draughtsman, 1st class ..	20	30	25	1	25				
		1	Do. 3rd do. ..	..	..	7	1	7				
		1	Messenger ..	..	..	6	1	6				
		1	Do. ..	..	..	18	3	18				
		3	Lascars at Rs. 6 each ..	..	..	18	3	18				
					316	..	316					
<i>Sub-Divisional Office Establishment.</i>												
1	Clerk, 4th class, 3rd grade ..	20	30	25	1	25						
1	Do. do. ..	20	30	25	1	25						
1	Do. do. ..	20	30	25	1	25						
3	Messengers at Rs. 6 each ..	..	..	18	3	18						
					93	..	93					
					287	..	287					
					100	..	100					
					2,666	..	2,666					
					31,992	..	31,992					
					32,000	..	32,000					
					65,600	..	65,600					

(Signed)

P. MONTGOMERIE, Lieut.-Col., R.E.,
In Special Charge of Tank Divisions.

No. 26 E.W.

Note by the Acting Chief Engineer for Irrigation.

The list of establishment submitted by Lieutenant-Colonel Montgomerie is recommended for sanction. The scale is the same as laid down in the note submitted to the Honorable Major Baring, and, while the Superintending Engineer and Executive Engineer, with their office establishment, are intended to be temporary, the Tank division will, it is hoped, be made permanent. Permission has been given to the Superintending Engineer to employ temporarily such office establishment and upper subordinates as he requires to start the work, but I have no proposal to make for filling the appointments of Executive and Assistant Engineers, as I am aware that there is not a man whose services can be spared from the permanent staff of the department. At present I should only ask for the Executive Engineer for the Tank division, as the other Executive Engineer is not yet wanted. If officers are not available I can only suggest a reference being made to the Government of India, who may be able to supply them.

2. The arrangements to be made in starting the Tank divisions have been discussed with Lieutenant-Colonel Montgomerie, and his action thus far is approved. I am not prepared at present to lay down any rule regarding the agency by which the works estimated as necessary for the restoration of irrigation works are to be carried out. It has been fully realized that the work of investigation will occupy the special establishment employed for a very long time, and it was intended originally that the work estimated for should be carried out under this establishment. This need not be the invariable rule, but I think that, while the work of investigation is progressing in a district, the requirements of various groups will have been ascertained, and the establishment being on the spot, an upper subordinate can be detached to superintend the carrying out of the required work, which could be examined by one of the officers of the special establishment. It may be that some of the work could well be handed over to the Executive Engineer of the division, in cases where his subordinates were employed on work near at hand, but it must be remembered that at present Executive Engineers are unable to spend their ordinary allotments, and to throw more work on them would be to delay all. In other cases the Revenue Department might be willing to carry out work, and occasionally it may be that earthwork might be entrusted to the villagers themselves, but in these instances the work would have to be laid out and examined by an officer of the special establishment. I think it is advisable first to work out the requirements of a part of the Vigay basin, and then, with the maps and estimates prepared, for Lieutenant-Colonel Montgomerie to bring forward proposals for carrying out the works. The establishment now recommended for appointment will cost Rs. 65,600, and from the balance of the 1½ lakhs available, estimates for surveying, putting down bench mark stones, clearing tank bunds, emergently lengthening escapes, &c., will have to be sanctioned, so that, if, as I hope, a considerable part of the basin has been worked out before the north-east monsoon, there should be no difficulty in expending on the works the remainder of the grant.

OOTACAMUND,
11th April 1883.

(Signed) J. O. HASTED, Col., R.E.,
Ag. Chief Engineer for Irrigation.

To the Chief Engineer, Public Works Department.

ORDER—dated 16th April 1883, No. 1133 W., Public Works.

Ordered that the proposed scale of establishment be forwarded for the sanction of the Government of India. Meanwhile authority is granted for the entertainment of the office establishment required by Colonel Montgomerie.

(Here enter No. 1134 W., dated 16th April 1883.)

(True Extract.)

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

To the Chief Engineer for Irrigation.
„ Examiner, Public Works Accounts.
„ Superintending Engineer, Tank Divisions.
Exd. E. Fernandez.