M.R.O. 1—77,006—8-6-37.

(1) Number of pages 42

(2) Date of repair 6-3-1941

(3) Initials of the Referencer

MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

G.O. No. 957 Press Mis.
60—68

Dated 5 4 1870.

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department, 5th April 1870.

Read the following letters :—

No. 60. From the Acting Superintending Engineer, 1st Division.
(Here enter No. 3,214, dated 6th December 1869.)

No. 61. From Do. do. 2nd do.
(Do. ,, 80, dated 2nd September ,,)

No. 62. From Do. do. 3rd do.
(Do. ,, ,, 2nd February ,,)

No. 63. From Do. do. 4th do.
(Do. ,, 3,995, ,, 1st November ,,)

No. 64. From Do. do. 5th do.
(Do. ,, 111, ,, 24th do. ,,)

No. 65. From Do. do. 6th do.
(Do. ,, 998, ,, 27th ,,)

No. 66. From Do. do. 7th do.
(Do. ,, 148 ,, 3rd December ,,)

No. 67. From the Officiating do. 8th do.
(Do. ,, 2,075, ,, 3rd do. ,,)

No. 68. ORDER THEREON, 5th April 1870, No. 951.

ESTABLISHMENT, No. 4.

IN these papers the Superintending Engineers report, in compliance with G. O., No. 2,435, dated 24th July 1869, on the qualifications of such of the Surveyors employed under their orders as have been trained at the Civil Engineering College.

2. The Government cannot consider these reports, taken as a whole, to be satisfactory. They appear to indicate some deficiency in the system of the Engineering College in imparting a practical knowledge in surveying and field-work generally.

3. The attention of the Principal will be particularly called to this point and he will have the goodness to submit suggestions, with the view of ensuring a greater efficiency in this respect.

4. Captain Edgcome will also notice the remarks submitted by the Ellore Range Officer, 1st Division, on the qualifications of the Draughts-men trained in the College who are furnished with First Class Certificates.

(True Extract.)
(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government.

To the Principal of the Civil Engineering College.
Educational Depte.

Exd. E. C. Shunker.

Govt. of {1870}. Madras.

PUBLIC WORKS.

To

THE PRINCIPAL OF THE CIVIL ENGINEERING COLLEGE.

Dated April 5th.

Recd.

Encl.

G. O., 5th April 1870, No. 931.

APRIL

Nos. 60-68

Surveyors.—Passing orders on papers containing the reports of the several Superintending Engineers on the qualifications of such of the Surveyors employed under their orders as have been trained at the Civil Engineering College.

No. 80 Superintending Engrs Office 2nd Division Cuddalore 2nd September 1869.

From

Lieut-Colonel F. J. Nokerby R.E.
Superintending Engineer
2nd Division

To

Colonel C. A. Orr R.E.
Secretary to Government
Public Works Department.

Sir,

In reply to G.O. No 2435. 24 July 1869 I have the honor to report, that the Surveyors who have joined this Division have been very deficient in practice, they knew very little more than the mere use of the levelling instruments, and were generally very careless as to the correctness of their work.

2. They have however, with I think only one exception, improved very much under Range Officers who look after them have turned out very useful.

I have the honor to be
Sir,
Your most Obedient Servant

F. J. Nokerby Lt Colonel R.E.

Supdg Engr 2nd Division

No 111

Submitting Enquiries Opinion &c &c
Salem, 24th September 1869.

From
The Assistant Engineering Engineer
5th Division.

To
The Secretary to Government
P.W.D.

Sir,

With reference to Govt. O. No. 2435
of the 24th July 1869, I have the honor
to state that the only drawings which has
been supplied in this division and which
has been examined at the Civil Engineering
College is Engineer H. Orme's
Vaniyambadi division.

2. He has completed the drawings &c
of the bridges for Engineering the Salem
Ulundurpet Road which is now being
laid Chief Engineer for Irrigation, and
he is now employed on the under Engineer
of Trichinopoly Division Engineer-in
Southern Circle. He is an efficient draughtsman
and satisfactory and a good draughtsman.

I have &c

Ordered to be recorded.

Director of Public Works
Ships / Dn

Dy. No. 1869 Dept.
2nd Do
Dy. No. 3776.
From The Supt Engineer
2nd Division
To
The Secretary to Govt
No 2084 P.W. Madras
Dated 2nd September 1869
Ref 6 " "
No 951-6 April 70
Respecting G.O. No 2435
of 24 July 1869 regarding
the Establishment -

No 61

With an order

C-21st March 1870 Dr. 29

but it should be also remembered that, previous to his arrival in this Country, he had to pass through a course of surveying and plan drawing, at the Royal Engineer Establishment, Chatham.

3. In 1867 one Surveyor, named Samiah Pillay, was sent down from the Civil Engineering College for the investigation of the Badatala Tank project in Salem. This man was found unfit for the post and consequently dismissed; but the Principal of the College reported that he was not trained specially as a Surveyor, and he was nominated to the post as he had passed well in surveying in the Examination for Cuttack, Bengal Standard.

I have the honor to be
Sir,
Your Most obedient Servant.
Ed Mal. Colonel R.E.
Superintending Engineer.

Supt. Engr. Office 4th Dn.
Madras 4th November 1869.

No. 3995.

From,
Lieut. Colonel J. Dean R.E.
4th Dn.

W. Dept.
ut Gregg
er No. 2435
r to report
ver Executive
Sub
College
in their
however,
Engineers
utenant
nd Mr.
K well
m from
Engineering

I have the honor to be
Sir
Your most obedient Sv.
J. Dean Lt. Col. R.E.
Actg. Supg. Engr. 4th Dn.

No 9980

Sir,

Captain W. H. Davies, R.E.
Inspecting Superintendent

Chief

Engineer,
Colonel C. C. Pasley, C.B.
Secretary to Govt. P.W.D.

Sir,

With reference to G.O. No 2435
dated 24th July, I have the honor to
inform you that one of the Surveyor
employed in this Division
was required in the Civil Engineering
College, by Professor of the College
with a Certificate of an Overseer
1862, and is now a Township Head
Surveyor -

2 — I also recommend that
the College when they join the Public
Works Office to have but a year's
Probationary Surveying
and that I have Practically
last Sufficient Practice to
Theses, Rapfield and Overseer

Lieut Colonel

No 1886 Dated
From Pro. 5th April
To Lieut Colonel Pasley
4th Division

To
The Secretary to Government
P.W.D.

Dated 1st November 1869.
Desp
Rgd 2 2084 "
W Dft/78995.

Reporting the names of
the Executive Officers
of the 4th Division who
speak unfavorably, as
also those who speak well
of Surveyors from the old
School & Civil Engineering
College employed under
them.

Rec'd 5th April/70

No 63

c 21 Hazlet 8-70 R 29

travellers.—

I have the honor to be
Sir
Your most obd.t Servt
J. F. Mackie Capt. R.E.
Supt. Engineer 6th Dn.

Abstracts of Reports from Officer
in charge of Ranges on the qualifica
of Subordinates under their orders;
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Kept his field book very
book one line of block levels fo
miles pretty correctly, but as po
in his field book, it appeared
wrong.

Do

Serje

Abstracts of Reports from Officers in charge of Ranges on the qualifications of Subordinates under their orders, who have had their training at the Civil Engineering College Madras.

No. For Eastern Delta Range Officer

Mr. G. Gamble—— Was perfectly unacquainted with Levelling, and did not know how to adjust his Instrument. Could make an Ordinary Survey

Executive Engineer on Special duty Ganjam

——— Do. ——— Captain Rynes R.E. was only able to procure for me, one Surveyor from the College, an East Indian, whose Services I was compelled to dispense with, as his Levelling was absurdedly inaccurate, and his work performed in such a bad and slovenly Style, that if really correct, I shall have found it difficult to decipher.

No. For Western Delta Range Officer

——— Do. ——— Kept his field book very badly, took one line of check levels for his miles pretty correctly, but as recorded in his field book, it appeared quite wrong.

Sergeant.

Sergeant Mailo —— Was employed in Surveying the Annamlineer Reserve was a long time about it, and his Circles did not check satisfactorily. He was then employed in the Valley but did not take a single correct Line of Levels there.

M. Rungaya —— Could neither Survey nor Level, and did not understand when he came up how to take a cross Section of a Channel. He took several Lines of Levels, which were incorrect, and could not check.

X Corporal Cairns —— Is the best trained Native either Overseer or Surveyor, I have seen from the College.

No 1 or Ellore Range Officer

Is in charge of Irrigation Works. Have not had an Opportunity of testing his abilities as a Surveyor — Knows the principles of Levelling and with a little practice, would be a good Leveller. Is particularly neat in his work and would no doubt be accurate in his Levels

X Corporal McAlieso —

No 6 or Rajahmundry Range Officer

Mr J. Laurence — Is fully capable of Surveying accurately.

Sergeant

No 2 or Vizagapatam Range Officer

Is a thoroughly efficient Subordinate, but paltters a slow worker, which latter arises from no laziness on his part, but from a desire to have everything as correct as possible

Sergeant West —— Continues to work very satisfactorily. Has often been reported on by Captain Beatty RE as an intelligent, well conducted man, and a thoroughly efficient Overseer. Is very attentive to his duties.

Sergeant Cornac — Believe him to be steady and attentive, and if he has future Range Officer bears a little with his want of experience, no doubt will prove a useful Subordinate

Private Kelly —

No 3 or Vizianagram Range Officer

Reports that all the College educated Overseers named in the margin and who were employed in the Ranges in the 2nd Division under his charge, understood the principles of making Surveys and taking Levels and laying them down fully accurately and tolerably neat on paper with the exception of two, Gunner R. Gibson and Mr B. Stephens who were very indifferently trained.

2nd Division

Coimbatore Range
- Mr G. Bay
- Gunner R. Gibson

College Range
- Mr R. Arbuthnot
- Mr P. Elliot
- Mr J. Charlesworth

Erode Range
- Sergeant P. Spurr
- Mr P. Mahoney
- Mr B. Stephens

1st Division

Vizianagram Range
- Sergeant D. Spencer

General observations and suggestions regarding the qualifications of Surveyors and Draftsmen By the Exec: Engineers should duly consider

Surveyors—

Would expect that a liberal candidate taken a fair knowledge generally, examining the levels with Compass Marks, Sections & Valuation, and to be able to keep a Field Book sufficiently well, as to show the Engineer Examiner thereof. The work done Knowing less than this, would be of no value—

Would recommend that Government would allow an Establishment Rupees 10 per Annum to be allotted to each Competent Surveyor in this Division = viz, by which a sufficient number of Native Surveyors might be obtained on Salaries averaging from Rupees 25 to 30 per annum, whereas now they are not to be obtained for Rupees 150

Draftsmen—

Would expect that a candidate to draw Plans from Sketches or Field Books, the measurements were clearly shown, and their Plans generally correctly drawn for submission to Examination, before are also to make an Estimate, it would be of no use to obtain Native Draftsmen.

By the Exr Executive Engineer

Do

Comp. Dr

The Examiner also would recommend that passed College Students should be employed for performance the 1st class Subordinate Situations, being generally liberally or the Standard of Examination, and that no others should be employed, although possessing the Civil College Certificate, unless they have had the benefit of working under a Superintending Engineer for at least 6 months, before they could receive the Certificate being 1st Class Draftsmen, they are best Capable

Lieut H Fielden Major RE
Asst Superintending Engineer 1st Division

No 2075 Palamcottah 3rd December 1869

From,
Captain H L Prendergast RE
Officiating Superintending Engineer

No 148 Supg Engrs Office 7th Dn
Coimbatore 3rd Decr 1869.

From,
Colonel G. W. Walker R.E.
Supg Engr 7th Dn

To,
Colonel C. A. Orr R.E.
Secretary to Govt PWD

Sir,

With reference to G.O. No 2435 of 24th July 1869, and your Reminder No 69 of 24th November 1869, I have the honor to report that no Surveyors trained at the Civil Engineering College, Madras, have been employed in the 7th Division.

I have the honor to be,
Sir,
Your most obedt Servant,

C Walker Colr RE
Supg Engr 7th Dn

Ad.

Thirty seven

General observations and Suggestions regarding the qualifications of Surveyors and Draftsmen By the Exec. Engineer on special duty Ganjam

Would respectfully beg leave to have taken a view of certain remarks, contained in the Letter of the Board, dated 8th Feby 1866 Dept. Survr. 91 Ex. Engr. Ganjam, The Superintending Engineer for the Northern Circle Vizagapatam, dated 8th December 1869 No. 2075 Salamcottah 13th December 1869

From Captain H. L. Pendergast Offg. Superintending Engineer 8th Division

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

Sir,

With reference to G.O. No. 2435 dated 24th July 1869, I have the honor to report that the Surveyors who have been trained at the College, are as rule, require a good deal of instruction before they become really useful —

There have been 2 Surveyors employed in this Division, who did their work well at once: as they had been

Draf

B

D

No. 66

No. 951-5 Dated 8th December 1870

Reported that no changes have taken place in the Civil Engineering College Madras concerning Colleges employed in this Division since the date of the last Quarterly Return

Lieut & Assistant Major R.E.

Offg. Superintending Engineer 8th Division

Comp. dr

been on duty previously, and were fully qualified. The young men have a certain amount of knowledge of Surveying and Levelling: but have to be taught to keep their field books Correctly and neatly; and the Executive Officer must necessarily devote some time to instructing them in the way of doing accurately what is required. The great want of practice is the drawback: and this is hardly to be obtained, on the beach road, and island at Madras.

(Signed)
Chas Pendergast Captain R.E.
Offg Superintending Engineer
1st Division

Superintending Engineer's Office, 1st Division
Dumlaishwaram, 6th December 1869

No. 3214

From

Major J. F. Fischer R. E.
Acting Superintending Engineer

1st Division

D. P. W.
Madras

24th ultimo
I have
eports re-
Engineers,
in I have,
the Surveyers

do not
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taught a good
work alone.
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It is a want
squads, where one or two do all the work, and the others "fudge" from them. The Chatham practice of sending only two together on each separate line of operations is far better.

3

been on duty previously, and were
fully qualified. The young men
have a certain amount of knowledge
of Surv
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Madra

No. 2084. Madras
3rd December 1869
Received
No. 957 - 5 - April 70.
Reports on the qualifications
of the surveyors employed
on this Division, and
who have been trained
at the Civil Engineering
College, and Circular No.
G.O. No. 2435 of 24th July 1869

A. 67

Asst Superintending Engineer
3rd Division

Copy

Superintending Engineer's Office, 1st Division
Pollachi, 6th December 1869

No. 324

From Major J. F. Fischer R. E.
Acting Superintending Engineer
1st Division.

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

Enclosure one
Abstract of Leave
Observations

SIR,

With reference to Memo of the 24th Ultimo No. 69 and the G.O. therein referred to, I have the honor to forward, abstracts of reports received from the several Executive Engineers, who have had more experience than I have, in judging of the qualifications of the Surveyors trained at the Madras College.

+ No. 2435 dated 24th July 1869.

2. My own opinion is, the men do not get a thorough practical training before leaving the College, and have therefore to be taught a good deal before they can be trusted to work alone. It is a bad practice to work these men in large squads, where one or two do all the work, and the others "fudge" from them. The Chatham practice of sending only two together on each separate line of operations is far better.

3

3 Whilst on the subject of training men in the College, I beg to draw attention to Mr. Anderson's report on the qualifications of the Draftsmen sent from it, and request to say, I can endorse it, from the experience we have had here. The Government will be able to find employ for others as vacancies occur, when they receive the Trunk road Estimates, and the College might take them as a model.

I have the honor to be

Sir,

Your Most Obedient Servant.

Chas. H. Levinge Major R.E.

Offg. Superintending Engineer & Dist.

PW 62.3.1902

Civil Engineering

College at Rai

Name

Sergeant. R.E.

Mr. J. E. Pent

(Dennis. W. Pearson

Mr. J. E. Elliot

Mr. C. E. Court — Talook Overseer — Mr. Superviser Claudge reports that Mr. Court understands Surveying and Levelling very well. — I have not seen his work.

to by Subdg Engineer

seen any thing of this Overseer

do.

passed the Bengal test

Mr. Porter has now Reported favorably of Mr. Elliot's Field Surveying was impossible to understand. Letter submitted on

3 Whilst on the subject of training men in this College I beg to draw attention to Mr. Saunders' report on the qualification of the Draftsmen sent out from it, and request to say, I can endorse it, from the experience we have had here.

The Governman
Andrew's stye
Church road (
take them as a

Statement of Qualifications of Subordinates in the 3rd Division who passed out of the Civil Engineering College at Madras.

Names.	Rank.	Remarks by the Charge Officer	Qualifications Remarks by Superg Engineer
Sergeant R. C. Richmond	Taluk Overseer	Colonel Palmer reports that he has had no opportunity of testing Sergeant Richmond's knowledge of surveying.	
Mr J. E. Prout	do	Mr Porter states that Mr Prout seems well acquainted with the use of the instruments and plots neatly but is careless about levelling.	I have not seen any thing of this Overseer's work.
Mr. W. Pearson	Ag. do	In surveying works neatly and correctly has not been tried in levelling	do.
Mr J. C. Elliot	Local Fund Overseer	Mr Porter states that on a survey of Mr Elliot's in his hand it was difficult to recognise points when going over the Country and that the Hill of Putteeping was impossible to understand.	Mr Elliot has passed the Bengal test for Overseer - Mr Porter has now reported more favorably of Mr Elliot's subsequent work submitted on
Mr C. E. Court	Taluk Overseer	Mr Superintendent Chandge reports that Mr Court understands surveying and Levelling very well.	I have not seen his work.

Name.	Rank.	Remarks by Superintendent Bangalore Circle.	Remarks by Supdg. Engineer.
A. Narrainsawmy Moor	Ag. Taluk Overseer	Mr Superintendent Elwidge reports that this man has passed the Bengal test for understanding Surveying only and Levelling pretty well. Opinion. but is a bad hand at plotting.	
Sergeant F. Barnes	Taluk Overseer	Mr Gray reports that he has had no opportunity of trying Mr Barnes in Surveying and Levelling	Some Levels have been taken by Mr Barnes. They were very carelessly taken and were incorrect
Narrainsawmy Nayroo	Local Fund Overseer	Mr Gray reports that this man appears to understand Surveying and Levelling but wants practice	Has passed for 2nd Class Surveyor. I have not seen any of his work.
Mr E. R. Gell	Taluk Overseer.	Mr Superintendent Harris states that Mr Gell understands Surveying and Levelling.	From the bills I have seen of Mr Gell's Surveying and Levelling I should think just fairly his work
Mr Leo. Pereira	Ag. Do.	Mr Superintendent Harris states that Mr Pereira keeps his field book in a very loose manner and that he is not at all careful	I can hardly endorse this remark as I have always found Mr Pereira very careful
C. Varadagaswamy Moor	Local Fund Overseer	Mr Superintendent Watkins reports that this man understands Surveying and Levelling but is not accurate in plotting in fields - plots inaccurately.	Has passed for 2nd Class Surveyor. His plans are drawn neatly.
Mr T. F. Lewis	Taluk Overseer	Mr Superintendent Watkins states that Mr Lewis Surveys and Levels correctly but does not plot neatly.	Is patient, cleverly and intelligent.

Cuddapah District

Mr E. Dacy	Temporary Surveyor	Mr Superintendent Lewis reports that new Mr Dacy Surveys and levels pretty accurately but thought when he first went he was somewhat inexperienced. A great Draughtsman.	Has passed as Surveyor. Somewhat I have seen I think Mr Dacy will turn out well.
G. Rathnam Moor	Taluk Overseer.	Mr Superintendent Lewis reports that Rathnam Moodely is a very ordinary Surveyor and cannot conduct a series of levels with any accuracy.	Has passed as Assistant Engineer
K. C. Viswanatha Iyer	Do.	Mr Superintendent Lewis states that this man does not thoroughly comprehend the duties of a Surveyor and requires practice in field work.	Some levels taken by him about 2 years ago were very inaccurate and grossly worthless.

Name.	Rank	Remarks by the Charge Officer	Qualifications: Tel. / Sig. / Ast. / Reg. / Theo.	Remarks by Superv. Engr.
A. Plamondon Res B C.E.	Talook Overseer.	Mr O'Callaghan states this man's surveying not satisfactory but that he has not tried him at levelling. that I may also say in which he keeps his instruments he would be doubtful of the accuracy of his levelling operations.		This man has passed as a Assistant Engineer and B.C.E. he does not understand levelling properly and is very careless.
T. Plamondon Bombay	Ag. Do	Mr O'Callaghan says that from what little he has seen he is of opinion that he cannot survey and level Pakka Tanks correctly and that he is too highly inclined to make a good Surveyor.		I agree with these remarks of Mr O'Callaghan.
Mr G. McCallaghan	Local Fund Overseer.	Mr O'Callaghan says that this man wants practice and that he has improved a good deal lately		Has passed the Rangoon Test for Overseer
Mr J. D. K. Deighton	Talook Overseer	Mr O'Callaghan who is on temporary charge states that he had no opportunity of testing Mr Deighton's Professional Capabilities.		Plans seen some work of Mr Deighton which was very neat and the Calculations was correct.
Private H. Russell	Ag Do.	Do Do Do. but from an inspection of this instrument which was found in a very dirty state he has formed a bad opinion.		I have not seen any work done by Mr Russell.
Pte. Coonan Thomas Mad.	Do.	Captain Keyser reports that this man is very imperfect accurately.		
Private C. Ward	Ag Do.	Do Do Do Do.		
Sergeants H. Hollingsworth	Do.	Captain Hunter reports that this Overseer has a very fair knowledge of Surveying and Levelling		From one specimen I have seen I should consider Hollingsworth does not understand the subject very perfectly. Accurately when he is doing work of this kind
Do P. Quinn	Do.	Captain Hunter reports that he has had no opportunity of testing this Overseers Capabilities		
Corporal J. Bennett	Do.	Do Do Do.		

Qualifications

Name.	Rank.	Remarks by the Range Officers	Remarks by Superintending Engineer
Syed Mohomed Shurfooden.	Jaloah Oomra	Lieut Taylor has a good opinion of this man and believes that he only [illegible] practice.	
Mr. J.E Ottmann	do	Lieut Taylor has a very bad opinion of this man and considers that which he does is incorrect and unsafe practice.	

No 3126 of the 2nd Feby: 1870.
Forwarded to the Secretary to Government N.W.P
with reference to G O No 2435 dated 24th July 1869.

Report of Range Officers Court
Syed Shurfooden
Jaloah
Bellary District
2nd February 1870.

Lt R.E.
Superintending Engineer
3rd Division

Forn 1869. 70. Ulbl.

Upon the Question
from Sir Alexander Arbuthnot
Military Secretary
to Government

The Accompanying Report
is submitted

Oct 22 Statement appro.
Rs. P

Dy 1/14/70.

Letter to Chairman
Editing Committee
Submitting the Report and
Statement called for
Military Department

Dy 9-1-5 Oct/70

Approved

No 62

Recd 21 Septr 1870 29

Statement No. 2.

Showing the increased expenditure necessary to carry out the proposed changes in the Staff of the College

Name		Salary per Mensem Present	Salary per Mensem Proposed	Increase	Remarks
		Rs. A P	Rs. A P	Rs. A P	
Assistant Principal		... ...	300 ..	300 ..	in addition to Mily. Pay & allowances of a Lieut. R.E
Special Department	Survey Master	100 ..	120 ..	20 ..	An expenditure of about Rs. 200 a year will be necessary for Lascars in Temporary Establishment.
	Drawing Master	... ...	100 ..	100 ..	
			Total	420 ..	per mensem = Rs 5,040 per annum

Civil Engr. College
Chepauk
30th April 1870

W. Ellerd Captain RE
Principal C. E. College

P.W. Dept

No 957

Proceedings of the Madras Government
Under date the 5. June 1870
Rd the following

From the Ag Supg Engr 1st Division / Nine Letter No 3214 d/6th Dec 1869
From — do — do 2d do / — do — " 80 d/2d Sept — "
From — do — do 3d do / — do — " 3995 d/2d Feby — "
From — do — do 4th do / — do — " 111 d/1st November — "
From — do — do 5th do / — do — " 998 d/24th do — "
From — do — do 6th do / — do — " 148 d/27th do — "
From — do — do 7th do / — do — " 20754 d/30th December — "
From the Offg do — do 8th do / — do —

In these papers the Supt Engineers report, in compliance with G.O. No 2435 dated 24 July 1869, on the qualifications of such of the Surveyors employed under their orders as have been trained at the Civil Engineering College.

The Government observe that while some are favorably reported upon, and a few are described as having turned out very inefficient Surveyors, the

Inclosure
Ltr from the Supt Engr
dated 2d Sept 1869
Ltr from the Supt Engr
dated 1st Nov 1869
Ltr from the Supt Engr
dated 24th Nov 1869
Ltr from the Supt Engr
dated 27th Nov 1869
Ltr from the Supt Engr
dated 30th Dec 1869
Ltr from the Supt Engr
dated 30th Dec 1869
Ltr from the Offg Supt Engr
dated 3d Jan 1870

11-6-13 ✓

the greater number, though insufficiently trained at the College, made themselves useful in the field after a little practice. As the papers are suggestive of some of the points to which attention may advantageously be given in the instruction imparted at the College they will be forwarded to the Principal for his information.

12/ The Government cannot consider these reports taken as a whole to be satisfactory. They appear to indicate some deficiency in the system of the Engineering College in imparting a practical knowledge in surveying and field work generally.

The attention of the Principal will be further called to the points and he will be given opportunity to submit his suggestions with the next session. The greater efficiency

[illegible] The Principal's Agreement

[illegible] letter

Ch 5235-5375-512-6563-6062 64 32-6373 &
6102
" Educational Dept 8624 6471-

† will also notice the remarks submitted by the Ellore Rayapettai Division on the qualifications of the Draftsmen trained in the College who are [illegible]

© 21st March 1870 Ed 29 - Class Certificate

Nos 5235, 3775, 572, 4599, 4062, 4992, 5079 & 5755

Govt. of 1870; Illinois.

PUBLIC WORKS.

To the Principal of the Civil Engineering College

Dated

Regd.

Govt. Journal 1870. No. 287

Nos 60 @ 68

Surveyor Taking orders as to the contents & the signature of the several Subjects on the qualifications of such of the surveyors employed under these orders as have been trained at the Civil Engineering College

M.R.O. 1—77,006—8-6-37.

(1) Number of pages 2 2 5

(2) Date of repair 1 2 2 11

(3) Initials of the Referencer

MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

G.O. No. 952 Press ~~Mis.~~

61-71

Dated 5- 4 1870.

Not to be folded or roughly handled

Read the following:—

No. 69. From Colonel G. W. WALKER, R. E., Superintending Engineer, 7th Division, to the Secretary to Government, Public Works Department, dated Coonoor, 8th March 1870, No. 215.

WITH reference to paragraph 3 of G. O., No. 605, of 23rd February 1870, I have the honour to submit the estimates for improving the Periacolum and Agrahara Vellaloor Tanks, and request that funds may be provided for them from the Reserve of 1870-71. The estimate for improvements, etc., at the Noyel Anicut will be submitted after further revision.

Cross-section, levels, and estimate of Agrahara Vellaloor Tank, No. 47, Rupees 5,000.
Cross-section, levels, two plans of calingulahs, and estimate, No. 48, Rupees 8,770, of Periacolum Tank.

No. 59.

No. 70. NOTE *by the Acting Chief Engineer for Irrigation.*

THE Superintending Engineer of the 7th Division has, with reference to Government Order of the 23rd ultimo, No. 605, submitted for sanction estimates for the improvement of the following tanks in the Coimbatore District:—

	RS.
Periacolum	8,770
Agrahara Vellaloor	5,000

2. From the papers printed with the above Order the following particulars are taken:—

Year.	Ayacut irrigable area.	Gross revenue.	Cultivation area.	Net revenue or jummabundy.	Expenditure on repairs.
		RS.		RS.	RS.
1864-65	916	4,770	685	3,213	1,253
1865-66	916	3,562	517	3,210	905
1866-67	918	5,744	869	5,074	195
1867-68	919	6,051	585	3,875	28
1868-69	924	6,074	888	6,243	2,855
	4,593	26,201	3,544	21,615	5,236
Average...	918	5,240	709	4,323	1,047

It appears, then, that the Net Revenue has varied during the five years between Rupees 3,210 and 6,243, and that, on the average, nearly one-fourth of the Net Revenue has been expended on repairs, while the tank is reported still to be in urgent need of improvement. The object of the present estimate is to place the tank in thoroughly efficient order, and Rupees 5,055 out of the total amount are for re-building old and adding new revetments, which are reported to be necessary as the tank is affected by high winds.

3. The information furnished from the Division with regard to this tank is by no means as complete as it should have been, for neither the capacity of the tank at present nor the quantity of water it will store when improved has been

Govt. of Madras.

PUBLIC WORKS.

To

THE SUPERINTENDING ENGINEER.

The Board &c &c &c

Dated April, 5th.

Recd. Encl

G. O., 5th April 1870, No. 952.

APRIL.

Nos. 69-71

Periacolum and Agrahara Vellaloor Tanks—Passing orders on the Note by the Chief Engineer for Irrigation on the estimates for the improvement of the Periacolum and Agrahara Vellaloor Tanks, in the Coimbatore District.

No. 215

Supg. Engrs. Office T.D.
Coonoor, 8th March 1870

From, Colonel G. W. Walker R.E.
Superintending Engineer T.D.

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

Sir,

Enclosures 8. With reference to para 3 of G.O. 3 Cross section, No. 605 of 23d February 1870, I have levels, Estimate the honor to submit the Estimates of Agrahara Vella- for improving the Periah Colum Loor Tank, No. 47 Rupees 5,006. and Agrahara Vellaloor Tanks, 5 Cross section, de- and request that funds may vels, 2 Plans of be provided for them from the Palingulay, Estt. No. 48 R. 8770. Reserve of 1870-71. The Estimate of Periah Colum Tank.—

for improvements &c at the No- :yel Anicut will be submitted after further revision.—

I have the honor to be,
Sir,
Your most obed. Servt.
G. W. Walker Col. R.E.
Supg. Engineer

Govt. of Madras.

PUBLIC WORKS.

To

THE SUPERINTENDING ENGINEER.

The Board

&c &c &c

Dated April, 5th.

Recd. Encl

G. O., 5th April 1870, No. 952.

APRIL.

Nos. 69-71

Periacolum and Agrahara Vellaloor Tanks.—Passing orders on the Note by the Chief Engineer for Irrigation on the estimates for the improvement of the Periacolum and Agrahara Vellaloor Tanks, in the Coimbatore District.

No. 215 Supt. Engr's office 7th Div.
Coonoor, 8th March 1870

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

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

Sir,

Enclosures 8. With reference to para 3 off. G.O. 3. Cross section, No. 605 of 23d February 1870, I have levels, & Estimate the honor to submit the Estimates of Agrahara Vella- the Periah Colum Loor Tank, No. 47 for Improving Rupees 5,006. and Agrahara Vellaloor Tanks, 5 Cross section de- and request that funds may vels, 2 Plans of be provided for them from the Talingulas, Plate Revenue of 1870-71. The Estimate No. 48 & 8770. for Improvements &c at the No- of Periah Colum yel Anicut will be submitted Tank.— after further revision.—

I have the honor to be
Sir,
Your most obed. Servt.
G. W. Walker Col. R.E.
Supt. Engineer

No. 42 108 [illegible]

[illegible] Bonds executed [illegible] Bonds [illegible] Bonds [illegible] Bonds

Brought Over

			55031 1/10	Cubic feet 6 or 2038	Yards of Excavating		
					ditto Trenches & Sinks & Trenches stoned	15	Yds. 1910 10
1000	2.25	1.10	1856	To duckly channel (entirely new)			
1000	2.62	6.32	1823.5	From 2820 to 2919½	Do.		
992	2.62	6.38	1848.75	" 2920 " 3000	Do.		
992	2.25	1.06	238.61	" 3400 " 3492½	Running with		
912				on the left of old Embankment			
	2.25	1.25	303.75	From 3500 to 3610	Do.		
100	2.25	0.88	594.00	" 3600 to 3900	"		
800	2.25	1.92	1296.00	" 3900 to 4200	"		
300	2.25	0.89	600.75	" 4200 to 4500	"		
300	2.25	1.31	884.25	" 4500 to 4800	"		
300	2.25	1.98	1336.50	" 4800 to 5100	"		
300	2.25	2.12	1431.00	" 5100 to 5400	"		
300	2.25	2.27	1533.25				
300	2.25	1.89	1276.75	" 5700 to 6000	"		
300	2.25	2.12	1431.00	" 6000 to 6300	"		
300	2.25	2.86	1930.50	" 6300 to 6600	"		
300	2.25	2.85	1923.75	" 6600 to 6900	"		
300	2.25	2.35	2126.25	" 6900 to 7200	"		
300	2.25	1.24	837.00	" 7200 to 7600	"		
300	2.25	0.24	108.00	" 7900 to 8100	"		
200	2.25	0.20	90.00	" 8100 to 8300	"		
100	2.25	0.24	54.00	" 8700 to 8800	"		
250	2.25	0.70	551.00	" 9100 to 9300	"		
300	2.25	2.35	1501.25	" 9300 to 9600	"		
200	2.25	1.66	1120.50	" 9600 to 9900	"		
350	2.25	1.44	972.00	" 9900 to 10200	"		
300	2.25	1.98	1336.50	" 10200 to 10500	"		
300	2.25	3.02	2045.25	" 10500 to 10800	"		
300	2.25	2.94	1984.50	" 10800 to 11100	"		
300	2.25	1.30	877.50	" 11101 to 11400	"		
360	2.25	1.19	803.25	" 11400 to 11700	"		
300	2.25	1.25	843.75	" 11700 to 12000	"		
300	2.25	2.00	1350.00	" 12000 to 12300	"		
300	2.25	1.74	1174.50	" 12300 to 12600	"		
200	2.25	1.25	562.50	" 12600 to 12800	"		
41	2.25	1.48	136.63	" 13359 to 13400	"		
295	2.25	1.26	836.32	" 13400 to 13695	"		
92	2.62	6.56	1587.25	" 13708 to 13800 entirely new			
40	2.63	6.00	631.20	On each side of Caliyalah	Do.		
	Total		55063.91	Less for 2039	Yards of Trim revetment	1 4	Yds. 2548 12
283½	2.00	6.07	3441.69	} Gravel Packing			
9928½	2.00	1.61	28749.77				
	Total		32191.46	Cubic feet 6 or 1192	Yards of Gravel work	8	Do. 596
16	10			From 160	to 16		5055 6
300	14			4200	16 to 316		
			25436.9		Carry Over		25055 6

				32849.5								
300	36.0	1.46	15,660									
300	40.2	0.48	5760.0									
300	39.45	0.50	8190.0									
300	35.5	0.58	16822.0									
300	36.5	0.83	14693.0									
300	36.0	1.32	14344.5									
300	39.5	0.64	7584.0									
200	40.0	0.57	4560.0									
300	39.5	0.63	7465.5									
300	40.0	0.46	5520.0									
300	39.5	0.67	7939.5									
200	40.5	0.42	3402.0									
100	40.0	0.55	2200.0									
200	39.5	1.0	3900.0									
100	21.5	1.0	2150.0									
100	14.0	1.0	1400.0									
200	11.25	0.67	1507.5									
195	13.12	1.29	3300.33									
50	13.75	0.56	1072.50									
46	14.37	1.64	1084.7									
144	12.50	1.00	1800.0									
	Total		458635.40	Cubic feet	=	16986	Yds of	earthwork	=	16	Yds	1592

Brought Over 5530 9

Raising Banks from 9300 to 9600 — 7 9 7131 9

" " 9600 to 9900

" " 9900 to 10200

" " 10200 to 10500

" " 10500 to 10800

" " 10800 to 11100

" " 11100 to 11400

" " 11400 to 11700

" " 11700 to 12000

" " 12000 to 12300

" " 12300 to 12600

" " 12600 to 12900

" " 12800 to 12900

" " 12900 to 13100

" " 13100 to 13200

" " 13200 to 13300

" " 13300 to 13500

" " 13300 to 13695

" " 13700 to 13788

" " 13800 to 14141

" " 14256 to 14400

Entarsing Caligulah No I

94	15½	1	1457	Foundation to Apron								
2 10	4½	2	180	Do to side walls and wings								
7	7	2	98									
15½	6	5	465	Side and wing walls above								
2 3	4	5	120									
94	14	1.48	1947.68	Apron								
	Total		4267.68	Left on 158 Yds of Rough stone in Chuman pointed					3	0	Yds 474	3 0
94	7.5	.23	162.15	Raising present apron								
	Total		162.15	Left on 6 yds of Concrete with Jelly in Chun					2	0	Do 12	2 1
94	15½	1	1457	Foundation to apron								
2 10	4½	2	780	side walls & wings								
7	7	2	98									
	Total		1735	Left on 64 Yds of hard Excavation					3	0	Do 16	0 0
				13 Upright stones 2'x8'x8'					1	8	Do 19	8 0
12	8.8	1	½ 8⅔	Left of Teakwood shutters wrought & put up					72	12	Left 23	13 4 545 5 4
3	19	6.63	377.91	Blocking up Caligulah No III								
4	7½	7.11	213.30	Do Do No III					1	2	Do 12	0 0
4	8½	7.19	244.46	Do Do No IV					1	4	Do 15	0 0
	Total		835.67	Left on 31 Yds of Rough stone in Chuman pointed					3	0	Yds 93	0 0 93 0 0

Entarsing No II Caligulah

69	8	1½	828	Apron								
12	4	3	144	Foundation to side walls								
			972									

Carry Over 7769 6 1

				32849.5								
300	36.0	1.46	15,660									
300	40.2	0.48	5760.0									
300	39.45	0.50	8190.0									
300	35.5	0.58	16822.0									
300	36.5	0.83	14693.0									
300	36.0	1.32	14344.5									
300	39.5	0.64	7584.0									
200	40.0	0.57	4560.0									
300	39.5	0.63	7465.5									
300	40.0	0.46	5520.0									
300	39.5	0.67	7939.5									
200	40.5	0.42	3402.0									
100	40.0	0.55	2200.0									
200	39.5	1.0	3900.0									
100	21.5	1.0	2150.0									
100	14.0	1.0	1400.0									
200	11.25	0.67	1507.5									
195	13.12	1.29	3300.33									
50	13.75	0.56	1072.50									
46	14.37	1.64	1084.7									
144	12.50	1.00	1800.0									
	Total		458635.40	Cubic feet	=	16986	Yds of	earthwork	=	16	Yds	1592

Brought Over 5530 9

Raising Banks from 9300 to 9600 — 7 9 7131 9

" " 9600 to 9900

" " 9900 to 10200

" " 10200 to 10500

" " 10500 to 10800

" " 10800 to 11100

" " 11100 to 11400

" " 11400 to 11700

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" " 12800 to 12900

" " 12900 to 13100

" " 13100 to 13200

" " 13200 to 13300

" " 13300 to 13500

" " 13300 to 13695

" " 13700 to 13788

" " 13800 to 14141

" " 14256 to 14400

Entarsing Caligulah No I

94	15½	1	1457	Foundation to Apron								
2 10	4½	2	180	Do to side walls and wings								
7	7	2	98									
15½	6	5	465	Side and wing walls above								
2 3	4	5	120									
94	14	1.48	1947.68	Apron								
	Total		4267.68	Left on 158 Yds of Rough stone in Chuman pointed					3	0	Yds 474	3 0
94	7.5	.23	162.15	Raising present apron								
	Total		162.15	Left on 6 yds of Concrete with Jelly in Chun					2	0	Do 12	2 1
94	15½	1	1457	Foundation to apron								
2 10	4½	2	780	side walls & wings								
7	7	2	98									
	Total		1735	Left on 64 Yds of hard Excavation					3	0	Do 16	0 0
				13 Upright stones 2'x8'x8'					1	8	Do 19	8 0
12	8.8	1	½ 8⅔	Left of Teakwood shutters wrought & put up					72	12	Left 23	13 4 545 5 4
3	19	6.63	377.91	Blocking up Caligulah No III								
4	7½	7.11	213.30	Do Do No III					1	2	Do 12	0 0
4	8½	7.19	244.46	Do Do No IV					1	4	Do 15	0 0
	Total		835.67	Left on 31 Yds of Rough stone in Chuman pointed					3	0	Yds 93	0 0 93 0 0

Entarsing No II Caligulah

69	8	1½	828	Apron								
12	4	3	144	Foundation to side walls								
			972									

Carry Over 7769 6 1

				32849.5								
300	36.0	1.46	15,660									
300	40.2	0.48	5760.0									
300	39.45	0.50	8190.0									
300	35.5	0.58	16822.0									
300	36.5	0.83	14693.0									
300	36.0	1.32	14344.5									
300	39.5	0.64	7584.0									
200	40.0	0.57	4560.0									
300	39.5	0.63	7465.5									
300	40.0	0.46	5520.0									
300	39.5	0.67	7939.5									
200	40.5	0.42	3402.0									
100	40.0	0.55	2200.0									
200	39.5	1.0	3900.0									
100	21.5	1.0	2150.0									
100	14.0	1.0	1400.0									
200	11.25	0.67	1507.5									
195	13.12	1.29	3300.33									
50	13.75	0.56	1072.50									
46	14.37	1.64	1084.7									
144	12.50	1.00	1800.0									
	Total		458635.40	Cubic feet	=	16986	Yds of	earthwork	=	16	Yds	1592

Brought Over 5530 9

Raising Banks from 9300 to 9600 — 7 9 7131 9

" " 9600 to 9900

" " 9900 to 10200

" " 10200 to 10500

" " 10500 to 10800

" " 10800 to 11100

" " 11100 to 11400

" " 11400 to 11700

" " 11700 to 12000

" " 12000 to 12300

" " 12300 to 12600

" " 12600 to 12900

" " 12800 to 12900

" " 12900 to 13100

" " 13100 to 13200

" " 13200 to 13300

" " 13300 to 13500

" " 13300 to 13695

" " 13700 to 13788

" " 13800 to 14141

" " 14256 to 14400

Entarsing Caligulah No I

94	15½	1	1457	Foundation to Apron								
2 10	4½	2	180	Do to side walls and wings								
7	7	2	98									
15½	6	5	465	Side and wing walls above								
2 3	4	5	120									
94	14	1.48	1947.68	Apron								
	Total		4267.68	Left on 158 Yds of Rough stone in Chuman pointed					3	0	Yds 474	3 0
94	7.5	.23	162.15	Raising present apron								
	Total		162.15	Left on 6 yds of Concrete with Jelly in Chun					2	0	Do 12	2 1
94	15½	1	1457	Foundation to apron								
2 10	4½	2	780	side walls & wings								
7	7	2	98									
	Total		1735	Left on 64 Yds of hard Excavation					3	0	Do 16	0 0
				13 Upright stones 2'x8'x8'					1	8	Do 19	8 0
12	8.8	1	½ 8⅔	Left of Teakwood shutters wrought & put up					72	12	Left 23	13 4 545 5 4
3	19	6.63	377.91	Blocking up Caligulah No III								
4	7½	7.11	213.30	Do Do No III					1	2	Do 12	0 0
4	8½	7.19	244.46	Do Do No IV					1	4	Do 15	0 0
	Total		835.67	Left on 31 Yds of Rough stone in Chuman pointed					3	0	Yds 93	0 0 93 0 0

Entarsing No II Caligulah

69	8	1½	828	Apron								
12	4	3	144	Foundation to side walls								
			972									

Carry Over 7769 6 1

				32849.5								
300	36.0	1.46	15,660									
300	40.2	0.48	5760.0									
300	39.45	0.50	8190.0									
300	35.5	0.58	16822.0									
300	36.5	0.83	14693.0									
300	36.0	1.32	14344.5									
300	39.5	0.64	7584.0									
200	40.0	0.57	4560.0									
300	39.5	0.63	7465.5									
300	40.0	0.46	5520.0									
300	39.5	0.67	7939.5									
200	40.5	0.42	3402.0									
100	40.0	0.55	2200.0									
200	39.5	1.0	3900.0									
100	21.5	1.0	2150.0									
100	14.0	1.0	1400.0									
200	11.25	0.67	1507.5									
195	13.12	1.29	3300.33									
50	13.75	0.56	1072.50									
46	14.37	1.64	1084.7									
144	12.50	1.00	1800.0									
	Total		458635.40	Cubic feet	=	16986	Yds of	earthwork	=	16	Yds	1592

Brought Over 5530 9

Raising Banks from 9300 to 9600 — 7 9 7131 9

" " 9600 to 9900

" " 9900 to 10200

" " 10200 to 10500

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" " 10800 to 11100

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" " 11700 to 12000

" " 12000 to 12300

" " 12300 to 12600

" " 12600 to 12900

" " 12800 to 12900

" " 12900 to 13100

" " 13100 to 13200

" " 13200 to 13300

" " 13300 to 13500

" " 13300 to 13695

" " 13700 to 13788

" " 13800 to 14141

" " 14256 to 14400

Entarsing Caligulah No I

94	15½	1	1457	Foundation to Apron								
2 10	4½	2	180	Do to side walls and wings								
7	7	2	98									
15½	6	5	465	Side and wing walls above								
2 3	4	5	120									
94	14	1.48	1947.68	Apron								
	Total		4267.68	Left on 158 Yds of Rough stone in Chuman pointed					3	0	Yds 474	3 0
94	7.5	.23	162.15	Raising present apron								
	Total		162.15	Left on 6 yds of Concrete with Jelly in Chun					2	0	Do 12	2 1
94	15½	1	1457	Foundation to apron								
2 10	4½	2	780	side walls & wings								
7	7	2	98									
	Total		1735	Left on 64 Yds of hard Excavation					3	0	Do 16	0 0
				13 Upright stones 2'x8'x8'					1	8	Do 19	8 0
12	8.8	1	½ 8⅔	Left of Teakwood shutters wrought & put up					72	12	Left 23	13 4 545 5 4
3	19	6.63	377.91	Blocking up Caligulah No III								
4	7½	7.11	213.30	Do Do No III					1	2	Do 12	0 0
4	8½	7.19	244.46	Do Do No IV					1	4	Do 15	0 0
	Total		835.67	Left on 31 Yds of Rough stone in Chuman pointed					3	0	Yds 93	0 0 93 0 0

Entarsing No II Caligulah

69	8	1½	828	Apron								
12	4	3	144	Foundation to side walls								
			972									

Carry Over 7769 6 1

				32849.5								
300	36.0	1.46	15,660									
300	40.2	0.48	5760.0									
300	39.45	0.50	8190.0									
300	35.5	0.58	16822.0									
300	36.5	0.83	14693.0									
300	36.0	1.32	14344.5									
300	39.5	0.64	7584.0									
200	40.0	0.57	4560.0									
300	39.5	0.63	7465.5									
300	40.0	0.46	5520.0									
300	39.5	0.67	7939.5									
200	40.5	0.42	3402.0									
100	40.0	0.55	2200.0									
200	39.5	1.0	3900.0									
100	21.5	1.0	2150.0									
100	14.0	1.0	1400.0									
200	11.25	0.67	1507.5									
195	13.12	1.29	3300.33									
50	13.75	0.56	1072.50									
46	14.37	1.64	1084.7									
144	12.50	1.00	1800.0									
	Total		458635.40	Cubic feet	=	16986	Yds of	earthwork	=	16	Yds	1592

Brought Over 5530 9

Raising Banks from 9300 to 9600 — 7 9 7131 9

" " 9600 to 9900

" " 9900 to 10200

" " 10200 to 10500

" " 10500 to 10800

" " 10800 to 11100

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" " 12800 to 12900

" " 12900 to 13100

" " 13100 to 13200

" " 13200 to 13300

" " 13300 to 13500

" " 13300 to 13695

" " 13700 to 13788

" " 13800 to 14141

" " 14256 to 14400

Entarsing Caligulah No I

94	15½	1	1457	Foundation to Apron								
2 10	4½	2	180	Do to side walls and wings								
7	7	2	98									
15½	6	5	465	Side and wing walls above								
2 3	4	5	120									
94	14	1.48	1947.68	Apron								
	Total		4267.68	Left on 158 Yds of Rough stone in Chuman pointed					3	0	Yds 474	3 0
94	7.5	.23	162.15	Raising present apron								
	Total		162.15	Left on 6 yds of Concrete with Jelly in Chun					2	0	Do 12	2 1
94	15½	1	1457	Foundation to apron								
2 10	4½	2	780	side walls & wings								
7	7	2	98									
	Total		1735	Left on 64 Yds of hard Excavation					3	0	Do 16	0 0
				13 Upright stones 2'x8'x8'					1	8	Do 19	8 0
12	8.8	1	½ 8⅔	Left of Teakwood shutters wrought & put up					72	12	Left 23	13 4 545 5 4
3	19	6.63	377.91	Blocking up Caligulah No III								
4	7½	7.11	213.30	Do Do No III					1	2	Do 12	0 0
4	8½	7.19	244.46	Do Do No IV					1	4	Do 15	0 0
	Total		835.67	Left on 31 Yds of Rough stone in Chuman pointed					3	0	Yds 93	0 0 93 0 0

Entarsing No II Caligulah

69	8	1½	828	Apron								
12	4	3	144	Foundation to side walls								
			972									

Carry Over 7769 6 1

Brought over

2	7	3	3	126		Foundation to wings				7769 6 11½
105	2	3		630		Do. to retaining walls.				
69	2	3		414		Wings alone.				
15	3	3½		168						
9½	3	2½		71¼		Side walls of waste weir				
Total				2381¼	Cft	or 88¼	Cyds	of rough stone in cement	@ 3	Cyd. 264 12
69	9½	5¼		893¾	Do.	or 30⅓	Do.	of Dry stone pointed.	@ 1	8 Do. 45 8
								for waste weir		
38	12	236	1076	16	Do.	or 40	Do.	of removing old stone of apron	@ 1	8 Do. 20
				13	Upright stones				@ 1	0 each 19 8
991	½	84			Cft	of Teakwood shutters upright			@	1 6 18 2
						& put up			@	2 12 Cft 22 11½
				110	Cyds	of hard excavation			@	4 Cyd. 27 8 399 5
								Total Charges		8169 5 1
								Sundries @ 7 per cent		600 10 11
								Total Estimate & Charges		8770

"The work could be commenced at once."

Cumbstad Range
Office 9th August 1869

Superintendent

Executive Engineer

Assistant Surgeon

Nov 69
Note by the Acting Chief Engineer for Assyalan
The Superintending Engineer of the Poona Division
For the current
Cumbstad

			972		
2	7	3	3	126	Foundation to wings
105	2	3		630	
69	2	3		414	D° — to Retaining walls.
15	2	3	½	168	Wings above.
9½	2	2½		71¼	Sidewalls of waste weir
Total				2381¼	Cost £ 88¼
69	9½	¼		819⅜	D° £ 30⅓
38	12	2	36	1076.16	D° £ 40
					13 Cy
99	1	½	2	84	Cost of
					110 Leyds

Contractors Plans
Office 9th Augt

Brought Over 7769 1 1½ 0 1

Engineer's Estimate of Excavation & Masonry in the Waste Weir & Retaining Walls of the Reservoir

Do.

Estimate of Masonry required for Wings & Retaining Walls of the Reservoir

Do.

Estimate of Masonry required for Sidewalls of the Waste Weir of the Reservoir

Estimate of Masonry required for Foundations of the Reservoir

Estimate of Masonry required for Foundations of the Reservoir

Estimate of Masonry required for Foundations of the Reservoir

Assistant Engineer

Description	Contractor's Estimate	Engineer's Estimate	Difference	Remarks
Excavation	4500 Cubic Yards	4500 Cubic Yards		
Masonry	709 Perches	709 Perches		
Puddle	2640 Cubic Yards	2640 Cubic Yards		
Turfing	4500 Yards	4500 Yards		

Amount of Contractor's Estimate £ 4500

Amount of Engineer's Estimate £ 4500

Mr Upham's Plans

Office 27th August 1850

Examined and found correct

Assistant Engineer

Examined and found correct

Assistant Engineer

reported still to be in urgent need of improvement. The
object of the present estimate is to place the tanks in
thoroughly efficient order, and Rupees 5055 out of the
total Amount are for rebuilding old, and adding
new revetments, which are reported to be necessary as
the tanks are affected by high winds.

3. The information furnished from the Division with regard to this tank is by no means as complete as it should have been, for neither the capacity of the Tank at present, nor the quantity of water it will store when improved, has been stated, and the two important points, and should always be ascertained before Considerable expenditure is about to be proposed for sanction. Nothing has been said however as to the area of the drainage basin of the tank, or as to whether it is supplied under regulation & the sufficiency or otherwise thereof of the surplus waters cannot be ascertained in this office. Nothing however the Revenue particulars above given as a guide to the result to be expected, it would appear that an increase of Revenue of about 900 Rupees may be obtained if the tank be improved, and probably the average expenditure on repairs will still likewise be much reduced. On the whole then it is reasonable to suppose that the carrying out of the improvements will be attended with advantages sufficiently considerable to compensate for their cost. As however the Revenue and Public Works officers are agreed in considering the work estimated for to be highly necessary, I beg to recommend the sanction of the estimate, but I think that the Superintending Engineer should be required to have the information regarding the tank made more complete, and, as it is not probable that more than a small part of the work will be carried out before the ensuing Monsoon, there will be an opportunity of reconsidering the details of the estimate, should it be found on further inquiry that the requirements of the Tank and sluices have been provided for. I will only add that the packing of the revetments will be better if made of grant cement rather than of clay and that the latter is the material which will be used in the repairs to the revetments itself, but a solid work and that the revetments itself should be founded well below ground level, this depth being determined with reference to

1769 1/4

Bampton Cross

872

to the nature of the soil.

4. With regard to the Agrahara Tellalow Tank the Revenue statement attached to the estimate shows that for the years 1862-63 to 1866-67, the average Ayacut irrigable was 296 acres

Cultivated area 291

5. Gross Revenue Rupees 2248

Collections 1880

No repairs appear to have been executed in the first 4 years of the period but in 1866-67 Rupees 1097 were expended & another sum, Rupees 106 is entered in the same column, though it is not evident if Apparently the slight returns derivable from carrying out the estimate will be Rupees 367 or between 7 and 8 per cent, and this is not a favourable result but it will be seen from the cross section plan, as drawing, much of the revetment should be unsupported, and this must be remedied.

6. The capacity of this tank appears to be about sufficient for the irrigable area under the circumstances of this irrigation work have been fairly adequately noticed in the

the short letter from the Assistant Engineer of the Coimbatore Range (dd 23rd Feby 1865), and there is no other account of it. It is not stated why it is proposed to make the top width of the great-er part of the bund 4 yards, and where the revet-ment is only 3 to 5 feet in height altogether, a thick-ness of 1 yard at base and 2½ feet at top seems to be unnecessary. It is questionable also whether any revetment is required where the ground level is above the sill of the waste weir. I think the amount of this estimate is capable of consider-able reduction, without interfering with the ef-ficiency of the tank when improved, and I would suggest its return to the Superintending Engineer for further consideration, and in retransmitting it the dimensions of the waste weir should be stated, as also whether its length is sufficient with reference to the circumstances of the water supply

Lieutenant Colonel Major &c.
First Class
12th March 1873 Acting Chief Engineer for Irrigation

To
The Secretary to Government
P.W.D.

From The A. G. & S. [illegible]

To The Chief Engineer & Surveyor for Irrigation

Sir,

I have the honor to forward herewith for your information a Copy of the following Minute of Council, dated 15th March 1870 & Plan.

Minute of Council, 15th March 1870

The Council approve the Estimate, Rupees 8770 for the work of improvement of the Periacolum Tank, the Agrahara Vellalar Tank & Combatore District, as submitted by the Chief Engineer for Irrigation in his letter No. 1047 dated 12th March 1870.

Ordered that the Collector of Coimbatore be requested to make over the Periacolum Tank, the Agrahara Vellalar Tank & the Combatore Tank to the Chief Engineer for Irrigation, as soon as the improvements of the said Tanks will be completed.

From The Chief Engineer for Irrigation

(2) To The Acting Chief Engineer for Irrigation

No. 1047

The Secretary to Government P.W.D.

Dated 12th
Desp. 15th } March 1870
Recd 16th

No. 59

Enclosures 9

Note on the Estimate for the improvement of the Periacolum & Agrahara Vellalar Tanks Combatore District.

No. 952 dated April 70

C. 21st March 1870 No. 29

Received [illegible]

possible -

2: The estimate for the Agrahara Vellalve Tank appears to require reconsideration, and it will be returned to the Superintendent in order that it may be ascertained whether the amount cannot be reduced without injury to the efficiency of the tank when improved, and that the several points noticed by the Chief Engr may receive attention.

15/3/70

J. S. Engr & Dy. Secy. Finance Department
5 Collectors
3 Chief Engrs
Dy Supt

Cus 987 & 1047

Govt. of {1870} Madras.

PUBLIC WORKS.

To The Superintending Engr
yth Division

Dated

Rect. No. 5

G. O. 6th April 1870. No. 952.

No. 69 @ 71

Peraculum & Agrahara Tanks

Passing orders on the
Estt by the Chief Engr for Repairs &
Extensions of the improve-
-ment of the Peraculum & Agrahara
Pallavaram Tanks in the Chingleput
Dist.