

General Abstract Estimate.
Final Location.

4. 5

Chief Engineer's Office
Rozapuram 23rd March 1999

E. Morrey
Chief Engineer

1577 / 99

24. 3. 99

317

Ans

Paliapatam - Mangalore Survey -

Survey Expenses (a) Field Expenses.
(b) Office Expenses.

5 Per

No.	Description of work.	Quantity	Rate	Per.		
Field Expenses -	Lockpitting	90 mile	6	mile	540	-
	Pegs large @ 25 per mile	90	5	-	450	-
	" Small 55 per mile	90	4	-	360	-
	Mallets	15 No.	1 8	Each	22	8
	Compensation for Cusps	90 Miles	45	mile	4050	-
	Cart hire for 8 months	8 month	50	month	400	-
	Coolies Jungle Cutting	90 mile	16	10 mile	1496	4
	Rope String Year	Lump Sum			50	-
	Cloth for flags	Lump Sum			10	"
	Paint (white lead 28 lb)	Lump Sum			10	"
	Nails Screws	Lump Sum			20	-
	Repairs to houses damaged by survey	90 miles	10	mile	900	-
					8318	12
Contingencies @ 5% -					415	4
Total (a) Field Expenses -					8734	-
Office Expenses -	Stationery Ordinary	Lump Sum			300	-
	Forms Books Year	do			200	-
	Paper double Elephant	10 Grs	15 12	Grs	157	8
	" mounted	5 Rolls	40	Roll	200	-
	Spacing Cloth	15 Rolls	15	Roll	225	-
	Section paper	5	20	-	100	-
	Drawing Pins, Colors, Saucers	Lump Sum			100	-
	India Rubber & Drawing pencils Year					
				1282	8	
Contingencies @ 5% -					64	2
Total (b) Office Expenses -					1346	10

Polioptam. mangalore Survey.

II Plant (a) Camp Equipage (b) Furniture

No.	Description of work	Quantity	Rate	Per	Amount
1.	Tents still for Office 12' x 12'	1	315	Each	315
2.	Swiss Cottage (1 for Office) 14' x 14'	2	445	.	890
	Shooting pals	2	100	.	200
	Bechoha 10' x 10'	7	150	.	1050
	Servants pal 10' x 10'	15	50	.	750
	Necessary 4' x 4'	4	33	.	132
	Bath Room	2	60	.	120
	General Service	1	200	.	200
	Mats & Carpets for tents	Summ. Summ.			100
	Contingencies @ 5%.				187 14.
Total (a) Camp Equipage					3944. 14.
	Table drawing on trellises	2	12	Each	24
	Office for Office	1	13 8	.	13 8
	Office for Writers & Subordinates	4	8	.	32
	Chairs	6	3	.	18
	Stools	3	2	.	6
	Stationery chests	3	8	.	24
	Coast Safe light	1	97	.	97
	Camp boxes	1	7	.	7
	Despatch boxes	2	2 8	.	5
	Medicine chests full	1	20	.	20
	Lanterns Hurricane	12	3 8	.	42
	Padlocks English 3"	6	3 8	.	21
	Contingencies @ 5%.				15 7
Total (b) Furniture					324. 15

Paliapattam Mangalore Survey

II Plant (C) Instruments

7 per

Description of Work		Quantity	Rate	Per	Amount
Inedolites (3 Screw 5" Spanghton Elliot)	4.	no.	650	Each	2,600
Levels (Dumpy 3 with Compass)	5	"	300	"	1500
Leveling Staves	8	"	56	"	448
Compasses Prismatic with Tripods	3	"	120	"	360
Ranging Rods	30	"	8	"	15
Umbrellas Survey	6	"	37	4	223 8
Drawing boards 22" x 23"	2	"	12	"	24
Instrument Boxes 2 nd Class	3	"	35	"	105
do do 1 st Class	1	"	50	"	50
Stencil plates sets 1/2"	2	sets	7	4	14 8
Parallel rulers of sizes (1 large) 18"	2	no.	13	8	13 8
Tape 100 ft. Metaltic	20	"	5	8	110 12
100 ft. Chains with Arrows	4	"	16	"	64
Boxes (Ry) box	1	"	30	"	30
Set Squares sets in box Ebony	2	"	16	"	32
Scales boxes of sets wood	2	"	10	"	20
" " papers	2	"	5	"	10
Pantograph for enlargement & reduction	1	"	30	"	30
Ebony levels	2	"	32	"	64
Anemometer large	2	"	35	"	70
Gross Staff	1	"	1	"	1
Plane table	1	"	12	"	12
Binocular glasses	1	"	35	"	35
Straight edge steel (3 ft + 4 ft long)	2	"	10	"	20
Foot rules 2 ft. long	3	"	2	"	6
Contingencies @ 5%—					5,866 4
Total Rupees —					293 5
					6,159 9

Instruments

II. Plant (d) Tools

8 Pm

Description of work	Quantity	Rate	Per	Amount
Machetes	21	12	each	21
Picks (light)	12	1	12	21
Shovels (light)	6	2		12
Axes (American with handles)	12	1	8	18
Saw bars	4	1		4
Hammers of Sledge	12	2		24
Brands	6	6		36
Bill hook light English or American	12	1	4	15
Contingencies 5%				7 8
Total Rupees				158 8

Baliapatam - Mangalore Survey.

III. Establishment

9 p.m.

No.	Description of Work.	Quantity	Rate	Per	Amount
1.	Executive Engineer	12	900	month	10,800
	Travelling Allowance		100	"	1,200
1.	Assistant Engineer	8	475	"	3,800
	Travelling Allowance		75	"	600
3	Surveyors	12	180	"	6,480
	Travelling Allowance		30	"	1,080
3	Surveyors	12	130	"	4,680
	Travelling Allowance		30	"	1,080
1	Clerk	12	70	"	840
1	Store Clerk	6	30	"	180
1	Draughtsman	12	70	"	840
1	Assistant do	12	35	"	420
4	Peons	12	7	"	432
40	Lascars	8	7	"	2,880
					35,312
Contingencies @ 5%					1,765
Total					37,077

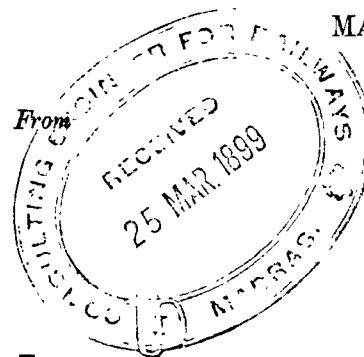
No.

10694
317

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE,

MADRAS,

24th March 1899.

The Agent and Manager,

Madras Railway Company,

To

The Consulting Engineer for Railways,

SIR,

Madras.

I have the honor to inform you that I have been instructed by my Board to apply for sanction to make a survey of a line from Balapattam to Mangalore, the survey party to take the field in September next; and I shall be glad if the necessary permission can be given at an early date.

I enclose statements showing the estimated cost of a Reconnaissance and of a final location Survey amounting to Rs 13,900 and Rs 48,177 or Rs 154 and Rs 535 per mile respectively.

We are prepared to undertake either the one or the other as the Government

Res

Government may direct, the cost to be debited to Revenue.

I have the honor to be,
Sir,
your most obedt. Servt.,
Edmund
Agent and Manager

Encls: 7

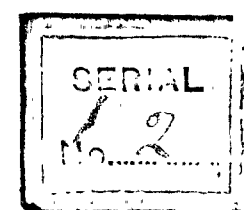
Pl
be
to
P. 6
P. 7
P. 11

Ans

Madras, 27th March 1899.



No. 1010



OFFICE NOTE.

Letter from the Agent, Manager Madras Railway, No. 10694, dated 24th March 1899, forwarded to the Examiner of Railway Accounts for remarks.

a/j
for E. R.

27/3/99

From
MADRAS RAILWAY
The Agent and Manager,
M. R. Co.,
To
The Consulting Engineer
for Railways.

EXAMINER'S REPLY.

A.R.
E. R. is enquiring into this on tour. This will be disposed of by him when he returns from tour. See that these papers go to duty. Jld 21.3.99.

Note of the Com. Eng. for the Madras
Prima facie there is every reason to believe that it will pay well to extend the Calicut-Baliapattam section of the Madras Ry. to Mangalore, a distance of 90 miles. But until a survey is made we know very little about it. More business is wanted than

The sanction of the Govt. is necessary to the estimate, whether for a reconnaissance or for a final location of the proposed extension. In forwarding the estimate it should be mentioned that it is proposed to charge the expenditure if sanctioned, temporarily to Revenue.

JYK 29th 99

C.R.
27.3.99

Per

[illegible]

It is essential that a happy day should be made for
happy days, so that we can all be happy. I hope
very, and then I shall be very happy. I hope
to find a way to this end.

My friend, I had at last a report of the degree of
the gold in the ore, and a light flash of thought came
to me, that the same sample had been analyzed by
quite different chemists, and that the difference of the
results was due to the fact that the one was a
theoretical chemist, and the other a practical chemist.

The moment the subject of extending to Mangalore comes up for the consideration of Government we are met by the gauge difficulty.

My opinion is that all that is requisite at this stage will be a really good traffic survey, and a light flying line of traverse survey and levels. But the traverse survey and levels must be made with far greater intelligence than was displayed by the makers of those for the Cannanore and Cochin survey if they are to be worth the money spent on them. The Consulting Engineer will issue the necessary instructions.

No. 1115

Madras, 8th April 1899.

From
THE CONSULTING ENGINEER FOR RAILWAYS,
MADRAS,

To
THE AGENT AND MANAGER, M. Ry.

Reminders.

Reply No. _____

dated _____

SIR,

I have the honor to acknowledge the receipt of your letter No. $\frac{10694}{317}$ dated the 24th March. 99, and in reply to request that the estimate of the Bahadurpore Mangalore Survey may be prepared so as to cover the cost of a survey by a staff officer also. My opinion of staff engineering surveys is that the information which they offer in regard to traffic matters is more or less reliable & a forecast of probable earnings is more reliable than the a forecast of probable cost.

2. - In regard to the Engineering Survey. I shall be glad if, instead of the alternative estimate you will submit two successive ones, viz one for the first season, to cover the cost of the best kind of rough flying level and traverse which an intelligent Engineer can carry through with the help of a smart Assistant & a couple of surveyors, and another for a second season, to include the cost of perfecting this first survey up to the point of commencement of actual construction.

The Triffin survey combined with the single traverse will enable
 from Dintona to Government to agree whether the extension is
 or is not good enough to make. Should they agree to make
 it, the second survey will be necessary before work can be
 started; and can indeed go on simultaneously with construction, as
 I have known done elsewhere; Should the results of the
 first surveying of the Triffin survey be discouraging
 the second survey need not be made.

I have &
 JWS.
 6/4/99

Baliapattam - Mangalore Survey. General Abstract Estimate

25/1/99

Main and Sub Heads.	Abstract	
	Sub-head	Main Head.
I. Survey Expenses:—		
(a) Field Expenses.—	2,673	
(b) Office Expenses.—	1,104	3,777
II. Plant:—		
(a) Tools.—	1,729	
(b) Furniture.—	206	
(c) Instruments.—	3,352	
(d) Tools.—	56	5,343
III. Establishment:—	14,874	14,874
Total Rupees		23,994
Credit 1/3 value of Tools, Instruments, and Furniture to be returned to stock.—		1,762
Balance		22,232
Cost per mile = Rs 247.		

(22)

Engineer-in-Chief
 Construction.

b. b. Extension
 Engineer-in-Chief's Office
 for Construction
 Rayapuram 9 Sept 99

I. Survey Expenses. 26/10/11

Description of work	Quantity	Rate	Per	Amount
(a) Field Expenses.				
Locksfitting				
Peep (large & small)	90 miles	2	" "	180
Meallets	7 6	1	" "	6
Compensation for crops	90 miles	10	" "	900
Cart hire 4 months	1 4	60	" "	240
Lookies for jungle cutting a	miles 4	300	" "	1200
Strings, flags &c		"	" "	20
				2546
Contingencies at 5 percent				127
				Total Rupees 2673
(b) Office Expenses: —				
Stationery				300
Horns Books &c				150
Paper double elephant	6 qrs	17	" "	102
" mounted	6 Bz	40	" "	240
Tracing cloth	6 Rolls	15	" "	90
Section Paper	6 qrs	20	" "	120
Pins, colors, saucers &c		"	" "	50
				1052
Contingencies at 5 percent				52
				Total Rupees 1104

II. Plant.

27/11/11

Description of Work.	Quantity	Rate.	Per.	Amount.
(a) Camp Equipage:-				
Tents swiss ——— 12' x 12'	1	355	each	355
" Hill ——— 12 x 12	2	280	"	560
Shooting Pals —	2	150	"	300
Rawtee ——— 12 x 12	1	240	"	240
Servants Pal ——— 8 x 8	3	40	"	120
Necessary ——— 5 x 5	1	40	"	40
Bath room ——— 6 x 6	1	30	"	30
				Total Rupees — 1,645
Contingencies @ 5% ———				84
				Total Rupees — 1,729
(b) Furniture.				
Table Drawing ———	1	25	each	25
" Office ———	2	17	"	35
" Chairs ———	5	4	"	22
" Stools ———	2	4	"	8
Stationary chest ———	1	20	"	20
Cash safe ———	1	20	"	20
Camp boxes ———	3	6	"	18
Despatch boxes ———	1	20	"	20
Lanterns ———	3	6	"	18
Padlocks ———	5	2	"	10
				196
Contingencies 5% ———				9
				Total Rs. — 206

II Plant - Continued 28 Per

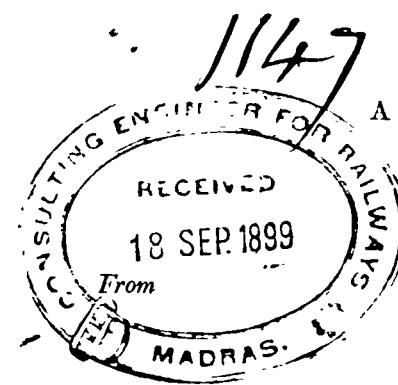
Description of work	Quantity	Rate	Per	Amount
C) Instruments				
Theodolites	2	475	" " each	950
Levels	4	300	" " "	1200
Levelling staves	8	38	" " "	304
Pocket Compass	1	22	" " "	22
Compasses - prismatic with tripod	2	120	" " "	240
Ranging Rod	30	2	" " "	60
Umbrella	6	7	" " "	42
Drawing Boards	2	12	" " "	24
Instruments 2 nd Class	3	25	" " "	75
Stencil Plates	1	25	" " "	25
Parallel Rulers	2	3	" " "	6
Tapes 100 feet metallic	6	8	12 " "	52 8
Chains 100 with arrows	3	16	" " "	48
Curves	1	10	" " "	10
Sch squares	2	1	" " "	2
Straight edges steel	2	10	" " "	20
Scales	2	10	" " "	20
Levels alany	1	42	" " "	42
Binoculars	1	50	" " "	50
				3192 8
Contingencies @ 5%				159 8
Total Expenses				3352
D) Tools				
Mamoties	12	1	" " each	12
Picks	6	1	" " "	6
Shovels	6	2	" " "	12
Axes	6	3	" " "	18
Crowbars	2	3	" " "	6
Contingencies @ 5%				54
				2
				56

III. Establishment. 29 Dec

	Period	Rate.	Per.	Amount.
1. Executive Engineer (800 + 75) - 6 months	875	-	-	5,250
3 Surveyors - (150 + 60) -	630	"	"	3,780
3 - do - (100 + 30) -	390	"	"	2,340
1 clerk - Rs. 60 -	60	"	"	360
1 bashkeeper " 50 -	50	"	"	300
1 Draftsman " 60 -	60	"	"	360
1 - do - " 40 -	40	"	"	240
2 Peons " 8 -	16	"	"	96
30 Lascars " 8 -	240	"	"	1,440
				14,166
Contingencies @ 5% -				708
				Total Rupees - 14,874

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE,

Madras, 15th September 1899.

The Agent and Manager.

M. A. C.

To

The Consulting Engineer for Railways.
Madras.

SIR,

Adverting to your letter No. ^{5.12}247 dated 26th August 1899. I have the honor to enclose for you to analyse an estimate amounting to Rs 22,232 for making a reconnaissance survey from Baliapattam to Mangalore. The estimated cost comes to Rs 247 per mile, which is practically the lower of the two figures mentioned in your letter.

By the mail yesterday, I wrote to the Board asking for communication of their approval by telegraph to the undertaking of the survey, but to prevent delay when this approval has been received, the estimate is now submitted to you. I will apply formally for the sanction of Government on receipt of the Board's approval to the outlay being incurred.

I have the honor to be,

Sir,

your most obedient servant,

T. V. V. S.

Agent and Manager.

Encls.

A. M.

PUBLIC WORKS DEPARTMENT,
RAILWAY BRANCH.C. No. 4891 NOTE ~~FILE~~ by the Com. Ry. for Ry. - Indian.
18.9.99

H.S. for approval

30 P

A.P.D. 8.9.99
25999

In March last the Agent Indian Ry. Co. under instructions from his Board of Directors, applied for sanction to make a survey from Delhi (the terminus of the Channar station) to Mangalore.

After some correspondence on the part of survey that could be required, the establishment being to be required. &c. &c. the Agent has written to say that he has sent to his Board an estimate amounting to Rs 22,232, on the rate of Rs 247 per mile, for a survey the scheme for making which has been found in the instructions conveyed to him in my letter (copy attached) No. ²⁴⁷/₀ dated the 26th Aug. 99.

The Agent has asked his Board to telegraph at their approval of the estimate. Meanwhile to save time, it will be as well to forward the estimate to the Govt. of India for consideration, with an intimation that in receipt of a reply from the Board the matter will be telegraphed to the Govt. of India, and with an expression of the hope that the estimate may be sanctioned and a grant allotted under "41 Miscellaneous by expenditure" and intimation given for the work to be put in hand.

FMS
20/9/99

148 20/9/99 M 30/9/99

NO 5800 6

No. 1105. Ry.

Government of Madras,

PUBLIC WORKS DEPARTMENT,
RAILWAY BRANCH.

Order No. 1104. Ry. dated 7/10/99

The Govt of India will be

To
address

The Secretary to the Government of India,

Public Works Department,

31

A.S.H.
29999

Copy, the 7th Octr 1899.

Sir,

I am instructed to forward a copy of a estimate which has been received from the Agent Indian B. G. of the int. R. 22232, of making a preliminary survey from Bahajatan to Mangalore. The accompanying Note, dated the 20th inst. of the Gov. Ry. for B. explain the circumstances which have led to the submission of the estimate.

2. - I am directed by H. E. in Council to strongly recommend the permission be accorded for the making of the survey. - that the necessary grant be allotted, in order that the work may be put in hand immediately after the sanction of the N. W. Council.

3. - The sanction of the Board of Directors B. G. shall be communicated on receipt.

Documents accing:

- (1) Est + note referred to
(2) Copy of Board letter No. 247 of 26/8/99 to P.W.D.

I have to

7/10/99

(A. & M. L.)

No 10694
1234

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE,

Madras, 7th October 1897

From

The Agent and Manager,

M. Rao

To

The Consulting Engineer for Railways.

Sir,

Madras.

In continuation of my letter no. 10694 dated the 15th ultimo. I have the honour to inform you that I have to-day received from the Board the following telegram viz. "Mangalore approved" which is understood to mean that the Board approve of the reconnaissance survey from Baliafatam to Mangalore being undertaken, the cost of the survey to be debited to Revenue for the present. I now beg to request that you will kindly communicate to me the sanction of Government to the estimate amounting to Rs 22,232, for the

A grant under
"At Miscellaneous"
Railway Expenses
has been made
vide Rs 22,232
under the
1105 Rs 1105

Prising applied
in letter to
1105 Rs 1105

TELEGRAM URGENT
ORDINARY
DEFERRED

FROM

To

R.

Works Rail

3500

STB x Appointed 1105. By. date 7th Oct. 99. Since the letter
has written the Mysore deini office received saying that grant
not likely to be available for such sums. As the sanction
might be expected to their debit to Railway Account. Madras
Board cannot to this ~~consequence of the~~ ^{and doubtless} ~~you~~ ^{you} reply to my
therefore since if money may go on. ~~and doubtless~~ ^{and doubtless} you reply to my
1005 will be to same effect.

Prof.

FVS

23/10/99

MADRAS RAILWAY.

From

The Agent and Manager.

To

The Consulting Engineer

for Railways.

Dated

Recd.

No.

TELEGRAM

URGENT
ORDINARY
DEFERRED

FROM

A.R.

TO

Works.

2:11. Appld (my letter
 numbers 2 dated as follows)
 1195 Ry anomaly (7th instance)
 B. C. C.

261

111
2A

11.10.99

Public Works (1899) Department.

RAILWAY BRANCH.

CURRENT No. 1360

From

The Govt of India

Order

No. 2057 RC

Dated 25th October 1899

Received } 31-10-99

Registered

Enclosures

Spare copies.

SUBJECT.

Railway from Baliapattam
 to Changanore

stating that the Govt of
 India are unable at present
 to provide the necessary funds
 for the proposed survey for
 a line of — & requesting that
 the detailed survey may be
 deferred until funds are
 available

FURTHER PAPERS.

No.	Date.

[illegible]

All communications should be addressed to the Secretary.

GOVERNMENT OF INDIA.

RAILWAY CONSTRUCTION.

36.8

20

The Secretary to the Government of Madras,
Public Works Department, Railway Branch.

Simla, the 25th October 1890.

Sir,

I am directed to acknowledge the receipt of your letter No.1105 Ky., dated 7th October 1899, and telegram No.21 A., and 51.B., dated 12th and 24th October 1899, submitting, for the sanction of the Government of India, an estimate, amounting to Rs.22,252, corresponding to a rate of Rs.247 per mile, of the cost of a preliminary survey for a line of railway from Baliapatam to Mangalore.

2. In reply, I am to say that the Government of India are unable at present to provide the necessary funds for the proposed survey under the head "41-Miscellaneous Railway Expenditure", and as there are many financial objections to charging the cost to "Revenue suspense" unless there is an immediate prospect of the work being undertaken within 2 or 3 years which does not at present obtain, I am accordingly to request that the detailed survey may be deferred until funds are available.

3. I am, however, to suggest, that a "reconnaissance survey" of the route, such as is contemplated in paragraph (1) ^X Chapter II; of the Rules for the preparation of Railway Projects (1893) corrected up to June 1899 (vide

Public

Form No. 12

No. 3327

Madras, 1st Nov 1897

From

THE CONSULTING ENGINEER FOR RAILWAYS,

MADRAS,

To

THE AGENT AND MANAGER, M. Ry.

Reminders.

Reply No. _____

dated _____

SIR,

With reference to correspondence ending with your letter No. 10694 B. 1234 dated 7th Oct. 99. on the subject of the proposed Subsidy Mangalore R. way. I have the honor to inform you that the Govt of India have written to say that they are unable to sanction a grant for the purpose of the way under the Head 41 Miscellaneous R. expenditure, and that there are objections to charging the cost to Public Service unless there is an immediate prospect of the work being undertaken within 2 or 3 years, which does not at present obtain.

2. - They have however suggested that a Recommendation Survey might be made at a reduced cost, if it is not contemplated in para (1) chp II of the "Rules for the Improvement of Railways" (1893) committee report Jan 1899, a copy of which went to you with my No 915 R. dated the 15th Aug 99.

3. - I have the honor to request that I may be furnished with a form return for sub. recommendation at a very early date.

I am & FRS 11/11

1/11/99

Madras Railway.
General Abstract Estimates of the proposed reconnaissance Survey
Baliapatam & Mangalore 90 Miles
610 P.

Main & Sub Heads	Abstract	
	Sub Heads	Main Heads
Survey Expenses		529
1) Field - do -	175	
2) office - do -	354	
Plant		3,051/8
1) Tents	1,023	
2) Furniture	173/8	
3) Instruments	1,855	
4) Tools		
Establishment	5,112	5,112
		8,692/8
Credit 1/2 Value of Tents, Instruments furniture to be returned to stock		1,525/12
Rate per mile Rs - as P.	79-10-4	7,166/12

J. S. & W. King.
Chief Engineer
14/11/99.

(54) H. J. Thompson
Engineer-in-chief for
Construction.

I Survey Expenses.

611 Nov

Descriptions of Work	Quantity	Rate	Per	Amount
(a) Field Expenses				
Pegs (Large + Small)				25
Mallets	2	1		2
Cart hire 2 months	2	60		120
Sundries	-	-		20
				167
Contingencies 5%				8
				175
(b) Office Expenses				
Stationery	-	-		100
Forms, Books &c	-	-		50
Paper double Elephant	2	qrs 17	qr	3 1/4
" Mounted	2	40	ent	80
Tracing Cloth	2	Boths 15		30
Section paper	2	qr 20		40
Sundries	-	-		20
				35 1/4

II Plant

Li 2 Per

Description		Quantity	Rate	per	Amount
(A) Camp Equipage					
Tents Swiss.	12 x 12	1	355	Each	355
" Hill	12 x 12	1	280	"	280
" Bichobee	10 x 10	1	150	"	150
Servants pal	5 x 8	3	40	"	120
Necessary	5 x 5	1	40	"	40
Bathe Room	6 x 6	1	30	"	30
					975
Contingencies 5%					48
					1,023
(B) Furniture.					
Table Drawing		1	25	Each	25
" Office		2	17 8	"	35 8
Chairs		3	4 8	"	13 8
Stools		2	4	"	8
Stationery Chest		1	20	"	20
Cash Safe		1	20	"	20
Dispatch Boxes		1	20	"	20
Lanterns		3	6	"	18
Padlocks		3	2	"	6
					165 8
Contingencies 5%					8
					173 8

II Plant Cont. 41 & 111

Description of Work	Quantity	Rate per	Amount
(C) Instruments			
Theodolite	1	550 . . . each	550 . . .
Levices	2	300 . . .	600 . . .
Leveling Staves	4	38 . . .	152 . . .
Pocket Compass	1	22 . . .	22 . . .
Compass Prismatic with tripod	2	120 . . .	240 . . .
Ranging Rods	10	2 . . .	20 . . .
Umbrellas	2	7 . . .	14 . . .
Drawing Board	1	12 . . .	12 . . .
Instruments 2 nd class	1	25 . . .	25 . . .
Stencil Plates	1	25 . . .	25 . . .
Parallel Rulers	1	3 . . .	3 . . .
Tapes 100ft. Metallic	3	8 12 . . .	26 4 . . .
Chain 100ft. with arrows	2	16 . . .	32 . . .
Curves	1	40 . . .	40 . . .
Set Squares	2	1 . . .	2 . . .
Straight Edges Steel	1	10 . . .	10 . . .
Scales	2	10 . . .	20 . . .
Levels Abney	1	42 . . .	42 . . .
Binocular	1	50 . . .	50 . . .
			1858 4 . . .

III Establishment

6161 Per

	Period	Rate	Per	Amount
1 Executive Engineer (800+75)	3 months	875	-	2,625 00
2 Surveyors (150+60)	"	420	-	1,260 -
1 Clerk & Cash Keeper 60/.	"	60	-	180 -
1 Draftsman 60/.	"	60	-	180 -
2 Peons 8/.	"	16	-	48 -
24 Lascars 8/.	"	192	-	5,760 -
				4,869 -
Contingencies 5%				243 -
				5,112 -

1st E. W. Slaney.
Chief Engineer.
14. 11. 99.

1st H. J. Thompson
Engineer-in-chief
for Construction

No. 10694
1420

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE,

MADRAS, 16th December 1899.

From

The Agent and Manager,

Madras Railway Company,

To

388

The Consulting Engineer for Railways,

Madras.

SIR,

With reference to your letter No. 3327 of the 1st instant, I have the honour to submit a revised estimate amounting to Rs. 7866-12-0 of the cost of a reconnaissance survey from Baliapattam to Changanaloro and to request that the sanction of Government may be conveyed to me for the expenditure being charged to Revenue.

2. In forwarding this estimate the Engineer-in-Chief for Construction writes as follows:—

The provision will cover the cost of a survey of the description required in para 1 Chapter II of the 'Rules for the preparation of Projects' with the exception of the information as to foundations of Major Bridges. The line under notice will cross 12 and possibly 15 Rivers and Backwaters.

H. L. S.

" Backwaters and the boring work neces-
 " sary to give accurate information as
 " to depths of foundation would occupy
 " a considerable time and be costly.
 " From experience on the Calicut Cannals
 " Extension we know the approximate
 " cost per foot run of Bridge suitable
 " for a West Coast River or Backwater
 " and the boring work should, I think, be
 " postponed until the detailed survey
 " is made."

39 SP

I have the honour to be,
 Sir,
 Your most obed^t Servant
 James S. M. V. D.
 Agent & Manager.

Encl.

Papers to be read in Proceedings:—

No. 1105 By dated 7 October 1899

W.C. current No. 5256 of 9.10.99

Telegrams to Works. No. 21. Oct. of 12.10.99

— do — No. 51 B. of 23.10.99

P.W.R. current. No. 1360 of 31.10.99

Letter book No. 3327 of 1.11.99

W.C. current No. 6004 of 17.11.99

ORDER.

No. 1335 By dated 29/11/99

45 P

The Government of
India will be addressed

MADRAS RAILWAY.

From

The Agent and Manager,

M. R. Co.,

To

The Consulting Engineer

for Railways.

Dated

189

Recd.

No.