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MADRAS RECORD OFFICE.**Government of Madras.***Public works* **DEPARTMENT.**

G.O. No. <i>3404</i>	Press ☒ Mis.
<i>555-556</i>	
Dated <i>28-11-</i>	<i>1864.</i>

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
28th November 1864.*

No. 555. Read the following letter from Lieutenant-Colonel G. W. WALKER, R. E.,
Superintending Engineer, 7th Division, to Colonel C. A. ORR, R. E., Secretary to
Government, Department Public Works, dated Buddagherry, 12th November 1864,
No. 180 :—

SIR,

1. The larger bridges on the road below Munzurabad Ghát being in process of comple-
tion this season, it is now time to bring for-
ward the accompanying estimates, aggregating

Enclosures 25.

Rupees 14,400, for remedying all remaining defects on the 30 miles of its length.

2. These defects consist of temporary and constantly failing bridges over small but deep
nullahs ; and of open paved drains over other small nullahs, the declivities into which are so
steep and on such sharp curves as to endanger loaded carts. A few also in the ravine leading
from the foot of the Ghát proper into more open country, are in the monsoon, difficult and even
dangerous to pass, owing to the rush and depth of water flowing over them.

3. No one knows better than myself the defects of the original estimate for this line of
road, as I was the first Officer who worked on it. And being at that time an Assistant to
Lieutenant-Colonel Green, I brought them to his notice at the close of the only working season
that I was in charge. But the decision then arrived at was first to complete what had been
estimated for, and afterwards to remedy omissions. The Ghát itself and road above, being in
Mysore, of which province Colonel Green was Chief Engineer, received his personal supervision ;
but the Canara portion was entrusted to Maistries and Surveyors, who were not competent to
trace in such difficult country. They must have been very careless too, for large streams were
omitted or misplaced on the estimates ; partly perhaps owing to a dangerous illness of Colonel
Green's which then delayed their completion.

4. Such chief defects, however, have been or are being gradually remedied ; one of the
greatest under the sanctions of Government Orders No. 1,105 of 21st May 1862, No. 2,765 of 23rd
September 1863, and No. 1,799 of 21st June 1864. It now remains to bring the line into a finished
state, worthy of its commercial importance, which is greatly developed of late years, to the mutual
benefit of the Mysore State and the Port of Mangalore ; I propose, therefore, to enter the full amount
of these estimates in the Canara Budget List of 1865-66. The maintenance allowance will hence-
forth meet all demands, short of bridging the Coomardary river at Oopinangady, a project which
I am unable as yet to bring forward.

No. 556. ORDER THEREON, 28th November 1864, No. 3,404.

The Government sanction for entry in the Budget of 1865-66 the estimates, amounting in the
aggregate to Rupees 14,400, for minor bridges on the road below the Munzurabad Ghát in the
District of South Canara. They observe that the estimates do not bear the countersignature of
the Collector. The attention of Colonel Walker will be drawn to paragraph 12, Chapter XI of
the Code, and he will be requested in future to conform strictly to its requirements.

(True Extract.)

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

To the Superintending Engineer, 7th Division.

„ Controller of Public Works Accounts.

„ Accountant General.

Exd. S. T. Augustin.

South Canara

Works Constructing Minor Bridge on the Mangalore Road in the South Canara District
N.B. The Miles are numbered from Mangalore.

Quantity Description of work Rate Amt. Total.

Bridge No. 11 in the 31st Mile

277 1/2	Cubic feet Lattice in chunam per 1000 cft	16	443	5	91
275	Ditto Archwork in ditto ditto	19	52	4	0
7 1/2	Ryft Cordon work per Ryft	4	15	8	0
5	Ditto Lustring ditto	2	8	12	8
910 1/2	Syft Pointing with chunam per Syft	1	8	13	10
157 1/2	Ditto Plastering ditto	4	8	7	1
200	Gyars Earthwork per gyars	2	25	0	0
	Sundries &c			27	10

Total Estimate Rupees 600 ..

Bridge No. 12 across the Pungallu in the 36th Miles

3392 3/4	Cubic feet Lattice in chunam per 1000 cft	17	8	53	10
647 1/2	Ditto Archwork in ditto ditto	20	8	132	11
72	Ryft Cordon work per Ryft	4	23	0	0
10	Ditto Lustring ditto	3	30	0	0
129 1/2	Syft Pointing with chunam per Syft	1	8	19	6
315	Ditto Plastering ditto	4	8	14	2
240	Gyars Earthwork per gyars	2	30	0	0
	Sundries &c			59	8

Total Estimate Rupees 900 ..

Bridge No. 13 in the 38th Miles

2843 1/2	Cubic feet Lattice in chunam per 1000 cft	17	0	48	5
428 1/2	Ditto Archwork in ditto ditto	20	0	85	12
78	Ryft Cordon work per Ryft	4	0	19	8
6	Ditto Lustring ditto	3	8	21	0
1089	Syft Pointing with chunam per Syft	1	8	16	5
190	Ditto Plastering ditto	4	8	8	8
220	Gyars Earthwork per gyars	2	0	27	8
	Sundries &c			38	6

Total Estimate Rupees 700 ..
2200 ..

Brought over 2200

Bridge No. IV at Wallah in the 38th Mile

1440 1/2	Cubefst Laterite in chunam per 100 cft	17	24413 6
319 3/4	Ditto Archwork in ditto	ditto 20	6314 11
54	Ryft Gordon works	per Ryft 4	138
6	Ditto Centring	ditto 28	15
462	Sqft Pointing with chunam per Sqft	18	6144
190	Ditto Plastering	ditto 48	8810
180	Gzards Earthworks	per Gzard 2	1812
	Sundries &c		23710

Total Estimate Rupees 395

Bridge No. V East of Wallah in the 38th Mile

1135	Cubefst Laterite in chunam per 100 cft	17	19215 2
80	Ditto Cut granite slabs	per cft 1	80
382	Sqft Pointing with chunam per Sqft	18	5118
95	Gzards Earthworks	per Gzard 2	1114
	Sundries &c		1972

Total Estimate Rupees 310

Bridge No. VI in the 39th Mile

1156 1/2	Cubefst Laterite in chunam per 100 cft	17	1969
275	Ditto Archwork work in ditto	ditto 20	55
48	Ryft Gordon works	per Ryft 4	12
5	Ditto Centring	ditto 2	10
361	Sqft Pointing with chunam per Sqft	18	568
157 1/2	Ditto Plastering	ditto 48	715
130	Gzards Earthworks	per Gzard 2	164
	Sundries &c		2210 11

Total Estimate Rupees 325

Bridge No. VII in the 40th Mile

1386 3/4	Cubefst Laterite in chunam per 100 cft	17	23511
538 3/8	Ditto Archwork in ditto	ditto 20	10710
58	Ryft Gordon work	per Ryft 4	148
8	Ditto Centring	ditto 28	20
434	Sqft Pointing with chunam per Sqft	18	682
252 1/2	Ditto Plastering	ditto 48	11510
230	Gzards Earthworks	per Gzard 4	578
	Sundries &c		3113

Total Estimate Rupees 485

(Carried over 3715)

Brought over 3715

Bridge No. VIII in the 41st Mile

763	Cubefst Laterite in chunam per 100 cft	17	129113
189	Ditto Archwork in ditto	ditto 20	37120
32	Ryft Gordon works	per Ryft 4	8
3	Ditto Centring	ditto 2	6
211	Sqft Pointing with chunam per Sqft	18	3271
95	Ditto Plastering	ditto 48	445
75	Gzards Earthworks	per Gzard 2	96
	Sundries &c		13104

Total Estimate Rupees 212

Bridge No. IX in the 41st Mile

852	Cubefst Laterite in chunam per 100 cft	17	1417
234	Ditto Archwork in ditto	ditto 20	461210
36	Ryft Gordon work	per Ryft 4	9
4	Ditto Centring	ditto 2	8
236	Sqft Pointing with chunam per Sqft	18	388
127 1/2	Ditto Plastering	ditto 48	5110
80	Gzards Earthworks	per Gzard 2	10
	Sundries &c		1578

Total Estimate Rupees 240

Bridge No. X in the 41st Mile

1052 1/2	Cubefst Laterite in chunam per 100 cft	17	1781410
275	Ditto Archwork in ditto	ditto 20	55
42	Ryft Gordon work	per Ryft 4	108
5	Ditto Centring	ditto 2	10
286	Sqft Pointing	per Sqft 18	448
157 1/2	Ditto Plastering	ditto 48	714
100	Gzards Earthworks	per Gzard 2	128
	Sundries &c		2046

Total Estimate Rupees 300

Bridge No. XI in the 43rd mile

1564	Cubefst Laterite in chunam per 100 cft	17	273112
234	Ditto Archwork in ditto	ditto 20	47156
56	Ryft Gordon work	per Ryft 4	19
4	Ditto Centring	ditto 3	12
550	Sqft Pointing	per Sqft 10	815

(Carried over 36158 4/16)

Brought over 360 158 446 1/2

125 1/2 sq ft Plastering per sq ft 4 12 5 15 5
 200 Yards Earthwork per yard 2 25
 Sundries &c 28 11
 Total Estimate Rupees 430

Bridge N. XII in the 46th mile

2047 cubic ft Laterite in chumam per cu ft 17 8 358 3 7
 429 Ditto Archwork in ditto ditto 20 8 87 15 1
 72 Rgft Cordwork per Rgft 4 18
 6 Ditto Centring ditto 3 18
 716 Sq ft Pointing with chumam per sq ft 1 10 110 2
 190 Ditto Plastering ditto 4 12 9 5
 245 Yards Earthwork per yard 2 6 45 15
 Sundries &c 41 3 9
 Total Estimate Rupees 590

Bridge N. XIII in the 47th mile

1141 cubic ft Laterite in chumam per cu ft 17 8 232 2 10
 429 Ditto Archwork in ditto ditto 20 8 87 15 1
 52 Rgft Cordwork per Rgft 4 13
 6 Ditto Centring ditto 2 8 15
 410 Sq ft Pointing with chumam per sq ft 1 10 610 7
 190 Ditto Plastering ditto 4 12 9 5
 110 Yards Earthwork per yard 2 13 12
 Sundries &c 27 7 1
 Total Estimate Rupees 425

Bridge N. XIV in the 50th mile

2654 cubic ft Laterite in chumam per cu ft 18 8 379 15 10
 320 Ditto Archwork in ditto ditto 22 60 6 5
 60 Rgft Cordwork per Rgft 5 18 12
 6 Ditto Centring ditto 3 8 21
 591 Sq ft Pointing with chumam per sq ft 1 12 9 15 10
 190 Ditto Plastering ditto 5 9 8
 125 Yards Earthwork per yard 2 6 19 8 6
 Sundries &c 38 13 5
 Total Estimate Rupees 568
 Carried over 6470

Brought over 6470

Bridge N. XV in the 50th mile

1870 cubic ft Laterite in chumam per cu ft 18 8 345 15 2
 210 Ditto Archwork in ditto ditto 22 46 3 2
 54 Rgft Cordwork per Rgft 5 16 14
 3 Ditto Centring ditto 4 12
 689 Sq ft Pointing per sq ft 1 12 12 11
 95 Ditto Plastering ditto 5 4 12
 225 Yards Earthwork per yard 2 6 35 2 6
 Sundries &c 35 3
 Total Estimate Rupees 508

Bridge N. XVI in the 52nd mile

1870 cubic ft Laterite in chumam per cu ft 18 8 345 15 2
 210 Ditto Archwork in ditto ditto 22 46 3 2
 54 Rgft Cordwork per Rgft 5 16 14
 3 Ditto Centring ditto 4 12
 689 Sq ft Pointing per sq ft 1 12 12 11
 95 Ditto Plastering ditto 5 4 12
 225 Yards Earthwork per yard 2 6 35 2 6
 Sundries &c 35 3
 Total Estimate Rupees 508

Bridge N. XVII in the 53rd mile

1870 cubic ft Laterite in chumam per cu ft 18 8 345 15 2
 210 Ditto Archwork in ditto ditto 22 46 3 2
 54 Rgft Cordwork per Rgft 5 16 14
 3 Ditto Centring ditto 4 12
 689 Sq ft Pointing per sq ft 1 12 12 11
 95 Ditto Plastering ditto 5 4 12
 225 Yards Earthwork per yard 2 6 35 2 6
 Sundries &c 35 3
 Total Estimate Rupees 508

Bridge N. XVIII West of Gondah

1597 cubic ft Laterite in chumam per cu ft 18 8 295 7 1
 275 Ditto Archwork in ditto ditto 22 60 8
 52 Rgft Cordwork per Rgft 5 16 4
 5 Ditto Centring ditto 3 15
 Carried over 3873 1999 1/2

Brought over 3873 1794			
438	Sq feet	Pointing with chunam	per sq ft 1 1/2 8 35
157 1/2	Sq ft	Plastering	ditto 5 4 44
100	yards	Earthwork	per yard 3 18 12
		Sundries &c	36 92
Total Estimate Rupees			459

Bridge N. XX East of Gondaiah			
2081	Cubic feet	Laterite in chunam	per cu ft 19 395 63
741	Sq ft	Archwork in ditto	ditto 22 8 166 11 7
78	Ryft	Coronwork	per Ryft 2 5 24 6
12	Sq ft	Pointing	ditto 4 48
753	Sq feet	Pointing with chunam	per sq ft 1 1/2 14 1 11
340	Sq ft	Plastering	ditto 5 4 17 13 7
675	yards	Earthwork	per yard 3 126 9
		Sundries &c	56 158
Total Estimate Rupees			458

Bridge N. XX East of Gondaiah			
793	Cubic feet	Laterite in chunam	per cu ft 19 150 108
80	Sq ft	Cut granite slabs	per sq ft 1 2 90
260	Sq feet	Pointing with chunam	per sq ft 1 1/2 4 44
65	yards	Earthwork	per yard 3 12 3
		Sundries &c	19 4 4
Total Estimate Rupees			275

Bridge N. XX about 1 mile East of Gondaiah			
3393	Cubic feet	Laterite in chunam	per cu ft 19 8 661 10 2
315	Sq ft	Archwork in ditto	ditto 23 72 7 2
81	Ryft	Coronwork	per Ryft 2 5 25
4	Sq ft	Pointing	ditto 3 8 14
1032	Sq feet	Pointing with chunam	per sq ft 1 1/2 19 5 7
127 1/2	Sq ft	Plastering	ditto 5 4 6 11 1
250	yards	Earthwork	per yard 3 45 10
		Sundries &c	55 4
Total Estimate Rupees			900

Bridge N. XXII at Buckinballah			
777	Sq ft	Road Metal	per 100 sq ft 5 8 42 11 9
1429	Sq ft	Laterite in chunam	ditto 21 8 307 3 9
566 1/2	Sq feet	Pointing	per sq ft 2 11 5 3
140	yards	Earthwork	per yard 3 6 30 10
165	Sq ft	Granite slabs	per sq ft 1 2 105 10
Total Estimate Rupees			1178 9 10 1/2

Brought over 1577 8 9 10 1/2		1010
Sundries &c		227 3
Total Estimate Rupees		600
Bridge N. XXIII		
Same as N. XXII		Estimate Rupees 600

Bridge N. XXIV		
Same as N. XXII		Estimate Rupees 600

Bridge N. XXV			
1450	Sq ft	Laterite in chunam	per 100 sq ft 23 8 340 12
389 1/2	Sq feet	Pointing	per sq ft 2 7 12
100	Sq ft	wrought Timber	per sq ft 1 100
55	Sq ft	Planking	ditto 1 4 68 12
170	yards	Earthwork	per yard 3 31 14
		Sundries &c	40 14
Total Estimate Rupees			590

Bridge N. XXVI			
4538	Sq ft	Laterite in chunam	per 100 sq ft 24 1089 11
1398	Sq feet	Pointing	per sq ft 2 27 15 4
280	Sq ft	Good jungle wood	per sq ft 1 280
92	Sq ft	Planking	ditto 1 4 115
140	yards	Earthwork	per yard 3 35
		Sundries &c	102 4 9
Deduct value of Timber collected last year			150
Net Amount of Estimate Rupees			1500

Grand Total Estimate 1178 9 10 1/2

P. to B. Rangarajee
Bettanagar 19th Oct 1904

Alex. J. H. Smith
Secty Engr. & Surveyor

17th 180

Superintending Engineer's Office
11/15/15 2nd Division

On ddagberry 12th November 1861.

From Lieut Colonel G. M. Walker. CB

Superintending Engineer, 4th Division

Col. Colonel C. A. M. R. E.

Secretary to Government D. W.

Life

517. The larger Bridges on the Road between
-salad should be in process of completion this
season, it ~~will~~ now time to bring forward the accom-
panying Estimates, aggregating Rupees 14,400- for
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3 No one knows better than myself the defects of the original Estimate for this line of road, as I was the first officer who worked on it - And being at that time an Assistant to Lieut Colonel Green I brought them to his notice at the close of the only working season that I was in charge. But the decision then arrived at was first to complete what had been estimated for, and afterwards to remedy omissions. The Ghaut itself and road above, being in Mysore, of which province Colonel Green was Chief Engineer received his personal supervision; but

but the Canara portion was entrusted to Maisters and Surveyors who were not competent to trace in such difficult country - They must have been very careless too, for large streams were omitted or misplaced on the Estimates; partly perhaps owing to a dangerous illness of Colonel Green which then delayed their completion.

Such chief defects however have been, or are being gradually remedied; one of the greatest under the sanction of Government orders No 1105 of 21st May 1862, No 2765 of 23rd September 1863 and No 1799 of 21st June 1864. It now remains to bring the line into a finished state worthy of its commercial importance, which is greatly developed, of late years, to the mutual benefit of the Mysore State and the Port of Mangalore; I propose therefore to enter the full amount of these Estimates in the Canara Budget List of 1865-66. The Maintenance Allowance will hence forth meet all demands, short of bridging the Comandary River at Copinangady, a project which I am unable as yet to bring forward.

I have the honor to be
Sir
Your most obt servant
Walter Smith Col R.E.
Superintending Engineer &c

No 21 ~~22~~ 1862 of 429-430
 " 23 1863 - 512-513
 " 24 June 1864 - 439-440

1864 June
 The Govt of Bengal
 to the Secretary to Govt
 of the Department of Public Works
 1st Division

To the Secretary to Govt
 of the Department of Public Works
 1st Division
 Dated 12th November 1864
 Received 17th

Enclosure 25

Accounts submitted for
 completion of Service & are
 shown the accompanying
 Report amounting to Rs 1400

No 3104 - 28th Nov 1864

Nithin Deo

21280/12/1864/10.2.20

No 3104
 The Government sanction

for entry in the Budget of 1865/6
 the estimate amounting in the
 aggregate to Rs 14,400 for minor
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 of South Canara. They observe
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 The attention of Col. Walker, who has
 been drawn to them by the Chief of
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 future to conform strictly to the
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To the Secy to Govt of Bengal
 1st Division
 28th Nov 1864
 Nithin Deo