(1) Number of pages_____

(2) Date of repair_____

(3) Initials of the Referencer_____

MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

G.O. No. 816-17 Press
351-353 Mis.

Dated 19 3 1870.

Not to be folded or roughly handled

No. 351. Read the following papers :—

From Major R. B. KENNEDY, Special Executive Engineer, Wynaad, to the Secretary to Government, Public Works Department, dated Wynaad, Vythery, 9th December 1869, No. 497 :—

I HAVE the honour to forward complete estimates for the three lines of road named in the margin, called for in G. O., No. 2,811, dated 27th August 1869, the arrangements of which were subsequently amended as they now stand. The period at which the Order was received, viz., just when the Budget proposals were being compiled, and the heavy press of work thrown on my office thereby have delayed the submission of these estimates, the difficulties being increased by there being at that time no Draughtsman in either of the Range offices nor in my own, all having resigned their appointments on account of sickness. Since then I have obtained a Draughtsman and Estimator for my own office; but, as those appointments are still vacant in the ranges, the whole work has been thrown on one individual: it has consequently been found impossible to send finished plans for all these lines, or to take copies. I beg, therefore, that the plea will be accepted for the roughness of those submitted with the projects Nos. 1 and 3.

1. Manantoddy.—Periah Ghaut and road viâ Manantoddy to Bowally on the Mysore frontier.
2. Luckadie.—Tambracherry Ghaut and road viâ Vythery and Culputty and Sultan's Battery to the Mysore frontier.
3. Karcoor Ghaut and road viâ Goodalore to Tippacaudoo on the eastern frontier of Wynaad.

2. As these roads, with the exception of one section and bridges upon them, are simply the formerly sanctioned projects which have been for some time under construction, I have not thought it necessary to forward any reports such as are laid down in page 435, Circular Order Book, especially as so doing would still more delay the submission of the projects.

3. I have on other occasions called to notice the very heavy gradients on the road between Manantoddy and the Periah Ghaut, which, in fact, interfere greatly with the utility of that important line of communication and are the cause of great complaints from the Planters; I have consequently taken the opportunity to forward a proposal for the necessary alterations: a section of the present road is forwarded to show how much these alterations are required.

4. There is an excess over original estimate in Road No. 2.

Time does not permit me to enter fully into all the causes, but the chief of them will be found in the omission from former estimates of any item for metalling or gravelling; in the substitution of masonry for timber superstructures to bridges, attended with increased height to approaches; in the case of one section of the road, viz., that between Luckadie and Vythery, to the fact of the estimate having been compiled when I first entered the department, my consequent inexperience, also the absence of all reliable data, thus preventing sufficient accuracy in the rates; increased by the enhanced price of labour of every description since the estimate was submitted; a portion also of the original road which it was not intended to interfere with beyond shaping was carried away by the floods of 1865, necessitating an entire alteration with heavy work for a distance of nearly three-quarters of a mile. In the case of the Konnuth Bridge very great expense was incurred in obtaining proper foundations for the piers, and by the dams being several times carried away by freshes. A comparative statement is being prepared showing the various

items of excess, which will be submitted at an early date with a fuller report on this and the Culputty Bridge: the estimate of the latter, which was compiled in the office of the Superintending Engineer, 7th Division, has been exceeded, partly owing to an error in the rates for excavation for foundation, partly to the necessity there was found to excavate them much deeper and to fill in with concrete to obtain security, and partly to increasing one of the spans from 30 to 50 feet, it having been found that the former span would have entailed still greater expense on account of the necessity there would have been for the abutment to be built at a spot where the foundation would have caused enormous difficulty. I have adhered to the original plan of superstructure although it is timber, and I beg to draw particular attention to this, as I wish to submit whether it would not be advisable to substitute Iron Warren girders similar to those proposed for the Karapoya and Charrapoya Bridges. This would cause an increase to cost of Rupees 1,000, but I need not point out what much greater durability would thereby be secured. I shall be much obliged by being informed as soon as possible whether the substitution will meet with the recommendation of Government, as I am awaiting result of this proposal to put the work in hand.

5. On line No. 3 the excess is due partly to extra work required on the Carcoor Ghaut, which, however, is not beyond what was estimated by Mr. O'Shaughnessy, whose estimates were considered too high by the Superintending Engineer, 7th Division, and reduced accordingly: further excess on this line is due to estimates for metalling, which were not before submitted.

6. I trust that the circumstances under which I am placed will be accepted as an excuse for so general a report, for I am at present not only compelled to perform the duties of Executive of one Range and Superintendent over three, but am, moreover, without the assistance of even an Overseer in the former. The Range Officer of South Wynaad is in the same predicament, and in North Wynaad Mr. Sub-Engineer Hasler has for the last six weeks also carried on his work single-handed during the temporary absence of his Overseer. Sickness in every case is the cause. The want of Draughtsmen has already been mentioned, and I have only to add that the requisition of these estimates came upon me just as the most busy time for all work was commencing; for, as you are aware, our proper working season in Wynaad scarcely extends beyond six months, and, therefore, the pressure during the actual favourable time is very great.

7. Time not having permitted of copies of the plans being made, I shall be obliged by their being returned.

No. 352. From Major R. B. KENNEDY, Special Executive Engineer, Wynaad, to the Secretary to Government, Public Works Department, dated Wynaad, Vythery, 6th January 1870, No. 8:—

With reference to your Memorandum dated 16th ultimo, I have the honour to inform you that the information called for has been now appended to the estimates which are herewith returned.

No. 353. Order thereon, 19th March 1870, No. 816.

CIVIL WORKS, No. 34.

In their Proceedings, dated 27th August 1869, No. 2,811, the Government communicated to the Officer in charge of Public Works Operations in Wynaad a suggestion of the Government of India for treating the undermentioned roads in that Province as main lines of communication:—

I.—The Periah Ghaut and the road from it through Manantoddy, Sultan's Battery, and Goodalore to the eastern frontier.

II.—The road from Manantoddy to the Tambracherry Ghaut, including the works on that ghaut.

III.—The road from the Mysore frontier through Sultan's Battery to the last-named line.

2. Major Kennedy, adopting the principle on which this classification was based, recommended instead of it the following:—

I.—The Periah Ghaut and road viâ Manantoddy to Bowally on the Mysore frontier.

II.—The Tambracherry Ghaut and road viâ Vythery, Culputty, and Sultan's Battery to the Mysore frontier.

III.—The Carcoor Ghaut and road viâ Goodalore to Tippacandoo on the eastern frontier of Wynaad.

3. The Government approved of this arrangement, and directed that estimates for completing the roads as now classified might be laid before them as early as possible.

4. In compliance with this requisition, Major Kennedy, with the first of his letters above recorded, submits the following estimates:—

I.—Rupees 2,97,640 for the Periah Ghaut and road viâ Manantoddy to Bowally on the Mysore frontier, in supercession of the estimates marginally noted, amounting to Rupees 1,82,698, with the addition of an estimate of Rupees 1,14,940 for the remodelling of that part of the road lying between the head of the ghaut and Manantoddy.

Rs.	
1,33,238	for the Periah Ghaut, sanctioned in G. O., dated 29th July 1868, No. 2,424. Item No. 354 of Budget of 1869-70.
33,660	for improvements to the Bowally road, sanctioned in G. O., dated 29th July 1868, No. 2,410. Item No. 355 of Budget of 1869-70.
15,800	for bridges and tunnels on the ghaut and road to Bowally, sanctioned in G. O., dated 28th June 1865, No. 1,787. Item No. 402 of Budget of 1869-70.
Total 1,82,698	

II.—Rupees 5,98,762 for the Tambracherry Ghaut and road viâ Vythery, Culputty, and Sultan's

Rs.	
2,79,367	for the Tambracherry Ghaut, sanctioned in G. O., dated 14th June 1869, No. 1,934. Item No. 357 of Budget of 1869-70.
25,150	for earth-work and bridges on the road between Luckadie and Vythery, sanctioned in G. O., dated 17th November 1865, No. 3,471. Item No. 361 of Budget of 1869-70.

41,400 for road-work and bridges between Vythery and Culpatty, sanctioned in G. O., dated 14th November 1866, No. 3,623. Item No. 358 of Budget of 1869-70.
16,000 for the bridge over the Konnath river, sanctioned in G. O., No. 3,471, dated 17th November 1865.
14,500 for the Culpatty Bridge, sanctioned in G. O., dated 26th October 1866, No. 3,424. Item No. 403 of Budget of 1869-70.
76,024 for the road between Culpatty and Sultan's Battery, sanctioned in G. O., No. 748, dated 9th March 1869. Item No. 359 of Budget of 1869-70.
30,000 for earth-work on the road from Sultan's Battery to the Mysore frontier, sanctioned in G. O., No. 3,424, dated 26th October 1866. Item No. 360 of Budget of 1869-70.
18,320 for culverts on the last-named road, sanctioned in G. O., No. 3,424, dated 26th October 1866. Item No. 404 of Budget of 1869-70.
14,540 for the bridge over the Kulloor stream, sanctioned in G. O., No. 2,515, dated 5th August 1868.
8,500 for the Yeddatoray Bridge, sanctioned in G. O., No. 3,424, dated 26th October 1866.
4,600 for the Gunnapadywattum Bridge, sanctioned in G. O., No. 3,424, dated 26th October 1866.

These two works though sanctioned by Government have been brought forward by the Officer in charge of Operations in Wynaad as requiring sanction.

Total .. 5,28,401

Battery to the Mysore frontier, in lieu of the group of sanctioned estimates amounting to Rupees 5,28,401 as per margin. This shows an excess of Rupees 45,501 over the sanctions, and includes new estimates, aggregating Rupees 24,860, for the construction of bridges over the Karapoya, Charrapoya, and Padreepoya streams, making a total excess of Rupees 70,361.

III.—Rupees 4,15,036 for the Carcoor Ghaut and road viâ Goodalore to Tippacaudoo on the eastern frontier of Wynaad instead of Rupees 2,29,880, the amount of the original estimates, the difference of Rupees 1,85,156 being the outlay calculated to be necessary to complete the ghaut and line of road in excess of the amount sanctioned.

Rs.	
1,07,400	for the Carcoor Ghaut, sanctioned in G. O., No. 3,544, dated 23rd November 1865. Item No. 349 of Budget of 1869-70.
64,090	for the road from the head of the Carcoor Ghaut to Goodalore, sanctioned in G. O., No. 1,807, dated 29th June 1865. Item No. 352 of Budget of 1869-70.
58,390	for the road from Goodalore to Tippacaudoo, sanctioned in G. O., No. 1,807, dated 29th June 1865. Item No. 353 of Budget of 1869-70.
Total 2,29,880	

5. In paragraphs 4 and 5 of his letter, No. 497, dated 9th December 1869, Major Kennedy furnishes explanations, but not in very full detail, of the causes of these excesses, and taking into consideration the character of the work, the nature of the country in which it lies, and the difficulty and uncertainty of obtaining labour at fixed or always reasonable rates, His Excellency the Governor in Council, though disappointed to find that larger sums than were calculated upon are required to complete the communications throughout Wynaad, has no reason to think that by greater precaution could this have been foreseen.

6. In paragraph 3 Major Kennedy states that, with a view to remedy the very heavy gradients on the part of Road No. I. between the head of the Periah Ghaut and Manantoddy, and which have afforded the Planters reasonable grounds for

Proceedings of the Madras Government, Public Works Department,
19th March 1870.

complaint, he has included in the estimate for the whole line a sum of Rupees 1,14,940 for re-forming on a new trace the portion in question. No expenditure would, however, appear to have been incurred, and considering that the improvement of this piece of road as suggested is by no means urgent, and that a heavier expenditure than the Government are in a position to meet is required to complete the lines of communication in Wynaad which are more emergently required, His Excellency the Governor in Council is not disposed to sanction any such expensive alteration of gradients between Manantoddy and the Periah Ghaut as Major Kennedy proposes to make.

7. Major Kennedy proposes timber superstructures to some of the bridges; but he is of opinion that, as provided in the case of the Karapoya and Charrapoya Bridges, iron should be substituted. In this the Government fully concur, and approve of the adoption of Warren or other girders for the support of the roadway wherever it may be found practicable to employ them. With these remarks the estimates will now be forwarded to the Government of India.

(Here enter No. 817, dated 19th March 1870.)

(True Extract.)

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

To Major R. B. Kennedy.
„ the Controller of Public Works Accounts.

Exd. A. S. Rodgers.

PUBLIC WORKS DEPARTMENT,
FORT ST. GEORGE, 19*th March* 1870.

No. 353.

No. 817.

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
PUBLIC WORKS DEPARTMENT.

CIVIL WORKS, No. 35.

SIR,—With reference to paragraph 15 of my letter, No. 3,917, dated 15th December 1869, in which the Government of India were apprized of the modified classification of the roads in Wynaad which this Government, on the recommendation of the Executive Engineer in charge of Operations in that Province were induced to approve, I am directed herewith to forward complete estimates for the undermentioned three main lines of communication referred to :—

I.—Rupees 1,82,700 for the Periah Ghaut and road viâ Manantoddy to Bowally on the Mysore frontier.

II.—Rupees 5,98,762 for the Tambracherry Ghaut and road viâ Vythery, Culputty, and Sultan's Battery to the Mysore frontier.

III.—Rupees 4,15,036 for the Carcoor Ghaut and road viâ Goodalore to Tippacaudoo on the eastern frontier of Wynaad.

2. The estimate for No. I. Road shows no increase on the sums sanctioned by this Government from time to time for its several sections. Major Kennedy has proposed to remodel the line on a new trace at an outlay of Rupees 1,14,940, but the Government do not consider this to be necessary and have excluded the item from Major Kennedy's estimate.

3. The estimate for the Tambracherry Ghaut and road exhibits an excess of Rupees 45,501 over the estimates sanctioned by this Government, and provides, in addition, for constructing bridges over the Karapoya, Charrapoya, and Padrecpoya streams at an estimated cost of Rupees 24,860, making the estimate, as revised, exceed the total of those sanctioned by Rupees 70,361.

4. The estimate for the Carcoor Ghaut and road exceeds the amount of previous sanctions by Rupees 1,85,156, which sum is calculated to be necessary to complete the line in addition to the sanctioned amounts.

5. In paragraphs 4 and 5 of the accompanying letter, No. 497, dated 9th December 1869, Major Kennedy details the causes which have chiefly led to these increases; and, in now inviting attention to his explanations, I am to state that the estimates as originally laid before this Government now appear to have been manifestly calculated on imperfect information and on inadequate rates, no sufficient allowance having been made for the exceptional circumstances under which the works for which they provided had to be carried out. These circumstances may be briefly said to consist of the difficulty of ascertaining before breaking ground the nature of the work to be performed in completing a ghaut to the full width

required for the accommodation of wheeled traffic, and of the impossibility of obtaining reliable information of rates in a country like Wynaad, where no experience had been acquired of operations of the extensive character involved, and where the ultimate cost of carrying them out with reasonable rapidity was subject to be materially affected by great competition for labour and by the rise in prices which has been taking place from that as well as other causes during the execution of the works. Moreover, to the causes thus likely to act in leading to estimates being found by the result of experience insufficient, may be added the cost of making good damages sustained by the works during the years they have been in progress Under these circumstances, His Excellency the Governor in Council thinks that, while it must be regretted that the revised and fuller estimates now forwarded are so much larger than those originally prepared, there is no reason to doubt that the officers who framed the latter took all reasonable precautions to secure the accuracy of their calculations. In the hope that the Government of India will concur in this view, I am to request sanction to the estimates* now submitted.

	Rs.
*Periah Ghaut and Road...	1,82,700
Tambracherry do.	5,98,762
Carcoor do.	4,15,036
Balance...	11,96,498

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

Colonel, R. E.,
Secretary to Government.

Exd. A. S. Rodgers.

and the Persian Gherkin, which in fact exists precisely with the exception of that important division, and the Cause of one and Complaints from the Planters is, that there is no Encouragement by Custom the opportunity to forward a specimen for the accompanying Observations of the Part and Parcel in favour intended to show which Observations are

4. There is an Explanation required in the Estimate in the Head No 2 Items do not permit me to Enter fully into all the Causes, but the Effects of these will be found in the accompanying Returns for Increased Estimates of Expenditure for Encouragement by Premiums for Cultivation of Waste Lands, attended with increased Weight to Specimens; in the Case of every Section of the Head, viz: that Cultivation Cost Trade & Exchange &c the Part of the Estimate having been compiled upon Specific Returns the Encouragement in Premiums, also the Observations of possible Data, there proceeding sufficient Reasons why in the Estimate

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2. In the Head, with the Exception of one Section, and Including the Increase of Premiums which have been for some Years granted Cultivation, I have not thought proper to propose any Reduction in the Encouragement which has been given, but I have considered it my Duty specifically to draw your Attention to the Increase of the Estimate

3. There are others Considerations called to notice the many heavy Grievances on the Head by Farmers Generally

4. There is an Explanation required in the Estimate in the Head No 2 Items do not permit me to Enter fully into all the Causes, but the Effects of these will be found in the accompanying Returns for Increased Estimates of Expenditure for Encouragement by Premiums for Cultivation of Waste Lands, attended with increased Weight to Specimens; in the Case of every Section of the Head, viz: that Cultivation Cost Trade & Exchange &c the Part of the Estimate having been compiled upon Specific Returns the Encouragement in Premiums, also the Observations of possible Data, there proceeding sufficient Reasons why in the Estimate

increased [illegible] by the enhanced price of labour of every description since the estimate was submitted; a portion also of the original road which it was not intended to interfere with, beyond shaping, was carried away by the floods of 1865, necessitating an entire alteration with ~~[illegible]~~ heavy work, for a distance of nearly three quarters of a mile. In the case of the Hosnalli Bridge very great expense was incurred in obtaining proper foundations for the Piers, and by the dams being several times carried away by freshes; a comparative statement is being prepared, showing the various items of excess which will be submitted at an early date, with a fuller report on this and the Culpathy Bridge; the estimate of the latter, which was completed in the Office of the Superintending Engineer, [illegible] Division, has been exceeded, partly owing to an error in the rates for excavation for foundation, partly to the necessity there was found to excavate them much deeper, and to fill in with concrete to obtain security; and partly to increasing one of the spans from 30 to 56 feet; it having been found that the former span would have entailed still greater expense on account the necessity there would have been for the abutment to be built at a spot where the foundation would have caused enormous difficulty. I have adhered to the original plan of superstructure, although it is timber, and beg to draw particular attention to this, as I wish to submit whether it would not be advisable to substitute Iron Warren girders similar to those proposed for the Karapoya and Cherriapoya Bridges. This would cause an increase to cost of Rupees 4,000 - but I need not point out what much greater durability would thereby be secured. I shall be much obliged by being informed as soon as possible whether the substitution will meet with the recommendation of Government, as I am awaiting result of this proposal to put the work in hand.

5. On line No. 3 the excess is due partly to extra work required on the Cascoor Ghaut, which however is not beyond what was estimated by Mr O'Shaughnessy, whose estimate was considered too high by the

in every great.—

7. Since no Plans being permitted of copies of the Plans being made, I shall be obliged by their being returned.

I have the honor to be, Sir, Your most Obd. Servt.

Robt. Kennedy. Major Spl. Engr. Engineer.

Special Exe: Engineer's Office
Wynaad, Vythery.
6th January 1870.

No 8.

From,

The Special Executive Engineer
Wynaad

To,

The Secretary to Government
Department Public Works
Madras.

Sir,

With reference to your Memo dated 16th Ultimo, I have the honor to inform you that the information called for has been now appended to the Estimates which are herewith returned.

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

Robt. D. Kennedy Major
Special Executive Engineer
Wynaad

Colonial Office Downing Street

No 816

Proceedings of the Mauritius Government

Under date the 19th January 1870.

Read the following

Entd Mau Nº 8 Sep. 1869 No 497 Original 1869
Entd ——— do ——— 1869 " 8. Date 6th January 1870

Sir,

I have the honor to acknowledge the receipt of your despatch No 281 of the 7th of August 1869 forwarding a memorandum of the services rendered by Mr Charles Telfair Surveyor of Public Works in connection with the Mauritius Harbours, and to request that you will move the Secretary of State for the Colonies to submit the same to the Lords Commissioners of the Treasury with a view to the grant of a pension to that officer.

I am Sir
Your most obedient
humble Servant
[illegible]

The Officer Administering
the Government
&c &c &c

Mauritius

No 281

Transmits memorandum of services rendered by Mr Charles Telfair Surveyor of Public Works in connection with the Mauritius Harbours, and requests that a pension may be granted to that officer.

Answered 19 January 1870

Sir,

I have the honor to transmit to you herewith a memorandum of the services rendered by Mr Charles Telfair Surveyor of Public Works in connection with the Mauritius Harbours, and to request that you will move the Secretary of State for the Colonies to submit the same to the Lords Commissioners of the Treasury with a view to the grant of a pension to that officer.

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Mauritius

No 281

Transmits memorandum of services rendered by Mr Charles Telfair Surveyor of Public Works in connection with the Mauritius Harbours, and requests that a pension may be granted to that officer.

Answered 19 January 1870

From Capt Pipon R.N.
To The Special Executive Engineer Mauritius
Sir, The Secretary to Government Dept: Pub: Works Mauritius
Dated 16th December 1869
Rec'd 10th January 1870

No 8.

Enclosures 9 ~~Copies~~

Submits the information called for in Memo: No — dated 16th December 1869

Nos 816 & 817-19-Dec-1869.

No 352

C. 28 Jan 1870 R. 195

C. 28 Jan 1870 R. 195

lines of communication:—

I The Periah Ghaut and the road from it thro' Manantoddy, Sultan's Battery and Goodalore to the eastern frontier.

II The road from Manantoddy to the Tambracherry Ghaut including the works on that Ghaut.

III The road from the Mysore frontier thro' Sultan's Battery to the last named line.

Major Kennedy adopting the principle on which this classification was based, recommended instead of it the following:—

I The Periah Ghaut and road via Manantoddy to Bovallie on the Mysore frontier.

II The Tambracherry Ghaut and road via Cytherry, Culputty and Sultan's Battery to the Mysore frontier.

III The Carcoor Ghaut and road via Goodalore to Tippacadoo on the eastern frontier of Wynaad.

The Govt approved of this arrangement, and directed that estimates for completing the roads as now classified might be laid before them as early as possible.

In compliance with this requisition Major Kennedy, with the perusal of this letter above recorded, has submitted the following estimates:—

I. Rs. 2,97,640 for the Periah Ghaut and road viâ Manantoddy to Bowalli on the Mysore frontier, in supercession of the estimates marginally noted amounting to Rs. 1,82,698, with the addition of an estimate of Rs. 1,14,940 for the remodelling of that part of the road lying between the head of the ghaut and Manantoddy.

Rs. 1,33,238	for the Periah Ghaut sanctioned in G.O. of 29th July 68 No. 2424 Item No. 354 of Budget of 1869/70
" 33,660	for improvements to the Bowalli road sanctioned in G.O. of 29th July 68 No. 2410. Item No. 355 of Budget of 1869/70
" 15,800	for bridges and tunnels on the Ghaut and road to Bowalli sanctioned in G.O. of 28th June 65 No. 1787. Item No. 402 of Budget of 1869/70.
Total Rs. 182,698	

II. Rs. 5,98,762 for the Tambracherry Ghaut and road viâ Tytherry, Culpetty and Sultan's Battery to the Mysore frontier, in lieu of the group of sanctioned estimates amounting to

Rs. 2,79,367	for the Tambracherry Ghaut sanctioned in G.O. of 14th June 69 No. 1934. Item No. 357 of Budget of 1869/70.
25,150	for earthwork and bridges on the road between Luckady and Vythery sanctioned in G.O. of 17th Nov. 1865 No. 3471. Item No. 367 of Budget of 1869/70.
41,400	for road work and bridges between Vythery and Kulpetty sanctioned in G.O. of 14th Nov. 1866 No. 3623. Item No. 358 of Budget of 1869/70
16,000	for the bridge over the Kommuth Puzha sanctioned in G.O. No. 3471 of 17th Nov. 65.
14,500	for the Kulpetty bridge sanctioned in G.O. of 26th October 66 No. 3424. Item No. 403 of Budget 1869/70
76,024	for the road between Kulpetty and Sultan's Battery sanctioned in G.O. No. 748 of 9th March 69 Item No. 359 of Budget of 1869/70.
30,000	for earthwork on the road from Sultan's Battery to the Mysore frontier sanctioned in G.O. No. 3424 of 26th Oct. 66 Item No. 360 of Budget of 1869/70.
18,320	for culverts on the last named road sanctioned in G.O. No. 3424 of 26th Oct. 66 Item No. 404 of Budget of 1869/70
4,540	for the bridge over the Kallooz stream sanctioned in G.O. No. 2575 of 5th Aug. 68.
8500	for the Geddatoray bridge sanctioned in G.O. No. 3424 of 26th Oct. 66
4600	for the Guamapaz puzha bridge sanctioned in G.O. No. 3424 dated 26th Oct. 1866

These two works have been sanctioned by Govt. but have been brought forward by the Offr. in charge of operations in Wynaad as requiring sanction

Total Rs. 5,28,401

to Rs. 5,28,401 as per margin. This shows an excess of Rs. 45,501 over the sanctioned and includes new estimates aggregating Rs. 21,860 for the construction of bridges over the Karapoya, Chaparapoya and Padreepoya streams, making a total excess of Rs. 70,361

III. Rs. 4,15,036 for the Carcoor Ghaut and road viâ Goodalore to Sippacadoo on the eastern frontier of Wynaad

as the a

instead of Rs. 2,29,880, the amount of the original estimates, the difference of Rs. 1,85,156, being the outlay calculated to be necessary to complete the ghaut and line of road in excess of the amount sanctioned.

In paras 4 and 5 of his letter No. 497 dated 9th December '69 Major Kennedy furnishes explanations, but not in very full detail, of the causes of these excesses, and to pay due consideration the character of the work, the nature of the country in which it lies, and the difficulty and uncertainty of obtaining labour at fixed or always reasonable rates, His Excellency the Govr in Council, though disappointed to find that larger sums than were calculated upon, are required to complete the communications throughout Wynaad, has no reason to think that by greater precaution could these have been foreseen.

Rs. 1,07,400		for the Carcoor ghaut & Lines in G.O. No. 3544 of 28th Nov/68 Item No 349 of Budget of 1869/70.
" 64,090		for the road from the head of the Carcoor ghaut to Goodalore sanctd in G.O. No 1807 of 29th June/68. Item No 352 of Budget of 1869/70
" 58,390		for the road from Gordalore to Tippacaudy and sanctd in G.O. No 1807 of 29th June/68. Item No 353 of Budget of 1869/70
Total Rs. 2,29,880		

In para 3 Major Kennedy states that with a view to remedy the very heavy gradients on the path of Road No I between the head of the Periah ghaut and Manantoddy, and which have afforded the Planters reasonable grounds for complaint he has included in the estimate for the whole line, a sum of Rs. 1,14,948 for reforming on a new trace the portion in question. The expenditure would however appear to have been incurred, and considering that the improvement of this piece of road as suggested is by no means urgent and that a smaller expenditure than the Govt are in a position to meet is required to complete the lines of Communication in Wynaad which are more emergently required, His Excy in Cl is not disposed to sanction any such expenditure alteration of gradients between Manantoddy and the Periah ghaut as Major Kennedy proposes to make.

Major Kennedy states that although the proposed timber

superstructures to some
of the bridges, but he is of
opinion that as provided
in the case of the Karapoya
and Charapoya bridges,
iron should be substi-
tuted. In this the Govt
fully concur, and ap-
prove of the adoption
of Warren or other girders
for the support of the
roadway wherever it
may be found practi-
cable to employ them.
With these remarks
the estimates will
now be forwarded to
the Govt of India.
H. E. No 5

To Major Kennedy
Cuttack

Dept 26/3/70

To No 877.

The Secretary to the Govt of
India

Sir,

With reference to para 15
of my letter No 3907 dated
15th December 69 in which
the Govt of India were
apprized of the modified
classification of the
roads in Hyrnad which
this Govt, on the recom-
mendation of the Exe-
cutive Engineer in charge
of operations in that
Province, were induced
to approve, I am directed
herewith to forward
complete estimates
for the undermentioned

three main lines of communication referred to:—

I. Rs. ~~2,97,640~~ 1,82,700 for the Periah Ghaut and road via Manantoddy to Bowalli on the Mysore frontier.

II. Rs. 5,98,762 for the Tambracherry Ghaut and road via Vythery, Culpetty and Sultan's Battery to the Mysore frontier.

III. Rs. 4,15,036 for the Carcoor Ghaut and road via Goodalore to Tippa-cadoo on the eastern frontier of Wynaad.

The estimate for the Road shows no increase on the sums sanctioned by this Govt from time to time for

it, several sections of the Major Kennedy has proposed to remodel ~~the lines~~ on a new traces the portion of the line between the heads of the Periah Ghaut & Manantoddy at an outlay of Rs 1,17,940, but as a deduction of the lower rates the Govt do not consider this new trace from the head to be necessary and have excluded of the Periah Ghaut & the item from Major Kennedy's Manantoddy, with a reduced estimate of avoiding the defective gradients on the lines originally proposed.

The estimate for the Tambracherry Ghaut and Road exhibits an excess of Rs. 45,501 over the estimates sanctioned by this Govt, and provides in addition for constructing bridges over the Karapoya, Chorra-poya and Padreepoya streams at an estimated

The Govt do not however consider these alterations to be very proceeding and the accordingly excluded the amount from Major Kennedy's estimate

cost of Rs. 24,860, making
the estimate as revised
exceed the total of those
sanctioned by Rs. 70,361.

The estimate for the
Carcoorghaut and road
exceeds the amount of pre-
viously sanctioned by Rs. 185,156,
which sum is calculated
to be necessary to complete
the line in addition to
the sanctioned amounts.

In paras 4 and 5 of
the accompanying letter
No. 49 dated 9th Dec./69
Major Kennedy details
the causes which have
chiefly led to these increases,
and, as now revised by
attention

attention to his explanations,
I am to state that the
estimates, as originally laid
before this Govt, now appear
to have been manifestly
imperfect information and
calculated on inadequate
rates, no sufficient allow-
ance having been made
for the exceptional cir-
cumstances under which
the works for which
they provided had to be
carried out. These cir-
cumstances may be
briefly said to consist
of the difficulty of ascer-
taining before breaking
ground the nature of
the work to be performed
in

in completion of a chank
to the full width required
for the accommodation
of wheeled traffic, and
of the impossibility of
obtaining reliable infor-
-mation of rates in a
Country like Wynaad,
where no experience had
been acquired of opera-
-tions of the extensive
character involved, and
where the ultimate
cost of carrying them
out with reasonable
rapidity was subject
to be materially af-
-fected by great com-
-petition for labour
and

in consequence of the price in prices
which has been taking
place from the bad weather
and other causes during the
execution of the works.
Moreover to the causes
thus likely to act in leading
to estimates being found
by the result of experience
insufficient, may be
added the cost of making
good damages sustained
by the works during
the years they have been
in progress. Under these
Circumstances His Excel-
-lency the Govr in Council
thinks that there is nothing
surprising in the previous

[illegible] I must
[illegible] repeated that
[illegible] erred an

and fuller estimates
now forwarded being
found larger than those
originally prepared for
to lead His Excellency to be-
lieve that the Officers who
framed the latter had not
taken the fullest precau-
tions in their power to secure
the accuracy of their calcu-
lations. In the hope
that the Govt of India
will concur in this view,
I am to request sanction
to the estimates now
submitted.

28/1/70

fuller estimates
are forwarded are
so much larger than
were originally expected
There is no reason to
doubt that the fullest
N.

Ans N
A/A.

all reasonable precautions
N

A/A

	Rs
Total of the estimates submitted by Major Rennie for the improvement of the road from the head of the Periah Chaubs to Manantoddy	13,11,438
	1,14,942
Balance	Rs 11,96,496
Periah Chaunt Road	182,700
Tambaccherry " "	5,98,762
Carcoor " "	4,15,036
Total Rs	11,96,498.

Desp. 26/3/70 with 3 estimates
& Copy of Govt 816 of 1870.

34 Plans copies of Govt 816 of 1870 &
13 Plans Commanches Lieutenant Desp.
by Bangley 28/3/70.

Rec'd with Govt Memo
4 April 70

I must write a memo
A/A.

28 Jan 1870 R. 19 Foley

Encl 5-206 L 83

Govt. of India 1870 39 Irrig.

PUBLIC WORKS.

Major R. S. Kennedy

19th March 870. Nos. 816-817.

Nos. 351-352 & 353

Kt

and fuller estimates now forwarded (being found larger than those originally prepared for to lead His Excellency to believe that the Officers who framed the latter (had not taken) the fullest precautions in their power to secure the accuracy of their calculations. In the hope that the Govt of India will concur in this view, I am to request sanction to the estimates now submitted.

28/1/70

Main lines of Communication

Orders on the Estimates for the three Main lines of communication in the Kyuna'd, as modified by the Engr in charge of Operations in that Province forwarded that they may be sanctioned for execution.

Main lines of Communication

Estimates for the three main lines of Communication in the Kyuna'd, as modified by the Engr in charge of Operations in that Province forwarded that they may be sanctioned for execution.

28 Jany 1870 No. 19 Irrig