M.R.O. 1—10,006—28-2-50.

(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.	23	Press
~~B.P. No.~~ 54-55		~~Mis.~~
Dated	8-1-1879	195—.

Not to be folded or roughly handled

No. 54. Read the following letter from Colonel E. A. FOORD, R.E., Inspecting Engineer for Civil and Military Buildings, to Colonel G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Chepauk, 19th November 1873, No. 1,532:—

1 Letter from District Engineer, No. 197, 27th October 1873.
5 Enclosures.
1 Plan.
1 Estimate.

WITH reference to the Order of Government of the 15th September, No. 2,271, I have the honour to forward for sanction three estimates, amounting together to Rupees 2,440, for supplying and fixing Duff's cooking ranges in Nos. 2, 3, and 5 Barracks at Wellington. The works having been completed, the amount of the estimate is the actual cost.

2. While on the Neilgherries last month I saw the stoves that are in use at the Lawrence Asylum, and I inspected several times the stoves lately put up in the Wellington Barracks, and there can be no doubt of the superiority of the latter. The estimate of Rupees 1,030, sanctioned on the 11th September 1872, provided for stoves similar to those at the Lawrence Asylum. The money was not however provided till March 1873. In the meanwhile the District Engineer having ascertained that the stoves at the Asylum had completely failed, ordered others of an approved pattern at the Madras Workshop, and utilized the whole grant of the year in paying for them. It was his intention, at that time, to prepare a revised estimate and submit it for the sanction of Government, but as there was likely to be some difficulty in fitting the range flues into the existing chimneys, and the depth to be given to the foundations could not be ascertained until the stone floors had been taken up and the soil below examined, it was not possible to prepare a correct estimate. So he proceeded with the work and the revised estimate was not sent in till the work had been completed. On this I have to remark that, though the revised estimate could not be prepared, a report should have been made, as there was no doubt that the original estimate would be considerably exceeded, and reasons for its being exceeded could be given.

3. The workshop bill for the stoves, including railway charges, amounted to Rupees 1,331-5-4, or Rupees 301-8-10 in excess of the amount sanctioned. The rest of the excess is for fixing the stoves in the cook-rooms. The stoves required to be cased with brick-work, and substantial foundations were indispensable. In two of the rooms the foundations were excavated to the solid ground. In No. 5 Barrack there was a depth of 20 feet of made earth under the floor. In this case the excavation was made 5 feet deep. The ground was consolidated by watering and ramming and the brick-work laid on 6 inches of concrete with large stone to distribute the weight. The District Engineer took these precautions in consequence of the failure of some work, a few years previously, in one of the wash-houses, where there is a similar depth of made earth under the floor.

4. The cook-rooms had originally fire-places of the ordinary native kind. The chimneys had each two arched openings, but, in connecting them with the range flues, it was necessary to substitute a single arch for the two arches. The alteration had to be carefully made and under the immediate supervision of the Taluq Overseer.

Proceedings of the Madras Government, Public Works Department,
8th January 1874.

5. I am of opinion that the District Engineer took only proper precautions to prevent accidents and cracks and settlement, and that, considering the high rates that prevail on the hills, the work has not been needlessly costly. The correctness of the rates on the hills is to form the subject of a separate report.

No. 55. ORDER THEREON, 8th January 1874, No. 23.

MILITARY WORKS, No. 2.

THE revised estimates, aggregating Rupees 2,440, which in fact represents the actual expenditure incurred in the construction of three Duff's Cooking Ranges in the Wellington Barracks, are passed. His Excellency the Governor in Council has already noticed the irregularity of the work being proceeded with before sanction had been obtained to amended estimates; but he accepts the assurance of the necessity for the modifications adopted to ensure the efficient working of the stoves.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the District Engineer, Neilgherries.
" Inspecting Engineer for Buildings.
" Officiating Controller of Public Works Accounts.

Exd. S. T. Austin.
Spare Copies

The total cost of the three Duff's Cooking Ranges

Statement showing the

lately erected at Wellington

Particulars

1 Erecting a Duff's Cooking Range in No 2 Block of Barracks at Wellington 815.

2 do do 785.

3 do do 840.

Total Rupees 2440.

Superintending Engineer's Office
Ootacamund
2nd October 1873

Assistant Engineer
District Engineer

Estimate No 6 of 1872-73

Neilgherry Range. Neilgherry District

Work — Cost of Cuffs Cooking Ranges

Quantities	Particulars	Rate	Amount	Total
3	Cuffs Cooking Ranges. cost at Madras	300 . .	900 . .	
	Carriage of above to Wellington & cost of erection	25 . .	75 . .	
				975 . .
	Supt and Sundries			55 . .
	Total Estimate Rupees			1030 . .

Recommended
Executive Engineers Office
26th April 1872

Asst J. L. L. Morant Capt R.E.
Executive Engineer

Neilgherry Division

Quarter ending 30th June 1872

1532 Dft 4 Assistant Lieut
Cost 30th June 72

Cuffs Stove 3

Rs 975

Estimate for erection
the Total Cost of the
three Cuffs Cooking
Ranges to be erected
at Wellington

Assistant to Colonel R.E.

(True Copy)

Lieutenant

Capt R.E.

District Engineer

Remarks for No. 2 Barrack Duff's Cooking Range

Foundation excavated to solid.

The rate for Casing with Machine Compressed bricks is high as the bricks were sent to Wellington from Ooty where alone they are made, the amount however is small. The fitting of the range Chimney or flue into the pre-existing arch of the Kitchen Chimney was a work of great difficulty and danger. In plan of Cooking Range the Chimney is shewn as straight but advantage was taken of present flue, to do this two arches each 4 feet with a pier had to be converted into one large arch. Great care had to be exercised in turning this Arch. The Bricklayers at first refused to undertake it for fear of the upper part of the Kitchen Chimney wall falling in upon them. It had to be done very cautiously by Calling out piece by piece and filling that hand the Cantonment Overseer had to be present assisting during the whole operation.

The Chimney of this Range is 6½ feet high, as it had to fit into the pre-existing arches of the Kitchen Chimney. A great deal of filling and filling had to be done to the Iron Work after its receipt from the Madras Workshops. This raises the Contingencies to 10 Percent.

Estimate № 55. of 1873/74

Neilgherry District

Work Fitting a Cast Iron Cooking Range in № 2 Block of Barrack at Wellington.

Measurements No.	L.	B.	H.	Contents.	Particulars.
1	11-6	5-6	3--	189-9	Cubic ft. Excavation to foundation
				7	Cubic Yards Earth Work
1	11-6	5-6	3--	189-9	Cubic ft. Removing Earth from foundation
				7	Cubic Yards Removing Earth
1	10-6	5-6	3--	173-3--	Foundation to Structure
1	10-3	4-3	2-6	108-10-½	Bench below Oven
1	4-3	4--	4-9	80-9--	Oven
1	-9	4--	7--	21--	Flue
1	1--	3-6	7--	21-6--	do
1	12-9	-6	-6	3-2-3	Cornice
				411-7-½	Deductions
1	2-6	1-6	1-6	5-7-6	Boiler
1	3-9	2-6	-3	2-3-10½	Fireplace
1	3--	3--	2--	18--	Oven
2	2-3	-9	4--	13-6--	Small Arches
1	1-3	-9	4--	3-9--	do do
2	1-6	1-3	4--	15--	Openings to Small Arches
1	1-3	1--	4--	6--	do do do
				21-8--	Casing with Compressed Brick in Chunam
				84-10-4½	
				326¾	Cubic ft. Brick in Chunam
2	2-3	-9	4--	13-6--	Small Arches
1	1-3	-9	4--	3-9	do do
1	12--	-9	2--	18--	Large Arch in Old Wall
1	2-6	1--	3-6	8-9	Top of Large Arch
1	2-6	2-3	3--	16-10½	Chimney
				61	Cubic ft. Arch Work in Chunam
4	2--	1-6	4--	48--	Entering to Large Arches
1	12--	1-3	2-3	33-9	do to Segmental portion
2	1-6	1-6	4--	18--	do to Small Arches
1	1-3	1-3	4--	6-3	do to do
				106	Cubic ft. Brick in Clay

P.W.D. 6332/73

T. P. No. 25-8-1-74

Estimate in a letter
dated 15th Novr. 73
from Executive Engr.
Nilgherry Division

Estimate of the
Cost of Fitting Cast Iron
Cooking Range in
Barrack at Wellington
dated 10.3.74

2	3'--	2'-6"	-8"	5'--	Sides of Oven
1	3'--	4'--	-8"	4'--	Rear of Oven
1	4'--	3'--	-8"	4'--	Dop of Oven
1	8'--	2'-6"	-8"	6'-8"	Underneath Oven to Fireplace
2	4'--	-9"	-8"	2'--	Sides do do
				21⅔	Cubic ft Casing with Compressed Bricks
1	10'-3"	2'-3"		23'-9"	Side below Oven
1	6'--	--'--	2'-8"	13'-6"	do do
1	4'--	--'--	3'-6"	14'--	Front of Oven
1	4'--	--'--	6'--	24'--	Flue
1	4'--	--'--	4'--	16'--	Side of Oven at door
1	12'-9"	--'--	1'-6"	19'-1-6	Cornice all Around
1	4'--	--'--	2'-3"	9'--	End of Bench
1	4'--	3'--	--'--	12'--	Dop of Oven
1	12'--	--'--	3'-6"	42'--	Large Arch
1	2'-6"	--'--	1'--	2'-6"	Dop of Large Arch
1	2'-6"	--'--	2'--	5'--	Old Wall
1	2'-6"	--'--	2'-6"	6'-3"	do
				186½	Sqnare ft Plastering 2 Coats
				186½	do Whitewashing 2 do
1	10'--	8'--	"	80	Sqnare ft Taking up & removing Stone floor
1	10'	2'--	"	20	Sides of Range
1	8'	2'--	"	16	do do
1	4'	2'--	"	8	End of do
				44	Sqnare ft Relaying Stone floor
2	4'--	2'-6"	2'-6"	50'--	Old Fireplaces
1	1'-3"	2'-6"	10'--	31'-3"	Pier between do
1	12'--	-9"	3'-3"	29'-3"	Opening to turn large Arch
1	2'-6"	1'--	3'-3"	8'-3"	Division Wall over do
				118¾	Cubic ft Breaking Wall & removing debris
				175	tbs of Iron for Lintels to oven
				15	tbs of Iron for Lintels to division Wall
				190	tbs Iron wrought & fixt up

Abstract Estimate No 55 of 1873/74

Neilgherry District

Work — Cost of Fitting a Duffs' Cooking Range in No 2 Block of Barracks at Wellington.

Quantities	Particulars.		Rate.	Per.	Amount.	Total.
7	Cubic Yards Excavation		" 4	C.yd	1 12	
7	do Removing Earth		" 2	"	" 14	
326¾	Cubic ft Brick in Chunam		40	100 ft	130 12	
61	do Ancherr Do	do	45	"	27 72	
106	do Brick in clay		24	"	25 71	
21⅔	do Casing with Compressed Bricks		70	"	15 27	
186½	Sqnare ft Plastering 2 Coats		8	Sq.yd	14 149	
186½	do Whitewashing do		" 7	"	" 13	
80	do Taking up & removing Stone floor		6	"	4 12 10	
44	do Relaying do		25	"	11	
118¾	Cubic ft Breaking Wall & removing debris		6	100 ft	7 2	
190	tbs Iron wrought & fixt up		" 4	tb	4 78	
	Cost of 1 Range as per Workshop bill				443 137	
	Carriage of do as per do	do			10 131	
					742 33	
	Sup.dt & Contingencies				72 129	
	Total Estimate Rs				815	

District Engineer's Office
Neilgherries.
Dated Coonoor the 22nd October 1873

Capt. R.E.
District Engineer,

Colonel R.E.
Inspecting Engineer for Buildings

Remarks on No. 5. Barrack Bakers' Cooking Range

Foundation excavated to Solid

The Foundations of the room in which this Range was built, are over 20 feet deep. For 5 feet the filled in soil was very loose, & then appeared harder. At this depth therefore the whole surface was well watered and rammed, and 2 layers of broken brick Concrete each 3" thick were spread and beaten down. On this the superstructure of the foundation were laid. Large stones to distribute pressure were laid under Concrete. great deal of filing and filling back to be done to the Iron work after its receipt from the Madras Work Shop. This raises the Contingencies to 10 per Cent. The Chimney of this Range is 75 feet high. as it has to fit into the pre-existing arches of the Kitchen Chimney. The rate for casing with Machine Compressed bricks is high as the bricks were sent to Wellington from Ooty where alone they are made, the amount however is small. The fitting of the range Chimney or flue into the pre-existing arch of the Kitchen Chimney was a work of great difficulty and danger. In plan of Cooking Range the Chimney is shewn as straight but advantage was taken of present flues to do this two arches each 4 ft. with a pier had to be Converted into one large Arch. Great Care had to be exercised in turning this Arch. The Brick-layers at first refused to undertake it for fear of the upper part of the Kitchen Chimney wall falling in upon them. It had to be done very Cautiously by Cutting out piece by piece and filling that; and the Cantonment Overseer had to be present

Foundations Distinct—

Brickwork in Cement 1532 Cft. 19 lb. Khoondairs

Rs. 0635/53
8 annas

Rs. 635 - 8 - 1 - 7½

Estimate for Filling & Putting Cooking Range in 112 Blocks & Barrack Pattern Kitchen

Estimate Rs. 8 lbs 8 annas 8/15

present assisting) during the whole operation

Estimate No. 57 of 1873/74

Neilsberg District

Work — Fitting a Duffs Cooking Range in No 5 Block of Barrack at Wellington

Measurements

No. L. B. A. Contents. — Particulars

1	11-6	5-6	5-	316¼	Cft	Excavation to foundation
				11	Cubic Yards	Earth Work
1	11-6	5-6	5-	316¼	Cft	Removing Earth from foundation
				11	Cubic Yds	Removing Earth
1	10-6	5-6	5-	288-9		Foundation to Structure
1	10-3	4-	2-6	102-6		Brick below Oven
1	4-	4-	5-	80-		Oven
1	-9	4-	7-6	22-6		Flue
1	1-	3-6	7-6	26-3		do
1	12-9	-6	-6	3-2¼		Cornice
				523 3/16		Deductions
1	2-6	1-6	1-6	5-7-6		Boiler
1	3-9	2-6	-3	2-3 10½		Fireplace
1	3-	3-	2-	18-		Oven
2	2-3	-9	4-	13-6		Small Arches
1	1-3	-9	4-	3-9		do do
2	1-6	1-3	4-	15-		Openings to Small Arches
1	1-3	1-	4-	5-		do do do
				21-8		Casings with Suspended Brick in Chimney
				84-10½		
				438	Cubic Ft	Brick in Chimney
2	2-3	-9	4-	13-6		Small Arches
1	1-3	-9	4-	3-9		do do
1	12-	-9	2-	18-		Large Arch in Old Wall
1	2-6	1-	3-6	8-9		Jog of Large Arch
1	2-6	2-3	3-	16-10½		Chimney
				61	Cubic Ft	Arch Work in Chimney
4	2-3	1-6	4-	57-		Centering to Large Arch
1	12-	1-3	2-3	33-9		do to Segmental portion
2	1-6	1-6	4-	18-		do to Small Arches
1	1-3	1-3	4-	6-3		do do do
				112	Cubic Ft	Brick in Clay

Abstract Estimate No 57 of 1872/74

Neilsherry District

Work Cost of Fitting a Duffi Cooking Range in No 5 Block of Barracks at Wellington

Quantities				Particulars.	Rate	Per.	Amount	Total
11				Cubic Ft Excavation	4	Cyp.	2 12	
11				do Removing Earth	2	"	1 6	
438				Cubic ft Brick in Chimnies	40	100 ft	175 32	
61				do Arch work in Chimnies	45	"	27 72	
112				do Brick in clay	24	"	26 41	
21⅔				do Casing with Compressed Bricks	70	"	15 27	
190½				Square ft Plastering 2 Coats	8	Sqre	15 310	
190½				do White Washing do	7	"	" 134	
80				do Taking up & removing Stone floor	6	"	4 120	
44				do Relaying do	25	"	11 --	
130¾				Cubic ft Breaking Wall removing debris	6	100 ft	7 136	
81				lbs Iron for straight & strut up	4	lbs	20 4	
				Cost of Range as per Workshop Bill			443 37	
				Carriage of do as per do			10 131	763 72
				Supdt. & Sundries				76 8 10
				Total Estimate Rs				840 --

2	3	2 6	8	5		Sides of Oven
1	3	4	8	4		Rear of do
1	4	3	8	4		Top of do
1	8	2 6	8	6	8	Underneath Oven to Fireplace
2	4	9	8	2		Sides do do
				21⅔		Cubic ft Casing with Compressed Bricks
1	10	2,3		23	9	Side below Oven
1	6	2 3		13	6	do do
1	4	4		16		Front of Oven
1	4	6 6		26		Flue
1	4	4		16		Side of Arch-door
1	4	2 6		9		End of Bench
1	12	1 6		19	1 6	Arrice all Around
1	4	3		12		Top of Oven
1	12	3 6		42		Large Arch
1	2 6	1		2	6	Top of Large Arch
1	2 6	2		5		Old Wall near Oven
1	2 6	2 6		6	0	do do
				190½		Square ft Plastering 2 Coats
				190½		do White Washing do
1	10	8	"	80		do Taking up & removing Stone floor
1	10	2	"	20		Sides of Range
1	8	2	"	16		do do
1	4	2	"	8		End do
				44		Square ft Relaying Stone floor
2	4	3	2¾	66		Old Fireplaces
1	1 3	2	10	25		Pier between do
1	12	9	3½	31	6	Opening to turn large Arch
1	2 6	1	3¼	8	3	Division Wall over Arch
				130¾		Cubic ft Breaking Wall & removing debris
				15		lbs of Iron for Lintels in division Wall
				66		lbs of Iron for fuel Lintel to Stove
				81		lbs Iron for straight & strut up

District Engineers Office
Neilsherry
Estimated 22nd October, 1873

Capt R.E.
District Engineer.

* The 6 inches layers of Concrete and large stone to distribute pressure are included in this item.

Colonel R.E.
Insp. Engr for Buildings

No. 98. Erection Engineer Military Range No. 1

To Public Works Dept. Wellington

Sir,

I have the honour to forward herewith Estimate No. 10 for £84 for Erection of Military Range at Featherston

Estimate No. 1 Engineer Office Wellington 23rd Dec. 1873

Estimate for Erection of Military Range at Featherston

	£	s	d
Carpenters Labour 1873/188	1	2	31
Sawmill Account 1873/188	35	2	9
Ironmongery Account 1873/188	6	19	0
Contingencies 1873/188	1	0	0
Balance due to Public Works	30	6	0
	84	0	0

Certified correct

Wm. Gray Lieut. R.E.

Engineer & Surveyor

Wellington 23rd Dec. 1873

Approved for £84

(True Copy)

Lieutenant Capt. R.E.

District Engineer

Dec 25. 8-1-74

No 1533/73.

Dec 25. 8-1-74

Revised Detailed Estimate No 32 of 1873-74

Neilgherry District

Work Cost of erecting 3 Duffs Cooking Ranges for the use of Barracks at Wellington

Measurement No	L	B	D	Cubical Contents	Particulars of Work
				3	Duffs Cooking Ranges cost as per P.W. Workshops Bill
3	12'	7'	5'	1260'	
				46⅔	C. Yds Excavating Foundation
3	12'	7'	5'	1260	Foundation
3	12'	3'	3'	324	Arches
				1584	Cubic feet Brick in Mortar
3	12'	3'	3'	324	Cubic feet Removing Existing Fireplace arches &c
3	12'	7'		252	Sq feet Removing Granite Stone floor
3	12'	2'		72	Sq feet Relaying Stone floor
					Carriage & Centrings

Revised Abstract Estimate No 32 of 1873-74

Neilgherry District

Work Cost of erecting 3 Duffs Cooking Ranges for the use of Barracks at Wellington

Quantities	Particulars of Work	Rate	Amt		Total		
3	Duffs Cooking Ranges cost as per P.W. Workshops Bill		1331	8	10		
46⅔	Cubic Yds Excavating Foundation	4 ·	11	10	8		
1584	Cubic ft Brick in ~~Chunam~~ Mortar	50 ·	792	·	·		
324	do Removing Existing Fireplace Arches &c	10 ·	32	6	4		
252	Sq ft. Removing Granite Stone Floor	6 ·	15	2	·		
72	do Relaying Stone Floor	25 ·	18	·	·		
	Carriage & Centerings		120	13	·	2321	6 10
						116	7 2
					Sundries		
					Total Estimate Rupees	2440	· ·
	Deduct Amount already sanctioned in G.O. No 2159 dated 4th September 1872 Page Last page					1030	· ·
	Amount requiring Sanction Rupees					1410	· ·

Specification

Amount of Estimate Rs One thousand four hundred & 2

The Cooking Ranges are to be raised o
Brick and Mortar Foundations 12'x7'x5' deep to
level of Floor. The existing arches to be remove
and fresh ones turned.

Granite Floor to be removed where th
Ranges are to be placed, and a portion of the
Stone floor to be relayed.

Assistant Capt RE

Ootacamund
Distt Engineers Office
19th August 1873

District Engineer

Nilgherry District

Enclosure in a letter
No. 1532 Dt. 19th November 73

by Coo. 25-8-1-74
[illegible]

Estimate for erecting
3 Duffs cooking ranges
for the use of Barracks
at Wellington

Estimate Rupees 2440
Deduct Amount Sanctioned Rs 1030

Amount remaining Sanction Rs 1410

Enclosures 8
1 Letter from
Dist. Engr
No. 197, 27th
Octr 1873.
5 Enclosures
1 Plan
1 Estimate

Office of the Inspecting Engineer
for Civil & Military Buildings
Ootacamund 19 November 1873.

No. 1532

From

Colonel E. A. Foord R.E.
Inspecting Engineer for Civil &
Military Buildings

To

Colonel J. F. Walker R.E.
Secretary to Government P.W.D.

Sir,

With reference to the order of Govern-
ment of the 15th September, No. 2271, I have
the honor to forward for sanction three
estimates amounting together to Rs. 2440 for
supplying and fixing Duffs' Cooking ranges
in Nos. 2, 3 and 5 Barracks at Wellington.
The works having been completed, the
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I saw the stoves that are in use at
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and the revised estimate was not sent in till the work had been completed. On this I have to remark that, though the revised estimate could not be prepared, a report should have been made, as there was no doubt that the original estimate would be considerably exceeded and reasons for its being exceeded could be given.

3. The Workshop bill for the stoves, including Railway charges, amounted to Rs. 1331-5-4 or Rs. 301-8-10 in excess of the amount sanctioned. The rest of the excess is for fixing the stoves in the cook rooms. The stoves required to be fixed with brick work, and substantial foundations were indispensable. In two of the rooms the foundations were excavated to the solid ground. In No. 5 Barrack there was a depth of twenty feet of made earth

earth under the floor. In this case the excavation was made five feet deep. The ground was consolidated by watering and ramming and the brick work laid on six inches of concrete with large stone to distribute the weight. The District Engineer took these precautions in consequence of the failure of some work a few years previously, in one of the ward houses, where there is a similar depth of made earth under the floor.

4. The cook rooms had originally fire places of the ordinary Native kind. The chimneys had each two arched openings, but, in connecting them with the range flues, it was necessary to substitute a single arch for the two arches. The alterations had to be carefully made and under the immediate supervision of the Taluq Overseer.

5. I am of opinion that the District Engineer took only proper precautions to prevent accidents and cracks and settlement, and that, considering the high rates that prevail on the Hills, the work has not been needlessly costly. The correctness of the rates on the Hills is to form the subject of a separate report.

I have the honor to be

Sir

Your Most Obedient Servant

E A Ford Colonel RE

Inspecting Engineer for

Civil & Military Buildings

234

Public Works 1873 Despatches
From D/ No 1337
The Superintending Engineer
for Buildings
To
The Secretary to Government
P.W. Depte

No 1532

Dated 19th
Rec'd 20th November
" 21st 1873

Encl. 12

Forwards for sanction 3 estimates amounting together to Rs 2440 for supplying & fixing Duff's Cooking ranges in Nos 2, 3 & 5 Barracks at Wellington, Nilgherries

William Orchard

No 23

The revised Estimates aggregating Rs 2440, which in fact represents the actual expenditure incurred in the construction of three Duff's Cooking Ranges in the Wellington Barracks, are passed - His Excellency the Governor in Council has already noticed the irregularity of the work being proceeded with before sanction had been obtained to amended Estimates, but he accepts the assurance of the necessity for the modifications adopted to ensure the efficient working of the stoves -

30/4

2nd Dy Accountant General
" Depty Engineer & Boss
Contr -

Dispd with S-C 10/1/74

Civ 25/11/73

Govt. of 1874 Madras.

PUBLIC WORKS.

To The District Engr
Nilgherries

Dated

Recd. Encl. 12

G. O. 8th January 1875. No. 23.

Nos. 52, 953

Wellington Barracks.

Revised Estimates for the construction of three double Cooking Ranges in the Barracks, sanctioned with remarks.