

(1) Number of pages 40

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No.

736

Press
Mis-

Dated

15-9-

18-77-

Not to be folded or roughly handled

12

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

15th September 1877, No. 736 W.
Buildings and Roads.
Civil Works.

Read the following papers:—

No. 114. From Major H. W. WOOD, R.E., District Engineer, Vizagapatam, to the Chief Engineer, Public Works Department, Buildings and Roads, dated Waltair, 11th July 1877, No. 822.

WITH reference to G.O., Public Works Department, No. 326, dated 27th April 1877, and in continuation of my letter, No. 632, dated 22nd June 1877, I have

One Plan.

" Estimate.

" Specification.

the honor to resubmit plan and estimate of Parvatipore Hill Jail revised in

accordance with G.O., Judicial Department, No. 997, dated 20th April 1877.

No. 114-A. Chief Engineer's Memorandum, dated 7th August 1877, No. 2,213.

No. 114-B. From the District Engineer, Vizagapatam, dated 28th August 1877, No. 1,238.

No. 115. ORDER THEREON, 15th September 1877, No. 736 W.

THE plans and estimate of Rupees 12,270, for alterations and additions to the Hill Jail at Parvatipore, are sanctioned. ~~Rupees 1,230, the value of convict labor, will have to be deducted.~~

2. It is observed that of the amount of Rupees 8,000 appropriated in G.O. No. 326 of 27th April 1877 for work, Rupees 1,500 have been transferred as per G.O. No. 334 W of 29th June 1877, leaving the balance, Rupees 6,500, available for expenditure in 1877-78.

3. The sanction accorded in these Proceedings has been registered as Special. No. 57 B of 1877-78.

(True Extract.)

Colonel, R.E.,
Secretary to Government, P.W.D.

To the District Engineer, Vizagapatam.
" Examiner of Public Works Accounts.
" Inspector-General of Jails.
" Judicial Department.

Exd. E. C. Shunker.
Spare Copies

37

N^o 822

District Engineer's Office
Waltair 11th July 1877

From

The District Engineer
Vizagapatam

To

The Chief Engineer P.W.D.
Buildings & Roads Branch
Madras

Sir,

With reference to G.O. P.W.D. N^o 326 dated 27th April 1877, and in continuation of my letter N^o 632 dated 22nd June 1877, I have the honor to resubmit plans and Estimate of Parvatipore Hill Jail revised in accordance with G.O. J.D. N^o 997 dated 20th April 1877.

I have the honor to be
Sir

Your most Obedt Servt

Major R.E.
District Engineer
Vizagapatam

11/7/77

No 202 of 26 July 1875
 " " 326 of 27 April 1877
 G.O. No 334 W of 29 June 1877
 " " 152 of 25-10-75

Buildings & Roads

From
 The District Engineer
 Viragapatam

To
 The Chief Engineer
 P.W.D.
 Buildings and Roads Branch
 Madras

No 822

Dated 11th July 1877.

No 2213 of 11 July 1877
 No of Enclosures. 3.
 + Returned.

Parvatipore Hill Jail

Resubmits plan and Estimate
 amounting to Rs. 12050 for the
 — revised in accordance with

G.O. J.D. No 997 dated 20th April
 1877.

Cir 14-9-77.

Abstract Estimate No 220
 Talug Parvatipur
 District Viragapatam

Work. Making some alterations and additions to the
 Mill Jail at Parvatipur

Quantity or number	Description of Work	Rate	Per Item	Amount	Total
<u>I. Work.</u>					
1144	Cyts. of excavating foundation and filling in basement	1	Rs.	9	9
234 $\frac{1}{2}$	— of Rubble masonry	1	12	do	410 2
11 $\frac{3}{4}$	— of flat arch work brick in churnam	4	12	do	22 9
49.20	Sqrs. of plastering with 2 coats of churnam and whitewashing	2	4	Sqrs	110 11
13.38	— of flooring with asphaltic inch thick laid over 3 inches broken brick & 3 inches concrete	18	do	do	240 135
22.17	— of roofing with Saulwood, rafters, peepers, nails, flat and pan tiles & churnam borders &c. complete	20	do	do	469 6 4
36.28	Cft. of teakwood wrought & put up	3	8	qts	126 158
23.10	— of Saulwood wrought & put up	2	do	do	46 32
1	Teakwood truss with tie beam struts & king post, principal rafters and iron work &c. complete	50	do	each	50

C.O. 1488 09

BB. 1486 59

2	Teakwood half pannelled and half venetian doors (3 1/2 x 6 1/2) inside dimensions including hinges, hook and bolts &c complete	30	each	10	
2	do batten doors including &c &c complete	25	do	50	
10	do windows with iron bars and shutters (2 1/2 x 4 1/2) including &c &c complete	27	do	270	
5.80	Sqrs. of painting doors & windows with 2 coats of anticorrosive (chocolate color)	2	Sqrs.	11	97
6	do of wood oiling to Presumptioners rafters &c except reapers	1	do	6	
0.60	do of cut stone for steps	11	do	6	97
Petty Supervision				1205	11
Sundries				6	11
Contingencies				1	15
				6	8
				2	8
				9	87

Total for Hospital Rs. 2430

75	Cyds. of Excavating foundation and filling in basement	1	Cy.	40	
136 17/27	do of Rubble masonry	1	do	239	17
2 1/2	do of flat arch work brick in Chumam	14	do	11	4
33.91	Sqrs. of Plastering with 2 coats of chumam and whitewashing	2.4	Sqrs.	76	49

BB. 331 154 2048

BB. 331 154 2048

3.46	Sqrs. of flooring with an asphalt 1/2 inch thick laid over 3 inches concrete & 3 inches broken brick	18	do	62	45
2.01 1/2	do of cut stone flooring above 3 inches concrete	11	do	22	27
10.92	do of roofing with eucalyptus rafters, rafters, nails flat and pian tiles & chumam borders &c complete	20	do	218	64
1	Teakwood Trusses with tie beam struts, king post, principal rafters & iron work &c complete	60	each	50	
23.82	Cft. of teakwood wrought & put up	3	do	83	51
1.08	do of teakwood wrought & put up for eaves boards	2	do	2	26
1	Iron barred door with teakwood frames (3 1/2 x 6 1/2) inside dimensions	30	each	50	
1	do locks with key (English made)	2	do	2	
1	Iron barred window with sun shades (2 1/2 x 4 1/2) inside dimensions	30	do	30	
2	do do Ventilators with 1/2 (1 1/2 x 3 1/2) inside dimensions	15	do	30	
0.43	Sqrs. of painting the door frames and windows with 2 coats of anticorrosive (chocolate color)	2	Sqrs.	13	1
5	do of wood oiling for rafters excepting reapers	1	do	5	
1.67	do of turning sun shades	18	do	2	81
Petty Supervision				6	11
Sundries				1	15
Contingencies				2	8
				4	69
				2	62
				8	66
				14	69
				262	
				987	
				3010	

Total for Female Compartment Rs. 987

BB. 331 154 2048

82	Cy. of Excavating foundations and filling in basement	1.0	52
150	do of Rubble masonry	1 12	262 3
2	do of Flat arch work	4 12	1 0 10
23.19	Sq. of Plastering with 2 coats of chunam and whitewashing	2 4	3 6 10
6.52 1/2	do of flooring with concrete 6 inches thick and plastered over with fine chunam	1 8	9 17 1/2
13.76	do of roofing with Salwood rafters, rafter nails, pannels and chunam borders complete	18	247 10 10
42.40	Cft. of Salwood wrought & put up	2	84 17 7
6	Sq. of wood oiling with 3 coats to rafters & gables	1	6
1	Country wood lattice door with single shutter &c complete	10	10
	City Supervision		Cy. 50
	Handies	6	11 6
	Contingencies	1	6 7 10
		8	3 1/2

Total for General Cook Room 1740

70	Cy. of Excavating foundations and filling in basement	1.0	52
111 1/4	do of Rubble masonry	1 12	174 11
1 5/6	do of Flat arch work brick in chunam	4 12	8 11 4
22.70	Sq. of Plastering with 2 coats of chunam and whitewashing	2 4	51 17

09.0. 255 196 0530

2.88	Cy. of Cut stone flooring above 3 inches concrete	11	31 10 10
2.45	do of Roofing with Salwood rafters rafter nails flat & pannels chunam borders &c complete	20	49
2.81 3/4	do of Terrace with brick on edge 3 inches jelly and 3 courses of flat tiles with 3 coats of plaster to top of terrace and 2 coats plaster to ceiling	18	50 11 5
21.73	Cft. of Salwood wrought & put up	2	84 17 4
2	Iron barred doors with teakwood frames (3 1/2 x 6 1/2) inside dimensions	50	100
2	Pairs of Teakwood half pannelled and half venetian doors in addition to the above (3 1/2 x 6 1/2) inside dimensions, including hinges, bolts, hooks &c	30	60
2	Iron barred windows with shutters and sun shades (2 1/2 x 4 1/2) inside dimensions	30	60
2	Iron Padlocks with keys (English make)	2	4
2.52	Sq. of Painting doors and windows with 2 coats of anticorrosive (chocolate color)	2	5 7 1/2
5	do of wood oiling with 3 coats to rafters & gables	1	5
0.80	do of Carving for sun shades with 2 coats	1 8	1 3 2
0.33	do of Cut stone for steps	11	3 10 1

09.0. 672 8 11 3850

Petty Supervision	6	Cent	37 77
Lundries	1	do	6 77
Contingencies	8	do	3 36

Total for Military Cells No. 722

110 Cys. of Excavating foundation and filling in basement	1	Cy.	2 8
67 3/8 do of Rubble masonry	1 12	do	117 14 6
12.57 1/2 Sqr. of Plastering with 2 coats of chunam and whitewashing	2 4	Sqr.	28 55
1.30 1/2 do of Honey Comb tile work	5 8	do	7 2 10
5.42 do of Roofing with Sawnwood rafters, rippers, nails, plan, tiles, chunam borders & complete	11	do	72 26
2.29 1/2 do of flooring with concrete 4 inches thick and plastered with fine chunam	2 12	do	6 48
10.43 Cft. of Sawnwood wrought & put up	2	Cft.	20 13 7
1.50 Sqr. of wood oiling to rafters with 3 coats	1	Sqr.	18
1 Country wood latten door with shutter & complete	10	each	10

Petty Supervision	6	Cent	37 77
Lundries	1	do	6 77
Contingencies	8	do	3 36

Total for latrine room for 4 inmates 388

18 Cys. of Excavating foundation and filling in basement	1	Cy.	2 8
26 1/2 do of Brick in chunam	2 12	do	72 14
8.08 Sqr. of plastering with 2 coats of chunam and whitewashing	2 4	Sqr.	18 2 10
1 17/48 Cys. of concrete work for flooring	1 8	Cy.	2 6
47 Sqr. of Asphalting 1/2 inch thick laid over 3 inches concrete	18	Sqr.	8 74
1.45 1/2 do of Honey Comb tile work	5 8	do	8
2.70 do of Roofing with Sawnwood rafters, rippers, nails, flat and pan tile, chunam borders & complete	20	do	54
6.37 Cft. of Sawnwood wrought & put up	2 8	Cft.	15 4 9
1 Trap door including handle & zinc flashing	4	each	4
1 Iron bucket for urinary cistern	5	do	5
1 Wooden tub to remove urine with tank	2	do	2
Wood oiling to rafters & with 3 coats			2
6 Cut stone slabs over pillars	12	each	4 8
3 do do over orifice	6	do	1 2
1 Curb stone to put at entrance 7" thick	1 4	do	1 4
1 Iron gutter pipe 1 ft. long & 3" diameter	8	do	8

200 15 6

Petty Supervision	6	Cent	12 4
Lundries	1	do	2 2
Contingencies	8	do	1 1

Total for one latrine No. 216
do for two do 432

20 Cys. of Excavating foundation & filling in basement	1	Cy.	1 4
48 16/27 do of Brick work in chunam	2 12	do	133 10 4
17.60 1/2 Sqr. of Plastering with 2 coats of chunam and whitewashing	2 4	Sqr.	39 9 9

C.C. 174 7 10 5327

3	Cy ² of flooring with concrete	18. 68	174 7 10 5827
1.09	Sq ² of asphaltting $\frac{1}{2}$ " thick laid over 3" inches concrete	18. 39	177 11
3.04 $\frac{1}{2}$	do of Honey Comb tile work	58. do	16 11
5.73 $\frac{3}{4}$	do of roofing with ealwood rafters, piers, nails flat and pantiles chunam borders 4x7	20. do	114 12
19.00	Cft of country wood (well seasoned) wrought and put up	18. 68	28 8
67 $\frac{1}{144}$	Cy ² of Gravel	5. 24	2.4
1	Trap door including handles & zinc flashing	14. each	14
1	Iron bucket for urinary Cistern	5. do	5
1	Wooden tub to remove urine well tarred	2. do	2
3.75	Sq ² of wood lining with 3 coats to rafters	1. 39	3 12
8	Cut stone slabs over pillars	12. each	6
7	do do over Arifice	6. do	2 10
2	Curb stones 7 inches thick	14. do	2 8
1	Iron gutter pipe 1 ft. long and 3" diameter	8. do	8
			395 10 3
	Petty Supervision	6. Cent	2 11
	Lundries	1. do	3 12 6
	Contingencies	8. do	1 14 2

Total for General Estimate Rs. 17 14

6.20	Cyds of Excavating foundation and filling in Casement	1. 38	38 12
14.72	do of Rubble masonry	112. do	25 76
2 $\frac{2}{3}$	do of Flat arch work with brick in chunam	4 12. do	12 10 8
2 $\frac{1}{2}$	do of Circular Arch work with brick in chunam	4 12. do	11 14

C.A. 263948 5727

7.24	Sq ² of plastering with 2 coats of chunam & white wash	24. 39	87 14 7
7.2	do of flooring with cut stone laid over 3 inches concrete and painted with fine chunam	11. do	77 3 2
6.19	do of roofing with terrace with brick on edge 3 inches high and 3 courses flat tiles with 3 coats of plaster to top of terrace and 2 coats of plaster to ceiling	88. do	111 6 8
3.15	do of bengal terrace with ealwood, rafters, piers, 3 courses flat tiles and 3 coats plastering	28. do	88 3 2
87	Cft. of Paulwood wrought & put up	2. 174	174
23	Iron bars 11 feet length and $\frac{3}{4}$ inch diameter for guard rod opening	28. each	57 8
1	Teakwood large door for entrance with a small wicket door including hinges bolts & nails (7 x 10) outside dimensions	120. do	120
1	Teakwood batten doors to store room including hinges bolts & nails (3 $\frac{1}{2}$ x 6 $\frac{1}{2}$) inside dimensions	25. each	25
1	Iron barred door with teak wood frames 3 complete (3 $\frac{1}{2}$ x 6 $\frac{1}{2}$) inside dimensions	50. do	50

C.A. 217143 5727

1	Iron barred window with oak wood including hinges bolts & nuts	27	each	27	
	(2 1/2 x 4 1/2) inside dimensions				
3.00	Sqrs. of painting for doors and windows with 2 coats of white	2	Sqrs	6	
	corrosive (chocolate color)				
6.50	do of wood siding with 3 coats for rafters and cross members	1	do	68	

Petty Supervision	6	Cent	255 1/2
Sundries	1	do	42 9/10
Contingencies	8	do	21 4/11

Total for Entrance & Compound wall Rs. 4575

15	Cyds. of Excavating foundations	1	Cyds	15	
40 20/27	do of Rubble masonry	1	do	71 4/8	
13 7/8	do of Brick in chunam	2	do	361 6/11	
28.67	Sqrs. of plastering with 2 coats of Chunam	2	Sqrs	64 8/11	

178-34	Cft. of Country wood (weeb seasoned) wrought & put up	1	Cft	267 8/11	
152	lbs of wrought iron for nails to palisadings	2	lbs	19	
37	Sqrs. of Larring to palisadings	18	Sqrs	55 8/11	

Petty Supervision	6	Cent	32 1/2
Sundries	1	do	5 7/10
Contingencies	8	do	2 1/11

Total for Palisadings Rs. 25

BB. 10935

5 7/12	Cyds of earth work for the 1st yard in depth	1	Cyds	57	
5 7/12	do do 2nd	2	do	13 1/11	
5 7/12	do do 3rd	4	do	16 4/11	
5 7/12	do do 4th	5	do	14 8/11	
5 7/12	do do 5th	7	do	27 1/11	
5 7/12	do do 6th	8	do	21 5/11	
5 7/12	do do 7th	10	do	37 10/11	
5 7/12	do do 8th	11	do	42 2/11	
5 7/12	do do 9th	13	do	48 7/11	
5 7/12	do do 10th	14	do	52 1/11	
5 7/12	do do 11th	1	do	59 4/11	
5 7/12	do do 12th	1	do	61 8/11	
5 7/12	do do 13th	1	do	61 1/11	
5 7/12	do do 14th	1	do	72 5/11	
5 7/12	do do 15th	1	do	71 10/11	
5 7/12	do do 16th	1	do	83 2/11	
5 7/12	do do 17th	1	do	81 7/11	
5 7/12	do do 18th	1	do	93 1/11	
5 7/12	do do 19th	1	do	912 4/11	
5 7/12	do do 20th	1	do	104 8/11	
3 7/27	do of Brick stining one foot thick with Chunam and concrete	3	do	10 6/11	
1 1/27	do do with clay	2	do	39	
1 1/27	do do with Chunam & concrete	3	do	57 5/11	
1 1/27	do do with clay	2	do	312 4/11	
1 1/27	do do with Chunam & concrete	3	do	519	
1 1/27	do do with clay	2	do	41 8/11	
1 1/27	do do with Chunam & concrete	3	do	61	
1 1/27	do do with clay	2	do	46	

BB. 149 13 11 10935

1 1/2	Cyds of Brick Steining one foot thick with	3	138	cf.	6	45
	Chunam & Concrete					
1 1/2	do do with clay	2	138	do	4	105
1 1/2	do do with Chunam & Concrete	4	4	do	6	810
1 1/2	do do with clay	3	4	do	14	149
1 1/2	do do with Chunam & Concrete	4	3	do	6	132
1 1/2	do do with clay	3	3	do	5	315
1 1/2	do do with Chunam & Concrete	4	58	do	7	16
1 1/2	do do with clay	3	58	do	5	95
1 1/2	do do with Chunam & Concrete	4	84	do	7	510
1 1/2	do do with clay	3	84	do	5	119
1 1/2	do do with Chunam & Concrete	4	4	do	7	102
1 1/2	do do with clay	3	4	do	6	1
1 1/2	do do with Chunam & Concrete	4	138	do	7	145
1 1/2	do do with clay	3	138	do	6	45
1 1/2	do do with Chunam & Concrete	5	4	do	8	11
1 1/2	do do with clay	4	4	do	6	810
1 1/2	do do with Chunam & Concrete	5	3	do	8	73
1 1/2	do do with clay	4	3	do	6	132
1 1/2	do do with Chunam & Concrete	5	58	do	5	117
1 1/2	do do with clay	4	58	do	7	16
2 1/2	do of cut stone parapet above surface	5	54	do	5	1611
1.76	Sqrs of cut stone sloping annular	15	2	do	35	68
	pavement round the well					
30	Sq. ft. of V shaped cut stone surface	11	2	cf.	17	59
	drain					
4 8/9	Cy. of Concrete work under the	1	12	cf.	8	810
	pavement					

Contingencies and
Superintendence } 20 a. Cont. 7115
Total for Well No. 1442

2 1/2	Cyds. of Excavating foundation	1	cf.	26	✓	
13	do of Brick in Chunam	2	12	do	35 12	✓
9	do of Concrete for flooring under the cut stone pavement	1	8	do	13 8	✓
5.22	Sqrs. of plastering with 2 coats of Chunam wall smoothed	3	5	sq.	17 4 8	✓
2.72	do of cut stone rectangular sloping pavement	11	2	do	29 14 8	✓
					96 9 10	✓
	ully Supervision	6	2	cf.	5 14 8	✓
	Sundries	1	2	do	15 8	✓
	Contingencies	8	2	do	7 10	✓
	Total for Parking Cistern No. 104					✓

XII.					
58	Cyds. of Excavating foundation and filling in basement	1	cf.	370	✓
80 $\frac{2}{3}$	do of rubble masonry	1	12	do 1409	4 ✓
1 $\frac{7}{9}$	do of flat arch work brick in chunam	4	12	do 87	1 ✓
20.02	Sqrs. of plastering with 2 coats of Chunam and whitewashing	2	4	cf. 45	8 ✓
2.80 $\frac{1}{2}$	do of cut stone flooring above 3 inches concrete	11	2	do 30	138 ✓

6.25 $\frac{3}{4}$ Sqn of Roofing with salwood
rafters, roofers nails flat and
span tiles and chunam borders
800 complete 20 - - 39 125 2 11

9.87 Sft of Salwood wrought put up 2 8 - sft 24 10 7
2 Pairs of Oakwood batten doors
with shutters including hinges
hooks and bolts 800 complete 25 - - 21 10 50

3 Iron banded Oakwood windows
with sun shades & shutters 800
Complete 30 - - 10 90 1 1

2.02 Sqn of painting doors and
windows with 2 coats of
antiseptine (chocolate color) 20 - - 39 4 7 1

2 - do - of wood siding to
Gruumiers, rafters & sash
joists 1 - - 10 2 10 1

Petty Supervision 6 - - 10 3 14 6 5
Furniture 1 - - 10 5 10 11
Contingencies 1 8 - - 10 2 13 5

Total for Jail Office Rs. 567

8.27 Cys of Brick in chunam for blocking 2 12 - Cys 24 10 87
3 $\frac{1}{2}$ - do - of flat arch work brick in chunam 4 12 - - 15 13 11
5 $\frac{3}{4}$ - do - of circular arch work in do 5 - - - 28 5 14
8.90 Sqn of Plastering with 2 coats of chunam
and whitewashing 7 14 - Sqn 20 14 3

24 Sqn of Cutstone for steps 11 - - 8 2 10 2
16 Iron banded Oakwood windows
with sun shades shutters 900 complete 30 - - 10 48 1 1
(2 1/2 x 4 1/2) inside dimensions

6 Providing sun shades to the
present windows 5 - - 10 30 1 10

Petty Supervision 6 - - 10 3 14 6 5
Furniture 1 - - 10 6 2 6
Contingencies 1 8 - - 10 3 13 3
Total Rupees 647

Grand Total Rupees 12714

8 Iron banded Oakwood doors can
be transferred to the new buildings
from the existing wards 50 - - 10 400 1 1

4 Oakwood batten doors at
the rate of half their value 10 - - 10 44 1 1
Total Deductions 444

Grand Total less deductions 12270
Deduct from original letter Rs. 1200
Total balance Rs. 11040

District Engineer
Office at Altan
11 July 1877

Major R.E.
District Engineer, Nagapattanam

Abstract Estimate of the
probable cost of making some
alterations and additions to the
Hill Jail at Parvathipet.

Estimate Rupees 12050

16/5/54 (Sd/Supd) J.B.L. 114

Specification to accompany Plan and
Estimate for making certain alterations and addi-
tions to the Hill Jail at Parvathipet.

Amount of Estimate Rupees 12050

The trenches for foundations to be dug to the
dimensions shown in the Plan and Estimate;
unless it is found that special circumstances
require these dimensions to be deviated from when
a reference is to be made by the executive agent to
the District Engineer.

The foundations, basement and superstruc-
ture of the buildings are to be built with rough stone
in mortar which is to consist of 2 parts of clean
sharp river sand and one part of well slaked lime,
through bond stones to be inserted at distances of
9 feet.

The brick work is to be built of well burnt
bricks 9 inches long $4\frac{1}{2}$ inches broad and $2\frac{1}{4}$ inches
thick laid in English bond with mortar composed
of 1 part of well slaked stone lime and 2 parts of
clean sharp river sand well beaten or pounded
by hand.

Flat arch work over doors, windows, and
ventilators is to be built of well burnt and properly
trimmed bricks in fine lime putty composed of
equal parts of lime and brick dust.

The openings in the guard room and the outer

and inner gates are to be built with semicircular archways. The bricks used are to be rubbed to the curve and none but the best and hardest bricks should be used. The joints should be as fine as possible, the mortar used being the same as in the preceding, para. The pitting to support the arch work ought not to be removed until the mortar has thoroughly set.

All the exposed surfaces of walls are to be plastered with 2 coats of chunam. Before laying the first coat the walls to be trimmed with hammers and well sprinkled with water. The plaster to the first coat to be composed of one part of well baked lime and $1\frac{1}{2}$ part of clean sharp river sand, thoroughly mixed and well beaten up with water.

A day or two after the first coat is put on and while it is moist, the second coat is to be applied. The plaster used for the second coat to consist of 3 parts of lime and one of white clean sharp river sand. These are to be mixed as before and afterwards ground on a flat stone with a small stone roller till they are reduced to a fine paste. During the process of the work the plaster is to be occasionally sprinkled with a little pure lime mixed with water to give it a hard and even surface.

The walls to be whitewashed two coats with wash composed for ten squares of $1\frac{1}{2}$ perahs of chunam mixed with water in which one seer of raw rice has been boiled.

I Asphalting

The portions of flooring shown in the estimate for

for receiving the asphalt are to be levelled, well watered, and rammed a levelling course of broken bricks 3 inches thick is then to be laid down and on this 3 inches of brick or stone, concrete composed of 1 part of lime 2 parts of sand and 5 parts of small broken bricks or stones not larger than $\frac{3}{4}$ inch cube is then to be spread and to be well beaten down with wooden beaters and allowed to get perfectly dry before any attempt is made to lay the asphalt. The asphalt is then laid on the surface $\frac{1}{2}$ inch thick in portions of convenient size marked out regularly by a wooden gauge $\frac{1}{2}$ inch, the edge of which is kept oiled to prevent the asphalt from adhering to it. The surface to be sprinkled with some very fine dry sand and rubbed well with wooden rubbers until it becomes perfectly even.

II Cut stone

The portions of flooring shown in the Estimate to be floored with stone of 3 inches thick laid perfectly horizontal, dressed with square joints and resting upon a prepared floor of 3 inches concrete composed of 1 part of lime, 2 parts of sand and 5 parts of broken bricks or stones $\frac{3}{4}$ cube laid upon rammed earth

earth as before described... The flooring stone to be pointed with fine lime putty composed of equal parts of lime and brick dust; joints should be as fine as possible say $\frac{1}{8}$ in breadth.

III Concrete

Concrete floors to be made with concrete of 6 inches thickness composed of 1 part of lime, 2 parts of sand and 5 parts of broken bricks or stone $\frac{3}{4}$ cubic laid upon well rammed earth and plastered well with 1 coat of finer chunam till the surface is smooth and hard.

All the sun shades that are provided Sun shades in the estimate are to be made (to the dimensions shown on plan) of well seasoned salwood planks ($3\frac{1}{2}$ feet in length $3\frac{1}{2}$ ft in breadth and $\frac{3}{4}$ inch thick) nailed on 3 rafters (4 ft in length $2\frac{1}{2}$ inches in breadth and 3 inches in depth);

the upper ends of which are to be firmly fixed in the wall above window frames; the lower ends to be nailed on bressummer (4 ft in length $2\frac{1}{2}$ inches in breadth and 3 inches in depth) crossing over struts... The bressummer is to be tenoned and fixed on the upper ends of two struts

struts ($2\frac{1}{2}$ ft in length 3 inches breadth and 3 inches depth) the lower ends ^{of which} are fixed in the wall. All the wood made use of shall be sound and free from flaws, cracks or any other defect. On completion the sun ^{shades} are to be well tarred in 2 coats.

Roofing

I. The roof with ridge ventilators to be composed of salwood rafters, resting on purlins and of sleepers, nails, flat and pan tiles (of the dimensions shown in the Plan and Estimate). The rafters should be placed 15 inches apart, centre to centre, and the sleepers each ($2 \times \frac{7}{8}$) to be 6 inches apart centre to centre.

Laying on sleepers

The flat tiles to be laid on the sleepers with mortar between the joints and then to be covered with 2 courses of pan tiles. The pan tiles are made some what smaller at one end than at the other, and the 1st course is to be laid over the flat tiles, in rows with the concavity upwards touching each other from top to bottom and overlapping each other, a distance of not less than $\frac{1}{4}$ their length; care should be taken to keep the overlap uniform through out the work. Over the concave layer will be laid a second layer

layer of panicles overlapping each other as before, but with ^{the} concavity downwards and covering the edges of the under lying layer. The ridges to be covered with larger tiles, overlapping each other and set in mortar. The ridge is then to be plastered 3 coats, and chunam borders 9 wide at intervals of one and a half feet are to be laid over the tiling. A border is also to run along the lower edges of the roof, which shall be furnished at the eaves with an eaves board.

II Terracing

After the joists are fixed, a course of brick on edge in chunam, composed of 1 part of well slaked lime and $1\frac{1}{2}$ parts of clean sharp river sand, is to be laid diagonally over the joists, and when set it is to be covered with a layer of brick concrete of 3 inches thick (composed as before but the sizes of cubes to be not more than $\frac{1}{2}$ inch thick) which must be well beaten down. The concrete to be laid with a proper slope to the upper surface in order to provide for the drainage of the roof. This should be allowed to remain for a few days to harden when three courses of flat tiles are to be laid diagonally crossing each other in mortar (composed as for the brick on edge) each tile being $(6 \times 5 \times \frac{1}{2})$ and to be well wetted before being laid. The roof is to be finished off on the outside with 3 coats

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of plaster carefully applied and well rubbed to a polished surface. A parapet wall is to be built round the terrace roof on the outer walls and a few openings are to be left in which are to be fixed wooden shoots for discharging the rain water. The spaces between the joists are to be carefully built up with masonry.

III The Bengal or sloping terrace

The verandahs of Guard and Store rooms are to be covered with Bengal terrace. Rafters at upper end to enter the main wall of the building about 9 inches and to rest at lower end on a breast summer supported by the verandah pillars; the rafters are to be placed at equal intervals of 15 inches centre to centre. Rafters are to be 2 inches wide and $\frac{1}{2}$ inch thick and are to be nailed to the upper surface of the rafters at right angles to their direction and 6 inches apart from centre to centre, and on these a course of flat tiles $(6 \times 5 \times \frac{1}{2})$ is then to be laid with mortar between the joints. The roof is then to be completed by laying two courses of flat tiles breaking joints in mortar over this course, and to be finished off with two coats of plaster well rubbed down. The tiles should be soaked in water before being laid, and those next the wall should enter it a few inches to prevent leakage at the junction of the roof and wall. The portions shown in the plan are to be built with honey comb tile work. The tiles are

Honey Comb
tile work

are to be sloped to prevent the interior being seen into from the exterior.

All the wood made use of shall be sound, well seasoned & of wood, and free from all cracks and flaws or any other defect, and according to such dimensions as are laid down in the estimate, and shown upon the plan.

The Hospital will have 2 pairs of teak wood half pannelled and half venetian doors, 2 pairs of teak wood batten doors and 10 pairs of iron barred windows having the shutters fixed on the outside. The dimensions of the round iron bar to be $\frac{3}{4}$ inch in diameter, and the bars to be placed $\frac{1}{2}$ inches apart from centre to centre. The female compartment will have 1 pair of iron barred door, 1 pair of iron barred window and 2 iron barred ventilators, the window and ventilators are to be provided with sun shades and the shutters to be fixed on the out side.

The solitary cells will have 2 pairs of iron barred doors fixed in the front of the doorway and 2 pairs of teak wood half pannelled and half venetian to be fixed on the inner side of the doorway as shown on the plan and 2 pairs of iron barred windows having shutters fixed in the out side. These windows are to be provided with sun shades.

The jail office will have two pairs of teak wood batten doors and 3 pairs of iron barred windows

windows with sun shades and shutters fixed on the out side; and 2 pairs of country wood batten doors with shutters to the dimensions shown in the plan or estimate are to be provided to the store rooms in the Cook rooms. The doors are to be made of best seasoned country wood free from flaws or cracks or any other defect.

One pair of teak wood batten door for store room and another iron barred door for guard room and 1 iron barred window to the store room are to be provided to the dimensions shown in the Plan and Estimate. The above wooden doors and windows are to be provided with hinges, bolts, and hooks &c complete.

Iron work

All the iron works such as hinges of $(11 \times 1\frac{1}{4} \times \frac{1}{4})$ bolts of $(7 \times 1\frac{1}{2} \times \frac{1}{4})$ hooks $(6 \times \frac{1}{4} \times \frac{1}{4})$ are to be plunged while red hot into tar before being fixed.

Teak wood door of entrance gate

The upper and side frames are to be of (6×5) and the upper semicircular portion to be fitted in with rails (4×4) - 8 apart centre to centre as shown in the plan. The whole thickness of the gate plank is to be 2 inches in 2 planks, each of 1 inch thick and 4 broad: one thickness of the planks to be nailed diagonally on the other with strong nails $\frac{1}{2}$ long close to each other as shown in the Plan. There will also be a small wicket door of $(2 \times 3\frac{1}{2})$ at a height of 2 feet from the ground level. The following dimensions are to be strictly attended to in making hinges, bolts &c. hinges $(3\frac{1}{2} \times 3 \times 1 \text{ inch})$

(3 ft x 3 x 1 inch) the upper and lower bolts (4 ft x 1 1/2 x 3/4 inch) and centre cross bolt (1 1/2 ft x 2 x 3/4 inch). All iron work to be made red hot and plunged into tar before fixing.

The trusses are to be of seasoned teak wood the beams, principal rafters, king posts, struts, with all the iron works as in the detailed drawing which shows all the dimensions and formation of the iron work as well as mode of fixing. Trusses.

The wooden palisading is to be fixed in the positions shown on plan. The outer corners of the present wards which are around the central tower to be joined with wooden Palisading, so that it may enclose an octagonal space in the middle after the present tower is demolished. The masonry pillars (1 1/2 x 1 1/2) are to be built of brick in chunam; the spaces between two pillars are to be connected with 3 horizontal frames of 4 x 2 placed at equal distances as shown in the detail drawing of palisading. Every two vertical frames between two pillars to be made from timber 3 inches square and 6 feet 11 inches long having the top in a pyramidal shape to a height of 4 inches measured vertically which is to be cut diagonally across the vertical frames are to be nailed separately in their position with 3 iron spikes and are to be 10 1/2 inches centre to centre. All the wood for palisading is to be thoroughly tarred before being fixed.

All the doors and windows and exposed wood work are to be painted with 2 coats of carsons.

Anticorrosive

Anticorrosive paint (chocolate color).

Painting with wood oil -

All the interior wood work including trusses, brusses, rafters (ie ceiling rafters) are to be covered with 3 coats of wood oil. During the process of the work a day or two must be allowed for the first 2 coats to dry before the third or finishing coat is laid on.

Tarring

The interior and exterior parts of all the sun shades and all the wood work for palisading are to be well tarred with.

Iron buckets

Iron enamelled buckets with handles are to be provided in the urinary cistern on the out side of the latrines and will have 3 iron gutter pipes 1 foot long and 3 inches diameter projecting into the bucket cistern 4 inches in order to let out the urine from the drains through the walls.

Wooden tubs

These tubs are to be made of best seasoned country wood for the removal of urine with a thickness of 1/2 inch thick in the shape of frustum of a cone of 1 1/2 ft inside diameter at bottom and 1 foot at top, hooped with 3 hoops of 1 1/2 inch iron shrunk on and with a semicircular falling iron handles. These are well tarred with 3 coats both in and out sides.

Drain

Lay tile drains in the General Latrine for the passage of urine into the cisterns securely bedded in mortar sides level with floor as shown in the drawing with a fall to the centre of 3 inches in 10 feet and to cut fall gutter pipes are to be provided.

The excavation is to be 8 feet in diameter and first carried down to a depth of 4 feet when the steining will be commenced. Earth work

The brick work will be built up two feet all round at a time, filled in behind with concrete well rammed, course by course and allowed to set.

After the four feet of brick and concrete steining has well set, a second excavation of the same diameter as the former one 8 feet and 4 feet deep will be made below it and the steining added below that already executed, every alternate ring of steining 2 feet in thickness to be of brick in chunam and the other, brick in clay. In this manner the work will be carried down by depths of 4 feet at a time as the water level falls during the dry season, until the greatest depth has been obtained probably about the end of the month of May.

To be of the best specially moulded bricks and 9 inches thick. The mortar used in the brick work to be one part of lime to one of sand. The concrete work to be composed of 1 part of broken brick two parts of broken stone, two parts of coarse sand and one part of kunkur lime well rammed. Steining

This is to be built with brick in mortar at a distance of 24 feet from the well in a rectangular shape of the dimensions shown on the plan, a masonry pyal of 3 feet high and 1 1/2 feet broad (having a V-shaped drain of 12 in breadth at top for conducting water from the well into the cistern) is to be built between Bathing Cistern

Cutstone
pavement }

Parapet of the
well

District Engineer's office
Waltair 11 July 1877

between the well and cistern

There will be an outwardly sloping annular cutstone pavement round the well and a rectangular one round the bathing cistern four feet wide one foot above the ground at its inner edge and 6 inches at the outer edge draining into a cutstone V shaped drain all round. The stone work of the annular and rectangular pavements to be 5 thick and laid on 6 inches concrete as above mentioned and well rammed.

To be of dressed stone laid in mortar four feet in height from the level of the surface of the ground and 9 inches thick.

On completion of the work all rubbish to be cleared away and the premises to be left in a clean condition.

Armm
Major R. E.
District Engineer, Vizagapatam

Specification to accompany
Plan and Estimate for making
certain alterations and additions
to the Hill jail at Parvatpur.

Estimate Rupees 12,950-0-0

46154 Sep 11/77 DB Di 11/77

P. W. D.
Fort Saint George

N^o 2213 of 7 Aug 77 August 1877.

Memorandum.

Letter from the District Engineer, Vijn-
gapatani N^o 822 dated 11th July 1877.

The Estimate for alterations and additions
to the Hill jail at Parvatpur amounting to Rs.
12,050 provides for flooring the cook rooms with
6" concrete and plastered with chunam. The
Chief Engineer does not approve of plaster for
floors, such floors invariably break up and
require incessant repairs. Floors of granite or
other hard stone concrete laid over with tar
and asphalt in the proportion of 1th of
asphalte to 4 of tar should be substituted.

The iron bars to grated doors and windows
when over 18 inches in length should be secured
from liability of being bent or drawn together
by flat iron straining bars, which bars should
pass through the timber frames and be keyed
home and the keys eventually built into the
wall.

wall.

The plan of wooden palisading is incorrectly drawn, the rails are placed 6 inches apart which is too far the perpendiculararris rails should be not more than 4 inches apart, nailed with spike nails to the transversearris rails.

No arrangement appears to be made for getting rid of the smoke from the kitchen; an aperture of some kind (such as a ridge-ventilator) should be provided in plan and estimate.

Iron bolts through tie beams are unnecessary and only tend to weaken them.

The estimate provides for roofing latrines with flat and plan tiles flat tiles should be omitted and the latter only used.

In the estimate certain errors found in ^{Calculations} circulations have been corrected.

The rate for Sautwood per C. ft. in one place is stated as 2 Rupees while in the same estimate in another place
Rs.

194
No: 2..8 has been entered, explanation is required and the plan and corrected estimate should be returned at an early date.

(Signed) W. Farewell Colonel
Deputy Chief Engineer P.W.D.

W. Farewell

To
The District Engineer Vyzagapattur
with plan and estimate.

139 1/2
cwt wks

No 736W Public Works Department. 206

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 15 Sept 77

Read the following

From,

The District Engineer } (H.C. No. 822 of 11. July 1877)
Vizagapatam }
l. 2213 dated 7. August 1877)

Chief Eng's memo. No. 2213, dated 7th August 1877.

" The District Engrs. } (H.C. No. 1238 dated 28th do.)
Vizagapatam }

The plans and estimate of Rs 12,240 for alterations and additions to the Mill Jail at Paravatiapur are sanctioned. ~~Rajees 1230 the value of convict labor will have to be deducted.~~

Erratum no. 1131 W 9 19-10-77.

It is observed that of
the amount of Rs 6000
appropriated in L. O. No.
326 of 27. April 1877
for

Memorandum 221377-8-77

40154 Sep 77 JB 24 114.8

N^o 114. 2. 1/2

1000000

for work Rs 1,500 have
been transferred as per
L. O. No. 334 of 29 June
1877 leaving the balance
Rs 6,500 available for
expenditure in 1877-78.

W.L.
13.9.77
for entry.

The sanction accorded
in these proceedings has
been registered as Pro-
vincial Special No. 57
B of 1877-78.

B. C. Nagapattinam 4
L. O. No. 25
S. G. of Jailor B
Judicial Dept
Dec 25-8-77 17

Recd. 14-9-77

106984

Govt. of 1877 Madras.

PUBLIC WORKS.

To

H. Vijay. 1877

Dated

Issued

Recd.

Encl.

G. O. 15 Sep. 1877, No 736W

Nos. 111-115

Bill for at Paratipore,
Vijayapetam & Ranchins
with observations the plan and
estimate of Rs 12270 for all the
additions to the —

Indra Pr.
26.9.77