

(1) Number of pages 56
(2) Date of repair June 87
(3) Initials of the Referencer 601

TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P. W. DEPARTMENT

G.O. No.	1290W	Press.
~~B.P. No.~~		~~Mis.~~
Dated	31-5-1880	197.

A.K
Not to be folded or roughly handled

No. 1611

1290
3RD CIRCLE, SUPERINTENDING ENGINEER'S OFFICE,

Chepauk, 31st March 1880.

Recd 3rd Apr. —

FROM

THE SUPERINTENDING ENGINEER,

3RD CIRCLE,

TO

The Chief Engineer
Public Works Department.

SIR,

Enclosed

- 2. Plans
- 2. Abstract Estimates
- 1. Detailed — do —
- 2. Comparative Sheet
- 1. Site Plan
- 2. Specifications

With reference to G. O. No. 3992 of
dated 14th October 1878. I have the honor to
forward herewith for sanction of Government and
an allotment of funds Plans and Estimates
for the undermentioned works.

1. Constructing permanent sheds with tiled
roofs for Embarkation and Disembarkation
of Troops on the pier adjacent to the
Madras Pier for Rupees 15,100—
2. — do — temporary sheds for do — 1800—
If shingles with reduced scantlings of
timber be used for the permanent sheds in
lieu of tiles Rs. 1533 will be required in addition
to the amount of Rs. 15,100— making the total
of Rs. 16,633—

The Plans and Estimates have been
approved of by His Excellency the Commander-
in-Chief.

J

1290
2

I have the honor to be,

Sir,

Your most Obedt. Servant

Henry Lee Select Major R. E.

Chief Superintending Engineer
3rd class

G.O. 14th City 1878
No 3992 W. Eng.

1880

P.W.D.

CAIRO

From J. Eng. & Devis

Date 31st March 80
Dup 3^d April 80

N. 1611

Encl 10

Constructing temporary &
permanent shed
Toward Estimate for same
for —

St. Cir 24-4.80. Ptd 4.5.80.
Gut 21-4.80.

ADMINISTRATIVE DEPARTMENT.

129³/₃
MADRAS,

Marine Office,

No. 3435

13th May 1880.

From THE MASTER ATTENDANT,
ADMINISTRATIVE DEPARTMENT,
MADRAS,

To

The Secretary to Government
Public Works Department
Fort Saint George

Sir

I have the honor to acknow-
ledge the receipt of G.O. N: 46, dated
4th instant, and in returning its enclos-
-urements, respectfully to suggest that
the selection of a site for the erection
of the proposed sheds for the use of
troops and families on the beach be
postponed, till it is decided what arrange-
-ments are to be made on the foreshore
for the erection of warehouses, wharves
&c. &c., in connection with the
Harbour, which is now likely to be
completed shortly, and as the traffic
near the Pier is likely to be greater
than

* per packet
post.

than at any other part, it does not
appear advisable to erect even a
temporary structure near this site,
especially as the Verandahs of this
office, the Custom House and the
High Court, can be utilized in cases
of emergency for protection of troops
from sun or rain

I have the honor to be

Sir

Your most Obedt Servant

W. Langton

Master Attendant

Administrative Department

1290
4

C.E. 46. 4. 5. 80.
S.O. 3992 D. 14. 10. 78. Crgl.

P.W.D.

31 MAY 80

No. 3406

To

The Secretary to Govt
P.W. Department

From

The Master Attendant,
Administrative Department,
Madras,

* given to
Librarian
16-8-80

Dated 13 } May 1880.
Received

No. 3935.

Suggests that the
erection of sheds
on the beach for
accommodating
troops and families
be postponed.

1290
5
Mr. 1880 Dep.

The Master Attendant, Madras, suggests the postponement of the erection of sheds for the use of troops and families on the beach, till it is decided what arrangements are to be made for the erection of warehouses, &c. in connection with the harbor.

17/5

L-31-5-80
Cir 17.5.80. Ptd 28.5.80
O.L. Phil: 34 May

No 172 of 1879 80 83-979 8

Specification to accompany
Main Estimate for Constructing permanent
shed for Lumbering & Disembarking
of Troops on the side adjacent to the
Dien.

Amount of Estimate Rs 1500-00

The proposed shed to be constructed
on the side adjacent to the Dien for
Lumbering & Disembarking of Troops
their sizes and dimensions are to be
as follows:

Large Shed - Main hall to consist of 3 rooms
viz. 1st room 40' x 18' for Sickmen; 2nd room
62' x 18' for Women & Children; and the
3rd room 18' x 18' for the Landward Office
with a Verandah all round 8 feet
wide with the exception of Latrines
in 2nd thus making the total length
and breadth of shed 141' x 36' feet.

Small or
Baggage shed } Main hall inside 84' x 15' feet
with a Verandah all round 8 feet
wide, thus making the total length
and breadth of the shed 100 x 30 feet

MOB 21

P.W.D.
1880

The construction of the building
is specified as follows:

Excavation for foundation. Excavation
to be taken down to a depth of 4 feet or
to such other depths as may be necessary
and the bottom to be made perfectly
level.

The lower step of foundation concrete
to be built with concrete, the proportions
of the concrete will be as follows, 5 Parts
of fine stone jelly broken into lumps of
1" to 2" free of quarry sweeping, 3 parts
of fresh unslaked burnt shell & 2 parts
sieves or ground brick powder well
mixed, this will be laid in layers of 6" or
8" thick, well rammed, care being taken
that no new layer is added before the
one immediately underneath has been
properly consolidated.

On the completion of the concrete
the centre lines will be carefully laid
out & the footing courses commenced.
The foundations for walls & columns
pillars will be 3 feet broad & 3 feet
high, and for retaining walls 2 1/2 feet

broad & 3 feet high 25/1290

Basement. The basement or upper course will
be raised throughout 4 feet above the
foundations and to have a step of 3 on
both sides.

Walls. Walls and pillars 1 1/2 feet thick and
11 1/2 feet high for main hall & 6 1/2 feet
for veranda pillars.

Arch work. The arches to be made round on
proper centerings approved of by the
Superintendent Engineer. The joints all to
be made exactly according to the nature
of the work. Bricks to be uniform & square
to be examined before and the best bricks to be
carefully fitted to their places, and
driven home quite tight & true.

Heavy work. The heavy work to be done
with brick work. Courses of brickwork to be laid
in a regular & straight manner to the middle of
the line, and to be neatly set in with
shell lime mortar, joint sand being
used to keep them in place, the surface
to be kept free from mortar, and
left open & clean.

The foundations, basement, Brickwork
 main walls, pillars & arch work will
 be built with well burnt brick ($8\frac{1}{2} \times 4\frac{1}{2} \times 2\frac{1}{2}$)
 Every brick to be headed and drawn up
 in mortar, to be laid with a true English
 bond, and each course to be thoroughly
 saturated with water, before they are put
 into the work, to ensure the joints on rough
 shall be provided sufficient to hold a days
 consumption of bricks.

The mortar to be used will be
 composed of 3 parts clean sharp, river sand
 and two parts of fresh burnt, steel lime,
 this will be mixed and poured on the
 side of the work, to enable the masons
 to be mixed to a proper consistency,
 and so as to fill in the joints, it
 will be mixed by the bricklayers in
 a tub or trough, one will be suffi-
 -cient for two bricklayers.

The surface of the walls & pillars
 inside & out to be plastered with two
 coats of Portland cement, the first
 coat to consist of one of Portland
 cement, and one and half of sand

Showering the
 two coats of
 Portland cement

1290
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thoroughly mixed and applied immediately
 after the joints have been scraped out to
 the surface well watered - Second coat
 to consist of pure Portland cement
 laid on in a thin paste which is to be
 rubbed down, smoothed & polished
 The plaster to be kept damp till it
 is thoroughly hardened.

Timber.

All work wood to be of the best
 sound, well seasoned Scotch Larch, free
 from sap, large or loose knots, shakes or
 other defects, and of such quality as
 will hold screws to be well fitted
 and dressed as necessary in a proper
 workman like manner.

Roofing with
 beam trusses.

The roof over large shed to be
 built, it will be supported by timber
 trusses consisting of tie beams, king posts,
 struts, and principal rafters as shown
 on the plan; the trusses will be placed
 8 feet apart and these ends will
 rest on granite stone plates $1\frac{1}{2}$ feet
 5 ft. and 6" thick, the common rafters
 purlins, & sleepers will be of Scotch

The grommet will be placed $1\frac{1}{2}$ ft apart from Centre to Centre and will be nailed all to the partition and ridge pole. The papers will be $2\frac{1}{2} \times 3\frac{1}{4}$ - these will be nailed over the papers at 6" apart from Centre to Centre, the roof will then be ready for tiling.

The roof over Passage Shed will be an hipped roof consisting of a series of Couplers each formed of two rafters meeting at an angle and crosscut by two collar pieces as shown in the plan, in forming the Coupler the work must be very carefully nailed together the Coupler must be placed $1\frac{1}{2}$ ft apart from Centre to Centre and to ensure the pitch of the roof being uniform the distance of the Extreme Couplers from the ends must be equal to half the breadth of the roof, the hip rafters i.e. from the corners of the building to the ridge, the upper end of the hip rafters will rest on a piece of wood nailed to the side of the Extreme Coupler near the top. Six more rafters are

Roofing with
Slate Couplers
& collar pieces
& rafters.

Tiling -
1 course of flat
& pan tiles &
Gumman borders.

1290
to be used. The ridge pole will be placed 6" apart from Centre to Centre and nailed to every alternate paper, no ridge pole is necessary but the two upper papers must be wide and irregular at the top of the ridge. The covering will consist of flat and pan tiles, the flat tiles are put down in a single course with the rafters with notches between their joints then the pan tiles are laid over them in rows reaching back & then from top to bottom the pan tiles are made some what smaller at one end than at the other with a view to their overlapping each other, which they should do to the extent of not less than $\frac{1}{4}$ of their length the overlap must be uniform throughout. A second course of pan tiles is then laid with their convex sides upward and overlapping each other, these tiles are placed so as to cover the intervals between the rows of the first course, the ridge & hips will be covered with a larger description of tiles, also overlapping each other, these are set in mortar.

The ridge & hips will be plastered and
Lime borders will be formed at intervals
of 4 feet apart on the sides & ends of the
poor to bind the tiles together.

The basement to be filled in with filling and
Earth well rotted and rammed till
thoroughly compacted and brought to a
level within 4" of the top of the base-
ment. Over this a flooring of best
turnpike square bricks 8" square and
2" thick to be laid one layer of 3" con-
crete in joints & scraped well and jointed
with Portland Cement.

The inside to be finished with Asphalting
Coppell which will be carried but two
gals. Sigoral Coppell having been heated
with 5 lbs of mineral tar per cwt
and mixed with four parts of asphalt
to three parts of clean sharp river
sand, it will be laid on the floor at
3/4 of an inch in thickness in wooden
straight edges, and then compressed
rubbed with hand floats until
the surface is perfectly level
and true, before the asphalt

1290
12
becomes hard, a small quantity of fine
sifted sand is to be thrown over it, and
rubbed in with hand floats, and after
the joints have been neatly smoothed
with a mop iron the work will be finished.

Pine Seats-

A plank 30 feet long 2 feet wide
and 2" thick containing 12 seats will be
fixed in two rows, behind this, and
between each pair of seats. Sheet iron
partitions with wooden uprights and

Cross supporting frames strongly fitted
be fixed, where ever joints occur in the
iron partition, the seats to be overlapped
not less than one inch, and to be well
rivetted together. Iron jaws caps off
being pushed in or withdrawn from the
back will be inserted in the frames
fixed on the lower surface of seats.

Door.

A plank not better than 2 1/2 x 6
with frames (4 1/2 x 3 1/2) hinges both bolts
and other fittings complete will be
fixed to the Conductor's Office.

Green paint
lining.

The door to be painted with
2 coats of Harbours green paint over

a primary coat of shell cement.

All work now of the road

The work with two coats of Portland

A new road from the line of Road

Railway to the East end of shed to be

formed with Limerick metal 4" thick

and covered over with 2" of good

Limerick gravel. This will be well mixed

and covered with iron rammers

till thoroughly consolidated.

A new fence will be constructed

from the rivetment to the location

marked E on the Plan, the fence to

consist of 4" square iron posts placed

at 8 feet apart from centre to centre

and fixed in masonry foundation

of 2 feet square and 3 feet deep

Two horizontal galvanized rollers

two diagonal and vertical rollers

in centre will be nailed to the posts

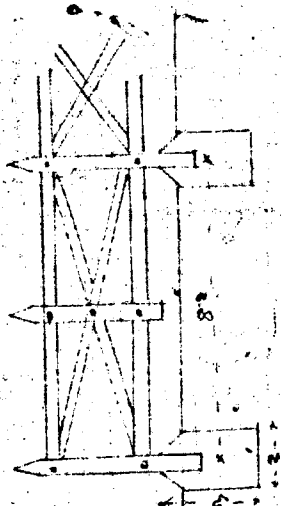
as per marginal sketch.

Two gates will be made

of the same description as above and

fixed in the positions marked G &

H on the Plan. The gate to be



Gates

supported by a pair of strong gudgeons
and hinges, bolts, staple, & pad lock,
the gudgeons to be fixed in the posts.

The fence & gates to be covered
with two coats of Coal Tar.

The old Marine Store and
shed marked K on the Plan will be
dismantled, & the rubbish and
removed old materials will be
carted away to the store.

The work is to be executed with
the best materials procurable for the
posts allowed in the Estimate & to be
completed to the entire satisfaction
of the Executive Engineer, and handed
over in a clean & orderly shape.

A. C. Lawrence
Lieut.

Assistant Engr.

In charge of Works

No 175 of 1877-80073-9-77.
Head of Service Imperial.
and Ordinary
Class. Original work.

Main Head. Military,
Sub. Head. Accommodation for troops.
Name of work. Constructing permanent sheds for embarking
and disembarking of troops on the site adjacent
to the Barr. vide G. O. No 3992 of 14 October 1878.

Amounting to Rs. 15100-
To be carried out by S. P. W.

Detail of Work.	Number.	MEASUREMENTS IN FEET.			Area, or Contents.	Total Quantity of each Description of Work.
		L.	B.	D.		
Front and rear walls	2	129	4 1/2	1	1161	1290
End and Cross walls	4	15	4 1/2	1	270	14
Front wall of Latrine	1	37 1/2	4 1/2	1	168 3/4	
End and Cross walls in do	3	7	4 1/2	1	94 1/2	
Pillars all round	33	4 1/2	4 1/2	1	658 1/4	
Do in Verandah	1	4	4 1/2	1	10	
Do do	1	1 1/2	4 1/2	1	6 3/4	
Retaining walls between pillars	26	5	4	1	520	
Do do	8	3	4	1	96	

Total Contents Embarked 3003 1/2.

Front and rear walls	2	127 1/2	3	3	2295	
End and Cross walls	4	16 1/2	3	3	594	
Front wall of Latrine	1	36	3	2	324	
End and Cross walls in do	3	32 1/2	3	2	229 1/2	
Pillars all round	33	3	3	3	841	
Do in verandah	1	4	3	3	36	
Do do	1	1 1/2	3	3	13 1/2	
Retaining walls between pillars	26	6 1/2	2 1/2	3	126 1/2	
Do do	8	4 1/2	2 1/2	3	270	
Steps to verandah	3	8 1/2	5	1	127 1/2	
Do to Latrine	2	5 1/2	3	1	33	
Do do	2	2 1/2	2	1	10	

Front and rear walls	2	126 1/2	2	4	2264	
End and Cross do	4	17 1/2	2	4	560	

Do do	2	12	1 1/2	1	36	
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P.W.D.

ENGRD

112 3423 46

3.4

Drawn 3399

B 15000

Detail of Work.	Number.	MEASUREMENTS IN FEET.			Area or Contents.	Total of each Description of Work.
		L.	B.	D.		
Front wall of Latrine	1	55	2	1 1/2	105	
End and Cross walls in do.	3	9 1/2	2	1 1/2	85 1/2	
Pillars all round	33	2	2	4	528	
do in Verandah	1	4	2	4	32	
do do	1	1 1/2	2	4	12	
Retaining walls between pillars	26	7 1/2	1 1/2	4	1170	
do do	8	5 1/2	1 1/2	4	264	
do large	3	8	5	2	240	
do small	2	5	3	1 1/4	37 1/2	
do do	2	2 1/2	2	3/4	7 1/2	
Front and rear walls	2	126	1 1/2	12 1/2	3725	
End and Cross walls	4	18	1 1/2	12 1/2	1350	
Gable of Cross walls	2	18	1 1/2	3	162	
Front wall of Latrine	1	24 1/2	1 1/2	6 1/2	336 3/8	
End and Cross walls in do	3	10	1 1/2	10 1/2	472 1/2	
Pillars all round	33	1 1/2	1 1/2	6 1/2	482 5/8	
do in Verandah	1	4	1 1/2	6 1/2	39	
do	1	1 1/2	1 1/2	6 1/2	14 7/8	
Total Cft of Brick in						18738 5/8
Chambers work without Reduction						
for openings below springing line	30	5	1 1/2	6	1350	
do above do	27	(5 x 7854)	1 1/2	6 1/2	441 3/4	
Openings in latrine	3	5	1 1/2	6 1/2	146 1/4	
do	1	7	1 1/2	6 1/2	68 1/4	
Doorways	1	3 1/2	1 1/2	6	31 1/2	
do in Latrine	2	2 1/2	1 1/2	6	45	

Detail of Work.	Number.	MEASUREMENTS IN FEET.			Area or Contents.	Total Quantity of each Description of Work.
		L.	B.	D.		
for Circular arch work	30	(6.125 x 3.1416)	1 1/2	6 1/2	487	
Flat arch over doorway	1	4 1/2	1 1/2	3/4	5	
Total Deduction						257 3/4
Total Cft of Brick in Chambers work						16,163 5/8
Total Cft of Circular Arch work						487
do Flat arch work						5
Openings below springing line	23	5	6	690		
do above do	23	(5 x 7854)	1 1/2	6 1/2	225 1/2	
do in Latrine	3	5	6 1/2	97 1/2		
do do	1	7	6 1/2	45 1/2		
Total Cft of Brick in Chambers work						1050 1/2
Rooms inside						
Office room	1	72	13	936		
Room for women & children	1	160	13	2080		
do for sick men	1	116	13	1508		
Gable of Cross walls both sides	4	18	3	216		
Rooms outside	1	209 1/2	12	2474		
Latrine front wall inside	1	30	6 1/2	195		
do side	1	34 1/2	6 1/2	224 1/4		
do end and Cross walls	4	10	10 1/2	420		
both sides	2	8 1/2	10 1/2	178 1/2		
Pillars all round verandah	33	6	6 1/2	1207		
do at Latrine	1	4 1/2	6 1/2	29 1/4		
do do	1	9 1/2	6 1/2	61 3/4		
Doormat all round	1	363	4 1/4	1542 3/4		
Pieces and soffits of Doorway	1	15 1/2	1 1/2	23 1/4		
do do	2	12	1 1/2	36		

Detail of Work.	Number.	MEASUREMENTS IN FEET.			Area or Contents.	Total Quantity of each Description of Work.
		L.	B.	D.		
Sides and soffits of Archedways	30	20	1 1/2	-	900	
Ends of Steps	6	5	-	2	60	
Do.	4	3	-	1 1/4	15	
Do.	2	2	-	3/4	3	
Sides of opening in latrine	8	1 1/2	-	6 1/2	70	

Total 1326 7/4

Archedways Rectangular portion	60	5	-	6	1800	
Do. Circular portion	60	Area 9.8			588	
Do. openings for iron Lamps	2	7	-	6 1/2	91	
Do.	6	5	-	6 1/2	195	
Doorway to the sides	2	3 1/2	-	6	42	
Openings to latrine	4	2 1/2	-	6	60	

Total Deduction 2776

Total 1049 1/2 of plastering with Portland Cement 105 cft.

12 beams for trusses	12	20	3 3/4	6	37.6	
Long posts	12	7	3 3/4	4	8.9	
Posts	24	5 1/2	3 3/4	4	13.9	
Principal rafters	24	11 1/2	3 3/4	5 1/2	37.5	9 3/4
Purlins over wall including overlapping	2	130 1/2	2 3/4	7	60.3	2 1/4
Do. in the middle	2	120	4 3/4	7	55.5	-
Do. at ends	2	20	4 3/4	7	9.2	10
Do. Middle	2	10 1/2	4 3/4	7	4.10	2 1/4
Ridge pole	1	111	3 1/2	8	21.7	-
Chairs	24	3/4	3 3/4	6	2.9	9

Detail of Work.	Number.	MEASUREMENTS IN FEET.			Area or Contents.	Total Quantity of each Description of Work.
		L.	B.	D.		
Principal Hip rafters	4	18	5 1/2	7 1/2	20.7	6
Common rafters	142	13	2 1/2	3 1/2	12.2	-
Do. at Hip	4	18	2 1/2	3 1/2	4.4	6
Jack Rafters	56	7 1/2	2 1/2	3 1/2	25.6	3
Bracings to verandah including overlapping	13	36 5 1/2	2 1/2	6 1/2	74.2	11
Rafters to verandah	178	12	3	4	178	-
Hip Rafters	4	16	4 1/2	6 1/2	12.6	-
Jack Rafters	32	7	3	4	18.8	-
Rafters to latrine	22	16	3	5 1/4	38.6	-
Lintels for doorways of latrine	2	4	1 1/2	3	3	-

Total 1049 1/2 of plastering with Portland Cement 105 cft.

Total 1049 1/2 of plastering with Portland Cement 105 cft.

Granite Stone Slabs over verandah						
pillars	41	1 1/2	ft. square	41	41	cft.
Do. under the beams	24	2	1/2 4"	24	24	cft.

Over main roof

verandah	1	144	48	6912	
Extra roof over latrine	1	35 1/2	4 1/2	159 3/4	

Total 1049 1/2 of plastering with Portland Cement 105 cft.

Stumps at lower ends of principal rafters 3 1/2 ft long 2" wide and 1/4" thick	24	5.84	ft	140.16	
--	----	------	----	--------	--

Detail of Work.	Number.	MEASUREMENTS IN FEET.			Area or Contents.	Total Quantity of each Description of Work.
		L.	B.	D.		
Straps at foot of King posts 2 1/2 ft long 2 x 1/2 each	12	4.59	1/2	"	55.08	
Do top of struts 4 1/2 x 2 x 1/2	24	7.51	"	"	180.24	
Do top of King posts 4 1/2 x 2 x 1/2	12	7.51	"	"	90.12	
Bolts with head and nuts 10 for each truss, 1/2" D. 48" long	120	.43	"	"	51.60	
Total lbs of wrought iron straps and bolts etc						517.20
Office room	1	17 1/2	17 1/2	"	306 1/4	
Room for women and children	1	61 1/2	17 1/2	"	1076 1/4	
Do for sick men	1	39 1/2	17 1/2	"	691 1/4	
Front verandah	1	141 1/2	7 1/2	"	1061 1/4	
End verandahs	2	21 1/2	7 1/2	"	322 1/2	
Back Do.	1	106 1/2	7 1/2	"	798 3/4	
Steps.	3	8	5	"	120	
	2	5	3	"	30	
	2	2 1/2	2	"	10	
Total sq ft					4416 1/4	
Deduct the space of verandah pillars	33	1 1/2	1 1/2	"	74 1/4	
Do	1	4	1 1/2	"	6	
Do	1	1 1/2	1 1/2	"	2 1/4	
Total Deduction sq ft					82 1/2	
Total sq ft of flooring with 8" sq bricks laid in Chundam and pointed with portland cement with a levelling course of concrete 3" thick underneath						33 3/8 sq ft

Detail of Work.	Number.	MEASUREMENTS IN FEET.			Area or Contents.	Total Quantity of each Description of Work.
		L.	B.	D.		
Latrine	1	20	10	"	200	
Do	1	10	10	"	100	
Total sq ft of flooring with 3/4" thick asphalt with a levelling course of 3" concrete						3 sq ft
Running seats 2 ft wide and 2" thick with frames including Pans Complete	1	20	"	"	20	
Do	1	10	"	"	10	
Total Running seats						30 Rft
Deton seats	10	4	"	5	200	
Back of seats	1	20	"	5	100	
Do	1	10	"	5	50	
Total sq ft of sheet iron partitions 1/8" thick with frames Complete including 2 Coats of tar						350 sq ft
Painted door with frames and iron fittings of Corrugated	1	3 1/2	"	6	21	sq ft 21
Painting door with green color	2 Coats					sq ft 1/2 1/2 sq ft
Door lining 2 Coats	Squares					117 - 0
Excavation - Main walls	2	44	3	1 1/3	352	
Ends and cross walls	4	3 1/2	3	1 1/3	56	
Verandah outside	2	50	3	1 1/3	400	
Ends Do	2	9	3	1 1/3	72	

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Detail of Work.	Number.	MEASUREMENTS IN FEET.			Area or Contents.	Total Quantity of each Description of Work.
		L.	B.	D.		
Excavation. Cross walls in latrine.	3	1 $\frac{1}{2}$	3	1 $\frac{1}{2}$	16	
Steps.	3	3	2	$\frac{1}{2}$	6	
Filling Basement.						
Office room.	1	6	6	1 $\frac{1}{2}$	42	
Room for women & children.		20 $\frac{1}{2}$	6	1 $\frac{1}{2}$	143 $\frac{1}{2}$	
Room for sick men.		13 $\frac{1}{2}$	6	1 $\frac{1}{2}$	92 $\frac{1}{2}$	
Veranda all round.		94 $\frac{1}{2}$	2	1 $\frac{1}{2}$	220 $\frac{1}{2}$	

Total Cft of Excavation and
filling basement } 1400 $\frac{1}{2}$

Pillars.	52	4 $\frac{1}{2}$	4 $\frac{1}{2}$	1	1053	
Retaining walls between pillars.	18	5	4	1	360	
At ends.	4	3 $\frac{3}{4}$	4	1	60	
At corners.	8	3	4	1	96	

Total Concrete Cft } 1569

Pillars.	52	3	3	3	1404	
Retaining walls.	18	6 $\frac{1}{2}$	2 $\frac{1}{2}$	3	877 $\frac{1}{2}$	
At ends.	4	5 $\frac{1}{4}$	2 $\frac{1}{2}$	3	157 $\frac{1}{2}$	
At corners.	8	4 $\frac{1}{2}$	2 $\frac{1}{2}$	3	270	
Steps.	2	8 $\frac{1}{2}$	5	1	85	

Pillars.	52	2	2	4	832	
Retaining walls between pillars, front and rear.	18	7 $\frac{1}{2}$	1 $\frac{1}{2}$	4	810	

1290
18

Detail of Work.	Number.	MEASUREMENTS IN FEET.			Area or Contents.	Total Quantity of each Description of Work.
		L.	B.	D.		
At ends.	4	6 $\frac{1}{4}$	1 $\frac{1}{2}$	4	150	
At corners.	8	5 $\frac{1}{2}$	1 $\frac{1}{2}$	4	264	
Steps.	2	8	5	2	160	
Pillar Centre.	22	1 $\frac{1}{2}$	1 $\frac{1}{2}$	11	544 $\frac{1}{2}$	
At in veranda.	30	1 $\frac{1}{2}$	1 $\frac{1}{2}$	6 $\frac{1}{2}$	438 $\frac{3}{4}$	
Total Brick in Churn Cft.						5993 $\frac{1}{4}$

Around pillars, Centre.	22	6		11	1452	
At in veranda.	30	6		6 $\frac{1}{2}$	1170	
Basement all round.	1	27 $\frac{1}{2}$		4 $\frac{1}{4}$	1156	
Sides of steps.	4	5		2	40	
Total Cft of Plastering with Portland Cement						38.10 or 38 $\frac{1}{4}$ Cft.

Roofing over main pillars including overlapping.	1	216	4 $\frac{1}{2}$	6 $\frac{1}{2}$	438	
At in veranda.	1	279	4 $\frac{1}{2}$	6 $\frac{1}{2}$	567 $\frac{3}{4}$	
Rafter for Cuples.	96	11 $\frac{1}{2}$	3	4 $\frac{1}{2}$	103 $\frac{1}{2}$	
Collar pieces Large.	48	14	2 $\frac{1}{2}$	3	35	
Small.	48	8 $\frac{1}{2}$	2 $\frac{1}{2}$	3	21 $\frac{1}{4}$	
Hip rafters.	4	16	4 $\frac{1}{2}$	7	14	
Jack rafters.	40	7	3	4 $\frac{1}{2}$	26 $\frac{1}{4}$	
Rafter for veranda.	140	11 $\frac{1}{2}$	3	4 $\frac{1}{2}$	151	
Hip rafters.	4	16	4 $\frac{1}{2}$	7	14	
Jack rafters.	48	7	3	4 $\frac{1}{2}$	31 $\frac{1}{2}$	

Total Cft of Dealwood
sawed and put up } 497

Detail of Work.	Number.	MEASUREMENTS IN FEET.			Area or Contents.	Total Quantity of each Description of Work.
		L.	B.	D.		
Over main building and verandah	1	125	44		4620.	
Total sq. ft. of flooring with teak runners, nails, flat and pan tiles with Chunam borders						46 1/4
Granite Stone Slabs over pillars	52	1 1/2	1 1/2	3"	4	52
of flooring		102 1/2	33 1/2		3433 3/4	
Steps	2	8	5		80.	
Total					3513 3/4	
Deduct for pillars	52	1 1/2	1 1/2		117	
Total sq. ft. of flooring with 8" sq. bricks and pointing with best sand Cement with a levelling course of concrete 3" thick						3396 3/4 or 34 sq. ft.
Wood oiling & coats						78 sq. ft.
yards.						
Excavation to verandah outside	91	3	1 1/2		364	
Pillars	22	3	3	1 1/2	264	
Filling Basement	33	10	1 1/2		385	
Total Excavation and filling Basement						1013

1290
19

Detail of Work.	Number.	MEASUREMENTS IN FEET.			Area or Contents.	Total Quantity of each Description of Work.
		L.	B.	D.		
Finishing with Country wood posts fixed in masonry (2x2x3") and palmyrah rafters for 2 horizontal & 2 diagonals and 1 upright in the middle including nails, tarring & Campt.						230 sq. ft.
Gates 12 feet of the above Description with bolts, hinges, bolt and padlock complete						2
Constructing road with laterite	160	12			1920	
and gravel	110	30			3300	
Total square or sq. ft. at 36 sq. ft. per square						5220 157 sq. ft.
Dismantling and removing marine forge and shed marked H on the plan						1
Not dismantling 14. Dec 1899 by 20 4529. Approved By and for G. S. Lawrence by and deluged not						
L. S. Lawrence Lieut. Assistant Engineer In Charge Battery						

Detail of Work.

Number.

MEASUREMENTS
IN FEET.

L.

B.

D.

Area or
Contents.Total Quantity
of each
Description
of Work.P.W.D.
1880

No.

By 10 872
28/10/79

In 10/10/844

NE 175 of 1879-80 of 3-9-79.

Road of Arica. Imperial.

Ordinary.

Class. Original Work.

Main Road. Military.

Sub. Road. Accommodation for Troops.

Name of work. Constructing permanent sheds for Embarking
and disembarking of Troops on the site adjacent
to the Par. side G. O. No 3992 of 14.

October 1878.

Amounting to Rupees. 15100.

To be Carried out by D.P.H.

Quantity

Description of work.

Rate. Amount. Total

2003 Sft. Laying Concrete with
granite Stone jelly and Sookhu
Chunam } 36 Sft 656 14 6

16164. Bricks in Chunam large size. 2 11 2916 9 X

487. Circular arch work in Chunam. 38 11 9 8

15. Flat arch work. 31 15 5

1059. Sft. Heavy Comb brickwork in
Chunam and plastering Complete. 310 Sft 253 11 6105. Sft. Plastering with two coats of
Portland Cement. 10 Sft 1050

7392. Teak wood wrought and put up. 31 Sft 2264 11 6

41. Granite Stone slabs over
verandah pillars 12 ft Sft Complete. 0 20 0

24. Sft under truss 2 x 12 x 2. 12 10

Carried over Rs. 7322 15 7 X

By 10 872
28/10/79By 10 872
28/10/79By 10 872
28/10/79

Quantity	Description of work	Rate	Per	Amount	Total
	Brought forward			7322	157
70 3/4 Sgts	Roofing with teak reapers nails flat and pan tiles and Chinam borders Complete	13 15	Sgts	986	13
517 Sgts	Brought iron for trusses	" 2	Sgts	64	10
33 3/8 Sgts	Floring with 8" Sgts bricks laid in Chinam and pointing with portland Cement with a levelling Course of Concrete 3" thick underneath	10 6	Sgts	354	12
3	Floring with 3/4" thick Asphalt with a levelling Course of Concrete 3" thick	20 2	Sgts	60	6
30	Sgts. Paving seats 2 ft wide and 2" thick with frames including iron frame Complete	2 0	Sgts	75	-
350	Sgts. Sheet iron partition 1/2" thick with teak frames of Complete and two Coats of tar	6	Sgts	131	4
21	Do. Balcon door with frames and iron fittings of Complete	13 9	Sgts	10	9
1/2 Sgts	Carious green paint two Coats for doors	2 14 9	Sgts	1	7 4
117	Sgts. Wood oiling two Coats	10 6	Sgts	76	8 6
1400	Sgts. Excavation and filling basement	1 6	Sgts	151	4
				9812	8
				9214	4 8
	Imp. Dis.			265	4 4
	Total Dispes			9680	-
	Carried over			9680	-

Quantity	Description of work	Rate	Per	Amount	Total
	Brought forward			9680	-
1569	Cft. Concrete with granite Stone jelly and door kee Chinam	3 6	Cft	343	3 6
5993	Brick in chinam large size	2 11	Sgts	1092	7 7
38 1/4 Sgts	Plastering with two Coats of portland Cement	10	Sgts	382	0
497	Cft. Teak wood wrought and put up	3 1	Cft	1522	1
46 1/4 Sgts	Roofing with teak reapers, nails, flat and pan tiles and Chinam borders	13 15	Sgts	644	9 9
52	No. Granite Stone Slabs over pillars 1 1/2 x 1 1/2 x 1/2	0	C	26	-
34	Sgts. Floring with 8" Square bricks and pointing with portland Cement with a levelling Course of Concrete 3" thick	10 6	Sgts	352	12
70	Sgts. Wood oiling two Coats	10 6	Sgts	51	3
1013	Sgts. Excavation and filling basement	1 6	Sgts	77	15 6
				4509	12 4
	Handries			220	3 8
	Total Dis			4730	-
157	Sgts. Metalling the roads with bitum jelly and gravel and well material and tamped	2 9	Sgts	323	7
	Carried over			323	7 10

Comparison of the amount showing the difference of cost between the permanent and temporary steel for embankment and the amount of 2000 lbs. of the steel adjacent to the river side of C. & N. Ry. & Co. dated 14th October 1890.

Description.		Permanent Steel.	Temporary Steel.
Constructing Steel for Piers, Belvidere and other Piers.	9000	—	—
Constructing 100 yds. of steel for the embankment.	4700	—	—
Old steel for	690	—	—
Steel for Piers	15100	—	—
		5680	—

1290

Ex: Capt. J. W. D. 3rd September 1890.

Wm. H. Black Major R.E. 4th Bn. Buff. Engrs. 2nd Div. 1890.

Wm. H. Black Major R.E. 4th Bn. Buff. Engrs. 2nd Div. 1890.

Description of work. Rate. Amount. Total.

- Brought forward — 3407.14.10 —
230. Rpt. Fencing with Country wood posts fixed in masonry (2' x 2' x 3') and, balancing rails, 12' high, 2' horizontal, 2' diagonal and 1' upright in the middle including nails turning Complete. — 12.00 172 8
- Gates of 12 fts of the above description with iron hooks, hinges, bolts and padlocks Complete. — 10.00 36 —
1. 1/2 dismantling and removing marine force and steel marked on the plan. — 100 —

Grand Total — 651 15. 38 1. 690 —
Grand Total — 15100 —

Wm. H. Black Major R.E. 4th Bn. Buff. Engrs. 2nd Div. 1890.

Wm. H. Black Major R.E. 4th Bn. Buff. Engrs. 2nd Div. 1890.

804/100
 24 Nov 33 99

177
 277
 68880
 P.W.D.

Revised Estimate No 262 of 1877-80 7-10-79 1200/23
 Head of Service: Imperial
 Fund: Ordinary
 Class: Original work
 Main Head: Military Buildings
 Sub Head: Accommodation for Troops
 Name of work: Constructing temporary shed for Embarking
 and Disembarking of Troops on the pier adjacent to the Pier.
 Vide Deputy Assistant Quarter Master General No 2974 dated 15th
 September 1877
 Amounting to Rs 1800
 To be carried out by the D.P.W.

Qty	Description of Work	Rate	Per	Amount	Total
2	Posts 32 feet long including, Shaving, Lashing, Larring and getting up etc.	2 12	58	144	
2	do 32 feet	2 12	58	144	
8	do 30	2 6	19	152	
26	do 28	2 6	61	156	
24	do 25	2 3	51	122	
22	do 22	1 6	39	86	
27	do 20	1 9	42	113	
18	do 16	1 1	19	34	
44	do 14	1	24	104	
8	do 13	1	8	8	
3	do 12	6 15	2	13	
3	do 10	4 12	2	10	
2	do 8	9	1	2	
42	Driving posts 8 feet below ground level	1	29	29	
513 1/2	Super Roofing with bamboo, paper, Cadjan leaves with rafters and paper nails	4 8	21	108	
40 3/4	Screens made of bamboo double mats and bamboo smeared with Cowdung and clay & whitewashed 2 coats	3 4	132	52	
20 3/4	of excavation	1 6	14	29	
603	of Brick in Chumam	2 5	91	182	
	Carried Over			830	143

Greene

Screens or side walls. The side walls of the main rooms will be 12 ft high and for the back verandah 5 feet high, they will be formed with double bamboo mats, supported by uprights of strong Casuarina poles and horizontal bamboos at intervals of 1 1/2 ft. the surface of these screens or mats will be smeared with Cordium and clay and washed over with two coats of whitewash.

Doors and windows. The shed is to be provided with 11 doors and 15 windows made of bamboo mats of the size described above. The size of the doors to be 4 x 7 and windows 3 feet square.

Roofing. The roof to consist of Casuarina rafters placed 3 feet apart from Centre to Centre, between these two bamboo rafters will also be placed, all rafters to be nailed on the breasters and girders of. Ropes of thin bamboo to be nailed over the rafters at 6" apart and then covered with bamboo mats which are to be evenly spread in single layer over the frame work of the roof and tied together to the rafters. The roof will be thatched with palm-leaf leaves, they should well overlapping to prevent leakage, the thatching to proceed from the eaves upwards, each leaf is to be tied tight to the bamboo ropes with rattan shavings,

over

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over the palm-leaf leaves. Lattices made of split bamboo are to be placed and tied down to the roof to prevent it being blown away during high winds.

Retaining wall and filling. The floor to be raised 1 foot above the ground and supported by retaining wall all round which is to be 9" thick built of burnt bricks in mortar with a foundation of 2 feet below the ground, the basement will be filled in with earth well watered and rammed.

Flooring. The shed is to be floored with latente metal 4" thick and covered over with 2" of good latente gravel, this will be well watered and rammed till thoroughly consolidated.

Ramp. Raising ground around the shed. The ground is to be raised to a height of one foot of basement at a slope not less than 6 to 1 well rammed and covered with 3 inches of good latente gravel.

Prising seats. A plank 20 ft long 1 1/2 ft wide and 2" thick containing 8 seats will be fixed in the latines, behind this and between each pair of seats a partition made of bamboo mats with wooden uprights and cross supporting frames strongly fitted. Carriage frame capable of being pushed in or withdrawn from the back will be inserted in the frame fixed in the lower surface of seat.

The

The partitions of the seats are to be coated with
two coats of Coal tar.

Road.

A new road from the line of Railway
to the east end of Sheds to be formed with
Latent metal 4" thick and covered over with
2" of good latent gravel, this will be well
watered and tamped with iron rammers until
thoroughly consolidated.

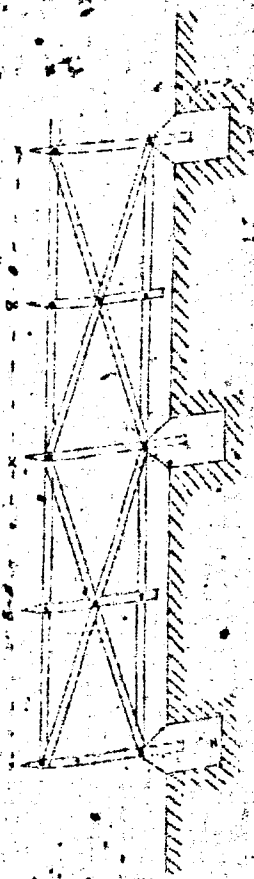
Fencing.

A new fence will be constructed from the
revetment to the sea shore marked E on the plan,
the fence to consist of single wood posts placed
at 8 feet apart from Centre to Centre and fixed
in masonry foundation of 2 feet square and 3 feet
deep. Two horizontal palings, two
Diagonals and one central rafter in Centre,
will be nailed to the posts as per marginal sketch.

Gates.

Two gates will be made of the same description
as above and fixed in the positions marked G & H
on the plan. The gate to be supported by a pair
of strong gudgeons and hinges, bolts, staple and
padlock, the gudgeons to be fixed in the posts.

The



1290
26
The fence and gates to be coated with
two coats of Coal tar.

Dismantling Sheds.

The old Marine Gorge and Sheds marked
K on the plan will be dismantled and the
rubbish and removed old materials will be carted
away to the Executive Engineer's Stores.

The work is to be executed with the
best materials procurable for the rates allowed
in the Estimate and to be completed to the
entire satisfaction of the Executive Engineer
and handed over in a clean and ready state.

L. H. S. S. S.
Supt.

Assistant Engineer

In charge D. O. S.

13/11/1941
ATTNMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 31 May 50

Read the following :—

From the Surgeons 30 fide (H.E. No 1611 of 31 Mar/80)
" Master Attendant
Madras } H.E. No 3735 of 13 May/80

The Government
accept the advice of
the Master Attendant.

The question may lie
over for the present.



2-2

Marine Dept. ✓
Army Dept. ✓
Supt of Works, Presidency ✓
Supt. M. H. Works ✓

1290
28

12-1-50
Air 19.5-80. Rte 25.5-80
Fuel 30.0-80

3496

Gobt. of Madras.
PUBLIC WORKS.

To

Dated

Issued

Recd.

Encl.

G. O. 3/ May 1880, No. 1290W

Nos. 79-80-

Sheds for the use
of troops & families
on the beach.

The suggestion of the
Master Attendant
to postpone the
erection of —
all arrangements are
decided for the erection
of ware houses for
in connection with the Madras Harbour
accepted —