(1) பக்கங்களின் எண்ணிக்கை 36

(2) புதுக்கித் திருப்பிய நாள் 5-12-90.

(3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம்

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

H-W துறை

அரசாணை எண். / மு. கோப்புத் தாள் எண்.	722	அச்சகம் / பலவகை
நாள் :	7-2-87	198 .

18

மடிக்கவோ கண்டபடி கையாளவோ கூடாது

ஆவண. கா-1—18,006—15-6-87.

No: 3541

Ex Engrs: Office, 322/6
Coimbatore Division
Coimbatore, 3rd Octr 1892

From

J. C. Larminie Esq.,
Executive Engineer
Coimbatore Division.

To

The Supg Engineer,
Fourth Circle,
Coimbatore.

Sir,

With reference to your endorsement No. 442/Cd of 15th August 1892, forwarding the Chief Engineer's Memo: No. 168 D, regarding the lighting of Government House, Ootacamund, I have the honr to report as follows:-

1st. As to water power available water could not possibly be spared from the Marliamund Reservoir, and that neither could the supply required be taken from the Ootacamund Lake

Lake, will presently appear.

2nd. The present head on the turbine at the end of the Lake is about 25 feet. The fall of the Kandal stream below this point is by no means rapid and to obtain any increased head worth considering, it would be necessary to go away out to a point below Sandy Nullah, so— a head of water of over 30 feet could not conveniently be counted on.

3rd. As will be shown— a horsepower of fully 40 would be required to light Government House. A turbine of this power for a 30 foot head would require 17 cft of water per second. Six hours working per day will be a moderate allowance, total quantity of water required per day 367,200 cft. The surface area of the lower lake is Ro: 3388000 sft (77.7 acres); so that during 3 2/7 the three dry months, April, May & June, the lake would be lowered fully 7 feet, thereby causing as great a nuisance as occurred in 1883 when it was run off to that extent.

4th. Even during an ordinary south west monsoon (like the present) the supply received is nothing like the above demand, so, it may consequently be asserted that water power is out of the question, and that steam should be employed.

5th. A statement is herewith forwarded showing the various rooms, &c., in Government House with the dimensions and heights. It has been found that the candle power required increases as the square of the multiple of 7 of additional height

over

over seven feet, and that 10 candle power per 100 sq. ft. up to a height of twenty feet is a fair allowance.

6th. On this data as will be seen from the statement, something like 400 lamps of 16 candle power each would be required for Government House alone, without any provision for the stables and out residences.

7th. Taking as is not unusually allowed one horse power for every 10 lamps of 16 candle power an engine of 40 horse power should be provided (cf. para 3 ante) and from data given in a catalogue of Messrs. Burn and Co. Calcutta, the approximate cost of lighting would be as under:

Semi fixed engine of 40 H.P. Rs. 20,000

Dynamo & fitting to light 400 lamps with 400 lamps, wires and fitting &c. Rs. 15,000

Total Rupees 35,000

This

3

322/4 7

This Estimate is of course very approximate, and is based on the figures given in a catalogue of Messrs. Burn and Co. Calcutta, published about 2 years ago, only one engine and one Dynamo are allowed for, but it is a question if two of each should not be provided - duplicate parts might however suffice.

I have &c.
(Signed) J. C. Larmanie
Executive Engineer

No. 425/W dated 6 October 1892.

Copy communicated to the Chief Engineer, P. W. Depart.; with reference to his Memo: No. 168 D, dated 12th August 1892.

Encl. 1

Lt. Col. R.E.
Supg. Engineer, 4th circle

f.9.
5/10

P. W. CURRENT No. 1087

From

The Supg. Engr.
4 Circle

No. 168 Dd/ 12-8-92

No. 168 Dd/12-8-92

Dated 6th } October/92
Despd 6 }
Recd. 7.10.92

No 425
W

Enclos.

Lighting the Government
House Coty by electricity
Submits letter from
the Ex. Engr. Coimbatore
forwarding a report on
the proposals of

o/7/10

Sent again 17/10

of 16-10
13-10
M

Madras Cl

19th January/93

My dear Walch. 322/8

The best thing for
you to do is to send a plan
of the building you wish
to light with electricity
to, E. Channington Esq.
58 Bread St.
Cheapside E.C.
and ~~he~~ will I am sure
give you an estimate
of the cost. Mr C. was
out here some months
putting up the light
in the Mysore Palace

---

also could not, as it now
is

Engine & Boiler cost Rs 11,700 - and to this I have to add the cost of Cables, leads, lamps, fittings; the 10 H.P. boiler & Engine & a 250 light Brush Coy's Victoria Dynamo; Voltmeters Engine shed; foundations, insulators; &c. &c. & the two original Edison dynamos - The whole cost to the Club up to date for Electric Light machinery is ~~Rs~~ Rs 27,929. The working cost you have -

Yours truly

thoroughly understands work & the requirements of this country.
The following particulars about our installation may be of use

Total number of lamps fitted 250. of 16 C.P. each and we have 5 burning on the Reading Room circuit of 50 C.P.—
The boiler is a 20 H P nominal & the engine 16 H.P. these were purchased thro' Massey & Co, Ransomes agents here, & all the machinery was fitted up by them. The dynamo we generally use is a 350 light one made by Crompton & Co Chelmsford it is 110 volt machine with a speed of 1100 revolutions a minute this was supplied direct and cost R. 2850 the exchange then being 1/4

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v. w. n

6

$\frac{322}{9}$ 9

Note.

Electric-lighting of Government-house Ootacamund.

. Letter No. 3541 dated 3rd October 1892 from the Executive Engineer Coimbatore Division shows that water could not be spared from the Lake, and it certainly could not be so from the Marlimund Reservoir, unless arrangements could be made so that the water used in driving the Electric lightin machinery would not be lost to the town supply but be used in parts whe much head was not required this would probably lea to undesirable complications with the Municipalit

2. The Dodabetta Reservo also could not, as it now

is

[illegible] water though not impossible that with enlargement it might be capable of doing so, such enlargement however and the distance that the leading wire, or "main" would have to be carried to Government house would entail very considerable initial cost and extra cost of working

3. It seems therefore that steam power would have to be employed, and for judging what would be the approximate cost with it we have the following information, accepting the Executive Engineer's estimate that 400 lamps of 16 c.p. will be required.

(a) Messrs Selby Bigge & Co in their letter dated 25th November 1891 say that the "total cost of lighting country houses in England" "runs out to

---

322/10

322/10

to about £10 per 16 c.p. lamp". For 400 such lamps this would give with the rupee at 1s/2d Rs 68571.

(b) The cost of lighting the Vice-regal Lodge at Simla was 1¼ lakhs, and from the completion report of that building it appears that there are about 1000 lamps the majority being of 16 candle power."

(c) "The estimate for Government House Calcutta is over a lakh."

(d). At the Madras Club the cost of the whole installation has been Rs 27,929; the number of the lamps fitted is 250 of 16 c.p. each and 5 of 50 c.p. each. Mr Hamilton Holmes Secretary of the Club has kindly furnished the following information on the subject.

"The

The boiler is a 10 H.P. nominal and the Engine 16 H.P; these were purchased thro' Massey & Co. Ransomes agents here and all the machinery was fitted up by them. The dynamo we generally use is a 350 light one made by Crompton & Co Chelmsford it is a 110 Volt machine with a speed of 1100 revolutions a minute; this was supplied direct and cost Rs 2,850 the exchange there being 1s/4d. The Engine and boiler cost Rs 11,700 and to this we have to add the cost of cables, leads, lamps, fittings; the 10 H.P. boiler and engine and 250 light Brush Company's Victoria Dynamo; Volt meters - Engine shed foundations switches &c &c and the original Edison dynamo. The whole cost to the club up to date for Electric light machinery is

4

is Rs 27,929."

322/

(4) There is no doubt that the Club installation has been carried out cheaply, but it is thoroughly efficient and judging from it, it would be fairly safe to assume that an installation suitable for Government House Ooty might be carried out for under Rs 40,000.

5. A year's working at the Club has, cost, exclusive of interest on capital or depreciation of plant, Rs 5,576.× Of this fuel (wood) cost Rs 2344 which would be cheaper at Ooty, but on the other hand "Establishment" there would cost at least double the small sum, Rs 110, which it costs at the Madras Club - and the annual cost of working would for Government House Ooty be not less than Rs 6,000.

× Thus made up.

Establishment	1320
Lubricators &c	796
Firewood	2344
Electric lamps which "gave in"	1116
	5,576

6. Mr Holmes also informs me that Mr E. Charrington of
58 Bread St.
Cheapside
was lately out here "putting up the light in the Mysore Palace and he thoroughly understands the work and the requirements of the country", and I would suggest that he and Messrs Selby Bigge & Co. be furnished with the information given in the statement with the Executive Engineer's letter and be asked to give estimates.

E.W.

Madras.
Jan. 20, 1893

9

322/12

P. W. Department.

Read the following :—

From the S. E. IV Circle No. 425 W d/ 6. 10. 92

Note by the Chief Engr. P. W. D. d/ 20. 1. 93

FOR ORDERS.

20/1/93 W

I have no objection to the firm named being asked for an estimate. The cost of the installation might perhaps be debited to the completion estimate, but the cost of working Rs 6000 would have to be charged to the contract allowance, and it should be considered whether the × allowance can meet the charge.

22 Jan

× It certainly cannot - and so there is no use in going on with this scheme.

W
25 Jan

Very well

5 Feb.

[illegible]

FOR ORDERS.

The Hon. Sir Henry Stokes K.C.S.I.

~~His Excellency the~~

circ 21/1 R 26/1

322/1 P.

Note

Electric lighting of Government House Ootacamund —

Letter 3541 3/10/92 from the Executive Engineer Coimbatore Division shows that water could not be spared from the Lake, & it certainly could not be so from the Marlimund Reservoir, unless arrangements could be made so that the water used in driving the Electric lighting machinery would not be lost to the town supply, but be used in parts where direct head was not required: there would probably lead to considerable complications with the Municipality... The Dodabetta Reservoir also could not, as it now is, spare the water though it

it impossible that
with enlargement
it would be capable
of doing so, and
enlargement however
& the distance that
the leading wire or
mains would have
to be carried to Govt.
House would entail
very considerable
initial cost and
future cost of working

(3) It seems therefore
that Steam power
would not be
employed, and
~~with due regard~~ for working
Costs with the [illegible]
has the following
information enable
on the [illegible]
estimate that 400
lamps of 16 c.p. will
be required
As Messrs Selby Bros
& Co in their letter 25
Dec 1891 say that
the total cost of
lighting country houses
in England "was only
about £10 per 16 c.p.
lamp" — for 400 such
lamps there would [illegible]

5 — The yearly working
at the Club [illegible]
Cost, exclusive of
interest on Capital
or depreciation
of plant is Rs 55.7.0
Of this fuel (wood) costs
Rs 23.4.4 which
would be cheaper
at Ooty, but on
the other hand
establishment there
would cost about
double the small
sum Rs 11.0 which
it costs at the
[illegible] Club —
the annual cost
of working would
for Government
House Ooty be at
least three Rs 1500

6 — Mr Chalmers also
informs us that
Mr S Chamisler of
5 & Brand St
Chelsea,
[illegible] lately out here
putting up the lights
in the Mysore Palace
would be [illegible]
[illegible] the [illegible]

[illegible] H.S. severally

& the requirements of
the country" and
I would suggest
that he and
Messrs Selby Bigge &
Co be furnished
with the information
given in the Statement
with the Lieutenant
Governor's letter and be
asked to give
estimates

C. J.
20.1.93

---

with the rupee at 1/2

322/2

(b) The cost of lighting
the Vice-regal Lodge at
Simla was 1¼ lakhs
and from the completion
report of that building
it appears that there
are about 1000 lamps
the majority being of
16 candle power" –

(c) "The estimate for
Government House
Calcutta is over a
lakh."

(d) At the [illegible]
Club the cost of the
whole installation
has been Rs 27,929;
the number of the lamps
fitted is 260 of 16 c/p
each & 5 of 50 c/p each.
Mr Hamilton Stokes
Secretary of the Club
has kindly furnished
the following information
on the subject.
The boiler is a 20 HP
[illegible] & the engine
16 HP; these were purchased
from Messrs [illegible] & [illegible] Ransome
[illegible], & all the
machinery was fitted
up by them – The
[illegible] was generally

5 d

... is a 350 light
made by Crompton
Chelmsford. It is a 110
Volt machine with a
speed of 1100 revolutions
a minute, this was installed
direct & cost Rs 280
the Engine. There being
[illegible] the Engine & boiler
Cost Rs 11,700 & to this
we have added the
Cost of cables, lamps
lamps, fittings, &c
10 H.P. boiler & Engine
& 250 light Brush [illegible]
Victoria Dynamos
Volt meters - Engine shed
foundation - wiring &c
& the original Lahmeyer
Dynamos. The whole
Cost to the Club to
date for Electric light
machinery is Rs 24,[illegible]

(4) There is no doubt
that the Club installation
has been carried out
cheaply, but it is
thoroughly efficient
and judging from
what would be found
[illegible] to ascertain [illegible]
an installation [illegible]
for Government [illegible]
Cost would be carried
out for under Rs 4000

12

These amounts to

Establishment	1320
Lubrication &c	796
Firewood —	2344
Electric Lamps &c which [illegible] —	1116
	5576

The offered letters (?)
must be brought on
record in some form. $\frac{222}{14}$
If required all the
words after "Recorded"
can be omitted.

A.S.
2.11.93.

C No. 10037

1	2	3	4	5	6	7	8
[illegible] Floor							
Ball room	42×30	1260	126	15	$\left(\frac{15}{7}\right)^2$	579	The usual allow-
Drawing room	27×30	810	81	15	$\left(\frac{15}{7}\right)^2$	372	-ance is 10 candles
Dining room	52×24	1248	125		$\left(\frac{15}{7}\right)^2$	575	per 100 sf. of area.
Billiard room	31×20	620	62	15	$\left(\frac{15}{7}\right)^2$	284	up to a height of 7 ft.
Aide-de-camp's room	17'-6×30'-6	534	53	5	$\left(\frac{5}{7}\right)^2$	26	for heights in ex-
Entrance Hall	18'-6×24'-6	453	45	5	$\left(\frac{5}{7}\right)^2$	22	-cess of 7 feet the
Main Hall	47'-0"×24'-6	1151	115	27	$\left(\frac{27}{7}\right)^2$	1713	candle power re-
Principal stair case	24×20	480	48	15	$\left(\frac{15}{7}\right)^2$	220	-quired increases
Guests sitting room	21×30	630	63	15	$\left(\frac{15}{7}\right)^2$	289	as the square of the
Do. bed room	20×17	340	34	6	$\left(\frac{6}{7}\right)^2$	26	additional height
Bath room and two dressing rooms	34×17	578	58	6	$\left(\frac{6}{7}\right)^2$	44	as a multiple of 7
Store room	30×14	420	42	5	$\left(\frac{5}{7}\right)^2$	21	i.e. for a height of room of 21 feet 1.7 =
Servants room	30×14	420	42	5		21	14 so for 100 s.
[illegible] servants [illegible] room	24×12	288	29	5	$\left(\frac{5}{7}\right)^2$	22	area 100×14 [illegible]
Servants stair case	18'-6×18'-6	442	44	24	$\left(\frac{24}{7}\right)^2$	402	-dles required
Water closet stair case	21×9	189	19	15	$\left(\frac{15}{7}\right)^2$	87	
Military Secretary's room	17×30	510	51	6	$\left(\frac{6}{7}\right)^2$	37	
					Total	4740	
Upper Floor							
Lady's bed room	29×24	696	70	9	$\left(\frac{9}{7}\right)^2$	476	
Dressing room	13×24	312	31	9			
Do.	13×24	312	31	9			
Lady's Boudoir	12½×21	262	26	9			
Water closet stair case	9×21	189	19	9			
Governor's bed room	15¾×21	321	32	9			
Do.	15¾×21	321	32	9			
Principal stair case	23¾×20	475	47	9			
(A) Bed room	14×21	294	29	6	$\left(\frac{6}{7}\right)^2$	172	
(B) Dressing room	10×21	210	21	6			
Water closet north end of passage	11×14	154	15	6			
(C) Water closet room	5×14	70	7	6			
(D) Dressing room	14×13	182	18	6			
(E) Bed room	15×20	300	30	6			
(F) Do.	21×19	399	40	6		—	
(G) Dressing room	11×19	209	21	6			
(H) Do.	10×22	220	22	6			
(I) Bed room	14×22	308	31	6			
					Carried over	648	

				B f^d		648
(K) Portion of passage	35×8	280	28	6	$(\frac{6}{7})^2$	21
(L) Corridor	71×6½	461	46	9	$(\frac{9}{7})^2$	76
Servants' stair case	19×19	361	36	6	$(\frac{6}{7})^2$	26
				Total		771

Total for upper and Lower floors — 5,511

Total Candle power — 5511
Lamps — 345
For passages Corridors & big verandah — } 55
Total Required — 400.

Sig^d J. C. Larminie
Executive Engineer

/True copy/

6-10-92

Ruedrales. Buchanan Lt. Col. R.E.
Superintending Engineer 4^th C

16

PUBLIC WORKS DEPARTMENT.

322/13

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ the following

Letter from the Military Secretary to the Rt. Hon'ble the Governor . . . . (H.E. no 461 d/ 9 aug^t 1892)

From the S. E. IV circle (" " 425 W d/ 6 oct^r 1892)

Note by the Ag. Chief Engineer. P. W. D d/ 20 Jany 1893.

Recorded with the remark that the proposal to light Govt. House, Ootacamund, by means of Electricity cannot, on the score of expense, be now entertained.

13/2/93

12.1.93

~~The Military Secretary to H.E. the Governor~~

" ~~Supdg. Engr. IV circle~~

No. 22 W d/7 February 1893

PUBLIC WORKS DEPARTMENT.

17

322/14 A

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ the following

Letter from the Military Secretary to the Right Hon'ble the Governor (H.E. No 461 d/ 9 Augt 1892)

From the S. E. IV Circle . . (.. 425 W d/ 6 Octr 1892)

Note by the Ag. Chief Engineer P.W.D. (.. d/ 20 January 1893)

Recorded

[illegible] 4/2/93

No. 322 W 47-2-93