

- (1) பக்கங்களின் எண்ணிக்கை 20
 (2) புதுக்கித் திருப்பிய நாள் 11/90
 (3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம் 60

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

(23)

P. W. D. துறை

அரசாணை எண். மு. கோப்புத் தாள் எண்.	1511	அச்சகம் பலவகை
நாள் :	3 - 6 - 1891	198

மடிக்கவேண்டிய கையாளவோ கூடாது

10. Sheets

ஆவண. கா-1-18,000-15-6-87.

33

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following papers:—

Extract from the inspection notes of W. HUGHES, Esq., Executive Engineer, Madura division, from 22nd to 28th April 1891, dated 9th May 1891.

22nd, Madura palace.—The palace was struck by lightning on the 20th. One man was struck down in the "Collector's court" (in which the Madura Munsif holds court, but had adjourned it a couple of hours before the storm) and two in the Forest office. There is no damage done to the building beyond a few windows broken in the domes and a few bricks knocked off cornices. Gave the supervisor instructions regarding provisions of estimate for improving the system of conductors.

No. 137 M.D.

Submitted to the Chief Engineer, Public Works Department, for information.

2. The Executive Engineer has been informed that he should have made a special report at once on the accident.

(Signed) J. W. MARTIN,
Offg. Suptdg. Engr., VI Circle.

14th May 1891.

From the Executive Engineer, Madura division, to the Superintending Engineer, VI Circle, dated 10th May 1891, No. 549.

I have the honour to submit an estimate, amounting to Rs. 3,420, for improving the lightning conductors of Tirumal Naick's palace and beg that it may be sanctioned as early as possible. Last August the earth connections of the existing conductors having been found very defective were improved and made electrically perfect. Sergeant Reynold's report was forwarded to you, but, as you wished to consult the Telegraph officer about further improvements, nothing proposed could be done towards the preparation of an estimate until receipt of Telegraph officer's reply, which was communicated to me with your No. 1045 M.D. of 2nd February 1891. Subsequent delay has been due to my wishing to study the matter myself and give personal instructions about the provisions of the estimate.

2. The urgency of the matter was not realized until the 20th ultimo, when about 4 o'clock in the afternoon the south-west corner of the roof of the "Collector's court" was struck. The Madura Munsif had been holding court there, but fortunately adjourned at 2 o'clock. The lightning passed from the point where it struck to the iron rod, which surrounds the base of the dome. From this rod, the path of four currents is distinctly traceable for some distance. Three of them passed from the north side of the rod near its north-west angle through the foot of the outer wall of the verandah immediately below and outside the base of the dome and thence to the ground. The discharge in this direction was no doubt influenced by the iron cage in the treasury below, but at least one of the currents did not pass to the treasury as it has knocked some bricks off a point quite out of that line. The fourth current passed down into the court-room nearly opposite the point C on plan, breaking the glass and frames of two windows on its way. There were a few men in the room at

the time and one, who was close to the door at the *east* end, was struck senseless. Of the currents, the path of which cannot be traced, possibly one struck the small dome near that of the "Collector's court," as a number of the windows were broken. This, however, may have been merely the effect of concussion, as the frames are uninjured and there was no accident to any of the Periyár Project clerks who were in the "Collector's room" on the roof between this dome and the court-room roof. The only other current, which did any damage, was one which entered the Forest office situated at about the point Z. What course it followed, or what attracted it to this place, I cannot say. It must have been a strong current as it struck two men senseless. Both of them as well as the man struck in the "Collector's court" have fortunately recovered.

3. Except for a few windows broken and a few bricks knocked off cornices, the building is uninjured.

4. All the points struck are beyond the cone—theoretically protected by the existing conductors. The estimate now prepared is based on the rule that a conductor protects all within a cone of radius equal to its height. Provision is also made for connecting with the conductors all the iron ties and straps with which the roofs are strengthened, for joining all the conductors together and making a fifth earth connection. If the received theories are correct, the building will be perfectly protected.

No. 142 M.D.

Copy, together with the plan and estimate, is submitted to the Chief Engineer, Public Works Department, for early sanction and allotment of funds, the work being of an emergent nature.

2. The fact of the building having been struck by lightning on the 20th April 1891 has been reported in this office No. 137 M.D., dated 14th May 1891. The present report of the Executive Engineer gives full details of the accident.

(Signed) J. W. MARTIN,
Offg. Suptdg. Engr., VI Circle.

15th May 1891.

ORDER—dated 3rd June 1891, No. 1511 W., Public Works.

The estimate, amounting to Rs. 3,420, for improvements to the lightning conductors attached to Tirumal Naick's palace at Madura, is sanctioned, and the amount of the estimate is allotted from the Provincial reserve with the Government.

2. The Government is glad to learn that no loss of life resulted from the accident reported.

3. This sanction has been registered as Provincial No. 23 W of 1891-92 and classified as Civil Buildings, Original Works.

(True Extract.)

Major, R.E.,
Under-Secy. to Govt., P.W.D.

To the Superintending Engineer, VI Circle, with five enclosures.
" Examiner, Public Works Accounts.
" Judicial Department.
" Revenue "

Exd. A. D. Xavier.
Spare Copies

1511
2

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1891} Madras.
PUBLIC WORKS.

Dated June, 3rd.

Recd.

Encl.

G.O., 3rd June 1891, No. 1511 W.

JUNE.

Lightning Conductors

Estimate of Rs. 3,420 for improvements to
the — attached to Tirumal Naick's palace at
Madura, sanctioned.

0.2.124/5

H.M. 29/5

Public Works Department.

Current No. 5395

1571 W

Letter No. 162 M. 8.

Dated 15th May 191

From the S.E. VI. Circle

Sanctions

008

NOTE OF REMARKS.

26.5.91

The plan & estimate under
review amounting to Rs 3420
provide for additional light-
-ning conductors for Tiru-
-mal Naick's Palace in the
Madura District.

It is stated that the
Palace was struck by
lightning on the 20th
Ultimo & that one man
was struck down in the
Collector's Court & two
others in the Forest Office.

The damage done to
the building was slight
viz a few windows in
the dome were broken,
& a few bricks knocked
off the cornices.

It is now proposed
to sink an additional
well at the west side

of the building and to have
22 terminals at the highest
points of the roof connected
together by means of ^{copper} ~~iron~~
tape $1\frac{1}{4} \times \frac{1}{8}$ it is also pro-
posed to protect the
iron work in the trusses
& the ties by connecting them
to the terminals by means
of copper tape $1\frac{1}{2} \times \frac{1}{16}$.

The dotted lines on the
plan show the proposed
arrangement which appears
to be good, but as the
building is a very high
one it might be well
to use copper tape $1\frac{1}{2} \times \frac{1}{8}$
as laid down in para X
of G.O. No 845-105 of 14th March
1888.

$1\frac{1}{4}$ is sufficient
over
14-9

The rates cannot be
checked.

It may be necessary that
these proposals should
be approved in the Judi-
cial & Revenue Department.

Cm

23.5.91

of the building and to have
22 terminals at the highest
points of the roof connected
together by means of ^{copper} ~~iron~~
tape $1\frac{1}{2} \times \frac{1}{8}$ it is also pro-
posed to protect the
iron work in the trusses
& the ties by connecting them
to the terminals by means
of copper tape $1\frac{1}{2} \times \frac{1}{16}$.

The dotted lines on the
plan show the proposed
arrangement which appears
to be good, but as the
building is a very high
one it might be well
to use copper tape $1\frac{1}{2} \times \frac{1}{8}$ ^{"1/4" is sufficient}
as laid down in para 2
of G.O. No 845 of 14th March
1888 ^{over}
_{in}

The rates cannot be
checked.

It may be necessary that
these proposals should
be approved in the Judi-
cial & Revenue Department.

Est
the -
Madur

C. S. J.

23.5.91

P.W. 58601

From

The Supt. Engineer

VI circle

To

The Chief Engineer

P.W.D.

No. 137 m2

Dated 14th

Desd - 15th 3 May 1891.

Forwards Extract from
the Inspection Notes of
Mr. W. Hughes Rec: from
Madura Du from 22nd
to 28th April/91 reporting
that the Palace was
struck by lightning on
the 20th April 1891.

Extract from the Inspection
Notes of Mr. W. Hughes, Executive
Engineer, Madura division, from
22nd to 28th April/91, dated 9th
May 1891 -

22nd Madura Palace -

The Palace was struck by
lightning on the 20th one man
was struck down in the "Collector's
Court" (in which the Madura
Sessions holds court but
had adjourned it a couple
of hours before the storm)
and two in the Forest office -
There is no damage done to
the building beyond a few
windows broken in the Domes
and a few bricks knocked
off chimneys - Gave the Super-
visor instructions regarding
provisions of estimate for

improving the system of
conductors.

* * * *

121
No. 137 m.d. d/ 14 May 1891.
15/

Submitted to the Chief
Engineer P. W. B. for infor-
mation.

2. The Executive Engineer
has been informed that
he should have made a
special report at once on
the accident.

L. W. Martin
Offg. Supy. Engineer
14/5/91
S. J. C.

Copy of letter from the Executive
Engineer, Madras division, to the
Supy. Engineer, Vizag, 10.5.91.

Enc. 1 Set.
1 Drawing
plan.

I have the honor to submit an
estimate amounting to Rs. 8430 for
improving the lightning conductors
of Somnath Naik's palace and
say that it may be sanctioned
as early as possible. Last August
the earth connections of the existing
conductors having been found
very defective were improved and
made electrically perfect. Sergeant
Reynolds' report was forwarded
to you, but as you ^{wished} to consult the
Telegraph Officer about further
improvements - nothing proposed
could be done towards the pre-
paration of an estimate until
receipt of Telegraph Officer's
reply which was communicated
to me with your M. 1045 m.d. of
2nd February 1891. Subsequent
delay has been due to my wishing
to study the matter myself and
give personal instructions about

the provisions of the estimate.

2. The urgency of the matter was not realized until the disaster, when about 4 o'clock in the afternoon the south west corner of the roof of the "Collector's Court" was struck. The Madras Municipality had been holding Court there but fortunately adjourned at 2 o'clock - The lightning passed from the point where it struck to the iron rod, which surrounds the base of the dome - From this rod, the path of four currents is distinctly traceable for some distance - Three of them passed from the north side of the rod near its northwest angle through the foot of the outer wall of the verandah, immediately below & outside the base of the dome, and thence to the ground. The discharge in this direction was no doubt influenced by the iron cage in the Treasury below, but at least

15/6

5 Pica

the currents did not pass to the Treasury as it has touched some bricks off a point quite out of that line. The fourth current passed down into the Court room nearly opposite the point. C. on plan breaking the glass and frames of two windows on its way. There were a few men in the room at the time and one who was close to the door at the east end was struck senseless - of the current the path of which cannot be traced, possibly one struck the small dome near that of the "Collector's Court" as a number of the windows were broken - This, however, may have been merely the effect of concussion as the frames were uninjured and there was no accident to any of the Prigat Poojari flunks who were in the "Collector's room" on the roof between this dome & the Court room roof. The only other current, which did any damage, was

one which entered the tower
situated at about the point
2. What course it followed,
or what attracted it to this
place, I cannot say. It must
have been a strong current
as it struck two men senseless.
Both of them as well as the
man struck in the "follies
font" have fortunately re-
covered.

3. Except for a few windows broken
and a few bricks knocked off
cornices, the building is un-
injured.

4. All the points struck are
beyond the cone - theoretically
protected by the existing con-
ductors - the estimate now
prepared is based on the
rule that a conductor protects
all within a cone of radius
equal to its height. Provision
is also made for connecting
with the conductors all the iron
ties and straps with which

the roofs are strengthened, for join-
ing all the conductors together
and making a fifth earth
connection. If the present
theories are correct, the building
will be perfectly protected.

170 142 md d/151 May 1891
copy, together with the plan
and estimate, is submitted to
the Chief Engineer P.M.S. for
early sanction & allotment
of funds, the work being
of an emergent nature.

2. The part of the building
having been struck by light-
ning on the 20th April 1891,
has been reported in the
office as $\frac{137 \text{ md}}{14.5.91}$; the present re-
port of the Executive Engineer
gives full details of the acci-
dent.

13th May 1891 L. W. Martin
offg. Dypty Insp. G.
Genl -

Encls 2
1 Est
1 Plan

xm 536
14.5.91

Be

P.W. Circulars

No. 111 W of 3rd June 1891

From

The Supt. Engineer
VI circle

To

The Chief Engineer
P.W.D.

No 142 MD

Dated 15th 2
Dep^d 16th 3 May 1891.

No 19-5-91

Dec 25/91

Submits for sanction
Estimate of Rs 3420 for im-
proving the lightning
conductors on Tirumal
Naick's Palace, Madras

OK 124/5

J. S. B.
27/5

27/5 22-6-91

No. 1511 W of 3rd June 1891
B.P.P. civil works
PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read the following

From the S. E. VI Circle No 137 MD, dt 14. V. 91.
From the S. E. VI Circle No 142 MD, dt 15. V. 91.

Spec

The estimate
amounting to Rs 3420
for improvements to
the lightning conductors
attached to Tirumal
Naick's Palace at
Madras, is sanctioned;
and the amount of
the estimate is allotted
from the Provincial
treasury with the Govt.

The Government
is glad to learn
that no loss of life
recalled from the accident.
This sanction has
been registered at Rev. &
No 23 A of 1891, 22nd Sept 91
as Civil Works, Highways

S. E. VI Circle
with 5 enclos
Ex P.W. Accty
Judicial sect.
Revenue dept.

10.6

Ch

27/5 21-6-91

~~1121~~

~~Print soon~~

~~3.6.91~~
~~3.6.91~~

OKS 124/5
H.M. 29/5
in 1/6/91

1511
10

9

(21)

5395

Govt. of Madras.

PUBLIC WORKS.

Dated

Painted
11/11/10

Repd.

Encl.

G.O. 3rd June 91 No. 1511W.

Lightning Conductors

Set of Rs 3420 for impools:
to the — attached to
Jinnal Kaid's Palace
at Madura Cant.

100
6

(10)

See 4/6

54/6-