(1) பக்கங்களின் எண்ணிக்கை 22.

(2) புதுக்கித் திருப்பிய நாள் 28.6.90

(3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம் LONA

தமிழ்நாடு ஆவணக் காப்பகம்.

130

தமிழ்நாடு அரசு

P.W.D. துறை

அரசாணை எண். மு. கோப்புத் தாள் எண். 1361	அச்சகம் பலவகை
நாள் : 19-5-1891	198 .

மடிக்கவோ கண்டபடி கையாளவோ கூடாது

11. sheets

ஆவண. கா-1—18,000—15-6-87.

1361/1

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ— the following paper :—

From J. W. MARTIN, Esq., Officiating Superintending Engineer, VI Circle, to the Chief Engineer, Public Works Department (through the Presidency Port Officer), dated Madura, 27th April 1891, No. 97 T.N.

I have the honour to report that I inspected the light-house at Muttum, Travancore territory, on the 16th instant. The tower, house for superintendent and attached buildings, including store-room, are all in good order.

2. In regard to the light apparatus everything was very clean and well-kept, but the glass prisms are in several instances cracked and chipped at the ends where they are fixed into the iron frame. I understand, however, that many have been in this state since the apparatus was fixed, for several prisms were injured before they were fixed in the frame. The damaged prisms do not appear to obscure the light to any serious extent.

3. At present ten panes of the lantern are cracked, and, in some cases, there are two and three cracks in a pane. The cracking of the glass appears to be due to the expansion and contraction of the metal framing. There are now in store at the light-house some spare panes. I believe they were sent from England with the light apparatus, but most of the glasses are in parts clouded, apparently the result of bad packing. The superintendent informed me that he tried to remove the clouding, but could not make the glasses clear. I think they are not fit for use on account of being clouded, so, if the glasses can be cleaned or rather cleared at Madras, they should be sent there without delay; but, if they cannot be made clear, I think a supply of spare panes should be obtained from England as soon as possible, for, as ten panes of the lantern are cracked, some of these may be blown in any day during a storm.

4. The state of the lightning conductor is not satisfactory. It was sent from England with the light apparatus and is a copper rope, consisting of sixteen strands. It is connected with the lantern, but, except this, it is not connected at all with the tower, but runs clear of it down to the ground line. In consequence of this it sways about a good deal and gets injured at the ground line. Some time ago it was so much injured that the superintendent thought it advisable to cut it and re-unite the parts by splicing, the splice being made in the same manner as two pieces of rope are spliced together. This was probably the best thing to do under the circumstances, but, of course, the joint is not suitable for a lightning conductor, for, in the interest of establishing electrical continuity, the strands of the rope should be united by being soldered or brazed. The final earth connection also is, I think, not suitable, for the conductor terminates at 50 feet from the base of the tower on rock, about two feet below the surface of the ground, some scrap iron and charcoal partly filling the hole.

5. The lightning conductor should, I consider, be attached at intervals to the tower. In regard to the earth connection whenever practicable the connection should be made in water or permanently damp soil, but in the present case there is no water available besides the sea 650 feet from the tower, except the water in a small tank behind the superintendent's house and 200 feet from the tower, but this tank often becomes dry in the hot weather. To make the earth connection in the sea would be rather expensive, and besides the fishermen might cut and steal the conductor if it is carried down to the sea. In these circumstances I think the best thing to do is to excavate a pit, about 4 or 5 feet square and 12 or 15 feet deep, coil the conductor in it, fill in for a depth of 5 feet with scrap iron and charcoal, and then fill up with earth to ground line. The superintendent can easily arrange to pour water daily over the pit and thus probably the lower stratum of the filling in will always be at least

damp. There will be some difficulty about finding a place where a pit can be excavated without blasting rock, for the soil near the light-house is very rocky. However I told the superintendent to make a few experimental excavations in view to finding a suitable place for excavating a pit through only earth.

6. The existing conductor is a copper rope as already described, but, I think, it is advisable to remove it altogether and substitute a copper tape, for it is difficult to make a suitable joint in the rope on account of it being necessary to unite at the joint by soldering or brazing the ends of the strands composing the rope. If you approve of my suggestions I shall instruct the Executive Engineer to carry them out as soon as possible. I may mention that the superintendent pointed out to me a palmyra tree, not far from the light-house, which was struck by lightning a short time ago, and he said that this is not an uncommon occurrence as regards palmyra trees in the neighbourhood of the light-house.

7. In regard to report from Mr. Douglass, circulated with G.O., 22nd January 1891, No. 25, he observes that the floor of the lantern requires ventilation and that it is advisable to fix a large improved ventilator in the roof. As regards the floor, it is now made with boards about six inches broad. There isa large man-hole in the floor for a man to pass through from the service room below. This hole is never closed, for there is nothing provided for closing it. I think, if the boards forming the floor are taken up and relaid with a space of one inch between them, there will probably be ample ventilation through the floor. This work could be easily and cheaply carried out by the superintendent, for the boards are not nailed nor screwed down. However if you do not approve of this suggestion, I shall make arrangements for providing an iron grated floor.

8. With regard to providing additional ventilation in the roof, I notice in para. 13 of report from Mr. Douglass that he refers to "improved circular ventilators now generally adopted by the Trinity House, which are arranged to admit of the free egress of the heated air and smoke without any down draught." I am not acquainted with this description of ventilator and I do not understand how the down draught can be prevented without some special means for regulation to suit the force and direction of the wind; so I suggest that the design for the ventilator should be obtained, and that, in the meantime, the question of providing additional ventilation in the roof should be postponed. But if the proper working of the ventilator depends on its being adjusted to suit the direction and force of the wind by the man on duty in charge of the light, I strongly recommend that it should not be put up, for the light in the present state of the lantern has apparently given complete satisfaction to date, while, on the other hand, to provide any new ventilator in the roof, the proper working of which depends on the man on duty adjusting it to suit the state of the wind, may do more harm than good on account of the liability of the man to go to sleep and neglect it.

Detail of light-houses inspected by Mr. J. W. Martin, Superintending Engineer, VI Circle, in April 1891.

Light-house.	Class of light.	Height of centre of lantern above mean sea level.	Distance at which light is visible.	Object of light.	Remarks.
		FEET.	MILES.		
Muttum ..	First order catadioptric; fixed; white.	141	16	To indicate position of Crocodile rock, an outlying reef.	The tower and buildings attached, including store-room and house for superintendent, are in good order. The light apparatus and lantern are in good order except that some of the prisms are chipped and cracked at the ends, and ten panes of the lantern are cracked. About these and the lightning conductor, which is not in a satisfactory state, see separate report of inspection of light-house.

27th April 1891.

(Signed) J. W. MARTIN,
Offg. Superintending Engineer, VI Circle.

1361/2

No. 398/69 P.W.

Forwarded.

2. Arrangements are being made for a supply of spare panes being obtained from England.

3. The suggestions in paras. 5 and 6 in regard to improvements to the lightning conductor seem suitable, and, if concurred in by the Chief Engineer, an estimate of the cost may be forwarded to this office in view to arrangements being made for provision of funds.

4. The additional ventilation pointed out by Mr. Douglass as necessary should be provided. Messrs. Chance Brothers of Birmingham have been desired to favour this office with drawings of the various ventilating arrangements referred to in Mr. Douglass' report with instructions for fitting and using them.

Madras,
7th May 1891.

(Signed) M. BEAN, Captain, H.M.'s.I.M.,
Offg. Presidency Port Officer.

Order—dated 19th May 1891, No. 1361 W., Public Works.

Communicated to the Marine Department.

2. The Superintending Engineer will submit, through the Presidency Port Officer, an estimate for renewing the lightning conductor of the light-house in accordance with the proposals in paras. 5 and 6 of his letter. One and three-quarter inch half-round copper should be specified for the conductor.

(True Extract.)

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

To the Superintending Engineer, VI Circle.
„ Marine Department.

Exd. A. D. Xavier.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1891} Madras.

PUBLIC WORKS.

Dated May, 1891.

Read. *Encl.*

G.O., 19th May 1891, No. 1331 W.

MAY.

Light-house at Muttum

Report of the Superintending Engineer, VI Circle, on the —, with remarks thereon by the Presidency Port officer, communicated to the Marine Department with remarks.

Office of the Supdg Engineer Circle.
Trichinopoly, 17th April 1891.

Sir,

I have the honor to forward herewith a Plan and Estimate for the proposed Light-house at Muttum, and Buildings attached thereto, in the Ramnad District, and to request that the same may be submitted to Government for sanction.

2. The Light-house is required to indicate the position of the Crocodile Rock and to warn vessels of the danger in approaching the land. The Lighting Apparatus and Buildings are designed in accordance with the Instructions issued by the Inspector General of Light-houses, and the Estimate has been framed by the Executive Engineer, Ramnad, who has had charge of the Survey and Plan.

3. The Light-house will be a Class 4 Light of the 1st Order Catadioptric type, showing a fixed white light, and will be 141 feet above mean sea level.

4. The Buildings will consist of a Keepers Dwelling House, Store Room and Servants Quarters, and will be constructed on the Compound of the Pamben Light-house, which is about 1½ miles distant.

5. The Estimate amounts to Rs. 1,36,361, and I recommend that sanction be accorded thereto.

I have the honor to be,
Sir,
Your most obedient servant,
[illegible]
Supdg Engineer
VI Circle.

1361/3

Dated 17th April 1891.

Abstract of Light House Inspector's Report on the Proposed Light House at Muttum.

Light House	Class of Light	Height of centre of Lantern above mean sea level	Distance at which Light is visible	Remarks.
Muttum	1st Order Catadioptric fixed white.	141 feet	16 miles.	To indicate position of Crocodile Rock and warn vessels of danger approaching land. The Lights are designed in accordance with the Instructions issued by the Inspector General of Light-houses, and the Estimate has been framed by the Executive Engineer, Ramnad, who has had charge of the Survey and Plan. The Light-house will be a Class 4 Light of the 1st Order Catadioptric type, showing a fixed white light, and will be 141 feet above mean sea level. The Buildings will consist of a Keepers Dwelling House, Store Room and Servants Quarters, and will be constructed on the Compound of the Pamben Light-house, which is about 1½ miles distant. The Estimate amounts to Rs. 1,36,361, and I recommend that sanction be accorded thereto. I have the honor to be, Sir, Your most obedient servant, [illegible] Supdg Engineer VI Circle.

Detail of Light houses inspected by Mr J. W. Martin Offg Supt Sea Customs in April 1891 —

Encls No 1 to SE Br No 97 md 27-4-91

Office of the Supt: Lighthouses
Cuttack

No. 97 TN Camp Madura 27th April 1891 —

136/4

D — 21/-

LD

From

J. W. Martin Esqr.
Offg: Supt: Lighthouses Cuttack

To

The Chief Engineer P. W. D.
through the Presidency Post Office
Madras —

Sir,

I have the honor to report that I inspected the light house at Muttum, Travancore territory, on the 16th instant — The towers, house for superintendent, and attached buildings including store room are all in good order —

2 In regard to the light apparatus every thing was very clean and well kept, but the glass prisms are in several instances cracked and chipped at the ends where they are fixed into the iron frames I understand however that many have been in this state since the apparatus was fixed for several prisms were injured before they were fixed in

the
pane - The damaged pieces do
not appear to obscure the light
to any serious extent -

3. At present ten panes of the
lantern are cracked, and in some
cases there are two and three
cracks in a pane - The cracking
of the glass appears to be due
to the expansion and contraction
of the metal framing - There are
now in store at the light house,
some spare panes - I believe they
were sent from England with
the light apparatus, but most
of the glasses are in parts clouded
apparently the result of bad
packing. The superintendent
informed me that he tried to
remove the clouding but could
not make the glasses clear -
I think they are not fit for use
on account of being clouded -
So if the glasses can be cleaned
or patches cleared at mudeus
they should be sent there without

delay, but if they cannot be
made clear I think a supply
of spare panes should be obtained
from England as soon as possible.
For as ten panes of the lantern
are cracked some of these may
be blown in any day during
a storm - 136/5 2D

4. The slide of the lightning
Conductor is not satisfactory -
It was sent from England with
the light apparatus and is a
copper rope, consisting of six-
teen strands - It is connected with
the lantern, but except this it is
not connected at all with the
lower, but runs clear of it down
to the ground line - In conse-
quence of this it sways about
a good deal and gets injured
at the ground line - Some time
ago it was so much injured
that the superintendent thought
it advisable to cut it, and remake
the parts by splicing the splice
being made in the same manner

as two pieces of rope are spliced together - This was probably the best thing to do under the circumstances, but, of course, the joint is not suitable for a lightning Conductor for in the interest of establishing electrical continuity the strands of the rope should be united by being soldered or brazed. The final earth connection also is, I think, not suitable for the conductor terminates at 50 ft. from the base of the tower on rock about two feet below the surface of the ground some scrap iron and charcoal partly filling the hole -

5. The lightning Conductor should, I consider, be attached at intervals to the tower - In regard to the earth connection whenever practicable the connection should be made in water

or permanently damp soil, but in the present case there is no water available besides the sea 650 feet from the Tower, except the water in a small tank behind the Superintendents house and 200 feet from the tower, but this tank often becomes dry in the hot weather - To make the earth connection in the sea would be rather expensive, and besides the fishermen might cut and steal the conductor if it is carried down to the sea - In these circumstances I think the best thing to do is, to excavate a pit about 4 or 5 ft. square and 12 or 15 ft. deep coil the conductor in it, fill in for a depth of 5 feet with scrap iron & charcoal, and then fill up with earth to ground line - The superintendent can easily arrange to pour water daily over the pit and thus probably

136/

the lower stratum of the filling in will always be at least damp. There will be some diffinculty about finding a place where a pit can be excavated without blasting rock for the soil near the light house is very rocky - However I told the Superintendent to make a few experimental excavations in view to finding a suitable place for excavating a pit through only earth -

6. The existing conductor is a copper rope as already described, but I think it is advisable to remove it altogether and substitute a copper tape for it is diffinult to make suitable joint in the rope on account of it being necessary to unite at the joint by soldering or brazing the ends of the strands

composing the rope. If you approve of my suggestions I shall instruct the Executive Engineer to carry them out as soon as possible - I may mention that the Superintendent pointed out to me a palmyrah tree not far from the light house which was struck by lightning a short time ago, and he said that this is not an uncommon occurrence as regards palmyrah trees in the neighbourhood of the light house -

7. In regard to report from Mr. Douglas circulated with G. O. 32nd January 1891, No. 25 he observes that the floor of the lantern requires ventilation, and that it is advisable to fix a large inverted ventilator in the roof - As regards the floor, it is now made with boards about six inches broad - There is a large man hole in the floor for a man to pass

3(6) WRZ 2.91

through from the service room below. This hole is never closed for there is nothing provided for closing it - I think if the boards forming the floor are taken up and relaid with a space of one inch between them there will probably be ample ventilation through the floor - this work could be easily and cheaply carried out by the superintendent for the boards are not nailed nor screwed down. However if you do not approve of this suggestion I shall make arrangements for providing an iron plate floor -

6. With regard to providing additional ventilation in the roof, I notice in para 13 of report from Mr Douglass that he refers to "improved Circular ventilators now generally adopted by the Trinity House which are arranged to admit of the free

egress of the heated air & smoke without any down draught. I am not acquainted with this description of ventilator, and I do not understand how the down draught can be prevented without some special means for regulation to suit the force and direction of the wind. So I suggest that the design for the ventilator should be obtained, and that in the meantime the question of providing additional ventilation in the roof should be postponed - But if the proper working of the ventilator depends on its being adjusted to suit the direction and force of the wind by the man on duty in charge of the light, I strongly recommend that it should not be put up for the light in the present state of the lantern has, apparently, given complete satisfaction to date; while on the other hand to provide any new ventilator in

the roof the proper working of which depends on the mean on duty - adjusting it to suit the state of the wind may do more harm than good on account of the liability of the mean boys to slip and neglect it -

I have the honor to be

Sir.

Your most obedient Servt

- Ilomachin

offg: Supdg Engineer

& Secty

Fr. Bro. 3146 dy 3.7.91

P.W. Coll. 4995

No 398/69 P.W. dy 3.7.91

Forwarded.

2. Arrangements are being made for a supply of spare parts being obtained from England.

3. The suggestions in paras 5 & 6 in regard to improvements in the lightning Conductor seem suitable, and if concurred in by the Chief Engineer, an Estimate of the cost may be forwarded to this office in View to arrangements being made for provision of funds.

4. The additional Ventilations pointed out by Mr Douglass as necessary should be provided. Messrs Chance Brothers of Birmingham have been desired to favor this office with drawings of the various Ventilating arrangements referred to in Mr Douglass report with instructions for fitting and using them.

From

The Supt: Engineer

Vizagapatam Circle.

To

The Chief Engineer

P.W.D.

Thro: The Presidency Post Master

Madras.

No 97 TN

Dated 27/28 April 1891

Despd 28-4-91

Rd 8-5-91

Encls 1.

Lt. House at Vizagapatam

Reporting on his inspection of the

Captain H. M. I. Lewin

Offg Presidency Post Master

Presidency Post Office

Madras 7 May 1891

1361/9

6P

No. 1361 dated 17th May 1891. Civil Works

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

1361/10

READ the following

Letter from the Supdg Engr. to Circle, H.Q. No. 97 T.C. dt 27th April 1891

Endorsement by the Presy Post Office. - No. 398/59 Pl. dt 4th May 1891

9P

Communicated to the Marine Department.

2. The Supdg Engineer will submit through the Presy. Post Offices an estimate for renewing the lightning conductor of the lighthouse in accordance with the proposals in paras 5 and 6 of this letter. 1 3/4" half round copper should be specified for the conduction

DVB
9.5.91

Approved
12 May

To
The Supdg Engr. Circle
" Marine Dept:

By Order

1361/11

10

Qld. 62.v
C.S. 11.V.91
HW. 13.V.91
M. 15.V.91

4495

Govt. of [18] Madras.

PUBLIC WORKS.

Dated

Rcd. Encl.

G.O., 19th May 1891. No. 1340.

Light House at Muttam

Report of the S.E. Circle on the — with remarks thereon by the Residency Port Officer and the Marine Superintendent.

(11)

6 50/4

Dec 19/8.-

1-10