(1) பக்கங்களின் எண்ணிக்கை [illegible]

(2) புதுக்கித் திருப்பிய நாள் ~~28~~ 9/90

(3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம்

தமிழ்நாடு ஆவணக் காப்பகம்.

137

தமிழ்நாடு அரசு

P.W.D. துறை

அரசாணை எண். 1077 அச்சகம்

மு. கோப்புத் தாள் எண். பலவகை

நாள் : 18-4-1891 ~~198~~ .

மடிக்கவோ கண்டபடி கையாளவோ கூடாது

14. Sheets

ஆவண, கா-1—18,006—15-6-87.

1077/1

18TH APRIL 1891, No. 1077 W., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following papers :—

From J. W. MARTIN, Esq., Officiating Superintending Engineer, VI Circle, to the Chief Engineer, Public Works Department (through the Presidency Port officer), dated Trichinopoly, 25th March 1891, No. 1231 M.D.

With reference to G.O., No. 688 W., dated 10th March 1891, I have the honor to report that I inspected the light-house at Pámban on the 18th instant with the local Port officer.

2. The store room, column, and light apparatus are in good order, except that the glass of the door of the lantern opening out to the platform outside is cracked diagonally right across and there is another crack near the bottom. I was told by the Port officer that these cracks have been in existence for some time and that they were caused by the door being shut violently by the wind, but he has provided the Light Superintendent with a piece of wood to keep the door open when the lantern is being cleaned on the outside, which, if he uses it, should prevent further damage to the glass. I was further informed by the Port officer that at present there is spare glass in the store room at the light-house suitable for the door, so the cracked glass can be renewed if necessary, but heretofore the cracks do not appear to have caused any inconvenience.

3. The glass of the lantern, &c., is cleaned with only paper and chamois leather, but in para. 33 of report by Mr. Douglass, circulated with G.O., No. 314 W., dated 3rd February 1891, it is stated that the glass prisms require to be cleaned every week with spirits of wine.

4. In the report of Mr. Douglass, the question of burners is discussed. At Pámban two lamps are provided, one to be used at a time, burning for six hours. Each is simply an ordinary table lamp provided with two burners, wick being one inch broad. According to information furnished by the Superintendent, if the lamp burns for six hours the oil in the reservoir falls only 1½ inches. This small decrease in the level of the oil cannot, I think, appreciably affect the capillary action as regards supplying with oil the wicks referred to in para. 27 of Mr. Douglass' report.

5. In his report he observes that the duplex burner is very inefficient and out of focus, but the Port officer informed me he considers the burner is in focus. Mr. Douglass also remarks that the sash bars on certain bearings obscure the light. I think this is unavoidable, for the light is intended to be open to view all round the horizon, so, unless the glass of the lantern is fixed without sash bars, these bars must obscure the light when vessels are in certain positions. There is, however, a small pipe a little on one side of a sash bar to carry off the rain falling on roof of lantern. This is objectionable; the pipe should be exactly in front of the sash bar and on the same diametrical line from centre of light. This pipe may be removed altogether and placed in a new position from the eave of roof to hand rail, taking care to keep the outer end of it above the level of the line of light from lantern. The Port officer suggested this arrangement himself, so he might be instructed to carry it out.

6. Mr. Douglass refers to want of sufficient ventilation. At present there is no means for heated air and the smoke of the lamp to pass out of the lantern except through thirty-six holes in the sphere under the vane on top of roof, each being about ¾" diameter. The sphere is rigidly connected with the vane and revolves with it and

in this way the holes are always on the lee side, and, consequently, the wind outside does not interfere with the lamp, but the number of holes cannot well be increased without exposing the lamp to the wind. Consequently, if further ventilation is provided, it must be made in the sloping roof by means of vertical pipes provided with cowl or mushroom shaped adjustable covers, which can be lowered or raised from the inside of the lantern according to the state of the wind. There is however no service room just below the lantern for a man to remain in at night, and, as a man should not sit or lie down in the lantern itself, for he would interfere with the light, it is, I consider, very doubtful whether in actual practice any system of providing further ventilation in the roof depending upon being adjusted to suit the state and direction of the wind will prove satisfactory. For this reason I think it is not desirable to provide additional ventilation in the roof, particularly as it does not appear from the Presidency Port officer's letter, printed with G.O., No. 314 W., already referred to, that any serious complaints have been made heretofore about the efficiency of the light. In regard to ventilation in the floor of the lantern there is, at present, a man hole in it, through which the Light Superintendent passes into the lantern. This hole is never closed, so, I think, there must be, at present, ample ventilation through the floor.

7. Two iron tanks for holding oil suggested in Mr. Douglass' report have been provided and also an almirah for storing the lamps, wicks, &c., in. The iron tanks hold about 60 gallons each and the cock for drawing off oil in the side is placed at one-third of the height from the bottom. This involves having twenty gallons below the line of the cock which cannot be conveniently drawn off. There is a hole now stopped in the bottom of each tank, but it would be very inconvenient and wasteful to draw off twenty gallons at once for the purpose of cleaning the tank through the hole. Consequently, I think, the cock in the side of each tank had better be removed and re-fixed at about three inches above the bottom.

8. At time of inspection the establishment employed for looking after the light-house consisted of only two men. I understood, however, from the Port officer that the sanctioned scale consists of three men, but for some reason the third man had not been appointed. I think a third man should be appointed at once, for if either of the men now employed should get sick on or off duty or should find it imperatively necessary to take leave, it might be very difficult to get at once a man suitable to take his place.

9. I have not observed in the records that any one has brought to notice the height of the trees on Rámesvaram island in reference to the height of the light column above ground level, but it appeared to me that some of the trees may possibly obscure the light, particularly in the case of vessels approaching the port from the south. I think this is a matter that should be seen to and kept in view hereafter.

ENCLOSURE.

DETAILS of light-houses inspected by Mr. J. W. Martin, Officiating Superintending Engineer, VI Circle, in March 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.
Pámban	4th order catadioptric fixed light.	FEET. 97	MILES. 13	Guide to entrance of Pámban channel.	The store-room column and light apparatus are in good order, except the glass of the door of the lantern opening out to the platform outside is cracked diagonally right across and there is another crack near the bottom. The lightning conductor appears to be in good order and efficient.

TRICHINOPOLY,
25th March 1891.

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

1027/2

From Captain H. A. STREET, H.M.'s I.M., Presidency Port officer, to the Chief Engineer, Public Works Department, dated Madras, 4th April 1891, No. 690/38 P.W.

In forwarding the accompanying report on the Pámban light-house and apparatus by the Superintending Engineer, VI Circle, I have the honor to state that, in my opinion, it would be preferable to raise the lantern to the height requisite to enable the light-keeper on duty to move about with ease and freedom and the lantern at Tuticorin light-house might be taken as a guide.

2. In estimating for such an alteration due attention should be paid (*a*) to placing the sash bars so as to offer the least obstruction to the light and also (*b*) to Mr. Douglass' remarks in paras. 13 and 14 of his report on the Madras light-house regarding windows and ventilation.

3. Mr. Martin's remarks regarding the necessity of an additional light-keeper will receive attention.

4. I quite agree with the remarks of the Superintending Engineer respecting the iron oil tanks. The position of the cock, to which he refers, was fixed by Government (see G.O., No. 252, dated 8th July 1890).

5. The attention of the Port officer will be called to the remarks contained in the concluding portion of Mr. Martin's report.

P.S.—I further beg to point out that it is not stated in Mr. Martin's report that the lightning conductor had been tested, and, as this is requisite, I would suggest that the Superintending Engineer should be desired to have the conductor tested as soon as practicable.

ORDER—dated 18th April 1891, No. 1077 W., Public Works.

Communicated to the Marine Department.

2. The Superintending Engineer will submit an estimate for carrying out the alteration suggested in paras. 1 and 2 of the Presidency Port officer's letter. Steps should be taken to have the lightning conductor tested if this has not already been done.

(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 April, 18th.

Recd.

Encl.

G.O., 18th April 1891, No. 1077 W

APRIL.

Pamban Light-house

The Superintending Engineer, VI Circle, directed to submit an estimate for carrying out the alterations to the — suggested by the Presidency Port officer.

1077/3

10th March 1891, No. 688 W., Public Works.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

Read—the following papers :—

From Lieut.-Colonel A. C. SMITH, R.E., Superintending Engineer, VI Circle, to the Chief Engineer, Public Works Department, dated Trichinopoly, 26th January 1891, No. 994 T.N.

I have the honor to report that I inspected the following light-houses, viz. :—

Hare Island, Tuticorin, on 15th instant.
Manapad, on 19th instant.

2. I could get no steamer to Pámban, so had to give up going there and also I have proposed that the inspection of the Muttum light be undertaken by the Travancore authorities as it is situated some 15 miles or more to west at Cape Comorin and well within that state.

This proposal has not been approved in your No. 359 C., dated 22nd January 1891, since received.

3. The light-house at Hare Island is in good order and the strengthening bands recently put up by this department (*vide* G.O., No. 2009 W., dated 23rd July 1890) seem calculated to render the lantern quite secure.

4. With reference to the Manapad light all the structure, such as it is, is in good order ; but the arrangements are, to say the least of it, bordering on the inhuman and it surprises me that such a state of things should have obtained so long.

5. Some months ago we were requested to provide some sort of a roof or protection to the *lantern* and accordingly an estimate was sanctioned for a weather-boarding roof, but, as this only protects the lantern from rain when unaccompanied by wind, I do not think it is of much use, and, moreover, weather boarding is not stout enough for such an exposed position.

6. The lantern stands on the top of a square tower situated on a rocky promontory near Manapad in a very exposed situation. The top of the tower about 8 or 9 feet square consists of a flat terrace surrounded by *open* balustrading, and, prior to the construction of the weather boarding, had no roof whatever.

7. On the top of this tower and exposed to all wind (which is very prevalent here) and rain in the monsoon the lascars are supposed to watch turn and turn about for a spell of 3 hours each ; they are not only unprovided with tarpaulin coats and sou'westers, but have not even thick clothing of any sort and in bad weather the roof is of no practical use in keeping rain off either the men or the lantern.

8. There seems to be an order to the effect that the lamp shall be changed or trimmed every three hours, though it would burn well for 6 at least, and how this is effected without taking it down into the office below on a tempestuous night is more than I can say.

9. Captain Baker asked me to see if I thought the stanchions supporting the roof were strong enough to bear canvass blinds all round, to be pulled down when the trimming process was going on, but I should say this would be objectionable as lascars are quite capable of keeping such a snug protection up longer than is necessary and thus obscuring the light.

10. Two alternatives suggest themselves to me—first to build up solid walls perforated by one small window on two sides to landward (the lantern only illumines 180° to seaward) and glaze the other two sides completely with plate glass in frames,

or, second, to build a larger octagonal or hexagonal lantern of iron frame and plate glass and thin iron ventilated roof of sufficient size to permit the attendant to walk round the lantern inside it; the floor is quite strong enough to support such a structure.

11. I have requested the Executive Engineer to at once fill up the perforations in the balustrading with light brick work which will then afford some protection to a man squatting under the parapet during his three hours' watch, and these parapets might easily be raised one foot without detriment to the light.

12. In any case the present weather boarding should be renewed with corrugated iron and this roof would be serviceable in either alternative proposed in para. 10.

13. Something undoubtedly should be done to protect the men, for even were they provided with water proofs they must be half perished as there is no room to walk about as on a ship's bridge and if a sort of sentry box were provided this would not protect the lamp in any way; at present drift rain has constantly to be wiped off the lantern glasses.

Enclosure.

Details of light-houses inspected by Lieut.-Colonel A. C. SMITH, R.E., Superintending Engineer, VI Circle, in January 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.
Tuticorin ..	Fourth order catadioptric fixed white.	FEET. 85	MILES. 12¼	To mark position of anchorage.	The light-house at Hare Island, Tuticorin, is in good order and the strengthening bands recently put up by this department seem calculated to render the lantern quite secure.
Manapad ..	Sixth order dioptric.	225½	19	Not known specially.	All the structure, such as it is, is in good order, but the arrangements are, to say the least of it, bordering on the inhuman (*vide* separate report accompanying this).

No. 625 C.

Referred to the Marine Department for favor of remarks.

5th February 1891.
(Signed) J. PENNYCUICK, Colonel, R.E.,
Secretary to Government, P.W.D.

G.O., dated 3rd March 1891, No. 80, Marine.

Read—the following papers :—

Endorsement of the Public Works Department, dated 5th February 1891, No. 625 C., on letter from the Superintending Engineer, VI Circle, dated 26th January 1891, No. 994 T.N.

From the Presidency Port officer, dated 20th February 1891, No. 393/59 G.

With respect to reference, dated 9th February 1891, on Marine current No. 136 (report of Superintending Engineer, VI Circle, in connection with the light-houses at Muttum, Manapad, Tuticorin and Pámban), I have the honor to remark as follows :—

Para. 2 of report.—The Port officer, Tuticorin, under instructions from this office, visits the Muttum light-house once in three months and finds no great difficulty in doing so.

1022/4

Some improvements to Pámban light-house, including those suggested by Mr. Douglass on his recent inspection, are awaiting the arrival of the Superintending or Executive Engineer and it is hoped that one of these two officers will be able to visit the place at an early date.

Para. 3 of report.—I have visited Hare Island light-house recently and observed that the guard railing round the gallery is dangerously light in construction.

Para. 5 of report.—The inhumanity of the arrangements at Manapad is not apparent, there being several other lights similarly arranged and I am not aware that any complaint has ever been made. It is perfectly true that difficulty and inconvenience is experienced in changing the lamps, &c., on account of the wind and it is to be regretted that a lantern was not constructed at first when the light-house was built. The Superintending Engineer suggests building an iron octagonal lantern, but Mr. Douglass, in para. 11 of his report, mentions, among other improvements, cylindrical glazing and gunmetal and steel helical framing, which, I think, should be adopted and made capable of being kept open as the lamp, it must be remembered, is constructed for burning in the open air.

Para. 7 of report.—It would be a very small matter to supply oil-skin suits for the men who require to be exposed to the weather at light-houses and this might be done.

Order—dated 3rd March 1891, No. 80, Marine.

The Presidency Port officer's letter will be communicated to the Public Works Department with the request that early arrangements may be made for inspecting the Pámban light-house and for the provision of a suitable guard railing at the Hare Island light-house.

2. No radical change in connection with the Manapad light should be carried out until the matter has been reported on by Captain Street, who will be requested to give the matter his early consideration.

3. The Government is decidedly of opinion that some shelter from inclement weather should be provided for the keepers or watchers at all light-houses and that it would not be sufficient to supply the men with oil-skin suits. The Presidency Port officer will report on the point and the Public Works Department will be requested to carry out such alteration as may be considered necessary without delay.

(True Extract.)

(Signed) N. S. BRODIE,
Acting Assistant Secretary.

Order—dated 10th March 1891, No. 688 W., Public Works.

Communicated to the Superintending Engineer, VI Circle, for information and guidance.

(True Extract.)

(Signed) J. PENNYCUICK, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineer, VI Circle.

Marine Dept

Exd. A. D. Xavier.

Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1891} Madras.
PUBLIC WORKS.

Dated March, 10th. 1077 W

Recd.

Encl.

G.O., 10th Mar. 1891, No. 688 W.

MARCH.

Light-houses

Proceedings, Marine Department, passing orders on letter from the Presidency Port officer making certain remarks on the inspection report of the Superintending Engineer, VI Circle, on certain —, communicated to the Superintending Engineer for information and guidance.

130

M.D.
No. 1231

Supdg: Engineers Office 6 Circle
Trichinopoly 25th March 1891
D/26.

1077/5

From

J. W. Martin Esqre
Offg: Supdg: Engineer
VI Circle

1D

To

The Chief Engineer, P.W.D.
thro' the Presidency Port Officer, Madras

Sir

Encl: 1. Detail of inspection of light house

With reference to G.O. No. 688 W of 10th March/91, I have the honor to report that I inspected the light house at Paumban on the 18th instant with the Local Port Officer.

2. The store room, column, & light apparatus are in good order, except that the glass of the door of the lantern opening out to the platform outside is cracked diagonally right across, and there is another crack near the bottom. I was told by the Port Officer that these cracks have been in existence for some time & that they were caused by the door being shut violently by the wind

but he has provided the light superintendent with a piece of wood to keep the door open when the lantern is being cleaned on the outside, which, if he uses it, should prevent further damage to the glass - I was further informed by the Port officer - that at present there is spare glass in the store room at the light house suitable for the door - so the cracked glass can be renewed, if necessary, but heretofore the cracks do not appear to have caused any inconvenience -

3. The glass of the lantern &c is cleaned with only paper and chamois leather, but in para 33 of report by Mr. Douglass circulated with G.O. No. 314 W of 3rd February 1891, it is stated that the glass prisms require to be cleaned every week with spirits of wine -

4. In the report of Mr. Douglass, the

question of burners is discussed. At Paumban two lamps are provided, one to be used at a time, burning for six hours - Each is simply an ordinary table lamp provided with two burners wick being one inch broad - According to information furnished by the Superintendent, if the lamp burns for six hours the oil in the reservoir falls only 1½ inches. This small decrease in the level of the oil cannot, I think, appriciably affect the capillary action as regards supplying with oil the wicks referred to in para 27 of Mr. Douglass' report.

5. In his report he observes that the duplex burner is very inefficient and out of focus, but the Port-officer informed me he consider the burner is in focus - Mr. Douglas also remarks that the sash bar

on certain bearings obscure the light. I think this is unavoidable for the light is intended to be open to view all round the horizon, so unless the glass of the lantern is fixed without sash bars these bars must obscure the light when vessels are in certain positions. There is however a small pipe a little on one side of a sash bar to carry off the rain falling on roof of lantern. This is objectionable, the pipe should be exactly in front of the sash bar & on the same diametrical line from centre of light. This pipe may be removed altogether & placed in a new position from the eave of roof to hand rail taking care to keep the outer end of it above the level of the line of light from lantern - The Port officer suggested this arrangement himself

so he might be instructed to carry it out.

6. Mr Douglass refers to want of sufficient ventilation. At present there is no means for heated air and the smoke of the lamp to pass out of the lantern except through thirty six holes in the sphere under the vane on top of roof each being about 3/4" diameter. The sphere is rigidly connected with the vane and revolves with it and in this way the holes are always on the lee side, & consequently the wind outside does not interfere with the lamp; but the number of holes cannot well be increased without exposing the lamp to the wind - Consequently if further ventilation is provided, it must be made in the sloping roof by means of vertical pipes provided with cowl or mushroom shaped adjustable covers which can be lowered or raised from the inside

of the lantern according to the state of the wind - There is however no service room just below the lantern for a man to remain in at night, and as a man should not sit or lie down in the lantern itself, for he would interfere with the light, it is, I consider, very doubtful whether in actual practice any system of providing further ventilation in the roof depending upon being adjusted to suit the state and direction of the wind will prove satisfactory. For this reason I think it is not desirable to provide additional ventilation in the roof particularly as it does not appear from the Presidency Port Officer's letter printed with G.O. No. 3144 already referred to, that any serious complaints have been made heretofore about the efficiency of the light - In regard to ventilation in the floor of the lantern there is, at present, a man hole in it through which the light superintendent passes into the lantern. This hole is never closed, so I think there must be, at present, ample ventilation through the floor.

7. Two iron tanks for holding oil suggested in Mr. Douglas's report have been provided and also an almirah for storing the lamps wicks &c in - The iron tanks hold about 60 gallons each and the cock for drawing off oil in the side is placed at one third of the height from the bottom. This involves having twenty gallons below the line of the cock which cannot be conveniently drawn off. There is a hole, now stopped, in the bottom of each tank, but it would be very inconvenient and wasteful to draw off the twenty gallons at once for the

purpose of cleaning the tank through the hole - Consequently I think the cock in the side of each tank had better be removed and refixed at about three inches above the bottom -

8. At time of inspection the Establishment employed for looking after the light house consisted of only two men - I understood however, from the Port officer that the sanctioned scale consists of three men, but for some reason the third man had not been appointed - I think a third man should be appointed at once, for if either of the men now employed should get sick on or off duty or should find it imperatively necessary to take leave, it might be very difficult to get, at once a man suitable to take his place -

9. I have not observed in the records that any one has brought to notice the height of the trees on Ramesvaram island in reference to the height of the light column above ground level, but it appeared to me that some of the trees may possibly obscure the light particularly in the case of vessels approaching the port from the south - I think this is a matter that should be seen to, and kept in view hereafter -

I have the honor to be
Sir
Your most obedient Servt

J W Martin
Offg: Supdg Engineer
6th Circle

From

The Supg Engineer
VI Circle

To

The Chief Engineer
P. W. D.
Thro' the Presidency Port Officer
Madras.

No 1231. M. D.
Dated 25th } March 1891
Despd 26th }
Recd.

Enclo: 1. List

Light House at Paumban
– Reporting on the –.

Details of light houses inspected by Mr J. W. Martin Offg: Superintending Engineer – VI Circle in March 1891.

Light House	Class of Light	Height of centre of lantern above mean sea level Feet	Distance at which light is visible Miles	Object of Light	Remarks
Paumban	4th Order Catadioptric fixed light	97	13	Guide to entrance of Paumban Channel	The store room column and light apparatus are in good order, except the glass of the door of the lantern opening out to the platform outside is cracked diagonally right a[illegible] and there is another crack near the bott[illegible]. The lightning conductor appears to [illegible]e in good order and efficient.

1022
10

Supdg: Engr's Office 6th Circle
Trichinopoly 25th March /91
D/26

J. W. Martin
Offg: Superintending Engineer 6th Circle

Enclo: 1. to letter No: 1231 W.D.
d/25th March 1891, from S.E. VI
to the Chief Engr. P.W.D.
thro. the Presidency Port Office
Madras

P.W 822/5897

Dated 25th March 1891

Details of light houses
inspected by Mr: J. J. V.
Martin offg: Supdg Engineer
VI Circle, during March 1891

No 690/38 P.W. Presidency Port Office,
Madras 4 April 1891.

Heading.
(Pamban Lighthouse

~~1027~~ 78

To

The Chief Engineer,
Public Works Department,
Chepak.

Sir,

In forwarding the accompanying report on the Pamban Lighthouse and apparatus by the Superintending Engineer 6th Circle, I have the honor to state that, in my opinion, it would be preferable to raise the lantern to the height requisite to enable the lightkeeper on duty to move about with ease and freedom and the lantern at Tuticorin lighthouse might be taken as a guide.

2. In estimating for such an alteration, due attention should be paid (a) to placing the sash bars so as to offer the least obstruction to the light, and also (b) to Mr. Douglass's remarks in paras 13 and 14 of his report on the Madras Lighthouse

Lighthouse regarding windows and ventilation.

3. Mr. Martin's remarks regarding the necessity of an additional lightkeeper will receive attention.

4. I quite agree with the remarks of the Superintending Engineer respecting the iron oil tanks. The position of the cock to which he refers was fixed by Government - see G. O. No. 252, dated 8th July 1890.

not Comtd. to the Bd.

5. The attention of the Port Officer will be called to the remarks contained in the concluding portion of Mr. Martin's report.

I have the honor to be,
Sir,
Your Obedient Servant,

H. A. Street
Captain H. M's. I. M.
Presidency Port Officer.

P. S.

I further beg to point out that it is not stated in Mr. Martin's report that the Lightning

Lightning Conductor had been tested, and as this is requisite, I would suggest that the Superintending Engineer should be desired to have the Conductor tested as soon as practicable.

1077/12

P. W. C. No. 3892

688 W. of 10-3-91
314 W. of 3-2-91 } not read
14-5-91

From

The Presidency Port Officer,
Madras.

To,

The Chief Engineer,
Public Works Department,
Chepauk

No. $\frac{690}{38}$ P.W.

Dated 4th April 1891
Rd. 8-4-91
Enc 2

Suggesting certain improvements of the Pamban Lighthouse and apparatus.

Copy 10-4-91 R 18.4.91

No. 1077 W. of 18th April 1891

Civil Order

PUBLIC WORKS DEPARTMENT.

1022/13

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ the following

From the Supdg. Engr. VI Circle H. No. 1231 Mnd. of 25th March 1891
From the Presy. Port Officer " No. $\frac{690}{38}$ of 4th April 1891

Communicated to the Marine department.

2. The Supdg. Engineer will submit an estimate for carrying out the alteration suggested in paras 1 and 2 of the Presidency Port Officer's letter. Steps should be taken to have the lighting conductor tested if this has not already been done.

15 Apr

9-4-91

13 April

To
The Supdg. Engr. VI Circle
" Marine Deptt.

CHIEF SECRETARY
12 APL 91
GOVERNMENT OF [illegible]

To the Chief Secretary
for favour of perusal
return

Ad. 66.iv
C.S. 13.iv.91
H.W. 14.iv.91
M. 16.iv.91

Ooky 10-4-91 R 15.4.91

1022/14

3892

1890.

Public Works Department.

18/4/91

No.

Dated

Despatched

Received

18. 4. 91. No 1077W.

SUBJECT.

Paumben Lighthouse

The S.E. VI Civil directed to submit an estimate for carrying out the alterations to the suggested by the Presy Port officer.

6

70
4

2R 18/4/1

5/19/4