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MADRAS RECORD OFFICE

Government of Madras

Public works DEPARTMENT

G.O. No.	2124-28	Press	
~~B.P. No.~~ 423-427 424		Mis.	
Dated	26.8	1873	

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department, 26th August 1873.

No. 425. Read the following endorsement of the Chief Secretary to Government, Marine Department, dated 16th July 1873:—

Read the following letter from Colonel H. K. BURNE, Secretary to the Government of India, Marine Department, to the Hon. W. HUDLESTON, Chief Secretary to the Government of Fort St. George, dated Simla, 4th July 1873, No. 10.

Lights and Beacons.

WITH reference to your letter No. 299, dated the 16th December 1872, to the address of the Department of Agriculture, Revenue, and Commerce, I am directed to inquire whether the Right Honourable the Governor in Council has arrived at any decision as to the necessity for a lighthouse on Minicoy Island, and also whether, if shipping to India usually came through a channel at Paumben, the desirability of a light would cease.

2. The favour of an early reply to Simla is requested.

REFERRED to the Department Public Works.

(Signed) W. HUDLESTON,
Chief Secretary.

No. 426. ORDER THEREON, 26th August 1873, No. 2,127.

CIVIL WORKS, No. 39.

THE question of a Ship Canal at Paumben having been taken up by the Government of India under orders from the Secretary of State, and Mr. Robertson having been instructed, under date the 7th May 1872, to report on the same, it was presumed on communication of that fact by the enclosure to No. 239 B. C. of 27th June 1873, that the subject was taken out of the cognizance of the Madras Government, and with it the question of building a lighthouse on Minicoy Island.

2. It is rather a nautical than an engineering question, and all information available regarding it will be found in the papers below specified, viz.:—

Report on Paumben Ship Canal by Commander A. D. Taylor, I. N., of 28th July 1871, with P. S. of February 1872.
G. O., Marine Department, No. 262 of 13th Sept. 1871.
" " " 216 of 29th Aug. 1872.
" " " 278 of 19th Nov. "

From which it seems that the Elder Brethren of the Trinity House, Admiral Bedford of the Board of Trade, Commander A. D. Taylor, I. N., and Mr. H. D. E. Dalrymple, Master Attendant, Administrative Department, Madras, all concur in recommending a lighthouse on Minicoy Island in connection with the proposed Ship Canal, although the original idea of its construction appears to have been suggested by the wreck of the P. & O. Steamer *Columbo* on a voyage from Galle to Aden in 1858. Copies of these papers will accordingly be transmitted for the information of the Government of India.

Proceedings of the Madras Government, Public Works Department, 26th August 1873.

3. It is remarked that the first intimation received of Mr. Robertson having been deputed in May 1872 to report on the Paumben channel was received indirectly by communication of his report a year later.

(True Extract.)

(Signed) G. W. WALKER, Colonel, R.E.,
Secretary to Government.

No. 427. (DOCKET No. 2,128, dated 26th August 1873.)

COPY of the above forwarded to the Government of India.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

HEADING.

Lights and Beacons

No. 10

Government of India.

MARINE DEPARTMENT.

It is requested that the above heading, with number and date of this communication, may be quoted in any subsequent correspondence on this subject.

Simla, the 4th July 1873.

To The Chief Secretary to the Government of Fort St. George.

Sir,

With reference to your letter No. 299 dated the 16th December 1872, to the address of the Department of Agriculture, Revenue and Commerce, I am directed to enquire whether the Right Honble the Governor in Council has arrived at any decision, as to the necessity for a light-house on Minicoy Island, and also whether, if shipping to India usually came through a Channel at Paumben, the desirability of a light would cease.—

2. The favor of an early reply to Simla, is requested.—

I have the honor to be

Sir

Your most obedient Servant

Administrative Department.

Madras
Marine Office
28th October 1873.

No. 6393.

From

H. D. E. Dalrymple Esqre
Master Attendant
Administrative Department
Madras

To

The Honourable W. Hudleston
Chief Secretary to Government
Marine Department
Fort Saint George

Sir

With reference to the numerous able papers, which have been from time to time published regarding the construction — by various proposed routes — of a ship channel for the purpose of connecting the Gulf of Manaar with Palk's Straits — I beg leave again to bring forward the subject, which in consequence of the enormous increase of Steam Navigation through the Suez Canal to the Ports in the Bay of Bengal

No. 1125

Read 4 Nov 1873

No. 2130

No. 2129-2130. 6 Nov 1873.
Superintending Engineer, Madras
Requesting to be favoured with a Report upon the subject of the Ship Channel between the Gulf of Manaar and Palk's Straits, proposed by Lieut. Taylor, Executive Engineer, Ramnad, and Lieut. Rundall, Executive Engineer, Tuticorin, and forwarded by the Master Attendant, Madras, in his letter dated 28th October 1873.
Chief Engineer's Report.

Approved

16 June 1873

Chief Engineer &c.

Bengal, has of late assumed an aspect of great National importance.

2. I have lately also received a copy of the very able report on the subject by my friend Mr. G. Robertson, whose Official Reports on Harbours of India published in two editions are in an Engineering point of view of the greatest value, and will furnish data for many improvements, which I trust will from time to time be carried out, when money is available.

3. I need not in this letter recur, excepting in a cursory manner, to the former papers and reports by the many skilled Engineers and Naval men, who have taken an interest in this project, which has slept, and again and again been revived at different periods, but I shall merely refer to the late projects put forth by His Excellency the late Sir William Denison, Sir James Elphinstone, Commander Taylor, Mr. Townsend, Mr. Stoddart, Mr. Reidy and Mr. George Robertson.

4. In regard to the project originated by Sir J. Elphinstone, which is laid before the public by Commander Taylor, there is no doubt that it is the grandest scheme of all, and if money were forthcoming to carry it out in all its integrity, Viz. with the addition of a Breakwater at the Northern entrance of the canal, it would, I have no doubt, be a success.

5. Another great advantage of this scheme is the large area of anchorage available for shipping to the Southward of Tonitory — now called Port Lorn — but on the other hand, a Steamer running for Negapatam, Madras the Northern Ports or Calcutta, would not require to anchor there, excepting to coal her object being to reach her port of destination as soon as possible, and unless

unless the trade be diverted from the present ports of traffic by costly lines of rail, this anchorage, though an admirable one, would be of little use.

6. I shall now notice the cuts through Ramisseram proposed by the late Sir William Denison, Mr Stoddart and Mr Robertson. — They all look promising on paper, but it must be borne in mind that, without a Breakwater to protect the Northern entrance of any of the three, and also one for the Southern entrance of that proposed by Sir William Denison, they will be of little use.

7. It is a fallacy to suppose that the Paroovadum Point to the East can be a protection to the Northern entrance of any one of the proposed canals, the prevailing direction and force of the N.E. Monsoon being from N.N.E. to North,* not N.E. which it is assumed to be.

Note.

* In October, November and December the wind is often to the westward of North, and then the Northern entrance of Sir James Elphinstone's proposed canal would be the most sheltered of all.

8. I turn to Mr Reidy's plan. He agrees both with Mr Townsend's plan and mine as far as adhering to the present Paumben Pass, but then deviates to the Southward and Eastward through a distance of 3,200 yards of shoal water, which must be deepened, whereas a nearly similar line may be adopted by the simple process of cutting through low dry land at much less cost, of which more hereafter.

9. Referring to Mr Townsend's plan of deepening the Paumben channel, so far as the Northern portion entirely coincide with mine — we know that, with modern Engineering science and improved mechanical

-chanical appliances, this can easily be effected to a depth of 30 feet; but I do not agree with him regarding the direction of the continuation of the channel, via the Horse shoe bend Dft. Dft.

10. I now beg leave to again lay before Government my own plan, which, after many years consideration and intimate personal acquaintance with the Paumben pass and the adjacent approaches to it, I confidently believe to be the simplest and best of all proposed.

11. It is emphatically laid down by the eminent Engineer Mr Townsend that there are no difficulties to be apprehended in deepening the Paumben Channel, and I entirely agree with him.

12. I also draw the attention of Government to the fact that the Paumben pass, from its position and the nature of the soundings, never has silted up, and never can do so. This advantage cannot be guaranteed to any other proposed line, and I submit that the breakwater, inevitably needed for the protection of the Northern entrance of any one of the proposed canals through Ramisseram will tend to increase the accumulation of silt to a considerable extent.

13. Mr Robertson in his report agrees with me that experience has proved that the Paumben entrance will keep open, but is of opinion that the turn from the pass (i.e. from the Northward) into the proposed basin, when the currents are strong, will be too sharp.- Now in the first place this can only be apprehended when a ship is bound South during the N. E. Monsoon, i.e. in the months of October, November, December and January, and will not affect a ship bound North in

in these months.

14 In regard to a sharp turn coming South, that can be perfectly obviated, for the Basin, which already exists, can easily be enlarged to any extent, the soil being firm and without rock, and the Basin, as it is, being in perfectly still water, the current passing through the Paumben Pass, North or South, quite clear of the rock into, or from, the Horse shoe channel.

Mr. Robertson apparently contemplates having a Basin at each end of his proposed Canal, but they are not include in his estimate.

15. I submit that the great advantage, which my scheme possesses over all others now before Government, excepting Mr. Reidy's is this— that both the Northern and Southern entrances of my proposed canal are well sheltered, and will consequently be perfectly safe to enter— that the cut across part of the Island, according to my plan, is a work of the simplest description, the cost of

of which can be estimated almost to a rupee, and that no breakwater of any description will be required.

16. I remark in Mr. Robertson's Report that the distance of the line of canal proposed by him will be 3877 yards, and that of Sir William Denison's 3758 yards, and that a Breakwater, estimated at £ 1,000,000, will be required for the Southern entrance of the latter.

17 Mr. Robertson's line will of course cost as much as Sir William Denison's, and it is my decided opinion, founded on trustworthy information, that there will be imperative necessity for a Breakwater

Extract of letter from Captain Daviot, who has been Head Pilot and Master Attendant at Paumben for 16 years.

I cannot understand how Paroovadum Point can protect the entrance to the proposed canal on the north side. The point bears N.E. Easterly from the coast. The prevailing gales and strong winds are from N.N.W. North and N.N.E., consequently the Point can afford no shelter to the entrance of the proposed canal East of the Light House.

to protect the Northern entrance of any canal cut through Ramisseram from North to South to the Eastward of the Paumben Pass.

It

18. It will be seen by my plan that the length of dredging ground through a portion of the Paumben Pass will not be half the distance of that proposed by Mr. Townsend - that the length of cutting through part of Ramisseram will be less than the line proposed by Mr. Robertson - that no break-water will be required at either end of my ship Channel, whereas as already stated a breakwater estimated at £100,000 will be required for the Northern entrance of any canal cut straight through Ramisseram North and South, and another to protect the Southern entrance of Sir William Denison's.

19. Again, it must be noted that the Paumben Pass is already an accomplished fact, and the Channel only requires to be deepened. I cannot see the policy of abandoning a noble work, which already brings in to Government a handsome revenue - and to break ground elsewhere so as to have two Channels instead of one.

20. The Projectors of the several proposed canals through Ramisseram, North and South, have not taken into consideration the fact that by the Paumben route there is a natural free escape of water through a Strait measuring 1¼ miles across - whereas the opening of any one of these proposed canals of only some 300 or 400 yards in width, with the strong current confined within this narrow funnel, will assume the velocity of a mill race, and how a long Steamer can possibly run through with the tide or current I cannot comprehend.

This argument would apply to all the schemes (in addition to Mr. Dobson's) which make Mr. Townsend's, which advocate the Channel throughout.

21. Even in the Suez Canal, where there is no perceptible current, and where steaming is restricted to 4 knots, a Steamer now and then, by

by a yaw, runs aground – is dan-
-gerously heeled over, and remains
there for days blocking up the pas-
-sage

22 Let us suppose a Steamer going through a canal with a 5 or 6 knot current, the wind aft, and steaming to keep her head straight;- under these conditions the chances would be 10 to 1 against her getting through with safety – in fact it would be next to an impossibility.

23. The N.E. and S.W. winds will bear obliquely on the canal proposed by me, and from its position there will be no current.

24. A Steamer will be pro-
-tected from the wind as in the Suez Canal by the banks raised on each side, formed of the soil thrown up when excavating it, and as these vessels now a days are very lightly sparred, the wind will not touch them.

I

25. I beg leave respectfully to observe that, on choosing the site of a ship canal or Harbour works, one or more Nautical men should be associated with the En-
-gineer or Projector of such work, by which much correspondence and complications might be eventually obviated.

26 An Engineer views the subject in a scientific and mecha-
-nical light,– a Sailor in a prac-
-tical one and as it will affect na-
-vigation.

27. Before concluding this Report, I must again testify to the admiration I entertain for the scheme proposed by Sir James El-
-phinstone, and well supported and explained by Commander Taylor.

28. It is a grand scheme- but taking into consideration other estimates for cutting through Panis-
-eram to make it complete, with

a

by a Breakwater at the Northern en-
-g-trance. Three millions Sterling will
th be required, and as I do not think
-s- it likely that this sum will be
22 forthcoming, or that a new outlet
-go of commerce (as contemplated by Sir
6 Arthur Cotton) can be established
se to the detriment of all the present em-
un-poria of Trade along the Eastern
w Coast of India, I adhere to my plan,
th which of the many set forth is
be I submit, the most certain to attain
the desired end at the smallest
23. cost, a breakwater for all the others* being required.

* with the exception of those of Messrs Townsend and Reidy.

29. I now quote from Mr Townsend's exhaustive Report the following regarding the Paumben passage, the Northern portion of which being adopted in my scheme:

"I therefore adopt the line of the old Paumben channel as the true site for forming a ship canal between the Gulf of Manaar and Palk's Bay."

"Making due allowance for prevailing winds and currents, there are no Engineering difficulties in deepening and widening the Paumben Pass, so as to permit large vessels to pass through it, which cannot be overcome by an experienced Engineer and Contractor"

30 After drafting this Report Mr T. E. Marshall, the First Assistant, Marine Department, has proposed to me a deviation from my proposed line of canal, which I have much pleasure in laying before Government. He adheres to the general line proposed by me and the position of the Southern entrance, which during the S.W. monsoon will be protected by the Shingle Islands, but proposes the Northern entrance to be at Paumben itself, close to the Flagstaff, where there is, as will be observed in the accompanying

-companying chart, a sheltered boat harbour, which, if sufficiently deep-
-ened, for a Ship Harbour, the North-
-ern entrance of the Paumben Pass
can be diverted into it.

31 This I think would be the most sheltered entrance from the Northward out of Palk's Strait, but the expense of deepening the boat-harbour, I fear, would be great.

32 As my plan has not as yet been fully considered, I trust that His Excellency the Governor in Council will be pleased to obtain the opinions of competent authorities on the subject, at the same time taking into considera-
-tion the suggestions made by Mr. Marshall.

33 In conclusion, I beg leave most strongly to recommend that before any plan for passage or ship canal as aforesaid discussed be carried into effect, all the ap-
-proaches to the Paumben Pass through Palk's Straits and the Gulf of Manaar be again thoroughly surveyed.

34 After thorough surveys have been carried out, it will be known what class of Steamers can make use of this inner passage with safety, and it can then be ascertained whether by using this passage there will be a saving of time and money to Sea-going Steamers from European Ports bound for ports on the Coromandel Coast and Calcutta.

35 I leave these calculations to others, merely recording my convictions that, whatever they may prove to be, there can be no doubt that such a work, especially in times of war, would be one of great national importance

I have the honour to be
Sir
Your most obedient Servt

W. D. L. Dalrymple
Master Attendant
Administrative Department

Memorandum by Chief Engineer D.P.W. to accompany report by Commander Taylor I.N. and correspondence relating to a ship Canal between Ceylon and India.

The present state of this question may be shortly summarized as follows, viz, that the best nautical authorities on the subject, Sir James Elphinstone, Captain Donnan, the Master Attendant of Columbo, and Commander Taylor, late of the Indian Navy, are unanimous

in stating that the existing Paumben Channel cannot be improved sufficiently for the use of large vessels, and in recommending that a cut be made through the mainland of Iradura about 10 miles west of Point Ramen or Sanitoray the extremity of the Ramanaad Promontory. Mr. Robertson the Civil Engineer who came out to report on Indian Harbours, distinctly reports against attempting to deepen the Paumben Channel beyond 12 feet

It would appear indeed that in any case the Paumben Pass project (for the purpose of which its solution advocate Mr. Thurstend principally) is not the best that can be devised to be assumed as the basis of the Estimate of the Delagoa proposal.

I do not see any where any calculation of the advantage of the saved - 360 miles distance will be saved - at a cost of (say) 1½ million sterling in capital - besides annual outlay. D

would however be useful, but before incurring any further expense for that purpose, it would be well that use should be assumed as to the Estimate of the Delagoa proposal.

at low Water; and though his attention was not called to the subject of a ship Canal at any other point till after his return to England, he evidently views with great favour the project of cutting through Sanitoray Point.

These views on the other hand, are emphatically contradicted by the report of Mr. Somnohend C. E. made to the Ceylon Govt. in November 1871, based on personal observations in the months of August and on

Memorandum with Rolls's Plan accompanied with three

Surveys, Levels and
Estimates made in
September and October
he ridiculed the rough
estimate of £90,000
for which it was asserted
by Sir James Elphinstone
in Parliament that
the Sanitary Canal
could be executed;
and as roughly estimated
its probable cost at
£1,175,000. There is
no doubt that a very
great Engineering
difficulty has been
overlooked by the
supporters of the Canal
through the Main Land,
that of cutting and
maintaining a per-
-manent Channel

through the bar of 2½
fathoms only, which
~~only~~ exists in the sheltered
anchorage of Mootoopellah.
The practicability of
keeping it open to a
depth of 26 feet at
high Water, which is
the minimum pro-
-posed for the Canal
itself, is most doubt-
-ful, exposed as the
situation is to the
monsoon.

Mr. Townshend's
own conclusion is in
favour of deepening
the Pamben Channel
itself to the required
extent, at a probable
cost of £1,386,786.

But it is very remarkable that in his report he does not give a single reason for his preference of it over the other lines alluded to by him; he simply asserts that it alone is feasible.

A mere glance at soundings in the chart show that the sites numbered 4, 5, and 6, in his Report are not worth considering.

But Mr. Townshend has failed to do justice to the site numbered 3, selected by Sir William Denison. He admits that the

distance across, between 3 fathom soundings, is 5090 yards, against 12,000 by the Pamban Channel; the ~~excavation~~ under water £624,000 cubic yards less; probable cost of channel alone £4,000 less, and the sea entrance on the north side most favourable. But he states the absolute necessity of a Breakwater in addition costing one million, for reasons which, so far as can be judged from the charts available, and in the absence of detailed Surveys of the Pamban Channel, are just as

applicable to the line pro-
-posed by himself.

The Chief Engineer ~~is only~~ recommends that application be made to the Ceylon Govt. (which no longer requires their having declared that a ship Channel is beyond its means) for the entire set of Plans, Surveys, Sections and Estimates, prepared by Messrs Townshend Stoddard and others in their possession. And that a competent officer be instructed to complete as full a set of plans and Sections of

of the line selected by Sir William Denison and of the Southern sea entrance to it - From which and similar in-
-formation to be obtained regarding Sir James Elphinstone's line, and the line which Mr. Dalrymple has allu-
-ded to in a letter here-
-with submitted a decision on the subject may be arrived at -

In connection with it is also the question of lighting the approaches to the Gulf of Manaar from the West, and to Palk's Straits from the East. The Chief Engineer

is clearly of opinion that Mr. Dalrymple is right in his recommendation of a 1st class fixed light on Cape Comorin and a 4th class revolving light on the mainland of Kadiapatam, to point out the Crocodile Rock. As to beacons and lights on either side of Pal Ré Straits nothing can be settled till the Marine Surveys between Cape Comorin and Pal Ré Straits have been completed, as recommended by Commander Taylor - For which purpose the services of a Surveying Vessel should be applied for.

It is well to add the remark that the Indian Government are expected by the Home Authorities to take the initiative in this matter so as to determine finally the precise course and probable cost of the Channel; leaving the responsibility of its construction to be shared by the Imperial, Colonial, and Indian Governments.

Gwill

No. 2127 Cir. 27/7/73

Proceedings of the Madras Government.

Read the following letter

From the Govt. of India (H.E. No. 10 - d/4 July/73
Marine Dept.

The question of a Ship Canal at Pamben having been taken up by the Govt. of India under orders from the Secretary of State, and Mr. Robertson having been instructed under date the 7th May 1872 to report on the same, it was presumed

I concur that a light ho. on the Lacadives is most necessary & this not be less necessary if the Pamben Channel is made navigable by large ocean steamers. I must also note the need of a light on the rock at the S. of Tellicherry

27

our communication
by the inclosure to
of that fact No 239 B.C.
of 27th June 1872, that
the subject was taken
out of the cognizance
of the Indian Govt;
and with it, the ques-
-tion of building a
Light House on Bri-
-nicoy Island.

2. It is rather a
nautical than an
Engineering question,
and all information
available regarding
it will be found
in the papers below
specified, viz

cherry - ribbed
with a very
wide border
Courtney Boyle.

L. O.

Why is not the letter from
Hes Govt. of 16 Dec
1872 (Critical
to Colln. Jr. the G. Y.
& staff and with
their papers?

Report on Pannikeen Ship Canal
by Commander A. D. Taylor R.N.
of 28th July 1871, with P.L. of Febru-
-ary 1872.

G. O. Marine Department No 262
of 13th September 1871.

G. O. Do Do No 216 of 29th
August 1872

G. O. Do Do No 278 of 19th
November 1872.

From which it seems
that the Elder Bre-
-thren of the Trinity
House, Admiral Bedford
of the Board of Trade,
Commander A. D.
Taylor R.N. and Mr.
H. D. E. Dalrymple
Hoseler Attendant

Administrative Depart-
-ment, Madras, all
concur in recom-
-mending a Light
House on Minicoy
Island in connec-
-tion with the pro-
-posed Ship Canal
although the original
idea of its construction
appears to have been
suggested by the wreck
of the P & O Steamer
Columbo on a voyage
from Galle to Aden
in 1858. Copies of these
papers will accordingly
be transmitted for the

information of the
Government of India.
In the attention of
that Government
will also be drawn
to the late date and
indirect manner
of communication
to this Government
of their proceedings
with reference to a
question in which the
latter might be pre-
-sumed to take
considerable interest.

It is remarked
that the first intimation received of the
Robertson having been
detected in May 1826
respecting the Pamiban
Channel was received
inclosed to communica-
tion of the Resident
Dear Sir
Yr. Ho. Ser.
2128

Copy of the above
forwarded to the
Government of India
S. Colebrooke 3/5/27

425-27.

Govt. of 18[illegible] Madras.

PUBLIC WORKS.

To The Marine Dept

&

The Secretary to the
Govt of India

Dated

Recd. Encl.

G. O. 2 Pub. Wks. No. 2127-212

Nos 425-426 & 427

Light House on Minicoy Island —

Forwarding certain papers bearing upon the subject of the construction of Light House on Minicoy Island in connection with the proposed Ship Channel at Paumben with reference to the enquiry made by the Govt of India in their Marine Letter No 1 & 4 dated [illegible]