Marine (1898) Department.

To be returned to [illegible] [illegible]

Very Urgent

G.O., No. 768-69 Mar

DATED 8th Sept 98

III

[Despatch Abstract.]

Vizagapatam Harbour

Directing, with remarks, that the proposals of the Chief Engineer P.W.D. for improving the — be designed & estimated in detail & then placed before Sir A. Rendel & adding that the ~~general~~ question of allowing the work to be carried out by the Agency of a Company, be laid before the Govt of India for orders.

Vizagapatam Harbour

Requesting that permission may be granted to the improvements to the — being undertaken by the agency of a Company.

12/9/98.

[M. 5. / 500—13-9-06.]

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No	Department.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

Government (1898) of Madras.

MARINE.

III

Recd. } 1898. Enclosures

Regd. } Spare copies

G.O., No. 768, 8th September 1898.

SEPTEMBER.

Vizagapatam Harbour

Directing, with remarks, that the proposals of the Chief Engineer, Public Works Department, for improving the — be designed and estimated in detail and then placed before Sir A. Rendel for advice; and that the question of allowing the work to be carried out by the agency of a Company, be laid before the Government of India for orders.

57

GOVERNMENT OF MADRAS.

MARINE DEPARTMENT.

Read—the following papers :—

Petition from Mr. A. MACNAB, to the Private Secretary to His Excellency the Governor, dated Madras, 11th February 1897.

His Excellency the Governor of Madras having been pleased to accord me the favour of an interview on the subject of the proposed harbour at Vizagapatam, I have the honour to submit herewith printed copies of correspondence embodying details of the scheme as formulated so far, and I beg leave here briefly to recapitulate the object aimed at and the terms we crave from Government.

His Highness the Maharajah of Vizianagram being anxious, in commemoration of the jubilee of Her Majesty the Queen-Empress' reign, to promote the construction of the smaller or boat harbour at Vizagapatam designed by Mr. F. N. Thorowgood in 1892, has offered to guarantee, on the security of his estates, the interest on the capital required, and, on that guarantee, the capital, 10 lakhs, is virtually promised in London, provided a formal concession to make the harbour be obtained from, and reasonable terms arranged with, the Government of Madras.

It is proposed to adhere strictly to the lesser scheme formulated by Mr. Thorowgood at an estimated cost of Rs. 6,11,000, but to allow a margin up to 8 lakhs for possible excess in capital cost, and to add a further 2 lakhs to provide a sufficient equipment of warehouses, lighters and tugs, to enable the Harbour Company to serve the trade as a warehouse and shipping company.

And in consideration of the company constructing a harbour on these lines, I venture to ask of the Government of Madras, on behalf of His Highness the Maharajah of Vizianagram, that the following sources of income may be made available to the Harbour Company :—

I. That the Harbour Company shall receive the full share of port dues on vessels, now allotted to the port of Vizagapatam, under the present system of division, the Harbour Company in turn paying the port establishment.

II. That the Harbour Company shall receive the full collections of landing and shipping dues, at present levied at 2 annas per ton (including any unexpended surplus at credit of the present Harbour Board) and shall have liberty, with the sanction of Government, to increase these dues to 4 annas per ton, with, in addition, the same special dues on jaggery (1 anna per bag) as are levied at Cocanada.

III. That the Harbour Company shall receive a free grant in perpetuity of so much of the land lying between the East Coast Railway's "swamp line" and the town of Vizagapatam, as may belong to Government or the Municipality, to be reclaimed and made available for building sites with dredgings raised in the construction of the harbour.

IV. That the Harbour Company shall be permitted as of right to carry on the business of a wharf, warehouse and shipping company, with the exclusive right to them to own large lighters and tugs, provided and so long as they do not charge more than the existing rates of masula boat hire.

I would further ask that the services of the Engineers of the East Coast Railway shall, if desired, be placed at the disposal of the Harbour Company for the work of construction, as has already, I understand, been assented to by Government.

It will be seen that, beyond a slight and quite inappreciable increase in the landing and shipping dues, His Highness the Maharajah, while standing guarantee for the interests on the capital, does not contemplate the imposition of any additional dues whatever either on shipping or produce, and that the policy of the Harbour Company will be to develope the trade of the port by improved and cheapened shipping facilities, and to rely for its income on that expansion and on such legitimate profits as it may earn from serving the trade as a wharf and shipping company.

I have confidence, therefore, in claiming for the scheme now submitted the sympathy and consideration of His Excellency the Governor, and I venture to hope that the Government of Madras will be pleased to grant the concession to make the harbour.

As vitally connected with this scheme, I shall ask permission to make a very earnest appeal to His Excellency, in the interests, not merely of His Highness the Maharajah and the proposed Harbour Company, but also of the general trade of the Vizagapatam district, for a reconsideration of the dividing point of the East Coast Railway between the Madras Railway Company and the Bengal-Nagpur State Railway. To make Vizianagram the dividing point would, as I shall endeavour to show, be hostile in the last degree to the general trade interests of the district, and I am to urge very earnestly that Tuni should rather be made the point of division, so as to give the Bengal-Nagpur Railway Company a port (Vizagapatam) at the southern extremity of its system, to which it would be its interest to draw down a portion of the trade of Orissa and the Central Provinces in exchange for so much of our existing traffic as it may divert to Calcutta, while the Madras Railway Company would similarly have Cocanada as a port at its northern extremity to develope.

Petition from Mr. A. MACNAB, to the Private Secretary to His Excellency the Governor, dated Waltair, 22nd January 1898.

On the 12th February 1897, His Excellency the Governor was pleased to accord me the honour of a personal interview on the subject of the Vizagapatam harbour scheme, full particulars of which I had previously submitted in my letter to you of 11th February 1897.

The scheme was then based upon a guarantee of the interest on the required capital, generously offered by His Highness the late Maharajah of Vizianagram, and on that basis the project had already secured considerable interest in London, when the lamented death of His Highness prevented my moving further in the matter. The guarantee is (for the present at least) not available, but although not confident of securing the capital without guarantee, I think the merits of the scheme, apart from that, are quite worth pressing on the attention of capitalists, provided Government should be pleased to grant the concession on the terms suggested.

I have the honour to request, therefore, that I may be favoured with the views of His Excellency the Governor in Council on the proposals embodied in my letter above referred to and the correspondence accompanying it.

(Here enter endt [illegible] 559 Rev. 7-2-98)

From the Secretary to Government, Marine Department, to Mr. A. Macnab, dated 16th February 1898, No. 97 E.

In your letter, dated 11th February 1897, to the Private Secretary to His Excellency the Governor, you made certain proposals for the improvement of the Vizagapatam harbour in accordance with Mr. F. N. Thorowgood's smaller scheme, the work to be carried out by private agency by means of a loan, the interest on which was to be guaranteed by the Maharajah of Vizianagram. Before the matter could be fully considered by His Excellency in Council the Maharajah died, and the question has remained in abeyance ever since. You now write, under date the 22nd January 1898, to say that although not confident of securing the required capital without guarantee, you think the merits of the scheme, apart from that, are quite

58

worth pressing on the attention of capitalists, provided Government grants the concessions asked for by you in your letter of the 11th February 1897, on the terms suggested.

2. Your proposals are as follows :—

I. That the Harbour Company shall receive the full share of port dues on vessels, now allotted to the port of Vizagapatam, under the present system of division, the Harbour Company in turn paying the port establishment.

II. That the Harbour Company shall receive the full collections of landing and shipping dues, at present levied at 2 annas per ton (including any unexpended surplus at the credit of the existing Landing and Shipping Dues Committee) and shall have liberty, with the sanction of Government, to increase these dues to 4 annas per ton, with, in addition, the same special dues on jaggery (1 anna per bag) as are levied at Cocanada.

III. That the Harbour Company shall receive a free grant in perpetuity of so much of the land lying between the East Coast Railway's "swamp line" and the town of Vizagapatam as may belong to Government or the Municipality, to be reclaimed and made available for building sites with dredgings raised in the construction of the harbour.

IV. That the Harbour Company will be permitted as of right to carry on the business of a wharf, warehouse and shipping company, with the exclusive right to them to own large lighters and tugs, provided and so long as they do not charge more than the existing rates of masula boat hire.

3. The Government is, I am to say, prepared, subject to confirmation by the Government of India, to entertain the general proposal for the construction, from borrowed money, and by the agency of a private company, of Mr. Thorowgood's smaller scheme for the improvement of the Vizagapatam harbour, the total cost of which, including dredging plant, is roughly estimated at 8 lakhs of rupees. A further sum of 2 lakhs is added by you to provide a sufficient equipment of warehouses, lighters and tugs to enable the company to serve the trade as a warehouse and shipping company. The details of your proposals will, however, require further discussion.

4. The Government considers that the Vizagapatam Harbour Company should, in respect to its powers, responsibilities and subordination to Government control, be put, as far as possible, into the position the Harbour Trust Board occupies in Madras. This position is defined in Madras Act II of 1886, as amended by Madras Act I of 1892. It is thought that the whole of Part VII and a great many of the subsequent sections could be applied to the proposed company with merely verbal alterations, as to which it is not now necessary to go into details; and rates could be levied as provided for in section 45.

5. It seems desirable that the company should have its chief office in the Madras Presidency, and that the Government should have the power—

(*a*) of nominating a fixed proportion of the Directors; and

(*b*) of requiring its prior sanction to the execution of all works estimated to cost more than a certain fixed limit to be agreed upon—say Rs. 10,000—and of all works of a nature to affect the main works of the harbour.

6. The stipulations under (*b*) appear necessary. While not desiring to interfere unduly with the operations of the company, it seems to the Government to be of great importance that it should have the power to veto works which, carried out in a tide-way with the best intentions, it might be advised, were likely to produce disastrous consequences.

7. As to the four conditions formulated by you, it is observed in regard to I, that under the recently sanctioned arrangements for grouping the ports of this Presidency, the Government has no power to assign to the new company any of the Vizagapatam port dues as a matter of right. It would be preferable that the dues from the *port* and the *harbour* should be kept distinct as at Madras; and though no definite promise can be made to hand over to the company surplus port dues after meeting port expenses, it might be possible to grant occasional subventions in the event of there being any surplus in the eastern group as a whole. No such surplus is, however, possible for several years, until all the projected lighthouse schemes have been provided for.

8. The port establishment must remain a Government establishment. There would, however, be no objection to an arrangement similar to that in Madras whereby the harbour company would be the Conservators of the port under section 7 (1) of the Indian Ports Act, X of 1889, and the Port Officer Deputy Conservator. The Conservators would, in conservancy matters, be subject to the "intermediate authority" appointed under section 7 (4) of the Act, viz., the Presidency Port Officer.

9. Condition II is accepted. The company might have the same power to fix dues at Vizagapatam as the Harbour Trust Board at Madras. To satisfy the capitalists from whom the money would be raised, there would be no objection to fix a minimum rate of harbour dues. A maximum rate need not be fixed, as the Government would have the power to veto excessive rates in the same way as they now have in the case of Madras.

10. Condition III is also accepted, but it might be necessary to stipulate for Government receiving credit, in the event of its taking over the property, for the value of the land so made over to the company; or it might be a condition that, after free occupation for a certain number of years to be agreed upon, the company should pay rent for the land. I am to invite your opinion on these alternative suggestions.

11. As regards condition IV, no doubt is entertained as to the propriety of the harbour company carrying on the business of a wharf, warehouse and shipping company, for which they would have exceptional advantages in the possession of the lands to be handed over under condition III. The company might also calculate on the possession (as the Harbour Trust Board at Madras) of so much of the foreshore of the harbour as belongs to Government and as is not required by the Customs and other Government departments. But no exclusive right to erect warehouses can be given. If there is any private property stretching down to the shore it is not clear how the owners could be prevented from erecting warehouses thereon. Wharves are in a different category. A monopoly of the right to construct wharves for the landing and shipping of goods would not be objected to; but the proposed exclusive right to own large lighters and tugs is one which no legislature is likely to grant, nor does it seem to be in any way necessary to the welfare of the company. There can be no reason why the company should not own tugs and lighters, but there also seems no reason why they should have any exclusive right to do so. If they have not such a right, it would perhaps seem at first sight as if they might be subjected to unfair competition by other persons building tugs and lighters and using them under the protection afforded, and with the conveniences furnished, by the company's works. But this supposition will, on a nearer view, be found to be erroneous. If the company are in the same position as the Harbour Trust Board at Madras, they will be empowered under a law corresponding to section 45 of Act II of 1886 to prescribe a scale of rates for vessels or boats approaching or lying alongside their wharves; and they might also be permitted to make a monthly or annual charge for all vessels kept within the protection afforded by their works. Under these circumstances there seems no reason to apprehend more than such a reasonable competition as will be to the public benefit, without being unduly inimical to the interests of the company.

12. Finally, the contract should include a provision for the optional purchase by the Government, at certain fixed periods, of the property of the company, similar to that included in railway contracts. The first optional period might be at the end of 20 years, and thereafter at intervals of five years—two years' previous notice being given by Government. The price to be paid would be the actual capital expenditure as from time to time sanctioned by Government.

13. I am to invite your remarks and suggestions on these proposals.

From Mr. A. MACKNAB, to the Secretary to Government, Marine Department, dated Ootacamund, 3rd May 1898.

With reference to your letter No. 97 E., of 16th February 1898, I have th honour to inform you that I have been in correspondence with the friends at home who are interesting themselves in the project for the construction of a harbour at Vizagapatam, and I now ask permission to address you in reply to your letter.

2. It is noted with satisfaction that the Government of Madras is prepared, subject to confirmation by the Government of India, to entertain the general proposal for the construction, from borrowed money and by the agency of a private company, of Mr. Thorowgood's smaller scheme for the improvement of the Vizagapatam Harbour, which is all that it is proposed to undertake for the present, or that the existing trade would bear, and, while I desire gratefully to acknowledge the favourable consideration which the Government of Madras has given generally to the proposed terms of concession, there are one or two points in which I have to ask the favour of reconsideration.

3. Of these points the most important are—

First,—The proposals embodied in paragraphs 4, 5 and 6 of your letter, namely, that the Vizagapatam Harbour Company should be subject to the same control as the Madras Harbour Trust Board, and that it should have its chief office in the Madras Presidency; and

Secondly,—The withholding from the company of the Vizagapatam port dues.

4. As regards the first of these points, I am to submit, for the consideration of Government, that there is this radical difference between the Madras Harbour Trust and the proposed Vizagapatam Harbour Company: that the one is a board administering a work constructed out of public funds and belonging to Government, and the other would be a company working a harbour constructed by that company's own capital. In stating this distinction, however, there is no desire to question the undeniable right, vesting in Government as the custodian of the public interests, to be adequately represented on the board of the company, and to have a sufficient voice in the management in matters affecting the public interests, as distinguished from what may be termed the internal administration of the company, such (for instance) as the acquisition and management of warehouses, lighters and tugs, the allocation of earnings in dividends, reserve and sinking funds, &c. It is felt that there may be a difficulty in thus defining the voting power of the respective Directors, but probably it would suffice, at the present stage, if Government would accord recognition to the principle that such matters (to be more clearly defined hereafter) shall be left to the vote of the representatives of the capital. Subject to such an understanding, the stipulation that the prior sanction of Government should be obtained to all works estimated to cost more than a certain fixed limit and to all works affecting the main works of the harbour is unobjectionable and, indeed, the company would probably, in its own interests, welcome the advice and guidance of the Government of Madras in such matters.

5. It is, however (under this head), the suggestion that the company should have its chief office in the Madras Presidency that is felt to constitute a serious difficulty. This condition would involve a rupee capital, and that, I may say at once, would be considered an absolute bar by the friends in Europe whom I have succeeded in interesting in the project. Hitherto there has been no suggestion of any but a sterling capital, and at sterling rates of interest the income which I have been able to indicate as likely to be realised would probably suffice to attract the capital. If, however, the capital were to be in Indian currency, Indian rates of interest would be expected, and a sufficient return on that scale from the harbour cannot be shown. Without having as yet any assurance on the point, I venture to think that some form of guarantee, possibly modified and restricted to a term of years, may be forthcoming, which would be invaluable in attracting capital, but it is not to be expected that the guarantors would make themselves responsible for the course of exchange, and, in the present state of the currency, English investors will not send their money to India for a prospective return which might be quite sufficient to induce sterling subscriptions.

I am encouraged to hope, however, that Government will not press this point, and that on a reconsideration there will be no objection to the chief office of the company being in London. I would suggest that Government representation on the Board might, as in the case of the Indian Railway Companies, be by officers nominated by the Secretary of State for India, and that there might, if desired, be a reservation that the Government of Madras should be referred to in all matters in regard to which prior sanction is required as defined in paragraph 5 (*b*) of your letter.

6. The remaining point, which I have very earnestly to urge on the reconsideration of Government, has reference to port dues. In the terms of concession, which I had the honour of submitting on behalf of the promoters of the harbour scheme, it was asked—

That the harbour company shall receive the full share of port dues on vessels now allotted to the port of Vizagapatam, under the present system of division, the harbour company in turn paying the port establishment.

In paragraph 8 of your letter, it is objected to this that the port establishment must remain a "Government establishment." I hasten to disclaim, on behalf of the company, any desire to intrude on the control of the port establishment, which it was quite understood must remain with the Presidency Port Officer. The suggestion was merely that the company should accept a debit of the cost of the port establishment, and that suggestion was made to clear the way for our claim to receive the port dues. That being arranged, the company would then bear the whole expenses of the port, and, such being the case, I submit with confidence it is only equitable that the company should receive the whole of the port dues levied in respect of Vizagapatam. The amount of these dues on their present scale is relatively insignificant, though hardly so insignificant as the measure of shipping facilities afforded to shipping in return for these dues. It would be the function of the company to create some real return for these dues and to afford to shipping facilities which do not at present exist. These facilities must have the effect of attracting tonnage to the port. with the result that the dues would ultimately become an appreciable item in the company's income, and I submit it would be hard, I may even be permitted to say, it would be altogether unreasonable that the company should have no share in the increased revenue thus directly resulting from their capital expenditure. It is not proposed that the rates of port dues on shipping should be increased; on the contrary, the company's policy would be to rely for their income on the expansion of the trade which improved facilities should induce, and the increase in revenue from port dues, even at present rates, is one on which reliance has been placed in formulating the scheme now under consideration. Relatively small as this source of income is, and must always be, the withholding of it from the company in all the circumstances as an appearance of exaction, which will certainly have a deterrent effect on investors, and it has even suggested itself (though I mention the suggestion with diffidence) that, if these dues are to remain the sole property of Government, there might be a temptation at some future time to raise rates on the strength of the improved facilities enjoyed by shipping, which, if it did not deter vessels from frequenting the port, might re-act on the income from the harbour in other directions. It is stated in your letter that the Government has no power to assign these port dues as a matter of right, although it is within their competence to make "occasional subventions in the event of there being a surplus in the group as a whole." It is to be feared that the prospect of such occasional subventions would not be estimated at any appreciable value by intending investors, and I may be permitted to suggest that it should not be difficult, nor would it, in the altogether exceptional circumstances of the case, be unreasonable for the Government to take the required power prescribed, as that power would seem to be, not only by equity, but also by expediency, if, as I trust I may take it, the Government is desirous of seeing the harbour made by private enterprise.

7. Reference is made to the lighthouse scheme for the coast, to which presumably the individual ports must contribute in fixed or varying ratio, and there should be no difficulty in arranging that the harbour company should, in addition to the expense of the port establishment, accept debits for these and other similar expenses fairly chargeable to the port. I would, however, submit two alternative solutions of this question of port dues.

(i) That the Harbour Company receive the whole share of port dues accruing to Vizagapatam, accepting debit of the whole expenses of port establishment (as originally suggested), and also of the share of general administration expenses fairly chargeable to the port; or

(ii) that Government should retain the whole of the Eastern group coasting dues, and allow the Company all port dues other than "group" dues, the expenses of the Vizagapatam port establishment and the port's proportion of general administration expenses being borne by Government and the Company in equal moieties.

Coasting?

It is from the so-called "foreign dues," that increased revenue resulting from improved facilities may be expected, and it seems fitting therefore that these dues should be portion of the Company creating and paying for these facilities.

8. Condition II of the proposed terms of concession is accepted by Government. The assignment of the landing and shipping dues with fixed minimum rates would, as pointed out in your letter, afford the Company the required security.

9. Condition III is also accepted by Government, and of the alternative conditions of tenure, which might possibly be required, and on which an expression of opinion is invited, it is considered that the second would be preferable in the Company's interests, namely, that, after free occupation for a term of years to be agreed upon, the Company should pay rent for the land. With prolonged tenure thus assured, there would be inducement to carry on reclamation considerably beyond the limit represented by excavation necessitated by the making of the harbour proper, and, as one of the most pressing needs of the port is room for the town to expand and afford house accommodation close to the harbour for the labouring classes, the Company would probably prosecute reclamation vigorously, if the fruit of their work were thus assured to them.

10. As regards condition IV, I would point out that no suggestion was made as to an exclusive right to erect warehouses and that the exclusive right to own large lighters and tugs was strictly limited by the condition, "so long as they (the Company) do not charge more than the existing rates of masula boat-hire". I note that, even subject to that reservation, it is not considered feasible to confer such an exclusive right, but probably, as you point out, the right to levy rates on vessels approaching wharves or kept within the harbour, would, provided the rates sanctioned are sufficient, afford the Company all the protection required.

11. Finally, the option reserved to Government of purchasing the harbour on some such terms and at such periods as suggested, is recognised as necessary. I would however ask whether Government would agree that land reclaimed under condition IV should, even if, or when, the harbour is taken over by Government, remain the property of the Company, excepting only so much of the reclaimed land as may at any future time be required for strictly harbour purposes. The land in question is absolutely valueless at present, could only be made habitable by spending probably as much money in distributing, as in excavating, spoil, and, when reclaimed, would be altogether distinct from the harbour works proper. As will be apparent, the proposed Company looks for its revenue from any source other than increased dues; this reclamation scheme is an indirect source of revenue which will help to get the harbour made without increased dues. So long as the purchase by Government remains optional and therefore doubtful, the Company could not spend money on reclamation. *The reclamation however would be a public benefit and, as it would form no part of the harbour proper, I would ask that the reclaimed land should not be covered by the right of purchase reserved to Government.*

Mis. No. 598, Revenue.

Transferred to the Marine Department, with reference to G.O., No. 256, Marine, dated 17th March 1897.

7th February 1898. (Signed) N. E. MARJORIBANKS,
Ag. Asst. Secretary to Government.

Here print Current No. 529/98
([illegible] letter of 3-5-99)

Order—No. 768, Marine, dated 8th September 1898.

The correspondence read above relates to a proposal to carry out, from borrowed money, by means of a Company, Mr. Thorowgood's smaller scheme for the improvement of the Vizagapatam harbour.

2. The conditions proposed by Mr. MacNab and the modifications suggested by Government, together with the further amendments now suggested by Mr. MacNab, are fully set forth in the papers printed in these Proceedings.

3. Since Mr. MacNab's proposals were placed before Government, the Chief Engineer has put forward certain alternative suggestions providing for the removal of the bar at the mouth of the river by means of sluices and of a training wall or wharf in continuation of that now under construction. ?

4. His Excellency the Governor in Council is not certain that these alternative proposals will obviate the necessity for constructing the groyne proposed by Mr. Thorowgood. The matter is one upon which it will be necessary to take the advice of the highest Engineering authority available. The Chief Engineer's proposals will be designed and estimated in detail and then placed before Sir Alexander Rendel for advice. Any further negotiations with Mr. MacNab must proceed on the understanding that the Company, if constituted, will accept and carry out such designs as Sir A. Rendel may finally approve, and that the sanction of the Government of India is accorded to the general proposal to carry out the works by the agency of a Company, as already stipulated in paragraph 3 of the Secretary's letter, No. 97 E., dated 16th February 1898. The general question will be at once laid before the Government of India for orders, and, meanwhile, the details of the scheme will be further discussed with Mr. MacNab by the Secretary to Government in the Marine Department.

[Here enter No. 769, Marine, dated 8th September 1898.]

(True Extract.)

Under Secretary to Government

To A. MacNab, Esq.
To the Presidency Port Officer.
" Chief Engineer, Public Works Department.

Exd. A. F. Eccleston.

Hist papers Current No 547/18
[illegible] [illegible] letter of 3-5-99

Government (1898) of Madras.

MARINE.

Print
as part of III

Recd. } 1898. *Enclosures*
Regd. *Spare copies*

Letter, No. 769, 8th September 1898.

SEPTEMBER.

Vizagapatam Harbour

Requesting that permission may be granted to the improvements to the — being undertaken by the agency of a Company.

No. 769, Marine, 8th September 1898.

MARINE DEPARTMENT.

Letter—from

W. B. deWINTON, Esq.,
Secretary to the Government of Madras,
Marine Department,

To

The SECRETARY to the GOVERNMENT of INDIA,
Department of Finance and Commerce.

Sir,

I am directed to forward for the orders of the Government of India the accompanying copy of the Proceedings of this Government, No. 768, Marine, dated 8th September 1898, containing correspondence on the subject of the improvement of the Vizagapatam harbour by the agency of a Company; and to enquire whether the Government of India will have any objection to the works being thus carried out, provided the details, which have not yet been finally approved, can be brought to a satisfactory conclusion.

2. His Excellency the Governor in Council is inclined, as a matter of general policy, to encourage the expenditure of private capital on works of public improvement; and in this case more especially, as there seems no prospect of public funds being forthcoming for the construction of the works urgently required to render the Vizagapatam harbour capable of dealing with the large increase of traffic which is certain to accrue in the near future, in consequence of the opening out of the interior by means of the lines of railway now under construction and in contemplation.

3. As the Government of India are aware, the cost of Mr. Thorowgood's smaller scheme will amount to over six lakhs of which the groyne alone is estimated to cost Rs. 3,62,751 and to this will probably have to be added the cost of the sluices and training wall proposed by the Chief Engineer. Having in view the many lighthouse and other Port works which this Government is desirous of carrying out, His Excellency in Council sees no possibility of the Vizagapatam harbour works being commenced except in the manner now proposed. I am accordingly to request that the general approval of the Government of India may be communicated to these works being undertaken by the agency of a Company, on the lines suggested in the correspondence recorded with the accompanying Proceedings, subject of course to their subsequent approval of the detailed agreement which will have to be drawn up.

I have the honour to be,
Sir,
Your most obedient servant,

Secretary to Government.

Ootacamund,
8th September 1898.

Exd. A. F. Eccleston.

G—19-7-97.

Marine
~~Revenue~~ (1898) Department.

CURRENT No. ~~[illegible]~~ 183

17

From

The Private Secretary to

H. E. the Governor.

No.

Order Mis. No. 598 d/7th Feby. 1898.

Transferred to the Marine Department, with reference to G.O. No. 256, Marine, dated 17th March 1897.

Marjoribanks

Ag. Asst. Secretary to Govt.

Dated 31st Jany. 1898.

Received }
Registered } 10.2.98 ~~8-2-98.~~

Enclosures 1

Spare copies.

SUBJECT.

Transfers a letter d/22nd Ja
1898 from Mr. A. MacNab, Waltair, re
garding the Vizagapatam Harbour sc

To the Marine Dept.

66

Rd
8 Feb 98

BACK PAPERS.

G.O.	No.	Department.	Date
G.O.	66	Marine	28-1-98
"	256	"	17-3-97
"	110	Rev.	10-2-94
"	688-SW	P.W.	13-3-93
"	3512-SW	"	22-12-92
"	2982 W	"	10-11-91.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

PETITION Waltair 22nd January 1898.

0103

DEPT

To

The Private Secretary to
His Excellency The Governor Of Madras.
Madras.

Sir,

On the 12th February 1897, His Excellency The Governor was pleased to accord me the honor of a personal interview on the subject of the --- Vizagapatam Harbour Scheme, full particulars of which I had previously submitted in my letter to you of 11th February 1897. Go 1187 2-3-97

The scheme was then based upon a guarantee of the interest on the required capital, generously offered by His Highness the late Maharajah of Vizianagram, and on that basis the project had already secured considerable interest in London, when the lamented death of His Highness prevented my moving further in the matter. The guarantee is, (for the present at least) not available, but although not confident of securing the capital without guarantee, I think the merits of the scheme, apart from that, are quite worth pressing on the attention of Capitalists, provided Government should be pleased to grant the concession on the terms suggested.

I have the honor to request therefore that I may be favored --- with the views of His Excellency the Governor in Council on the proposals embodied in my letter above referred to and the correspondence ------- accompanying it.

I have the honor to be,
Sir,
Your most obedient servant,
A MacNab.

64

by you in your letter of the 11th February 1897, on the terms suggested.

2. Your proposals are as follows:-

I. That the Harbour Company shall receive the full share of port dues on vessels, now allotted to the port of Vizagapatam, under the

68

the present system of division, the Harbour Company in turn paying the port establishment.

II. That the Harbour Company shall receive the full collections of Landing and Shipping Dues, at present levied at 2 annas per ton (including any unexpended surplus at the credit of the ~~present Harbour Board~~ existing Landing and Shipping Dues Committee) and shall have liberty, with the sanction of Government, to increase these dues to 4 annas per ton, with, in addition, the same special dues on jaggery (1 anna per bag) as are levied at Cocanada.

III. That the Harbour Company shall receive a free grant in perpetuity of so much of the land lying between the East Coast Railway's "swamp line" and the town of Vizagapatam, as may belong to Government or the Municipality, to be reclaimed and made available for building sites with dredgings raised in the construction of the harbour.

IV. That the Harbour Company will be permitted as of right to carry on the business of a wharf, warehouse and shipping Company, with the exclusive right to them to own large lighters and tugs, provided and so long as they do not charge more than the existing rates of masula boat hire.

3. The Government is, I am to say,

prepared,

It se[illegible] that such
informa[illegible] to be neces-
ary – the arrangements
ing one not provided
or by the ordinary rules.
R.S.

X

prepared, subject to confirmation by the Government of India, to entertain the general proposal for the construction, from borrowed money, and by the agency of a private company, of Mr. Thorowgood's smaller scheme for the improvement of the Vizagapatam Harbour, the total cost of which, including dredging plant, is roughly estimated at 8 lakhs of rupees. A further sum of 2 lakhs is added by you to provide a sufficient equipment of warehouses, lighters and tugs to enable the Company to serve the trade as a warehouse and shipping company. The details of your proposals will, however, require further discussion.

4. The Government considers that the Vizagapatam Harbour Company should, in respect to its powers, responsibilities, and subordination to Government control, be put, as far as possible, into the position the Harbour Trust Board occupies in Madras. This position is defined in Madras Act II of 1886, as amended by Madras Act I of 1892. It is thought that the whole of Part VII and a great many of the subsequent sections could be applied to the proposed company with merely verbal alterations, as to which it is not now necessary to go into details, and rates could be levied as provided for

in

in section 45.

5. It seems desirable that,

~~(a)~~ the Company should have its chief office in the Madras Presidency; and that,

~~(b)~~ the Government should have the power

(a) of nominating a fixed proportion of the Directors, and

(b) of requiring its prior sanction to the execution of all works estimated to cost more than a certain fixed limit to be agreed upon - say Rs.10,000,

~~(c)~~ and of all works of a nature to affect the main works of the harbour.

6. The stipulations under (b) ~~and (d)~~ appear necessary. While not desiring to interfere unduly with the operations of the company, it seems to the Goverment to be of great importance that it should have the power to veto works which, carried out in a ~~[illegible]~~ tide way with the best intentions, it might be advised were likely produce disastrous consequences.

7. As to the four conditions formulated by you, it is observed in regard to I that, under the recently sanctioned arrangements for grouping the ports of this Presidency, the Government has no power to assign to the new company any of the Vizagapatam port dues as a matter of right. It would be preferable that the dues from the port and the harbour should be kept distinct as at Madras; and though no definite promise can be made to hand over

to

to the company surplus port dues after meeting port expenses, it might be possible to grant occasional subventions in the event of there being any surplus in the Eastern group as a whole. No such surplus is, however, possible for several years, and until all the projected light house schemes have been provided for.

8. The Port Establishment must remain a Government Establishment. There would, however, be no objection to an arrangement similar to that in Madras whereby the Harbour Company would be the Conservators of the port under section 7(1) of the Indian Ports Act X of 1889, and the Port Officer Deputy Conservator. The Conservators would, in conservancy matters, be subject to the "intermediate authority" appointed under section 7(4) of the Act-viz the Presidency Port Officer.

9. Condition II is accepted. The Company might have the same power to fix dues at Vizagapatam as the Harbour Trust Board at Madras. To satisfy the capitalists from whom the money would be raised, there would be no objection to fix a minimum rate of harbour dues. A maximum rate need not be fixed, as the Government would have the power to veto excessive rates in the same way as they now have in the case of Madras.

Madras.

10. Condition III is also accepted, but it might be necessary to stipulate for Government receiving credit, in the event of its taking over the property, for the value of the land so made over to the Company; or it might be a condition that after free occupation for a certain number of years to be agreed upon, the Company should pay rent for the land. I am to invite your opinion on these alternative suggestions.

11. As regards condition IV, no doubt is entertained as to the propriety of the Harbour Company carrying on the business of a wharf, warehouse and shipping company, for which they would have exceptional advantages in the possession of the lands to be handed over under condition III. The Company might also calculate on the possession (as the Harbour Trust Board at Madras) of so much of the foreshore of the harbour as belongs to Government, and as is not required by the Customs and other Government Departments. But no exclusive right to erect warehouses can be given. If there is any private property stretching down to the shore it is not clear how the owners could be ~~equitably~~ prevented from erecting warehouses thereon. Wharves are in a different category. A monopoly of the right to construct wharves for the landing and shipping of goods would not be objected to;

but

but the proposed exclusive right to own large lighters and tugs is one which no legislature is likely to grant, nor does it seem to be in any way necessary to the welfare of the Company. There can be no reason why the Company should not own tugs and lighters, but there also seems no reason why they should have any exclusive right to do so. If they have not such a right, it would perhaps seem at first sight as if they might be subjected to unfair competition by other persons building tugs and lighters and using them under the protection afforded, and with the conveniences furnished, by the Company's works. But this supposition ~~would~~ will, on a nearer view, be found to be erroneous. If the Company are in the same position as the Harbour Trust Board at Madras, they will be empowered under a law corresponding to section 45 of Act II of 1886 to prescribe a scale of rates for vessels or boats approaching or lying alongside their wharves; and they might also be permitted to make a monthly or annual charge for all vessels kept within the protection afforded by their works. Under these circumstances there seems no reason to apprehend more than such a reasonable competition as will be to the public

benefit

benefit, without being unduly inimical to the interests of the Company.

12. Finally, the contract should include a provision for the optional purchase by the Government, at certain fixed periods, of the property of the Company, similar to that included in Railway contracts. The first optional period might be at the end of 20 years, and thereafter at intervals of 5 years-two years' previous notice being given by Government. The price to be paid would be the actual capital expenditure as from time to time sanctioned by Government.

13. I am to invite your remarks and suggestions on these proposals.

I have &c.,

M.

R.S.

12·2·98

Issue 15·2·98

Issued 16/2/98

15 Feb 98

Note. I have been reading the papers in this & another file on the subject & believe the bar can be removed for much less than 6½ lakhs. I am going to investigate this. Meanwhile the above can do no harm, though I deprecate giving work to private companies which should be done by Govt. likely to give rise to difficulties & complications

12·2·98

I should like to hear Mr. De Winton's ideas about this — perhaps he will come over & tell me some morning —

H.S.

I don't know. Govt. can't do everything & the free investment in such enterprises of private capital would be a great thing for the country

H.S.

R 15-2-98

Marine (1898) Department.

CURRENT No. 549

Order

From A. MacNab Esqre

No.

Dated 3rd May 1898

Received 4th Do

Enclosures

Spare copies

SUBJECT.

Harbour at Vizagapatam

Addressing on certain points in the concessions offered to the Harbour Company in connection with the project for the construction of a ——.

72

M. 4.
500—14-5-97.

R 26/5/98 H.S. 26/5/98 27/6/98

BACK PAPERS.

No.	Date.
act II of 1886	
No. 97 E of	16-2-98
G.O. 66 of	25-1-98
256 of	17-3-97
Nilgiri Ry Contract agreement:	
G.O. 3512 W of	22-12-92
689 W of	13-3-93
688 W of	13-3-93 Do
2982 W of	10-11-91
2787 W of	23-10-91
110 Rev of	10-2-94
G.O. 1412 W of	6-6-98 with file

FURTHER PAPERS.

No.	Date.

W
7 May 98

Marine DEPARTMENT.

7

Ootacamund, 3rd May 1898.

To

The Secretary to

The Government of Madras

(Marine Department)

Ootacamund.

Sir,

x Not yet received in the records

With reference to your letter No 97.E. of 16th February 1898, I have the honor to inform you that I have been in correspondence with the friends at home who are interesting themselves in the project for the construction of a Harbour at Vizagapatam, and I now ask permission to address you in reply to your letter.

2- It is noted with satisfaction that the Government of Madras is prepared, subject to confirmation by the Government of India, to entertain the general proposal for the construction, from borrowed money and by the agency of a private Company, of Mr Thorowgood's smaller scheme for the improvement of the Vizagapatam Harbour, which is all that it is proposed to undertake for the present, or that the existing trade would bear, and, while I desire gratefully to acknowledge the favorable consideration which the Government of Madras has given generally to the proposed terms of concession, there are one or two points, in which I have to ask the favor of reconsideration.

3- Of these points the most important are

(First)

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own ideas were
without consider
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it is to project —
construction unecon
ound, but as to this
He seems to expect that Govt. is to go back on
its word on his *ipse dixit* that Mr. Thorowgood's
scheme is entirely unsuited to the requirements
of the Port. I am not prepared to do so.
H. Jun. 12-5-98

administering a work constructed from public

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See, by the way, that in his note at the end of the draft of letter No 97 E / 16.2.98 Mr. [illegible] limited his ideas as to the harbour works of [illegible]. I asked him to [illegible] in possession of them. But I cannot [illegible]

8

(First) The proposals embodied in paras 4.5.& 6 of your -- letter ,namely that the Vizagapatam Harbour Com - pany should be subject to the same control as the Madras Harbour Trust Board and that it should have its chief office in the Madras Presidency

and (Secondly) The withholding from the Company of the Vizagapatam Port Dues.

4 As regards the first of these points,I am to submit for the consideration of Government that there is this radical difference between the Madras Harbour Trust and the proposed -- Vizagapatam Harbour Company,that the one is a Board administering a work constructed out of Public funds and belonging to -- Government,and the other would be a Company working a harbour constructed by that Company's own capital. In stating this --- distinction however,there is no desire to question the undeniable right,vesting in Government as the custodian of the ----- public interests,to be adequately represented on the Board of -- the Company,and to have a sufficient voice in the management in matters affecting the public interests,as distinguished from - what may be termed the internal administration of the Company, such (for instance) as the acquisition and management of Warehouses,Lighters and Tugs,the allocation of earnings in Dividends Reserve and Sinking Funds &c. It is felt that there may be a difficulty in thus defining the voting power of the respective Directors but probably it would suffice at the present stage if Government would accord recognition to the principle that such matters (to be more clearly defined hereafter) shall be left t

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or strictly Harbour purposes. The land in question utely valueless at present,could only be made habitable by spending probably as much money in distributing,as in ----- excavating,spoil,and,when reclaimed,would be altogether distinct from the Harbour works proper. As will be apparent,the proposed Company looks for its revenue from any source other than --- increased dues;this reclamation scheme is an indirect source of revenue which will help to get the Harbour made without increased dues. So long as the purchase by Government remains optional and therefore doubtful,the Company could not spend money on reclamation. The reclamation however would be a public benefit and,as it would form no part of the harbour proper,I would ask that the reclaimed land should not be covered by the right of purchase reserved to Government.

I have the honor to be,

Sir,

Your most obedient servant,

A. MacNab.

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the vote of the representatives of the capital. Subject to --- such an understanding, the stipulation that the prior sanction of Government should be obtained to all works estimated to cost more than a certain fixed limit and to all works affecting the main works of the Harbour is unobjectionable and indeed the -- Company would probably, in its own interests, welcome the advice and guidance of the Government of Madras in such matters.

5 It is however (under this head) the suggestion that the Company should have its chief office in the Madras Presidency that is felt to constitute a serious difficulty. This condition would involve a rupee capital, and that, I may say at once, would be considered an absolute bar by the friends in Europe -- whom I have succeeded in interesting in the project. Hitherto there has been no suggestion of any but a Sterling Capital, and at Sterling rates of interest the income which I have been able to indicate as likely to be realised, would probably suffice to attract the capital. If however the Capital were to be in ---- Indian currency, Indian rates of interest would be expected, and a sufficient return on that scale from the Harbour cannot be -- shown. Without having as yet any assurance on the point, I --- venture to think that some form of guarantee, possibly modified and restricted to a term of years, may be forthcoming, which would be invaluable in attracting capital, but it is not to be expected that the guarantors would make themselves responsible for -- the course of exchange, and, in the present state of the currency, English investors will not send their money to India for a --- prospective return which might be quite sufficient to induce --

Sterling

W 7 June 98

Marine Department.

C. No. 549 of 1898.

10

Sterling

Sterling subscriptions.] I am encouraged to hope however that Government will not press this point, and, that on a reconsideration there will be no objection to the chief office of the Company being in London. I would suggest that Government -------- representation on the Board might, as in the case of the Indian Railway Companies, be by Officers nominated by the Secretary of State for India, and that there might, if desired, be a reservation that the Government of Madras should be referred to in all matters in regard to which prior sanction is required as defined in --- para 5 (b) of your letter.

6 The remaining point, which I have very earnestly to -- urge on the reconsideration of Government, has reference to Port Dues. In the terms of concession, which I had the honor of submitting on behalf of the promoters of the Harbour scheme, it --- was asked

> That the Harbour Company shall receive the full share of Port Dues on vessels now allotted to the Port of Vizagapatam, under the present system of division, the Harbour Company in turn paying the Port establishment.

In para 8 of your letter, it is objected to this that the Port Establishment must remain a Government Establishment". I ----- hasten to disclaim, on behalf of the Company, any desire to ----- intrude on the control of the Port Establishment, which it was quite understood must remain with the Presidency Port Officer. The suggestion was merely that the Company should accept a ---- debit of the cost of the Port Establishment, and that suggestion was made to clear the way for our claim to receive the Port ---

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Dues

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With prolonged tenure thus assured, there would be inducement to carry on reclamation considerably beyond the limit represented by excavation necessitated by the making of the harbour proper, and, as one of the most pressing needs of the port is room for the town to expand and afford house accommodation close to the harbour for the labouring classes, the Company would probably prosecute reclamation vigorously, if the fruit of their work were thus assured to them.

10 As regards condition IV, I would point out that no suggestion was made as to an exclusive right to erect warehouses and that the exclusive right to own large lighters and tugs was strictly limited by the condition, "so long as they (the Company) "do not charge more than the existing rates of masula boathire" I note that, even subject to that reservation, it is not considered feasible to confer such an exclusive right but probably as you point out, the right to levy rates on vessels approaching wharves or kept within the Harbour, would, provided the rates sanctioned are sufficient, afford the Company all the protection required.

11 Finally, the option reserved to Government of purchasing the Harbour on some such terms and at such periods as suggested, is recognised as necessary. I would however ask whether Government would agree that land reclaimed under condition IV should, even it, or when, the Harbour is taken over by Government, remain the property of the Company, excepting only so much of the reclaimed land as may at any future time be required

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W
7th June 98

Marine DEPARTMENT.

C. No. 549 of 1898.

11

Dues. That being arranged, the Company would then bear the whole expenses of the Port, and, such being the case, I submit with confidence it is only equitable that the Company should receive the whole of the Port Dues levied in respect of Vizagapatam. The amount of these dues on their present scale is relatively insignificant, though hardly so insignificant as the measure of shipping facilities afforded to shipping in return for these dues. It would be the function of the Company to create some real return for these dues and to afford to shipping facilities which do not at present exist. These facilities must have the effect of attracting tonnage to the port, with the result that the dues would ultimately become an appreciable item in the Company's income, and I submit it would be hard, I may even be permitted to say it would be altogether unreasonable, that the Company should have no share in the increased revenue thus directly resulting from their capital expenditure. It is not proposed that the rates of Port Dues on shipping should be increased; on the contrary, the Company's policy would be to rely for their income on the expansion of the trade which improved facilities should induce, and the increase in revenue from Port Dues, even at present rates, is one on which reliance has been placed in formulating the scheme now under consideration. Relatively small as this source of income is, and must always be, the withholding of it from the Company in all the circumstances has an appearance of exaction, which will certainly have a deterrent effect on investors, and it has even suggested itself,

(though

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He seems to expect [illegible]
to word on his *ipse dixit* that Mr. Thorogood's
scheme is entirely unsuited to the requirements
H. Im. 12-5-98 of the Port. I am not prepared to do so.

Draft of letter No. 1972 / 16.2.98 [illegible]
to the [illegible] public [illegible]
[illegible] in possession of them. But I [illegible]

W
7th June 98

Marine DEPARTMENT.

G. No. 549 of 1898.

(though I mention the suggestion with diffidence) that, if these dues are to remain the sole property of Government, there might be a temptation at some future time to raise rates on the strength of the improved facilities enjoyed by shipping, which, if it did not deter vessels from frequenting the port, might react on the income from the harbour in other directions. It is stated in your letter that the Government has no power to assign these port dues as a matter of right, although it is within their competence to make "occasional subventions in the event of there being a surplus in the group as a whole". It is to be feared that the prospect of such occasional subventions would not be estimated at any appreciable value by intending investors, and I may be permitted to suggest that it should not be difficult, nor would it, in the altogether exceptional circumstances of the case, be unreasonable, for the Government to take the required power, prescribed, as that power would seem to be, not only by equity, but also by expediency, if, as I trust I may take it, the Government is desirous of seeing the Harbour made by private enterprise.

7. Reference is made to the Light House Scheme for the Coast, to which presumably the individual ports must contribute in fixed or varying ratio, and there should be no difficulty in arranging that the Harbour Company should, in addition to the expense of the Port Establishment, accept debits for these and other similar expenses fairly chargeable to the port. I would however submit two alternative solutions of this question of

Port

Port Dues.

1 i - That the Harbour Company receive the whole ~~of~~ share of Port Dues accruing to Vizagapatam, accepting debit of the whole expenses of Port Establishment, (as originally suggested) and also of the share of general administration expenses fairly chargeable to the Port.

or ii - That Government should retain the whole of the Eastern Group Coasting Dues, and allow the Company all Port Dues other than "Group" dues, the expenses of the Vizagapatam Port Establishment and the port's proportion of general administration expenses, being borne by Government and the Company in equal moieties.

It is from the so-called "Foreign Dues", that increased revenue resulting from improved facilities may be expected, and it seems fitting therefore that these dues should be portion of the Company creating and paying for these facilities.

8. Condition 11 of the proposed terms of concession is accepted by Government. The assignment of the landing and shipping dues with fixed minimum rates, would, as pointed out in your letter, afford the Company the required security.

9. Condition 111 is also accepted by Government, and of the alternative conditions of tenure, which might possibly be required, and on which an expression of opinion is invited, it is considered that the second would be preferable in the Company's interests, namely, that, after free occupation for a term of years to be agreed upon, the Company should pay rent for the land.

With

He seems to expect that Govt. is to
its word on his *ipse dixit* that Mr. Thorogood's
scheme is entirely unsuited to the requirements
of the Port. I am not prepared to do so.
H. Im. 12-5-98

81

I … by the way, that in his note at the …
Draft of letter No. 197 E / 16.2.98 Mr. de W. limited his ideas as
to the harbour works … public. I asked him to
put me in possession of them. But I cannot …

W
7 June 98

Marine DEPARTMENT.

C. No. 549 of 1898.

III

16p

3. HIS EXCELLENCY THE GOVERNOR.

1. THE HON'BLE SIR HENRY BLISS, K.C.I.E.

2. THE HON'BLE MR. GROSE, C.I.E.

SUBJECT.

Vizagapatam Harbour Project.

FOR ORDERS.

In the letter read above, Mr. A. MacNab replies to the remarks and suggestions made in Marine Department letter No. 97 E., dated 16th February 1898 in regard to his proposals for carrying out, by means of private enterprise, Mr. Thorowgood's smaller scheme for the improvement of the Vizagapatam Harbour.

2. Mr. MacNab requests the reconsideration ⊠ of the stipulations that the Vizagapatam Harbour Company should be subject to the same control as the Madras Harbour Trust Board, and that it should have its chief office in the A. Madras Presidency.

3. He points out that there is this difference between the two bodies, - the Madras Harbour Trust is a Board administering a work constructed from public

⊠ Paras 4, 5 and 6 of Marine Dept. letter.

Mr. Thorowgood prepared two plans which were destroyed in the fire in the P.W. Secretariat at Simla – he then wrote home for copies of these plans, for which, if I recollect right, we paid handsomely – ~~[illegible]~~ ~~[illegible]~~ Where are these plans? I should like to see them.

Called for from Madras 26/5/8

I am not satisfied with + the way in which the Secretary has dealt with this matter – His note wd. have been an appropriate one if placed on record before the issue of letter No. 97 E of Feb 16, 1898, but seems to be quite out of place after (in his own letter, para 3) the Govt. has committed itself to Mr. MacNab. In penning his remarks, the Secy. has overlooked the last sentence of para 2 of the letter from the Govt. of India of Feb 13, 1893 (in G.O. 688W/13.3.93), with which I am inclined to agree, and the obvious meaning of which is that Engineers who have not made harbour works their special study should defer in such matters to the expert who has. Moreover, if the Secy. must have proposed to abandon Mr. Thorowgood's scheme, the least he should have done was to point out in what respects & for what reasons it was unsuitable and in what respects & for what reasons his own ideas were superior. As it is, he does not even condescend to say ~~[illegible]~~ where his 2 lakh groyne is to be, or even from which shore it is to project – By "breakwater," I understand a structure unconnected with the shore at either end, but as to this the Sec: is not explicit – He seems to expect that Govt. is to go back on its word on his *ipse dixit* that Mr. Thorowgood's scheme is entirely unsuited to the requirements of the port. I am not prepared to do so.

Flagged F

H. Ins. 12-5-98

I see, by the way, that in his note at the end of the draft of letter No. 97 E/16.2.98 Mr. [illegible] hinted his ideas as to the harbour works of that [illegible]. I asked him to [illegible] me in possession of them. But I cannot [illegible] [illegible] public funds, whereas the Vizagapatam Harbour Company would be working a harbour constructed from its own capital. While admitting the right of the Government, as custodian of the public interests, to be adequately represented on the Board, and to have a sufficient voice in the management in matters affecting the "public interests" as distinguished from the "internal administration" of the Company, he asks the Government to accord recognition to the principle that in matters of "internal administration", several of which are specified, (and to be more clearly defined hereafter) the vote of the representatives of the Capital shall prevail. Subject to such an understanding, he would admit the stipulation that the prior sanction of Government be obtained to expenditure on main works, and on others costing more than a certain fixed limit.

4. It may be remarked in this connection that "all works affecting the main works of the harbour" are included in the design, and that there can

be

Mr. MacNab's most important dissents to the reply of Govt. to his first letter are in regard to the Company being an Indian one and to the receipt by the Company of a share of the Port dues. I think his arguments on the first head are sound. The arrangement might be as suggested at the end of his para 5, viz., the Company to be an English one, with some Directors nominated by the S. of S. — All we here need stipulate for is that the Company shall be represented in India by some one who would have authority at once to comply with such requisitions as this Govt. might be authorized to make.

As to the Port dues, I think the second plan suggested at the end of Mr. MacNab's 7th para is reasonable — but before finally assenting to it we must see what the financial effect would be. The Company might fairly take all dues on foreign-~~sea~~going vessels in excess of the present standard of receipts from that source. What is that standard & what the cost of the upkeep of the Port including ~~both~~ share of general administrative expenses of which the Company wd. pay half? Figures should be given for the last 3 years. They are in the office, I think.

Under these arrangements, the Govt. wd. not interfere with the internal admn. of the Company (*vide* Mr. MacNab's para 4), save so far as the Govt. Director or Directors wd. have an equal vote with the other Directors; nor do I see why they shd. do so, provided that it were stipulated that if the Divids. exceeded 10% for (say) more than two years running, rates should be reduced — There are disadvantages in arrangements of the sort because, as soon as the maxm. divd. has been attained, there is no inducement to economical working. But the Govt. Directors would exercise influence that way and it might be possible that the Govt. would be able to retain some sort of control over the numbers and pay of the Establishments employed, in the same way as they do in the case of the S.I.R. — I don't quite know how it is managed. Mr. Spring might be asked for information and to advise as to suitable terms. Perhaps the Govt. Director or Directors might have a veto on the

employment of Estts. in excess of a certain scale, on the grant of salaries exceeding a certain amount.

As regards para 11 of Mr. MacNab's letter, the Rev. Dept. will have to consider whether, in the event stated, the Company could be allowed to retain any lands they might have reclaimed — I cannot see why not, provided that Govt. would, on taking over the Company, not repay any of the capital expenditure on reclamation.

HS
25/5/98

I agree with the Hon: Sir H. Bliss, that, as at present informed, we shd adhere to Mr. Thorowgood's plans, & that we are committed to a favourable consideration of Mr. MacNab's proposals; and also as to the way in which the present proposals about the location of the Company & Port dues shd be dealt with. If Mr. MacNab is set aside there is no prospect that the work will be done — at all events for a great number of years.

JG
26/5/98

I agree with the passage of the Hon. Sir H. Bliss's Note, which I have marked A. I saw Mr. de Winton to-day, and told him so. He set forth his doubts as to the efficacy of Mr. Thorowgood's scheme, and explained to me his own proposals. I think we should see

be little difference of opinion in regard to them, and that unless the control of the Government Directors extends to the details of construction and the accounts of expenditure, their power on the Board would be almost nil, seeing that all the other matters including

(a) the acquisition and management of warehouses, lighters and tugs,

(b) the allocation of earnings in Dividends, Reserve and Sinking Funds, and

(c) working of the harbour after completion (i.e., internal administration)

would be removed from their control.

5. The suggestion that the Chief Office of the Company should be located in the Madras Presidency is also objected to. It is in fact said to be an absolute bar to the raising of the capital. If the chief office is to be in London, the Board of Directors will have to be there also, and it is difficult to see how the Madras Government can be adequately represented on it. It is submitted that the case of the

guaranteed

guaranteed Railway Companies cited in this letter is not quite analogous. The Government Director in these cases has a potential voice in management which he would not have on the Vizagapatam Harbour Board, and the Madras Government has its local Consulting Engineer whose power of control over the "internal administration" of Railway Companies is very great.

6. The question of allocation of Port Dues is next dealt× with. The claim of the Company to receive the net dues of the port after meeting the cost of the port establishment and proportionate cost for Lighthouses and general administration, is pressed. A considerable augmentation of receipts is anticipated in consequence of the facilities to be afforded, and it is held that it would be unreasonable that the Company should have no share in the increased revenue due to their capital expenditure. Two alternative proposals are put forward in para 7 of the letter for dealing with these dues.

The

Note from Mr. de Winton giving his reasons for considering Mr. Thornycroft's the scheme unsuitable, and setting forth his own scheme. The file should be returned to Mr. de Winton with a request that he will submit such a Note.

A.G.H
6.6.98

N.B. ~~[illegible]~~ Until we have settled our scheme, we can hardly deal with Mr. MacNab's proposals.

A.G.H

× para 6 of Mr. MacNab's letter.

18

7. The views of Government in regard to Conditions II, III, and IV are accepted, and the option of purchase reserved by Government is admitted; but it is suggested that, even after purchase of the works, the land reclaimed under Condition IV might remain the property of the company, excepting so much as may be required for "strictly harbour purposes". The reasons in support of this claim are given in the last para of the letter.

R.S. 8. I inspected Vizagapatam Harbour in February last, and am personally most strongly opposed to M. handing it over to the tender mercies of a private Company — for the following reasons.

(1) The concession is based on Mr Thornycroft's small scheme, which I believe to be entirely unsuited to the requirements of the Port.

(2) The Port has, or should have, a great future before it & the State, not a private Company, should benefit by it.

I wonder how many docks w^d have been made in England if their construction and maintenance had not been undertaken by private companies.

HS

But how will it benefit the State to spend its money on the harbour works instead of allowing a private Company to do so? The State could not work the harbour, if it made it, with an eye to profit only, for all profit made would be so much taken from trade. The Secy's remark reminds me, however, that there should be a stipulation that, in the event of the Co's divd exceeding, say, 10%, rates shall be reduced

HS

83

(3) What the Port wants is

(a) a training wall or groyne running out into about 2 fathoms, which will concentrate the tidal ebb & flow on the bar, & keep it scoured.

(b) a breakwater, a mile long, in 7 fathoms, capable of withstanding a cyclone sea, behind which ships could lie in all weather with perfect safety.

(a) would probably cost about 2 lakhs, which sum has been included in the forecast of expenditure we have forwarded to the Govt. of India, when asking for a loan – This work should be carried out at once, & by Govt.

(b) would cost about 50 lakhs, & must wait till funds are available, though it may be mentioned that India is always ready to spend 50 lakhs on 50 miles of railway of doubtful utility, whereas it would probably be horror struck at the proposal

I did not know this, or, at least, do not recollect it. Let me see that file again, please.
HS

The original G.O. 316 Marine of 29 Apr 98 is now with the Civil Dept. [illegible] 7 June 98

Please see items 12 Appendix A page 8 of G.O. No 316 Marine of 29 April 1898. Flag IV
[illegible]

C. No.

198

SUBJECT.

HIS EXCELLENCY THE GOVERNOR.
THE HON'BLE SIR HENRY BLISS, K.C.I.E.
THE HON'BLE MR. GROSE, C.I.E.

3

FOR ORDERS.

I have seen this done with apparently good results at Ostend
HS

to spend a like sum in making an absolutely safe harbour at Vizag:

In addition to (a) it may be necessary to construct sluices at the site of the bridge of boats, to retain the tidal flow, & let it loose as often as necessary on the ebb, & so simulate a large flood on the bar – but I think it is more probable that the training wall will suffice – The sluices would cost another 2 lakhs –

(4) If the concession is given difficulties & complications are sure to arise, both as to the construction of works

& the ownership of the land reclaimed, and the end will be that Govt. will have to buy a property* which may not be in every way satisfactory, at a cost not of all proportion to its value — vide the Kurnool-Cuddapah Canal.

* The proposal is that Govt. should have a right of ~~pur~~ purchase at fixed dates for a fixed sum. HS

I therefore recommend that Mr. McNab be informed that Govt. is not prepared to grant the concession asked for

H Bliss
12.5.98

But he has already been informed to the exact contrary!! HS

[43/500] W 7 Sep 98 / Urgent

~~Public Works~~ Marine DEPARTMENT.

C. No. 549 of 1898.

~~HIS EXCELLENCY THE GOVERNOR.~~

~~THE HON'BLE SIR HENRY BLISS, K.C.I.E.~~

THE HON'BLE MR. ~~GROSE, C.I.E.~~ Arundel 3 Sep 98.

SUBJECT. Vizagapatam Harbour

Send this back to the Hon. Mr. Arundel that he may see my further notes Flags G, O & W

HS
2/9/98

FOR ORDERS.

~~o~~ Flag A.

Mr. de Winton now sets forth in detail his objections to Mr. Thorrowgood's scheme, and propounds his own scheme. I must say, I find Mr. de Winton's representations and conclusions to be cogent ones. If we accept them, Mr. de Winton should prepare plans and estimates for his scheme, and the whole case should then be submitted to Sir A. Rendel for opinion and advice.

A.S.H
20.6.98

W 12/8/98

I think the C.E.'s proposed training wall & Mr. Spring's proposed sluices very good proposals, the latter especially — They should certainly be estimated for — I do not agree with the condemnation of Mr. Thorrowgood's groyne — On the contrary, some such groyne seems to me essential, for, if the bar is cleared away, & the entrance is not protected, the last state

* Flag F.

1. With reference to the remarks of Government on my note for orders dated 12th May 1898 I greatly regret that I should have been considered to have submitted this question in an unsatisfactory manner. I respectfully submit, in explanation, that I did not for one moment imagine that my views on the matter would be accepted until I had submitted them in greater detail: but as a full report on the matter would have made the note very lengthy, I thought a general outline would suffice for the moment to arrest further consideration of Mr. MacNab's proposals until the question of the scheme to be adopted had been finally settled.

2. With regard to the Hon. Sir. H. Bliss's remark about Government being committed by letter No. 97 E* d/ 16th February 1898, which he describe as my own letter, to a favourable consideration of Mr. MacNab's proposals

I beg to point out that the letter[x] was drafted on the Hon. Member's remarks on Note for Orders dated[a] 3rd May 1897, and that in my note[#] at the end thereof I gave my own views on the matter. If I had realised that the letter committed Government to a general acceptance of Mr. MacNab's proposals I should certainly not have made use of the words "meanwhile the above can do no harm", and it is unfortunate that the Hon. Member did not at once remove this false impression on my part. I much regret that I did not, as requested by him, take the paper over at the time and explain my views. The paper returned to me on February 15 and on the 16th I left Madras for Waltair to meet His Excellency and on my return the Hon. Member's request entirely escaped my memory.

3. I will now proceed to give my reasons for considering Mr. Thorowgood's scheme unsuitable, and will then set forth my own proposals.

4. Apparently the suggestion that a Marine Engineer of unquestionable authority should be deputed from England to Vizagapatam to report fully on practicable measures for improving that port

[x] Flag F

[a] Flag B

[#] Flag C

the port will be worse than the first— That, however, is a point on which Sir A. Rendel will pronounce.

Meanwhile, what answer are we to give to Mr. MacNab? We have told him, in so many words, that "the Govt. is prepared, subject to confirmation by the Govt. of India, to entertain the general proposal for the construction, from borrowed money, and by the agency of a private company, of Mr. Thorowgood's smaller scheme" &c.; and we have indicated certain conditions which we think should form part of the agreement. Mr. MacNab has replied & has discussed our proposals, some of which he accepts, while to others he objects. There can be no doubt, however, that, as matters stand, a fair working agreement would not be difficult to arrive at. Are we now going to draw back & say that we are not prepared to entertain the general proposal, in direct contradiction to what we have already said? I do not think we should. If there was the least probability of the scheme being carried out by Govt., I should never have approved of the scheme's being made over to a Company, but I don't see the least probability of Govt. being able to take the matter up; & it therefore seems to me that the alternative lies between leaving the port unimproved & getting the improvement carried out by a Company. Under such limitations as have already been sketched out, I am not in the least afraid of the Company making enormous profits, as the C.E. would apparently wish to do, to the destruction of trade— On the contrary, the interests of trade will be sufficiently safeguarded by the stipulation that the Govt. can take the works over at

For the statements in this para please see G.O. No. 2787 W dated 23rd October 1891. Flag. D

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stated intervals.—

Having regard, however, to the C.E.'s & Mr. Spring's proposals, we should hardly be wise to sanction the immediate prosecution, whether by a Company or not, of Mr. Thorowgood's scheme, pure & simple— I think ∴ we should tell Mr. MacNab that we have since had these further proposals put before us & that we propose to have their cost estimated & to then place them before Sir A. Rendel; and that any further negotiations must be on the understanding that the Company, if constituted, will accept & carry out such designs as Sir A. Rendel may finally approve; and on that understanding we should proceed to discuss the proposals made in Mr. MacNab's last letter, on which I have already noted— "To obviate future difficulties with the G. of I." I would also at once report to it the stage which has been reached in the discussions with Mr. MacNab, & the further engineering proposals which are now before us—

I agree to the proposals in the foregoing paragraph.

31.8.98

Mr. Thorowgood did not design the Madras Harbour works— In fact, he was in no way responsible for their design—

I cannot agree that the cases are similar— To my mind, they are essentially dissimilar— At Madras, long groynes have been projected at right angles to a straight line of coast which is composed of such soft stuff as to be easily eroded by the currents which run parallel to it

port first emanated from the Government of Madras.

This suggestion was not approved by the Government of India, and their opinion on the matter is said to be based on "reports by officers who had great local knowledge as well as technical qualifications." It is not easy to reconcile this with the apparent fact that the Madras Government made the suggestion. However, the Secretary of State overruled the objection, and referred the matter to Sir A. M. Rendel, Consulting Engineer to the India Office, who gives his views in a letter to Sir J. Danvers and recommends Mr. Thorowgood as the right man for the inquiry, because he was "for many years the Resident Engineer of the Madras Harbour Works and of previous experience on the great works at the mouth of the river Tyne". What the latter are, beyond the fine stone pier at Tyne-mouth, I do not know, but I hardly think that the Madras Harbour Works have been such a success as to make the title 'expert' in Marine Engineering applicable to the Engineer who carried them out, and the very fact that Mr. Thorowgood has suggested at Vizagapatam a groyne in much the same relative position to the shore as the Madras harbour works,

walls

~~works~~ walls, which have done and are doing so much harm, occupy, shows how far he was from being the right man for the work. I quite agree with the dictum of the Government of India quoted by the Hon. Member that if you call in an expert to advise you should, as a rule, act upon his recommendations, but I submit that everything depends on the expert called in. The Government of India in para 2 of their letter printed with G.O. * 688 W dated 13th March 1893, says that "Mr. Thorowgoods long experience on the Madras harbour works entitles him to speak with authority on a question of this nature", and I admit that if he had profited by that experience, the statement would perhaps be justified, but when he proceeds to repeat at Vizagapatam the same mistake that was made at Madras I deny that his opinion deserves acceptance and I would far rather accept that of an officer of long local training & great experience like Mr. Walch, even although that experience had not included much marine engineering.

At Vizagm., the proposal (for the boat harbour, to begin with) is to run out a groyne in a bight of a coast, which consists to the South of hard rock which cannot be eroded and to the North of a sandy soil which is almost as hard as rock and which is certainly underlaid by rock at no great depth, as is indicated by the frequent visible outcrops of rock, and which groyne will be at a point at which the currents are not parallel to the coast.
HS

* Flag F

The circs are not in the least the same, as above pointed out
HS

5. Now let us see what the problem was that Mr. Thorowgood had to solve, and how he set about it.

For the statements in this para, and paras 6, 7 & 8 please see G.Os. Nos. 3512, 3513 W dated 22nd Dec. 1892. Flag G

it. The requirements of the port of Vizagapatam may be briefly stated to be as follows:-

(1) The removal of the bar at the mouth of the river, so that large cargo boats can be used for landing and shipping operations at all states of the tide instead of the mauslah boats etc. of small capacity now in use.

This is the larger scheme. But, in any case, if the bar is removed, something must be done to prevent the rollers of the sea outside running up into the river, or landing & shipping operations will be impossible there. See Sir A.M. Rendel's letter on p. 2 of G.O. ~~[illegible]~~ 2787 W / 23.10.91 and other notes to the same effect in the papers. Some such groyne as Mr. Thorowgood proposes wd. therefore seem to be required.
HS

(2) The protection of the roadstead, including the mouth of the river from heavy seas, so that ships can lie there in safety, and load and unload cargo in all weathers.

Mr. Thorowgood's proposals & the order thereon will be found in the G.Os. above quoted in the margin, and the plans submitted by him and called for by Hon. Sir H. Bliss are herewith attached. It will be seen that Mr. Thorowgood arrived at Vizagapatam on December 4, 1891 (para 2) and left it on February 22, 1892 (para 44). That is to say he spent 2 months and 18 days during the N.E. Monsoon in investigating this difficult matter, and had no experience of the conditions prevailing during the S.W Monsoon. He commenced his investigations at once, and came to the following conclusions:-

ο Flag G

He mentions that while he was at Vzm the wind had gone round to the S.
HS

See separate note at the End.
MA

(1) the bar is occasionally removed by heavy rains producing floods in the river Maonderu-para 12.

(2) the scourings out are very uncertain, no such action having taken place for more than 3 years-para 13.

(3) the river must only be regarded as a tidal backwater, and the question of its rainfall & catchment area disregarded-para 14.

(4) the tidal ebb and flow must be looked to as the active force for moving sand-Para 15.

(5) With everything against it, the river has still been able to maintain an exit to the sea -- through which boats can pass at high water-Para 16.

(6) The chief source of sand supply to the bar is due to wave action during the period from October to February when the wind and the littoral current are both to the north of east-Para 18.

(7) Another source of sand supply to the bar is a movement of sand when the southerly winds set in from seaward towards the shore. Para 19.

There is but little sand for some 10 miles to the S. of Vizag, the coast for that distance being rocky
HS

(8) The sand in the neighbourhood of the harbour mouth is very easily moved, and it was very difficult to get an accurate survey of the bottom of the sea in 2 consecutive days. Para 20.

The bar itself is extremely hard
HS

At the time of the shift of wind from N. to S.
HS

(9) The direction of the crests of the breaking waves hardly --- varies at all, being throughout the year as indicated in Drawing No. 1. i.e. South East-Para 24.

(10) Tidal and littoral currents outside the mouth of the river may be neglected as having no --- general effect on the bar. para 25.

(11) The depth of water in the river and its mouth up to 1 fathom line has diminished since the year 1870 when the reclamation of the swamp land by the Roman Catholic community was commenced. para 26.

6. I agree with the conclusions (1) to (5) summarised above, except that I take leave to doubt the accuracy of the last part of conclusion (2) that no scouring by flood water had taken place for 3 years. With regard to conclusion (6) Mr. Thorowgood bases it on the fact that in December 1891 his survey showed the one fathom line to be at a distance of 640 feet to the east of the Old Dutch battery (para 18) while a similar survey -- made in February 1892 with wind and current from the south, shows the one fathom line at a distance of only 320 feet from the Battery. i-e a distance

To my mind there is a fatal flaw in Mr. Thorowgood's report & proposals. He bases all on a knowledge of the coast, the currents the waves & the sand derived from a stay in Vizag. of 2 months & 18 days & on what he could learn from Captn Winckler the master attendant. para 24.
ACL

My hon: Colleague is presumably not aware that during the whole time Mr. Thorowgood was in Vizag. he stayed with Mr. Willock, who has certainly a more intimate knowledge of everything connected with the Vizagapatam harbour than any other man now living & with whom Mr. T. was in daily consultation.
HS

yes-but Mr. W. never ~~took~~ made the soundings & scientific experiments necessary for accurate knowledge on the subject. ACL distance of 320 feet nearer shore in 2 months, and on this evidence he concludes that the bar is and always has been caused by sand brought during the N.E. Monsoon, and afterwards flattened back (by which I suppose he means removed) over the mouth in the S.W. Monsoon. Surely a conclusion was never arrived at on more slender grounds! He takes conditions during the N.E. monsoon to prove what happens during the S.W. monsoon! and says nothing about the direction of the wind and current during the 2 months which elapsed between his two surveys, nor how long the S. wind had been blowing before his second survey, and conclusion (7) is in direct conflict with the statement in para 23 that with a southerly wind the one fathom line is nearer the shore. I would also point out that on Drawing 2 and para 41 of his Report Mr. Thorowgood shows that the 1 fathom line has not appreciably changed in 9 years!

If the sand does not come from the N., from whence *can* it come?
M.A.

It is little better than guesswork
M.A.

I do not think much value attaches to conclusions based on such very insufficient data, and conclusion (8) should have warned Mr. Thorowgood to be careful in forming an opinion.

M.A.

With regard to conclusion (9) I can only say that if true, Vizagapatam differs from all other ports

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ports on the coast, the general rule being that the direction of the breaking waves follows approximately the direction of the prevailing wind.

I can find no definite evidence in support of conclusion (ii) and am personally of opinion from inquiries on the spot that though theoretically the reclamation should have had a prejudicial effect on the mouth of the river, that effect has been, in fact, very small.

7. On the above conclusions Mr. Thorowgood made the following proposals for improving the harbour:-

(1) Dredging a channel 1,000 yards long, 50 yards wide, and 10 feet deep at low water springs, partly shown on Drawing 1 cost Rs. 14,000 ✓ -not including cost of dredger which was to be shared with Cocanada, though how it was to be shared without being paid for is not stated-paras 30 to 33.

(2) Constructing a groyne 1420 feet (preferably 1550 feet) long, in the position shown on both drawings, with the two-fold object of keeping back sand from the river mouth, and allowing sufficient breaking ground for waves to break upon-paras 34 & 35

35, cost Rs. 3, 62, 751.

(3) Increasing the tidal capacity of the estuary by excavation of 19 million cubic feet of the land reclaimed since 1870, as shown on drawing 2 cost Rs. 1, 93, 200.

Total cost including plant, contingencies & establishment Rs. 6, 11, 271.

8. He also submitted a scheme for a deep outer harbour with a 900' entrance, the plan of which will be found on Drawing 2. vide Paras 42 and 43 of his Report. This he estimates to cost Rs. 43, 27, 272 in Appendix B, and its object was to supply the second requirement of Vizagapatam mentioned in Para 5 above.

9. These proposals were submitted by Mr. Thorowgood to the Secretary of State and by him referred to the Government of India for consideration in consultation with the Madras Government. A note on them by Mr. Walch, the then Acting Chief Engineer and Secretary to Government, will be found in the above marginally noted G.O. and I beg a careful perusal thereof. It will be seen that he raises various objections to the proposals and as these objections are to a large extent identical with mine, I give them here in full.

Flag. G

10. Taking the smaller scheme first, Mr. Walch objects in para 6 to the proposed dredging because

(1) The dredger, for which no provision was made by Mr. Thorowgood, would certainly cost 1¾ lakhs.

(2) To dredge the proposed channel would require the removal of many times the 28,000 cubic yards put down by Mr. Thorowgood

(3) To maintain such a channel would require frequent, if not constant, dredging, so that a special dredger would have to be kept at that place.

The reasons for (3) are very fully given, and are to my mind absolutely indisputable.

I am convinced that the channel would require constant dredging to keep it open, and that constant dredging would be often impossible owing to stress of weather.

11. Mr. Walch objects in para 7, to the proposed groyne because

(1) there is no evidence as to its probable efficacy.

(2) Mr. Thorowgood had no opportunity of making observations on the movement of sand during the S.W. monsoon, which has a very important bearing on the question.

12

(3) Even if the groyne did arrest the travel of sand from the north, Mr. Thorowgood admits that sand also travels from the south, which the groyne would also arrest & cause a deposit in the very place which it was wished to deepen.

Sand from the S. would have to travel like this ∫ in order to get behind the groyne – HS

(4) Such experience as we have on the Coromandel coast points to the extreme probability that the groyne will greatly aggravate the evil which it is intended to remedy.

There is no other place on the whole Coromandel coast where the circs are in the least similar HS

I most entirely agree with the above objections. It may be that the promontory of the Dolphins nose protects Vizagapatam roadstead to such an extent as to alter or at any rate reduce the conditions prevailing elsewhere on the coast, but in the absence of any observations during the S.W. monsoon, we have no evidence to that effect, and I think it would be most dangerous to reproduce the conditions at Madras, by building a groyne at, or nearly at, right angles to the shore, which would more than probably produce silting on its southern side and erosion on its northern side, and thus, as Mr. Walch says, greatly aggravate the evil which it is intended to remedy.

This is the point. We do not know what happens during the S.W. monsoon & are guessing at it. ASA.

See above – The circs are essentially different HS

There is a southerly movement of

13

96

of sand at Madras during the N.E. monsoon, but its effect is inappreciable, & I should want much more evidence than Mr. Thorowgood produces to prove that it is a drift of sand from the north which is the main factor in forming the bar at Vizagapatam.

12. Mr. Walch does not touch on the question of the protection from heavy seas afforded by the proposed groyne to the river mouth, and it is not clear whether Mr. Thorowgood intends it to act in this manner. He merely says (para 34) that he has placed it in such a position as to allow sufficient beaching ground inside it for waves to break upon. There is no doubt that the surf on the bar renders its passage by cargo boats often troublesome and sometimes dangerous, and any protection that could be afforded would be a great boon, but I greatly doubt if the groyne would afford any real protection. I think it might very probably increase the disturbance of the sea inside it by reflex action and do rather harm than good, especially if Mr. Thorowgood's statement that the direction of the breaking waves is always from the south east is correct.

× ? break

What Mr. T. means by the "sufficient beaching ground for the waves to break upon", I don't understand – but he does not say what the C.E. says he says – The C.E. has interpolated the words I have underlined – They may, or may not, alter Mr. T's meaning – I don't know. HS

It is quite clear to me that Mr. T. meant *inside*. ASA.

13.

91

13. With regard to Mr. Thorowgood's 3rd proposal to increase the tidal capacity of the estuary by excavation Mr. Walch agrees, in para 8, to the principle, but says "I do not for one moment suppose that the increase in tidal capacity proposed would keep open an unenclosed ~~cha~~ channel to a depth of 10 feet at low water, but it might probably add a very important foot or two in depth to the worst places, and any work carried out in that direction would be useful". Mr. Walch acknowledges that to the reclamation is undoubtedly due some deterioration of the entrance to the backwater, but I have not as yet ~~formed~~ found any evidence of this, nor could I gather any on the spot. The bar was, in fact, when I was there in February last, in better condition than it had been for years. I quite admit that no extensive curtailment of the capacity of a tidal estuary should be permitted, but as a matter of fact, I believe the curtailment in this particular instance has been very small. Mr. Thorowgood in para 15 says the river is tidal for nearly 8 miles from the mouth, yet in para 38 he estimates the present tidal capacity of the estuary at only 67 millions of cubic feet,

or

when I was in Vizag. in 1896 the complaint I heard was that the railway bridge had narrowed the tidal passage and thus restricted the ebb & flow of the tide down & up.

ALA.

But there is no railway bridge across the main chl. up & down which the tide flows! The railway bridge is in the embankment which cuts off a part of the swamp –

FJS
2/9/98

Yes – but the tide flows under the bridge to the portion of the swamp cut off. It was suggested to me – by Mr. Willcock I think – that the contraction at this point diminished the amount of water which should have flowed upward during ~~[illegible]~~ the incoming tide & served to scour the bar during the Ebb.

ALA 6.9.98

My observations made last year put an end to this idea once and for all.

FJS
R. 5/10/98

or with an average depth of 4', ~~ratle~~ rather less than 400 acres! Now I have been in a boat up the estuary, a couple of miles, to Karasa Salt factory in company with the Port officer, who was astonished at its extent, and had no idea what a large area was covered with water, and I undertake to say that the estuary covers a great deal more than 400 acres. Also if old levels could be found, I think they would show that the area reclaimed had a shallow depth of water on it before reclamation, probably not more than 2 to 3 feet at spring tides, and that therefore the loss in tidal flow has not been appreciably great. I object then to this proposal for the same reason as Mr. Walch, viz, that it would not effect its object, but I go further and say that no amount of excavation that could be done for a reasonable sum would have any appreciable effect on the tidal scour on the bar. I propose to give this by more natural means.

ALA. FJS

I quite agree with this.

FJS
R. 7/10/98

14. Now with regard to Mr. Thorowgood's larger scheme for a deep sea harbour, to cost Rs. 43,27,272, Mr. Walch remarks para 1, "There is no reasonable doubt that an excellent fine weather open harbour for large ships could be made at Vizagapatam

on

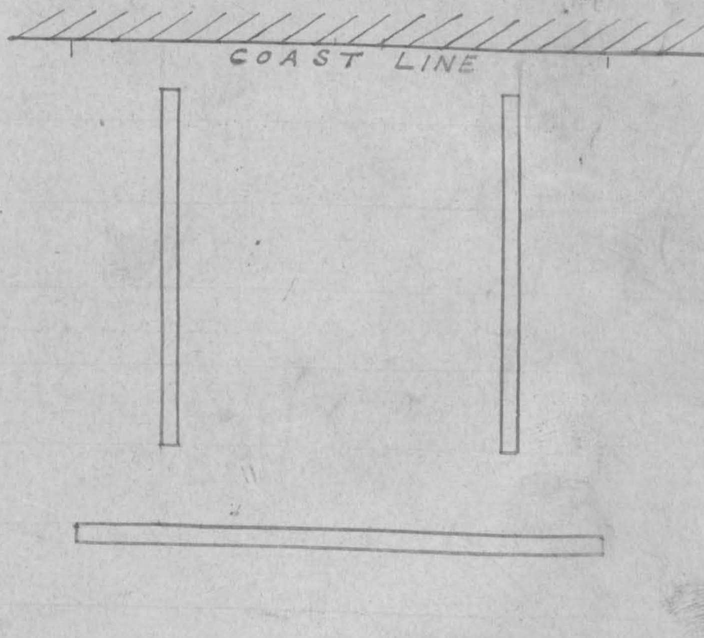
on the general limes of the Madras harbour, and for such a work Mr. Thorowgood's estimate appears suitable". But he considers that for reasons given, the cost will greatly exceed Mr. Thorowgood's estimate, and that instead of 43 lakhs it would probably cost more than 65 lakhs. He also thinks that such a harbour is unnecessary now, but will become so when railway communication is opened up with the Central Provinces, and finally in para 9 he says that the necessary protection to the river mouth from surf and heavy seas can only be given by long and massive sea walls, which would be best disposed so as to enclose an outer harbour. The position of Mr. Thorowgood's deep harbour is shown on Drawing 2.

I do not quite understand, what Mr. Walch means by a 'fair weather' harbour. If we spend large sums of money at Vizagapatam it must be in providing shelter for ships in *all* weather, even a heavy cyclone and not only in providing a fair-weather harbour such as the Madras one from which ships have to cut and run on the first signs of a storm. Nor do I agree that it is advisable

I much doubt whether it is possible to make a harbour in which ships could lie in safety in a heavy cyclone – not because a harbour couldn't be made to keep out the waves, that could be, but because no ground gear yet invented wd. hold vessels close moored in a cyclone – If the gear held the hawse pipes would go – Any captain wd. rather be at sea in a cyclone than close moored in a harbour – The case of a place like Cocanada where scope can be given to the cables is of course different – Besides in Cocanada in a cyclone the bottom gets stirred up & the sea gets almost as thick as treacle & doesn't rise much
BS

I entirely agree. A foul weather harbour must shut out the cyclonic *wind* as well as the sea, & this is impossible. AHA

advisable to make any other harbour on the coast "on the general lines of the Madras harbour", which is, for all purposes except facility for landing and shipping goods in moderate weather, a failure and a nuisance to the coast. Harbours on an open coast line to be successful must interfere as little as possible -- with natural conditions. Look at the Colombo harbour; its sea walls are an extension of the natural -- line of coast, and it is a monument of successful marine engineering. Look at Linga harbour in the Persian gulf, which I believe to be situated on an open coast line like Madras. The harbour was built thus 400 years ago



that is to say, the side walls are not connected with the shore and the front (sea) wall is not connected with the side walls. The former allows

It was never intended or expected to be a harbour of shelter in cyclones.
AHA

But the conditions at Columbo are totally different.
AHA.

Yes.
A.S.H.

But we know nothing about the currents & the drift of sand along this coast. Such a harbour off Madras *might* – I don't say *would*, for the conditions are unknown – have been completely filled up with sand in a few years.
AHA.

allows the littoral drift to continue uninterrupted, and the latter allows ships to enter at one entrance or the other, according to the wind, and stay there in perfect safety because heavy seas cannot enter. I am informed that the conditions of sea and ~~those~~ shore around that harbour are the same now as when it was built 400 years ago. Now look at Madras harbour. The side walls stand out at right angles to the shore, and being connected with it have arrested the littoral drift for all time, and have produced by their position silting on one side and erosion on the other, while the eastern entrance allows heavy seas to enter, and makes the harbour uninhabitable in bad weather. Yet both Mr. Thorowgood and Mr. Walch are ready to reproduce these conditions at Vizagapatam, and even to accentuate them because the eastern entrance is to be 900 feet wide instead of 500 as at Madras & its position would allow the waves to enter unimpeded!

15. I trust that I have succeeded in convincing Government that neither of Mr. Thorowgood's schemes ~~are~~ is satisfactory, and that it

it is not desirable to allow the smaller scheme to form the basis of the concession asked for by Mr. MacNab. I would here point out that the Madras Government accepted generally Mr. Walch's views on the matter vide note for orders dated 20th February 1893 and it was the Government of India who objected to Mr. Thorowgood's scheme being thrown over. I hope the scheme will now be finally abandoned.

16. I will now set forth my own proposals for improving the port of Vizagapatam, & I would first call attention to the requirements of the Port which were stated in Para 5 to be

(1) The removal of the bar at the mouth of the river so that large cargo boats can be used at all states of the tide.

(2) The protection of the roadstead including the mouth of the river, from heavy seas, so that ships can ~~be~~ lie there in safety, and load and unload cargo in all weathers.

Secondly I would refer to the conclusions (1) to (5) arrived at by Mr. Thorowgood and enumerated in Para 5 above. The principal points to be remembered are

(1)

The proposal to have an Eastern entrance to the big harbour at Vzm does seem very strange. I believe cyclones come in there from due East. A N.E. entrance wd. seem to be indicated there as at Madras.

HB

I think the Hon. Sir H. Bliss is mistaken here. A cyclone might come in from the East but if the centre were directly East of Vizagapatam Cocanada the wind wd. come from the North. If the centre were north east the wind would be ~~South~~ north west. If the centre were north the wind would be west. Only if the centre were south would the wind be from the East. The one thing certain about these cyclones in the Bay is that when they reach the Coromandel coast they drift to the north. I think Eliot's book gives one exception but I am trusting to memory. With a cyclone centre drifting from south to north past ~~a~~ Vizag. the wind would blow from every direction in turn.

HA.

Flag H

(1) The bar is always removed when floods in the river occur.

(2) These floods occur so rarely that we cannot depend on them, and must look to tidal ebb & flow as the active force for removing the bar.

To these I would add that if we could, by any means, simulate a flood in the river, we should probably -- generate a force sufficient to keep the bar always open.

17. Now I beg for a glance at the tracing of the plan of Vizagapatam harbour herewith put up. It will be noticed first that the direction of the flood tide is marked by arrows thus ⟿ and of the ebb tide by arrows thus ⟶ and that while the flood tide enters the river from the southward round the Dolphins nose the ebb takes the opposite direction and flows northward. The ebb tide, which is the main, in fact probably the only, agent, in the absence of floods, in removing the bar, whose centre is about the spot marked on the plan ~~thus~~ in blue pencil thus ⊗, thus avoids it altogether and is practically inoperative in the desired direction. Approximately between the points marked A & B in blue pencil on the plan, a -- training

I don't know where the C.E. got his tidal directions from - they don't agree with Mr. Thorowgood's - The latter shows the Ebb as running out directly over the spot marked in the tracing as the centre of the bar -

HS

I too am much exercised about the same point. The C.E. assumes that the flood tide comes from the south and that the ebb goes to the north; in fact that there is a perpetual current from the ~~east~~ south. This is just what we don't know. The lift of the tide by the moon over the Bay of Bengal would not cause such a current - the expanse is too great. It is not like the ~~English~~ Bristol Channel.

AA

training wall of rubble has within the last year or two been erected by the East Coast Railway Company, and the effect of it has been to deepen the water in its immediate vicinity, so that where before its construction there was only 1' of water and less, there is now 4 to 6 feet. My proposal is to extend this training wall down the river to or about the point C, making it slightly bell-mouthed so as to concentrate the flood tide on the river, with the -- double effect of training the latter so as to produce deep water throughout by concentrating both flow and ebb within a certain definite area, and of obstructing the ebb tide in its endeavours to flow northward, & directing it instead straight upon the bar. I would on no account extend this training wall beyond a line which marks the projection of the coast line south of the Dutch -- battery, because by so doing, we should probably arrest the littoral drift from the southward, and produce silting. So long as the training wall is within this line, I am not afraid of this happening, nor do I think that its projection as far as C would -- produce silting to the North, this being directly contrary to our experience on the coast except at -- Cocanada

This certainly seems a good idea

HS

AA

Should not matter if it did.

AA

Cocanada, where by reason of its peculiar position in a deep bay behind Godavari point, the silting now comes from the North. In this connection I invite attention to para 5 of Sir. A. M. Rendel's letter to Sir J. Danvers, which runs as follows- "The artificial aid necessary in such cases consists of piers running out from one or both sides of the river mouth towards the bar, and compelling all waters passing from the sea into the river, or from the river into the sea, to follow one and the same course, and I see no reason why such aid should not be as successful here as it is elsewhere". Thus speaks a real expert on the subject, and the method has in fact been adopted on the English coast with, I am informed, invariable success. I do not think a training wall on the south side is needed, because the rock bound Dolphins nose already sufficiently marks and confines the channel. A breakwater is certainly needed to protect the entrance, but its only possible position on shore seems to be in a line with the coast south of Dutch Battery as shown in red pencil on the plan, and this would so interfere with the natural course of the flood tide and

I don't think this is the reason. The apex of the Kistna delta does not produce this effect on the bay of Masulipatam I believe it to be due to the fact that the north arm of the Godaveri turns north just before reaching the sea ~~towards north~~ and discharges its current & its silt parallel to the coast & in front of Cocanada. Hence the scour of the littoral current is prevented. This change in the direction of exit was brought about by a cyclone at the end I think of last century. If the river could be diverted to its old line of exit Eastward, the scour of the coast in front of Cocanada would probably be resumed.

AA.

Flag D

and with the exit of river floods that I should be afraid to build it there. The protection to the entrance must come with the scheme for a big harbour.

18. I am aware that a groyne or training wall somewhat in the position I propose has been proposed and ~~[illegible]~~ opposed by many officers, notably by Major General Sankey vide para 9 of Mr. Thorowgood's report, but his objections referred to groynes carried much further out to sea than I now propose. Of Mr. Addis' proposal referred to in paras 10 & 36 of Mr. Thorowgood's report I have no details. The training wall proposed was suggested to me

(1) by the fact that such works have proved successful at home.

(2) the influence of the existing training wall in producing deep water alongside.

Flag G

I do not contract the entrance to the river: in fact I somewhat add to it, because the wall will remove the sand spit at the narrowest point so that, if properly built no danger will accrue to it from river floods, and the latter will have a greater effect than ever in scouring out the mouth and bar.

This wall also finds favour with the officers on the spot, viz, the

the Port officer, who has studied the varying conditions for several years from a nautical point of view, and the Executive Engineer lately in charge of the Division Mr. P. Roscoe Allen, who has seen much of the success of similar works in England, and is very well informed of the literature of the subject. The cost of 2 lakhs was given me by the local officers. I do not vouch for it and cannot say definitely what it would be without more careful investigation, but it would certainly be much less than Mr. Thorowgood's groyne.

19. I believe this training wall would suffice to keep a greater depth on the bar. If it did not, I would assist it by building sluices at Turner's Bridge-of-boats by which the tide could be held up daily, or as often as necessary, till half ebb, and then let loose on the bar, thus simulating twice in every 24 hours if need be, a moderate land flood. It would not of course have the scouring force of a real flood, but on the principle that "Gutta cavat lapidem, non vi sed saepe cadendo" I think the frequent intervals at which the force could be applied would have sufficient effect on the

A.A.

bar, and this by the forces of nature, which would obviate the need for constant dredging with all its difficulties and expense. It is for this that the experiments sanctioned in the linked file are now being made, to discover the amount of the tidal ebb and flow, and I would invite perusal of a note on the subject in the linked file by Mr. Spring and my reply thereto. The sluices would cost about 2 lakhs. I do not pretend that the above proposals would do more than maintain sufficient water on the bar for the passage of heavy cargo boats: they would in no way protect the entrance from surf and heavy seas, beyond the fact that with a deeper bar the surf would be less, while probably the rollers would go further up the backwater.

The entrance can only be protected by a breakwater to be referred to in the next para.

There is no more difficult question in all Marine Engineering than the removal of bars because the sea, by ceaseless wave action, is for ever trying to replace them, and the best endeavours to remove them cannot command complete success, but the training wall and sluices if not the

I think the idea of sluices a most promising one, but my difficulty remains, viz:, that if you clear away the bar, as it seems to me there is every chance of your doing, the rollers outside will run up inside & render the working of boats very difficult, if not impossible — I don't see how the place is to work without exterior protection to the entrance by a groyne on the lines of that proposed by Mr. T. & in much the place proposed by him.

B.S.

Would a moored & floating breakwater of moderate length obviate this evil? I ask as a layman! It wd. of course be torn to pieces in a cyclone.

A.A.

the former alone, would, I am convinced, fulfil the first requirement of the Port of Vizagapatam far more efficiently than Mr. Thorowgood's smaller scheme, at considerably less cost, and if India answers our appeal for funds favourably, I should like to see the wall undertaken at once.

20. With regard to the scheme for ~~the~~ a deep sea harbour, I have already explained in para 14 my objections to the form of harbour proposed by Mr. Thorowgood and I hope Government will agree that if it is ever possible for us to devote 50 lakhs or more to the construction of a harbour at Vizagapatam, it should be a harbour of refuge in all weathers.

I believe the proper way to obtain this is to build a 'breakwater' (by which I mean as the Hon. Sir H. Bliss supposes a 'structure unconnected with the shore at either end') commencing on 5 and curving out to 7 fathoms of water, of sufficient strength to stand a cyclonic sea, and of sufficient -- length to enable ships to lie behind it in perfect safety even during a cyclone, and to protect the entrance to the river from heavy seas. I have drawn a curved line in blue pencil

Quite impossible I believe. No breakwater we could construct would shut out the cyclonic wind as well as the waves. With a first class cyclone every ship in the harbour wd. be destroyed even if there were ~~fairly~~ comparatively quiet water within. In addressing India or the Secy. of S. I wd. drop all reference to this which wd. I believe be condemned as Utopian, and the rest of the scheme wd. thereupon not receive the careful consideration it deserves but wd. fall under the same condemnation — unreasonably enough.

ALA.

Not unless it is as high as the Dolphin's Nose!

I am of the same opinion but as a non-expert do not know what can be urged on the other side. We must get expert opinion — Sir A. M. Rendel's if practicable.

ALA.

pencil on the accompanying tracing showing the approximate line I think the breakwater should take. The --- ships would enter north and south of it in accordance with the wind. From very rough calculations I estimate that such a breakwater at 50 lakhs, a mile, would cost 62 lakhs, or less than Mr. Walch's estimated cost of Mr. Thorowgood's scheme, and I believe it would afford infinitely greater protection than the latter, and have the great advantage of not interfering in any way with the existing littoral conditions. The stone for the base could be obtained from the Dolphins nose by wire rope-ways and the concrete blocks could be made on shore at the same place and floated out, so that the work would present, so far as I can see, no great engineering difficulties, and it would make Vizagapatam the finest harbour on the coast. What prospect there is of funds being ever available for this I know not, but as stated in my former note, they would be readily found for a railway and as such a harbour would no doubt benefit the railway systems enormously, perhaps the future is not quite so hopeless as it looks.

21. I hope I have now placed this matter before Government in a more satisfactory

satisfactory manner, and if this note is thought to be too long, I can only plead that the subject is a many-sided one, and if I had considered it in all its bearings, the note would have been much longer.

Not at all. It is most interesting & very ably worked out if I may say so.
A.A.

22. With reference to the Hon. Sir H. Bliss's remarks on Para 8 of my note for orders dated 12th May 1898 I submit that private enterprize is much more developed in England than in India, and the fact that the Companies there are resident in the country and spend their profits there makes the arrangement much more desirable than the one now under discussion. Besides the land in England adjacent to docks is generally private property and not the property of the State. The Company it is proposed to form is to be resident in England and to do its utmost to extract as much profit as it can out of India. It may talk of disinterested motives, but such is and must be its main object. My point is that this profit should go into the Government treasury. We want money badly enough in all conscience, for marine works, and can obtain it in the same manner as the Company proposes to obtain it by spending money

Is not that the case at Vizag? It is a Zemindari tract & I think Govt. owns little or nothing beyond the foreshore –
H.S.

The R.Cs have 1000 acres! A.A.

This is easily manageable
H.S.

Of course but the capital of England ~~will~~ be usefully invested out here.

Govt. gets its indirect profit in Customs, income-tax, stamps, and in greater wealth to the country & less liability to famine among a wage-earning classes who ~~are~~ are not agricul! labourers A.A.

No, we cannot – we haven't got the money & it is more than doubtful if India wd give it. If it did, it would of course take the profits, if any
H.S.

money, and then increasing the dues so as to bring in a handsome return for that money.

If there was no prospect of the Government of India finding funds -- for a harbour of refuge, and a Company came forward and offered to do so, I would accept the offer, as the only way out of the difficulty but the funds required for the minor -- improvement of the Port are so small and the profits likely to accrue so considerable that I certainly think that Government should find the one and reap the other.

W.
15-6-98

And kill the goose which lays the golden eggs!
H.S.
6/8/98

?

It would seem if the file is complete – as I presume it is – that the Secy. P.W.D. issued his official letter No 97 E. of 16.2.98 without any G.O. on which to base it: such at least as "The following letter will be addressed to Mr. Macnab." As all the formal proceedings of Govt. are recorded in or based on G.O.s. this letter remains suspended like Mahomet's ~~coffin~~ body between heaven & earth, without visible connection with either. If it be practicable the omission ought to be rectified.

A much graver mistake however in connection with this letter above quoted is that while it pledges Govt. to an entirely new & most important departure in public policy — the handing over of a port to a private Compy. for construction of a harbour — and a departure involving a legislative enactment the draft was not sent for approval to H.E. the Govr. in charge of Legislative as required by Rule 3 (c) of the Order for the conduct of business in Council. H.E.'s remarks in file of flag B more than seven months before do not cover the ground taken in the letter.

Indeed in a matter "not only of public but possibly of even national importance" — as Mr. Willock calls it (para 1 of his note in file of E.O. 66/25.1.98) the Secy. wd. have exercised a sound discretion under Rule 3(b) in circulating to H.E. & H.M. a proposal thus committing Govt. for the future in such important respects.

I have ~~ha~~ made some marginal notes, and would add here that although I think Mr. Thorowgood bases his opinions on altogether insufficient data — namely, & chiefly, a 2½ months stay & conversations with Captn Winckler — there is

one fact which gives colour to his view that the sand at the river-mouth is brought from the north ~~and that~~ The bank or spit of sand is deposited ~~to~~ on the north bank ~~of the~~ river just where the back ~~water~~ eddy would be of a current coming from the north & bending off towards the Dolphin's Nose. If the sand had come from the south one would expect that the still water ~~of~~ & the deposit of sand would be on the south side of the river mouth to the west of Dutch battery, ~~just~~ and that the current would bend off to W.N.W. and then N & N.E.

I must say I am convinced by the arguments of Mr. Walch & of the C.E. that Mr. Thorowgood's proposal for the groyne is uncertain of success & may be productive of grave mischief. The C.E.'s proposal of a training wall from W. to E. along the north of the river bank with side sluices at ~~the railway~~ Turner's bridge seems [illegible] ~~to be~~ far safer & more promising of success. But we need an expert's criticism & opinion both on this & on the larger scheme for a large outside breakwater.

A.S.H.

With regard to this larger scheme, ~~&~~ I would — as I have noted elsewhere —

say nothing about its being a harbour of refuge in all weathers. A breakwater breaks the force of cyclonic waves but not in any appreciable degree of the cyclonic wind. We cannot run the risk of the entire proposals being condemned as Utopian for the sake of a part of them.

I have elsewhere expressed agreement as to the reply to be sent to Mr. Macnab.

So have I.
A.G.H

Now if an estimate be made of the C.E.'s proposals, followed by a reference to India, to the Secy. of State, to Sir A.M. Rendel, and if all these references lead up to the conclusion that legislation may be undertaken to allow of the port improvements being effected by a private Company; it is quite certain that at least a year will elapse.

Yes.
A.G.H

During this time I think we ought to fill up the gap in ~~th~~ our knowledge as to the conditions of current, sand ~~drift~~ deposit, breaker line &c. The linked file shows that observations are ~~to~~ being taken only within the river up at Turner's bridge. I think that the Port officer should also be directed to obtain careful observations (by floats weighted below the surface or other suitable means & by

soundings &c.) of the currents, depth, sand deposit at the mouth of the river & at the bar for a year from this time. If any improvements are to be effected much money must be spent & as we have the time we ought I think to make sure that our knowledge of the conditions of the port is as complete as we can make it. We could get in three months work between now & the time when Mr. Thorowgood's personal observations began. The Port officer would require some small allotment for the work.

A.A.
11.8.98

I entirely agree with the last two paras. of the Hon. Mr. Arundel's Note above.

A.G.H
31.8.98

Marine Department.

Print in continuation of previous note

N O T E.

37P

With reference to the Hon.Mr. Arundel's remarks dated 11th August 1898 on the procedure adopted in regard to letter No.97 E dated 16th February 1898, it is respectfully submitted that it is not usual to record formal Proceedings of Government when a preliminary reference is made by the Secretary. It seems -- clear from paras 3 and 13 of the -- letter that no final sanction or guarantee has yet been given. It must be inferred from para 3 that not even the general proposal can be entertained without the concurrence of the Government of India, and the whole tenor of the letter shows that there are many details to be adjusted before that Government can be approached. Para 13 accordingly invites Mr.MacNab's remarks and suggestions on what are designated as "proposals".

2. As regards the authority for the issue of the letter it will be seen from the original notes attached to G.O.66 Marine dated 25th January 1898, that all the members of Government, including His Excellency the Governor, have concurred in th terms of the letter. Under thes circumstance

Flags B & Y.

The Hon. Mr. Arundel –
H.E. the Governor

The theory of our method of administration is that all proceedings of Govt. are the outcome of an order issued by the Govt. in Council; hence ~~th~~ such expressions as "so & so will be (not is) informed &c." Every official communication therefore must be based on or contained in one of the Govt. Orders which embrace all instructions issued by the G. in C. Official memoranda are supposed to be issued by the Secretaries alone; and all informal or intermediate communications take the form of demi-official letters. The letter to Mr. MacNab was an official letter & committed Govt. to an important policy, and should therefore have been based on a formal G.O., or else the substance of it should have been embodied in a G.O. If the practice in the P.W.D. differs from that in the Chief Secy's, Rev. ~~Depts~~ Dept & L. &c. Depts I think the Secy. P.W.D. will probably agree with me that the theory should be maintained & the practise made uniform.

M.A.

M/ The letter will be brought on record in the Proceedings now drafted.

7 Sep 98

102

circumstances it was not considered necessary to circulate the mere draft beyond the Honourable Member in charge of the Marine Department, who carefully amended and formally approved it.

3. The following extract from the Hon. Member's note is not understood. "His Excellency's remarks in file of Flag B more than 7 months before do not cover the ground taken in the letter". Attention is invited to His Excellency's note (Flag Y) attached to the G.O. (Flagged B) which reads as follows:- "I am disposed to answer Mr. MacNab in the sense of the Hon. Mr. Bliss's note of 11.5.97, as modified by these proposals in Mr. Spring's note of 13.5.97 which have found acceptance with Mr. Bliss" This note having been concurred in by the Hon. Mr. Grose was accordingly acted on in due course, letter No. 97 E dated 16th February 1898 being the result.

This is so, and as the Hon. Sir H. Bliss referred to the necessity for legislation in his note of 11-5-97, the Secy. was technically correct in not circulating to H.E. the draft of the letter to Mr. Macnab, and my note on this point is wrong.

A.A.

4. With regard to the proposal now made to treat with Mr. Macnab for the formation of a Company on the basis of the harbour improvements now suggested, I beg to point out that the cost of these improvements should not exceed 4 lakhs, spread over 3 years. and it does not seem [illegible] this

---

urgent

DEPARTMENT.

C. No.

SUBJECT.

38

HIS EXCELLENCY THE GOVERNOR.

THE HON'BLE SIR HENRY BLISS, K.C.I.E.

THE HON'BLE MR. Arundel ~~GROSE, C.I.E.~~

FOR ORDERS.

g over a port to the tender mercies of a private Company for 20 years, for such a moderate sum as this. The profits will be made at the expense of trade whether they are earned by Govt. or the Company, but whereas the latter will strive to pay a handsome dividend Govt. need only impose such additional dues as will provide interest & sinking fund on money borrowed for the purpose of these improvements. The burden on trade will be inevitably greater in the former case than in the latter, and I tr

Govt. how borrow? We cannot on our own authority and, as I have before pointed out, it is most improbable that India will lend

HB
2/9/98

103

P. W. 43.
500-27-1-98.

that in the interests of the port and of trade, this proposal may still be reconsidered & Mr MacNab informed that Government, on further careful consideration of the matter, regrets that it is unable to accede to ~~Mr MacNab's~~ his application ~~[illegible]~~ –

L Bell
18. 8 - 98

But this Govt has committed itself to the policy, and cannot well recede. The Govt. of India may possibly ~~[illegible]~~ decline to assent.

ASA 27.8.98.

I accept the above view of the case.

A.G.H
31.8.98

3. years. [illegible]
[illegible] this

A/

urgent

Vizagapatam Harbour

Marine
~~Public Works~~ Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

again
Read/the following

(To be printed from G.O. 256 Mar 8 17-3-97 Copy attached).

Print
Letter from Mr. A. MacNab to the Private Secretary to His Excellency the Governor dated 11th February 1897.
do do do 97 22nd January 1898.
Letter to Mr. MacNab No. ~~[illegible]~~ E dated 16th February 1898.
Letter from Mr. MacNab dated 3rd May 1898.

No. 768 Marine of 8th September 1898

The Hon Sir Henry Bliss K.C.I.E.

The correspondence read above relates to a proposal to carry out by means of a ~~private~~ public company, from borrowed money, Mr. Thorowgood's smaller scheme for the improvement of the Vizagapatam harbour.

Approved as altered
BA
2/9/98

18

ASA 6.9.98

2. The conditions proposed by Mr. MacNab and the modifications suggested by Government, together with the further amendments now suggested by Mr. MacNab, are fully set forth in the papers printed in these Proceedings.

3. Since Mr. MacNab's proposals were placed before Government, the Chief Engineer has put forward certain alternative suggestions providing for, ~~(1)~~the removal of the bar at the mouth of the river by means of sluices ~~and~~ ~~(2)the protection of the entrance by means~~ of a training wall or ~~groyne,~~ wharf in continuation of that now under construction.

I don't think this is an accurate description of the C.E.'s proposals. Should alter as shown.
BA

4. His Excellency the Governor in Council is not certain that these alternative proposals will obviate the necessity for constructing the ~~sea wall~~ groyne proposed

(1) Issue
7.9.98

(2) C Attn

(40—4,000—2-11-95.)

H.M. 1.9.98 R 3.9.98

164

proposed by Mr. Thorowgood. The matter is one upon which it will be necessary to take the advice of the highest Engineering authority available. The Chief Engineer's proposals will be designed and estimated in detail and then placed before Sir. Alexander Rendel for advice. Any further negotiations with Mr. MacNab must proceed on the understanding that the Company, if constituted, will accept and carry out such designs as Sir. A. Rendel may finally approve, and that the sanction of the Government of India is accorded to the general proposal to carry out the works ~~from borrowed money and~~ by the agency of a ~~private~~ company, as already stipulated in para 3 of the -- Secretary's letter No. 97 E dated 16th February 1898. The general question will be at once laid before the Government of India for orders, and, meanwhile, the details of the scheme will be further discussed with Mr. MacNab by the Secretary to Government in the Marine Department.

These are two different ideas. If you talk of construction from borrowed money, you will be held to mean construction by Govt.
HS

Let me see the draft letter the Sec. sends Mr. M.
HS

A. MacNab Esquire.
The Presidency Port Officer.
,, Chief Engineer, P. W. D.

D 20/9/98

(H.E. No. 769 Marine d/18 Septr. 1898)

To

The Secretary to the
Government of India,
Department of Finance
and Commerce.

Sir,

I am directed to forward for the orders of the Government of India the accompanying copy of the Proceedings of this Government No. 768 Marine dated 8th September 1898 containing correspondence on the subject of the improvement of the Vizagapatam harbour ~~from borrowed money, and~~ by the agency of a ~~private~~ Company, and to enquire whether the Government of India will have any objection to the works being thus carried out, provided the details, which have not yet been -- finally approved, can be brought to a -- satisfactory conclusion.

2. His Excellency the Governor in Council is inclined, as a matter of general policy, to encourage the expenditure of private capital on works of public improvement; and in this case more especially, as [illegible] there seems no prospect of public funds being forthcoming for the construction of the works urgently required to render the Vizagapatam harbour capable of dealing with the -- large increase of traffic which is certain to accrue in the near future, in consequence of the opening out of the interior by means of the lines of railway now under construction and in contemplation.

3. As the Government of India are -- aware, the cost of Mr. Thorowgood's smaller scheme will amount to ~~not less than~~ over six lakhs of which the groyne alone is estimated to cost Rs 3,62,751 and to this will probably have to be added the cost of the sluices and training ~~groyne~~ wall proposed by the Chief Engineer. Having in view the many light-

house

lighthouse and other Port works which this Government is desirous of carrying out, ~~but for which neither local nor Imperial funds are available~~, His Excellency in Council sees no possibility of the Vizagapatam harbour works being commenced except in the manner now proposed. I am accordingly to request that the general approval of the Government of India may be communicated to these works being undertaken ~~from borrowed capital~~ by the agency of a ~~private~~ Company, on the lines suggested in the correspondence recorded with the accompanying Proceedings, subject of course to their subsequent approval of the detailed agreement which will have to be drawn up.

It is not borrowed capital if a ~~private~~ Company carries out the works, unless it does so by raising debentures.
Ks

I have etc.,

R.S.

L.H.H. 1.9.98
M.

Note.

It is proposed to issue this order and letter in the first instance, and to take up subsequently the details connected with Mr.MacNab's proposals. These will have to be gone into very carefully and will doubtless take time.

Yes - The materials for a first letter to Mr. M. exist in enquiries on the Sec's note of 12.5.98
Ks

R.S.

Ans with file after issue
3 Sep 98

Marine G.O. 768-9 d/ 8-9-98

The direction of the swell in the S W monsoon ranges from S S E to S E, for the last three days it has been from the S S E.

I never heard that any estimate had been made for the extension of the sea wall so that I could not have given you any information on the subject —

In looking over the enclosed statement there does not appear to be a very great change in the Bar for the last 3 years if anything the Bar is better

---

ur, 27th March, 1898

Dear de Winton,

I have been so incessantly on the move since I saw you at Cocanada that I am afraid I have lost sight of my promise to return to you the Madras Harbour Acts which you were kind enough to lend me. I send them to you herewith, and I am really exceedingly sorry to have abused your courtesy by detaining them so long. I offer you my sincere apologies. Occasional flashes of contrition have been won always at times knocking about and ha the papers by me to give cau its fitting fruit of restitution.

I hope this incoming mail will bring me replies to the references I thought it better to make to my friends in London before replying to your official, and I shall lose no time in writing in. The principal point on which I wanted to have my own views reenforced by those of the friends who are acting this is that

[illegible] the constitution of the Company. As I mentioned to you I am afraid the higher return which would be looked for from an Indian Company would put an altogether different complexion on prospective earnings which might be quite good enough to attract subscriptions to a Sterling Company. I hope however Government will not think it necessary to make it an absolute condition that the

Company shall [illegible] but in saying this [illegible] moment wish to dispute the reasonableness, indeed I recognise the absolute necessity, of Government being adequately represented on Board, but I propose to subm that such representation might well be by officers in Londo nominated by the Secy of St as in the case of railways. shall go into all this however my official

Meanwhile, believe m

Yours sincerely

A MacNab.

Honble
W. B. de Winton Esq

---

sounding I found that the Bar had silted up 2 feet which leaves us only now 2½ feet of water on the Bar at L. W. S ~~Tides~~

The only way in which I can account for the sudden change is that the greatest force of outgoing tide trends to the NW as soon as it reaches that spit of sand on the North entrance of the backwater. Consequently the actual Bar loses a great amount of the force & consequently scour that would take place if the tide were concentrated In this particular instance it was neap tides & the freshets were coming down the river

with a

fair amount of force. & that portion of the outgoing water which crossing the Bar was not stron enough to counteract the incom flood consequently the two tides clashed with each other on the Bar causing the silt that was being carried out of the river to be deposited on the Bar. This I have no doubt would have been avoided had the tide been concentrated I am sending you a statement from 1895–98 giving you some particulars in connection with the Bar which I hope you will find of some use.

The greatest force of tide (ebb) wh reaching the North entrance of the backwater trends to the

Note for order.

is is that

Company shall

Record [illegible]

Vizagapatam
June 23rd 1898.

Dear Mr. Sewerton

I duly received your letter of 14th of June and strange to say I was in the act of making up a statement for you in connection with the condition of the Bar when your letter arrived. There is a strange phenomenon in connection with the Bar that happened within the last few days. On the 13th of June we had a fall of 5½ inches of rain in the 24 hours. I naturally supposed that it would deepen the Bar & to my surprise two days after when the sea permitted of a

take

round the sand spit this of course robs the Bar of the scour it would get otherwise

On Mr. Thorogood chart I notice he has a note as follows -

Greatest velocity Spring tides
Flood tide 185 feet in 1 minute
Ebb tide 160 " " 1 "
Greatest velocity Neap tides
Flood tide 123 feet in 1 minute
Ebb tide 108 " " 1 "
Greatest velocity of current in 11½ hrs is 5·2 feet in 1 minute

From personal observation I am of the opinion that the drift of sand that causes the Bar comes down to a very large extent from the Northward & to a small extent from the backwater itself

---

(3)

C.A.W.

This file must go to the H.S. for the information of the Hon'ble Member, but first please note on the first part of Mr. Arundel's remarks at the end of the note

12.8.98

D.W.

Note submitted. Kindly say whether it should go to prior to circulation.

N.S.
15 Aug 98

C.A.W.

Yes, I think so

A.W.P.
16.8.98

Seen
18.8.98

W
16 Aug 98

Note for orders.

321 E/97. 27-6-99

1. With refce to the remarks of Govt in my letter For orders dated 12.5.-Et I greatly regret that I should have been considered to have submitted this question in an unsatisfactory manner. I respectfully submit in explanation, that I did not for one moment imagine that my views in the matter would be accepted ~~without~~ until I had submitted them in greater detail - but as a full report on the matter would have made the note very lengthy, I thought a general outline would suffice at the moment to arrest further consideration of Mr Macthel's proposals until the question of the scheme to be adopted had been finally settled -

2. With regard to the letter [illegible] to the remarks that Govt ~~[illegible]~~ being committed ~~to a [illegible]~~ by letter No 97 E of 16-2 Et, which he describes as my own letters, was favourable

matter to Sir A. M. Rendel, Cons. Engr
to the India Office — who gives his
views in a letter to Sir J. Dawson
& recommends Mr Thoroughgood
as the right man for the apptmt.
because he has "for many years
the Resident Engineer of the Madras
Harbour works & of previous ex-
-perience in the great works at
the mouth of the river Tyne" —
what the latter are, ~~in addition~~ beyond
~~to~~ the fine stone piers at
Tynemouth, I do not know, but I
should think that the Madras
harbour works have been such
a success as to ~~warrant~~ make the
title 'expert' in marine engineering applicable to the
engineer who carried them out,
& the very fact that Mr Thoroughgood
has reported at Vizag a
proposal to meet the same
relative position to the
shore as the Madras harbour
walls, which have done & are
doing so much harm, occupy,
shows how far between [illegible]

2

the right man for the work.
I quite agree with the ~~opinion~~ dictum of
the Govt. of India quoted by the
Under Secretary that if you call in
an expert to advise you should,
as a rule, act upon his recom-
-mendations, but I submit that
everything depends on the expert
called in. The Govt. of India
in para 2 of ~~[illegible]~~ their letter printed
with G.O. 680 W. of 13 Mar 90. says
that "Mr Thoroughgood's long experience
on the Madras harbour works entitles
him to speak with authority on a
question of this nature" — & I admit
that if he had profited by that
experience, the statement would be
justified; but when he proceeds
to repeat at Vizag the same
mistake that was made at Madras
I deny that his opinion deserves
acceptance & I would far rather
accept that of an officer of
long local training & great
experience like Mr Walch.

Even

although that experience had not included much marine engineering.

5. ~~Now let us see what the problem was that Mr Thompson had to solve, and how he set about it.~~

~~With regard to the opinion of [illegible] it is unnecessary to note that the opinion of Sir A Rendel.~~

Now let us see what the problem was that Mr Thompson had to solve, and how he set about it.

The requirements of the port of Vizag may be briefly stated to be as follows

(1) The removal of the bar at the mouth of the river, so that large cargo boats can be used for landing & shipping operations at all states of the tide, instead of the masulah boats &c. of the coast now in use.

(2) The protection of the ~~mouths~~ roadstead, including ~~of the~~ the mouth of the river from heavy seas, so that ships can lie there in safety & trade cargo in all weathers

For the statements in this para. & paras 6, 7 & 8 please see G.O. Nos 3512, 3513 to dated 22 Dec 1892. Flag 9.

Mr Thompson's proposals & the orders thereon will be found in the above quoted ~~above in the~~ margin in the G.O. ~~Nos 3512, 3513 to dated 22 Dec 1892~~ & the plans submitted by him & [illegible] by [illegible] Also are herewith attached.

~~Flag 9.~~

It will be seen that Mr Thompson's arrival at Vizag in Dec. 4. 18[illegible] & left it on Feb 22 1892 (para 7 of letter). That is to say he spent 2 months & 18 days during the N.E. monsoon in investigating this difficult matter & had no experience of the conditions prevailing during the S.W. monsoon.

He commenced his investigation at once & came to the following conclusions

(1) The bar is occasionally removed by heavy rains producing floods in the river [illegible] - para 12.

(2) These scourings but are very uncertain, no such action having taken place for more than 3 years. para 13

(3) The river must be regarded as a tidal backwater, & the mention of its rainfall & catchment area disregarded para 14

(4) the tidal ebb & flow must be looked to as the active force in moving sand. Para 15

(5) with everything against it, the river has still been able to maintain an exit to the sea thro' which boats can pass at high water. Para 16.

(6) the chief source of sand supply to the bar is due to wave action during the period from Oct to Feb. when the wind & the littoral current are both to the north of east. para 18.

(7) another source of sand supply to the bar is a movement of sand when the southerly winds set in from seaward towards the shore. para 19.

(8) the sand in the neighbourhood of the harbour mouth is very easily moved, & it was very difficult to get an accurate ~~(9)~~ survey of the bottom of the sea in 2 consecutive days. Para 20

(9) the direction of the crests of the

3.

breaking waves landing varies at all, being throughout the year as indicated in Drawing No 1. 7-8 south east. Para 21

(10) Tidal & littoral currents outside the mouth of the river may be neglected as having no general effect on the bar.

(11) the depth of water in the river at its mouth up to 1 fathom line has diminished since the year 1870 when the reclamation of the marsh land by the Roman Catholic community has commenced.

6. I agree with the conclusions (1) to (5) summarised above, except that I take leave to doubt the accuracy of the last part of conclusion (2) that no scouring by flood water had taken place for 3 years. With regard to conclusion (6) there are good reasons ~~to~~ it in the fact that in Dec 1891 the survey shewed the one fathom

line was at a distance of 640 feet to the east of the old Dutch battery, ~~while a~~ (para 18) while a similar survey made in Feb 92, with wind & current from the south, shows the 5-fathom line at a distance of 320 feet from the battery i.e. a distance of 320 feet nearer shore in 2 months — and on this evidence he concludes that the bar is a change has been caused by sand brought during the N.E. monsoon, & afterwards flattened back (by which I understand he means removed) near the mouth in the S.W. monsoon. Surely a conclusion has never been arrived at on more slender grounds! He takes conditions during the N.E. monsoon to prove what happens during the S.W. monsoon! & says nothing about the direction of the wind & current during the 2 months which elapsed between his 2 surveys, nor how long the S wind had been blowing before his second survey.

And conclusion (7) is in direct conflict with the statement in para 23 that with a southerly wind the 5-fathom line ~~has~~ is nearer the shore.

I would also point out that in Drawing 2 & para 22 of this Report Mr Thorowgood himself says that the 5 fathom line has not appreciably changed in 9 years!

I do not think ~~the smallest~~ much value attaches to conclusions ~~arrived~~ based ~~at from~~ on such very insufficient data & conclusion (8) should have warned Mr Thorowgood to be careful in ~~drawing~~ forming an opinion — With regard to conclusion (9) I cannot say that [illegible] differs from all other ~~exactly~~ ports on the coast, the general rule being that the direction ~~where~~ of the breaking waves follows ~~bends~~ approximately ~~with~~ the direction of the prevailing wind —

I can find no definite evidence in support of conclusion (11) from inquiries on the spot & own formal opinion, that though theoretically the reclamation should have had a beneficial ~~some~~ effect on the mouth of the river, that effect has been in ~~practice~~ fact very small.

7. On the above conclusions Mr Thornycroft made the following proposals for improving the harbour.—

(1) Dredging a channel ~~1000~~ ~~500~~ 1000 yards long 50 ~~feet~~ yards wide, & 10 feet deep at low water springs, partly shown in Drawing 1. cost Rs. 14000 — not including cost of dredger which was to be shared with Cocanada, though how it was to be shared [illegible] being [illegible] is not stated — paras 30 to 33

(2) Constructing a groyne 1420 feet (preferably 1550 feet) long, in the position shown in both drawings, with the 2 fold effect of keeping back sand from the river mouth, & allowing sufficient reaching ground for waves to break upon — paras 34 & 35

cost Rs 3,62,751.

(3) Increasing the tidal capacity of the estuary by excavation of 19 million cubic feet of the land reclaimed since 1870. as shown in drawing 2

cost Rs 1,93,200 —

Total cost including plant contingencies & establishment } Rs 6,11,271 —

8. He also submitted a scheme for a deep water harbour with a 900' entrance ~~in~~, the plans of which will be found in Drawing 2. ~~This~~ vide Paras 42 & 43 of his Report. This he estimated to cost Rs 43,27,272 in Appendix B, & its effect was to fulfil the second requirement ~~detailed~~ mentioned in of Vizagapatam Para 5 above.

9. These proposals were submitted by Mr Thornycroft to the Secy of State & by him referred to the Govt of India for consideration in consultation with the Madras Govt. — A note written by Mr Walch the then Ch. Chief Engr to Govt. will be found in ~~[illegible]~~ the above marginally noted

Fly 9. G.O. — & deserves a careful perusal. It will be seen that he raises various objections to the proposals & as these objections are ~~practically~~ to a large extent identical with mine, I give them here in full.

10. Taking the smaller scheme first, Mr Walch objects in para 6 to the proposed dredging

because

(1) The dredge ~~would~~ for which no provision was made by Mr Thorogood, would certainly cost 1¾ lakhs

(2) To dredge the proposed channel would require the removal of many times the 2000 cyds. laid down by Mr Thorogood

(3) To maintain such a chl. would require frequent, if not constant, dredging, in that a special dredger would have to be kept at the place

(4) The reasons for ~~this~~ (3) are very fully given, & are to my mind absolutely indisputable.

I am convinced that the channel would require constant dredging to keep it open, & that constant dredging would be often impossible owing to stress of weather.

11. Mr Walch objects in para 7, to the proposed groyne because

(1) there is no evidence as to its probable efficacy

(2) Mr Thorogood had no opportunity of making observations on the movement of sand during the S.W. monsoon, which has a very important bearing on the question –

(3) even if the groyne did arrest the travel of sand from the north, Mr Thorogood admits that sand also travels from the south, which the groyne would also arrest & cause a deposit in the very place which it was wished to deepen.

(4) such experience as we have on the Coromandel coast points to the extreme probability that the groyne will greatly aggravate the evil which it is intended to remedy –

I must entirely agree with the above objections. It may be that the promontory of the Dolphin's nose protects Vizag roadstead to such an extent as to alter or altogether reduce the conditions prevailing elsewhere in the past, but in the absence of any observations during the S.W. monsoon, we have no evidence to that effect, & I think it would be most dangerous to reproduce the conditions at Madras by building a groyne at, or nearly at, right angles to the shore, which would more than probably produce silting on its southern side & erosion on its northern side, & thus, as Mr Walch says, greatly aggravate the evil which it is intended to remedy –

There is a northerly movement of sand at Madras during the N.E. monsoons, but its effect is inappreciable, & I should want much more evidence than Mr Thompson produces to prove that it is ~~northerly~~ a drift of sand from the north which is the main factor in forming the bar at Vizag

12 – Mr Walch does not touch on

5

Mr Thompson's ~~scheme seems to~~ building the groyne, is ~~allowing~~ ~~sufficient~~ from being less the position of the protecting structure of the proposed groyne to the ~~bastions~~ river mouth & it is ~~not~~ not clear whether Mr Thompson intends it to act in this manner – He merely says (para 34) that he has placed it in such a position ~~that~~ as to allow sufficient beaching ground inside it for cargo boats – There is no doubt that the surf on the bar renders its passage by cargo boats often troublesome & sometimes dangerous, & any protection that could be afforded would be a great boon, but I greatly doubt if the groyne will afford any real protection

I think it might very probably

increase the disturbance of the sea ~~to~~ inside it by reflex action & do rather harm than good, especially if Mr Thompson's statement that the direction of the breaking waves is always from the South East is correct.

435/1175000

13. With regard to Mr Thompson's 3rd proposal to increase the tidal capacity of the estuary by reclamation Mr Walch appears in para 8 to be favourable, but says "I do not for one moment suppose that the increase in tidal capacity proposed would keep open an unrestricted channel to a depth of 10 ft at low water, but it might probably add a very important foot or two in depth to the worst places, & any work carried out in that direction would be useful" Mr Walch acknowledges that to the reclamation is undoubtedly due some ~~of the~~ deterioration of the entrance to the Backwater, but I have not as yet found any evidence of this, nor could I gather any on the spot - the bar was in fact, when I was there in February last, in better condition than it has been for years - I quite admit that no extensive curtailment of the capacity of a tidal estuary should be permitted, but as a matter of fact I believe the curtailment in this particular instance has been very small. Mr Thompson in para 15 says the river is tidal for nearly 2 miles from the mouth, yet in para 28 he estimates the present tidal capacity of the estuary at only 67 millions of cubic feet, or with an average depth of 4 feet, rather less than 400 acres! Now I have been in a boat up the estuary a couple of miles, to Karasa salt factory in company with the Port Officer, who was astonished at its extent, & had no idea what a large area was covered with water, and I undertake to say that the estuary covers a great deal more than 400 acres. Also if old levels could

are found. I think they would then that the area reclaimed had a very ~~[illegible]~~ shallow depth of water, not before reclamation, probably not more than 2 to 3 feet at spring tides, & that therefore the loss in tidal flow has not been appreciably great. I object then ~~th~~ to this proposal for the same reason as Mr Walch, viz. that it would not effect its object, but I go further & say that no amount of excavation that could be done for a reasonable sum would have any appreciable effect on the tidal scour on the bar. I propose to effect this by more natural means.

14. Now with regard to Mr Thompson's larger scheme for a deep sea harbour, to cost Rs 43,27,272, Mr Walch [illegible], para 1, "There is no

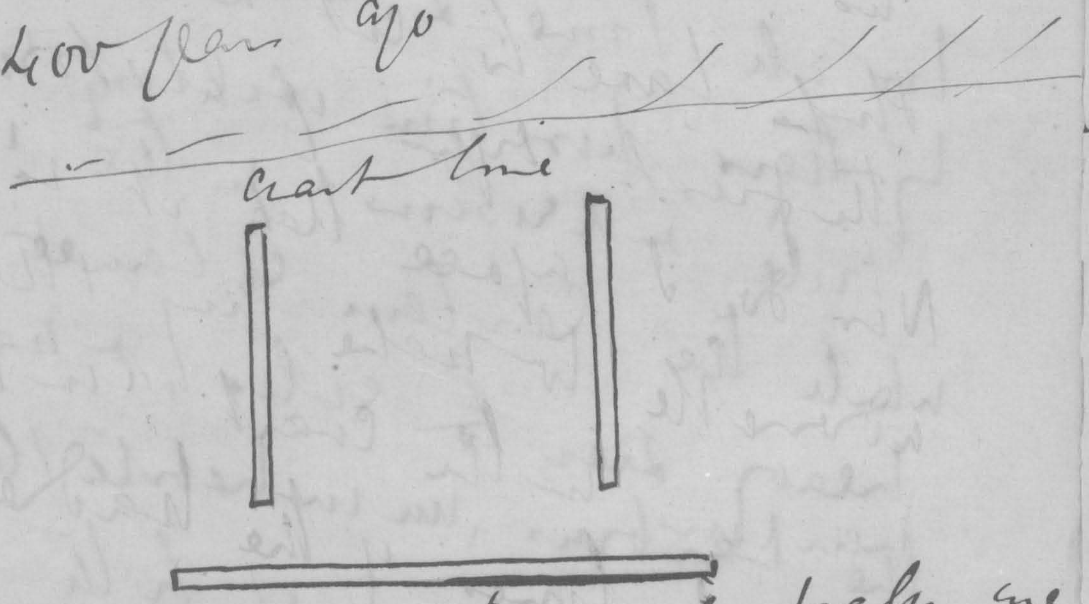
reasonable doubt that an excellent fine-weather open harbour for large ships could be made at Vizagm on the usual lines of the Madras harbour, & for such a work Mr Thompson's estimate appears suitable". But he considers that for reasons given, the cost will greatly exceed Mr Thompson's estimate, & that instead of 43 lakhs it will probably cost more than 60 lakhs. He also thinks that such a harbour is unnecessary now, but will become so when railway communication is opened up with the Central Provinces; & finally in para 9 he says that the necessary protection ~~[illegible]~~ for the river mouth from rough & heavy seas can only be given by ~~[illegible]~~ long & massive sea walls, which would be best disposed [illegible]

to enclose an outer harbour.
the position of Mr Thornycroft's deep
harbour is shown in drawing.

2 –
I don't quite understand what Mr
Welch means by a 'fair weather'
harbour – If we spend large sums
of money at Ozaj: it must be
in providing shelter for ships
in all weather, even a heavy
cyclone – & not only in providing
a fair weather harbour such
as the traders use from which
ships have to cut & run on
the first signs of a storm –

Nor do I agree that it is
advisable to make any other
harbour on the coast "on the
present lines of the traders
harbour", which is, for all
purposes except facility for landing
& shipping goods in moderate
weather, a failure & a nuisance
to the coast – Harbours in an
open coast line to be successful ~~succeed~~

~~in front of it~~ must interfere
as little as possible with natural
conditions – such as the Colombo
harbour; its sea walls are
~~an~~ an extension of the natural
line of coast, & it is a
monument of successful marine
engineering – such as Linga harbour
in the Persian Gulf. which I
believe to be situated in an
open coast line the traders
harbour was built thus
the harbour was
400 years ago



that is to say, the side walls are
not connected with the shore
& the front (sea) wall is not
connected with the side walls.
the former allows the littoral drift
to continue uninterrupted, &
the latter allows ships to enter

at one entrance in the N.E. according to the tunnel, & stay there in perfect safety because heavy seas cannot enter. I am informed that the conditions of sea & shore around that harbour are the same now as when it was built 400 years ago.

Now look at Madras harbour — the side walls stand out at right angles to the shore & being connected with it have arrested the littoral drift for all time, & have produced by their position silting on one side & erosion on the other, while the eastern entrance allows heavy seas to enter, & makes the harbour uninhabitable in bad weather — yet both Mr Thringford & Mr Welch ~~[illegible]~~ are ready to reproduce these conditions at Vizag, & even to accentuate them because the eastern entrance is to be 900 feet wide instead of 500 as at Madras — & its position

which allows the waves to enter unimpeded!

15 I think that I have not succeeded in convincing Govt. that neither of Mr Thringford's schemes are satisfactory & that it is not desirable to climb the Welch scheme to form the basis of the conclusions arrived at by Mr MacNab — I would have thought not that the Madras Govt. accepted generally Mr Welch's views in the matter

May 6. while until the orders of 20.2.90 of India who & it was the Govt. of rejected Mr Thringford's scheme being thrown over — I hope the scheme will now be finally abandoned —

16. I will now set forth my own proposals for improving the port of Vizagapatam, & I would first call attention to the requirements of the Port which was placed in Class 5 with

(1) The removal of the bar at the mouth of the river so that large cargo boats can be used at all states of the tide

(2) The protection of the roadstead, including the mouth of the river, from heavy seas, so that ships can lie there in safety, & load & unload cargo in all weathers -

Secondly. I would refer to the conclusions (1) to (5) arrived at by Mr Thorowgood & [illegible] in Para 5 above. The principal points to be remembered are

(1) The bar is always removed when floods in the river occur.

(2) These floods occur so rarely that we cannot depend on them, & must look to tidal ebb & flow as the active force for removing the bar -

To these I would add that if we could by any means simulate a flood in the river we should probably generate a force sufficient to keep the bar always open.

17. Now I beg to ~~an [illegible]~~ a glance at the tracing of the plan of [illegible] harbour herewith but it will be noticed first that the direction of the flood tide is marked by arrows thus ////⟶ & of the ebb tide by arrows thus ⟶, & that while the flood tide enters the river from the southward round the Dolphins nose the ebb takes the opposite direction & flows northward - the ebb tide, which is the main, in fact probably the only agent in the absence of floods in removing the bar, ~~thus~~ whose centre is about the spot marked in the plan in blue pencil thus ⊗, thus avoids it altogether & is practically inoperative in the desired direction - marked approximately between the points A & B in blue pencil in the plan, a training wall of rubble bar

within the last year or two been erected by the E.C. Rail Coy. & the effect of it has been to deepen the water in its immediate vicinity, so that where before its construction there was only 1 foot of water & less, there is now 4 to 6 feet. — My proposal is to extend this training wall from the river to or about the point C, making it slightly bell-mouthed so as to concentrate the flood tide on the river, with the double effect of training the latter ~~river~~ so as to produce deep water throughout by concentrating both flow & ebb within a certain definite area, & of obstructing the ebb tide in its endeavours to flow northward, & directing it instead straight up to the bar. I would on no account extend this training wall beyond a line which marks the inflection of the coast line South of the

Dutch battery, because by so doing we should probably arrest the littoral drift from the Southward & produce silting. So long as the training wall is within this line I ~~do not fear~~ am not afraid of this happening, nor do I think that its inflection as far as C would produce silting to the North, this being directly contrary to our experience on the coast except at Cocanada, where by reason of its peculiar position in a deep bay behind Godavari point, the silting now comes from the North.

Flag A

In this connection I invite attention to para 5 of Sir A. Rendel's letter to Capt. Dawes, which runs as follows "the artificial aid necessary in such cases consists of piers running out from one or both sides of the river mouth towards the bar, & compelling all water passing from the sea into the river, or from the river into the sea, to follow one & the same course, & I see no

reason

by its width and should not be as
successful here as it is elsewhere."

Then speaking as a real expert on the
subject, & the method has in
fact been adopted on the English
coast with, I am informed,
invariable success – I do not
think a training wall on the north
side is needed, because the
groyne bound Dolphins now
already sufficiently mark & confining the
channel. A breakwater is certainly
needed to protect the entrance,
but its only possible position
seems to be in a line
inshore with the coast north of Dutch
[illegible] as shown in red pencil
on the plan, & this would so
interfere with the natural course
of the flood tide & with the
exit of river floods that I
should be afraid to build
it there. The protection to
the entrance must come
with the scheme for a
big harbour.

16. I am aware that a foreshore
somewhat
training wall in this position
I suppose
has been proposed & otherwise supported ~~[illegible]~~
by Mr Stevens – notably by Mr Thom
Lockey vide para 8 of his
report, but ~~I believe~~ his
objection refers to proposals
carried much further out to
sea than I now propose. If
the additional proposal referred to
in paras 10 & 26 of Mr Thom's
report I have no details,
but it seems absurd to suppose that any
of these [illegible] could give the breakers
proper could convey the
spirit of the best stress.

The training wall proposal has
suggested to me
(1) by the fact that such works have
proved successful at home
(2) the influence of the existing
training wall in producing
deep water alongside –
I do not ~~[illegible]~~ contract the
entrance to the river – in
fact I somewhat add to it

because the wall will remove the
sand spit at the narrowest
point, which if broken will
endanger all access to it
from river floods, & the latter
will have a greater effect
than ever in scouring out the
mouth of bar —
This wall also finds favour
with the officers in the port
by the Port officer who has
studied the [illegible] for several
years from a practical point of
view, & the Collector lately in
charge of the Dn Mr T. Roscoe
Allen, who has seen much of
the success of similar works
in England, & is very well
informed of the literature of the
subject. The cost of a latter
has given me by the local
officers — I do not vouch for it
& cannot say definitely what it
would be without more care-
-ful investigation, but it would
certainly be much less than
Mr Thorowgood's propo-

~~64~~ 9

19. I believe this training wall
would suffice to keep a greater depth on the bar
~~clear~~. If it did not, I would
assist it by holding sluices
at Turner's Bridge-&-boats
by which the tide could be
held up daily, or as often
as necessary, till half ebb,
& then let loose on the bar,
thus simulating once in
every 24 hours if needed, a
moderate land flood. It would
not of course have the scouring
force of a real flood, but on the
principle that "gutta cavat lapidem
non vi sed saepe cadendo"
I think the frequent intervals
at which the force could be
applied would have sufficient
effect on the bar, & this by
the forces of nature, which would
obviate the need for constant
dredging with all its difficulties &
expense

~~[illegible]~~ is further that the still being experiments sanctioned with the Central pile are now being made, to discover the amount of the tidal silt flow – & I would write Council of a note on the subject in the Central pile by Mr Spring, or by itself thereto – The sluices would cost about 2 lakhs

I do not pretend that the above proposals would do more than maintain sufficient water to allow the passage of heavy cargo boats – they would in no way protect the entrance from surf & heavy seas, beyond the fact that with a deeper bar the surf would be less, while probably the rollers would be further off the backwater.

The entrance can only be protected by a breakwater to be referred to in the next para –

^ They for ~~would~~ training walls & sluices or just the former alone, would

There is no more difficult question in all marine engineering than the removal of bars before the sea, & clueless have a claim to pioneer trying to displace them & the bottom endeavour to remove them cannot command complete success, but ^

9. I am convinced, probably more first requirement of the Port of Vizagm ^ far more efficiently than Mr Thompson's smaller scheme, at considerably less cost, if India ~~Council~~ another one afford the funds for only. I should like to see the work undertaken at once.

10. With regard to the scheme for a deep sea harbour, I have already explained in para 44 my objections to the form of harbour proposed by Mr Thompson – & I hope that all agree that if ~~he spend~~ it is ever possible ~~for so to~~ to devote 80 lakhs or more to the construction of a harbour at Vizagm, it should be a harbour of refuge in all weathers –

^ I believe the proper way to obtain

this is to build a breakwater
(by which I mean as the term in [illegible] ~~Dolphins~~
~~accurately~~ supposes a 'structure unconnected
with the shore at either end')
commencing in 5 & carrying out to
~~on~~ 7 fathoms of water, ~~afterwards~~
~~parallel to the east coast line~~
of sufficient strength to stand
a cyclone sea, & of sufficient
length to enable ships to lie
behind it in perfect safety
even during a cyclone, & to
protect the entrance to the
rivers from heavy seas –
~~The [illegible] 7 fathom line in the~~
~~accompanying tracing shows the~~
~~general direction the breakwater~~
~~would take~~ the ~~entrance~~ ships
would enter with a south
gale in accordance with
the wind – From very rough
calculations I estimate that
such a breakwater ~~a double~~
~~long would cost~~ at 50 lakhs, a
while, would cost 62 lakhs.
or less than Mr Walch's estimated

I have drawn
a curved line
with blue pencil
in the accom-
panying tracing
~~showing commencing~~
~~at 5th~~ ~~sand in~~
~~of fathoms~~,
showing the approx-
-imate line I
think the break
-water should
take.

5280 : 6500 . 50
50
528) 32500 (62
3168
820

cost of Mr Thompson's scheme.
& I believe it would afford
infinitely greater protection than
the latter, & have the great
advantage of not interfering
in any way with the existing
littoral conditions – The stone
~~for the~~ the base could be obtained from
the Dolphins nose by wire
rope ways & the concrete blocks could
~~that the~~ ~~would~~ be made in shore to the same place
~~be no difficulty~~ about ~~the~~
& foreshadow, so that
~~level~~ & the work would
permanent. There is I can see
no great engineering difficulty
& it will make ~~by~~ the
finest harbour ~~between~~ on
the coast – What prospect
there is of funds being ever
available for this I know not,
but as stated in my former
note, they will be readily found
for a railway – & as such a
harbour would, no doubt

this is to [illegible] a [illegible] it [illegible] except the railway systems enor-mous; perhaps the future is not quite so hopeless as it looks -

21. I hope I have now placed this matter before Govt. in a more satisfactory manner, & if this note is thought to be too long, I can only plead that the subject is a many-sided one, & if I had considered it in all its bearings, the note would have been much longer.

22. With reference to the Hon. Mr. Hollins remarks on para. 5 of my note on orders dated 12-8-87 I beg to ~~point~~ I submit that private enterprise is much more developed in England than in India, & the fact that the companies there are resident in the country & spend their profits there makes the arrangement much more desirable than the one now under discussion. Besides the land in England adjacent to docks is generally private property & not the property of the State

---

The Company it is proposed to form is to be resident in England & to its directors almost certainly as much profit as it can out of India. It may talk of disin-terested motives, but such is a [illegible] its main object - My point is that this profit should go into the Govt. treasury. We want money badly enough in all conscience, for marine works, & can obtain it in the same manner as the Company proposes to obtain it by spending money, & then increasing the dues so as to bring in a handsome return on the outlaid money.

If there was no prospect of the Govt. of India finding funds for a ~~[illegible]~~ harbour of refuge, & a Company came forward & offered to do so, I would accept the offer, as the only way out of the diffi-

at the funds required for the
minor improvement of the
Port are so small & the
benefits likely to accrue so
considerable that I certainly
think that Govt. should find
the one & accept the other

11. 6. 98

Wright

Clerk

Please have all the papers
arranged together & flagged
correctly with letters etc.
I have given the few papers
checked

11-6-98

Checked

This shd. be carefully
type written or printed

W

Attended to

14 June 98.

Marine (1898) Department.

Dy. CURRENT No. 13

From Mr. Seely
Port Officer
Vizagapatam

No. -

Dated 23-6-98

Received } 7-11-98
Registered }

Enclosures one

Spare copies -

SUBJECT

Forwards a statement showing certain particulars regarding the Condition of the Vizagapatam Bar

P. W. 29.
1,000—5-9-98.

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

Statement of particulars showing the depth of water, direction of wind, amount of Rainfall, No. of days Surf Flag hoisted, No. of day Signals hoisted ~~during~~ at the end of each month from the year 1895 to 1898.

1895					
	Depth of water on the Bar.	Direction of wind Strength — do —	Total Rainfall.	No. of days Surf Flag hoisted.	No. of days Storm Signals hoisted.
January.	ft. - Inch. 5 - 9.	Light N.E. & S.E. wind	No record -	Nil	Nil
February.	5 - „	— do - southerly - do -		Nil	Nil
March.	5 - „	— do —		Nil	Nil
April	5 - „	Strong — do -		Nil	Nil
May.	5 - „	— do —		2 days	Nil
June	5 - „	Moderate S.E. & S.W. - „ -	In - cents 5 - 10	1 - „ -	Nil
July	4 - 6	— do - S.E. & W. - „ -	2 - 53	Nil	1 day
August.	4 - „	Strong Westerly - „ -	10 - 11	1 day	Nil
September	5 - „	— do - N.E. & S.W. - „ -	8 - 65	2 - „ -	1 day.
October	5 - „	Light N.E. & W.S.W.	10 - 45	Nil	Nil
November	No record	— do — N.E.	Nil	Nil	Nil
December	— do -	— do —	Nil	Nil	Nil

1896					
Month.	Depth of water on the Bar.	Direction of wind Strength — do -	Total Rainfall.	No. of days Surf Flag hoisted	No. of days Storm Signals hoisted.
January	No record	Light S. & S.S.E. winds	Nil	Nil	Nil
February	ft. In 4 - „	Strong S. S.W. - „ -	Nil	Nil	Nil
March	5 - „	— do southerly - „	Nil	Nil	Nil
April	4 - „	— do —	Nil	Nil	Nil
May.	3 - „	Light S. & S.W. - „ -	Nil	Nil	Nil
June	3 - „	— do —	In cents 3 - 92	1	1
July	2 - „	Strong southerly - „ -	6 - 18	Nil	Nil
August	3 - „	Light W.S.W. - „ -	3 - 50	Nil	Nil
September	1 - 6.	— „ - variable - „ -	„ - 75	Nil	Nil
October	4 - 6	Moderate S.S.E. - „ -	Nil	Nil	Nil
November	3 - „	Light variable - „ -	Nil	Nil	Nil
December	3 - „	— „ — N.E. winds	Nil	Nil	Nil

1897					
Month.	Depth of water on the Bar.	Direction of wind Strength - do -	Total Rainfall.	No. of days Surf Flag hoisted.	No. of days Storm Signals hoisted.
January	ft. - Inch 3 - „	Light S.E. wind.	Nil	Nil	Nil
February	3 - „	— do southerly - „ -	Nil	Nil	Nil
March	4 - „	— do —	Nil	Nil	Nil
April	4 - 3	— „ — „ —	Nil	Nil	Nil
May	4 - „	Strong S.W. - „ -	In - cents 4 - 35	Nil	Nil
June	2 - „	— do —	1 - 5	3 days	Nil
July	2 - „	Moderate S.W. - „ -	2 - 26	Nil	Nil
August	2 - „	— do —	3 - 94.	3 days	Nil
September	4 - „	— do N.E. & S.W. - „ -	7 - 17.	Nil	1 day
October	3 - „	— do - variable - „ -	7 - 5.	10 days	1 - „
November	5 - „	Strong N.E. - „ -	3 - 75	2 - „ -	5 - „
December	5 - „	— „ — N.N.E. - „ -	„ - 5	3 - „ -	2 - „ -

1898					
Month.	Depth of water on the Bar.	Direction of wind Strength - do -	Total Rainfall	No. of days Surf flag hoisted	
January	ft. - do 6 - „	Slight variable wi	Nil	Nil	N
February	7 - „	— do —	In - cents 2 - 50	Nil	N
March	5 - 6	Light southerly - „	Nil	Nil	Nil
April	4 - 6	— do —	1 - 7	Nil	Nil
May	4 - 6	— do —	„ - 50	Nil	Nil
June	2 - 6	— do —	6 - 65	Nil	Nil

Vizagapatam }
22nd June 1898 }

Port Officer

Vizagapatam Harbo

onthly averages of Weekly Soundings on Bar
Direction and Strength of Wind
Rainfall per month
Particulars of Storm and Surf
Years 1895, 96, 97, 98.

	1895						1896			
Month	Depth of Bar	Direction and Strength of Wind	Rainfall	No. of days of Surf flag	No. of days of Storm Signal	Month	Depth of Bar	Direction and Strength of Wind	Rainfall	No. of days of Surf flag	No. of days of Storm Signal
January	5'9"	Light NE & SE	?	0	0		?	Light S & SE	0	0	0
February	5'0"	Light Southerly	?	0	0		4'0"	Strong S	0	0	0
March	5'0"	Light Southerly	?	0	0		5'0"	Strong Southerly	0	0	0
April	5'0"	Strong Southerly	?	0	0		4'0"	Strong Southerly	0	0	0
May	5'0"	Strong Southerly	?	2	0		3'0"	Light S & SW	0	0	0
June	5'0"	Mod. SE & SW	5·10	1	0		3'0"	Light S & SW	3·92	1	1
July	4'6"	Mod: SE & SW	2·53	0	1		2'0"	Strong Southerly	6·18	0	0
August	4'0"	Strong Westerly	10·11	1	0		3'0"	Light WSW	3·50	0	0
September	5'0"	Strong NE & S.W	8·65	2	1		1'6"	Light variable	0·75	0	0
October	5'0"	Light NE & WSW	10·45	0	0		4'6"	Mod: S & SE	0	0	0
November	?	Light N.E	0	0	0		3'0"	Light variable	0	0	0
December	?	Light N.E	0	0	0		3'0"	Light N.E	0	0	0

1'6" – Light variable, decrease from 3'0" light W.S.W
2'0" Strong Southerly 〃 〃 3'0" light S & SW
{2'0" Strong S.W
2'0" Mod: S.W
2'0" Mod: S.W.
2'6" Light Southerly 〃 〃 4'6" light Southerly
{3'0" Light S & SW 〃 〃 4'0" Strong Southerly
3'0" Light S & SW
3'0 Light W.S.W, increase 〃 2'0" Strong Southerly
{3'0" Light variable, decrease 〃 4'6" Mod: S & SE
3'0" Light N.E
3'0" Light S E
3'0" Light Southerly
3'0" Mod: variable 〃 〃 4'0", Mod: NE & S.W.
4'0" Strong Westerly 〃 〃 4'6" Mod: SE & S.W.
4'0" Strong S.
4'0" Strong Southerly 〃 〃 5'0" Strong Southerly
4'0" Light Southerly, increase 〃 3'0" light Southerly
4'0" Light Southerly, decrease 〃 4'3" Light Southerly
4'0" Mod: N.E & S.W, increase 〃 2'0" Mod: S.W.
4'6" Mod: SE & S.W, decrease 〃 5'0" Mod: SE & SW
4'6" Mod S & SE, increase 〃 1'6" Light variable
{4'6" Light Southerly, decrease 〃 7'0" Strong variable E & SE
4'6" Light Southerly
{5'0" Light Southerly 〃 〃 5'9" light NE & SE
5'0" Light Southerly
5'0" Strong Southerly
5'0" Strong Southerly
5'0" Mod: SE & SW
{5'0" Strong NE & SW, increase 〃 4'0" Strong Westerly
5'0" Light NE & W.S.W
5'0" Strong Southerly 〃 〃 4'0" Strong S.
{5'0" Strong N E 〃 〃 3'0" Mod: variable
5'0" Strong NNE
5'6" Light Southerly, decrease 〃 7'0" Strong variable E & SE
5'9" Light NE & SE
{6'0" Strong variable E & SE, increase 〃 5'0" Strong N.N.E
7'0" Strong variable E & SE.

Each figure means average of a month's observations
{ = Continuous months.

1897						1898					
Month	Depth of Bar	Direction and Strength of Wind	Rainfall	No. of days of Surf Flag	No. of days of Storm Signal	Month	Depth of Bar	Direction and Strength of Wind	Rainfall	No. of days of Surf Flag	No. of days of Storm Signal
	3'0"	Ligh S-E	0	0	0		6'0"	Strong variable E & SE	0		
	4'0"	Light Southerly	0	0	0		7'0"	Strong variable E & SE	2.50		
	4'0"	Light Southerly	0	0	0		5'6"	Light Southerly	0		
	4'3"	Light Southerly	0	0	0		4'6"	Light Southerly	1.70		
	4'0"	Light Southerly	4.35	0	0		4'6"	Light Southerly	0.50		
	2'0"	Strong S W	1.50	3	0		2'6"	Light Southerly	6.65		
	2'0"	Mod: S W	2.26	0	0						
	2'0"	Mod: S.W	3.94	3	0						
	4'0"	Mod N E & SW	7.17	0	1						
	3'0"	Mod: Variable	7.50	10	1						
	5'0"	Strong N.E	3.75	2	5						
	5'0"	Strong N.N.E	0.50	3	2						

200—16-7-98.