(1) Number of pages 54

(2) Date of repair 29-6-87

(3) Initials of the Referencer

TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

Public works DEPARTMENT

G.O. No. B.P. No:	1924 W	Press. Mis.
Dated	9-~~8~~ 7-1883	~~198~~ .

Not to be folded or roughly handled

1/1924

9TH JULY 1883, No. 1924 W., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following papers :—

From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Administrative Department, Madras, to the Acting Secretary to Government, Public Works Department, dated Madras, 17th October 1882, No. 8883.

BIMLIPATAM.—This prosperous port has throughout the past year been very unfavorably situated with regard to its landing and shipping conveniences.

2. The river mouth has continued open in the furthermost north corner of the bay, and the one least suited to boating operations.

3. I have given instruction to cut the sand-banks near the round tower, in the most favorable place, directly a good opportunity occurs, and I am in hopes the cyclonic weather now reported at Cuttack may furnish such a fresh in the Bimlipatam River as will justify the operation and give help to the trade; but it is very desirable that the mouth should be fixed, if possible, in the best site, and this, in the universal opinion of all local authorities and observers, can be done by running out a moderately long groyne, say 400 feet, from the rocky spit off the round tower straight to seaward. I am of opinion that as this is on the south side of the river, and the action of the sand is the same at all mouths on this East Coast, the analogy of the Madras Harbour Works would obtain here, and erosion be carried on close round the groyne, if a short one, and the desired result be gained. I would, therefore, respectfully recommend that this measure be carried out, and an estimate of its cost be submitted to Government as a preparatory step.

4. It should, in my opinion, be of large stone thrown down irregularly, and obtained from the neighbouring hill. There are some rocks already in position in the same site, and these have not been disturbed within the memory of the oldest inhabitants. If the work rises to three feet above high-water, it will serve the purpose, and when the river mouth is open, the boats can pass readily in and out of the river, and discharge and load at the river bank in perfectly smooth water at all seasons.

5. The merchants, I am credibly informed, would be willing to have a small toll levied on all goods landed and shipped, in order to secure this benefit, as has been proposed at Cocanada; but if the estimate is not large, the expense may perhaps be sanctioned by Government from Port Funds, towards which Bimlipatam has largely contributed without having any assistance hitherto.

6. A rough plan of the port is sent for easy reference.

No. 937 E., Public Works.

Referred to the Superintending Engineer, First Circle, for report, and for submission of an estimate for the work described in paragraph 3 of the Master Attendant's letter.

24th October 1882. (Signed) J. SHAW-STEWART, Colonel, R.E.,
Ag. Secretary to Government.

From G. T. WALCH, Esq., Officiating Superintending Engineer, First Circle, to the Chief Engineer, Public Works Department, dated Dowlaishweram, 12th February 1883, No. 613 V.Z.

With reference to your No. 937,* dated 24th October 1882, and to G.O., No. 47 W., 8th January 1883, I have the honor to state that on 21st ultimo I visited Bimlipatam and the accompanying plans † and estimates have been prepared in accordance with orders given on the spot.

2. The efficacy of the work I consider doubtful, but as the Master Attendant, Administrative Department, who has more experience about such works than I have, considers it likely to prove useful and as it appears this is also the "opinion ‡ of local authorities and observers," and as the proposed expenditure is small, I recommend that the experiment be made.

3. The estimate does not provide for any stone except such as can be carted and handled by appliances now obtainable at the place; to make the groyne of such masses as would not be liable to be disturbed during really heavy weather would require special and costly plant, and the stone provided for, if well packed, will stand all but heavy weather. After such weather the groyne would have, if it proves useful, to be made up again.

* Returned, herewith, with its enclosure (1 Survey made by Lieut. Taylor, R.N.R.)

† 1 Survey plan of port of Bimlipatam Harbour.
2 Sections across sand bank and part of backwater (2 sheets).
3 Levels (Sections) at site of proposed groyne.
4 Specification.
5 Detail and Abstract Estimates.

‡ See paragraph 2 of Captain Taylor's letter with Proceedings of Madras Government, No. 47 W., 8th January 1883.

Memorandum by the Chief Engineer, Public Works Department, dated 23rd February 1883, No. 470 C.

From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Administrative Department, to the Secretary to Government, Public Works Department, dated Madras, 6th March 1883, No. 1969.

I have the honor to return the correspondence, plan and estimate for a rough groyne at the port of Bimlipatam, and to remark thereon that I entirely concur in the opinion of the Chief Engineer that there are conditions at that port that remove the case from those where straight sand beach on this coast renders the action of groynes reliable; but I have had great experience of Bimlipatam, having visited it many consecutive years when I commanded ships in the East India Trade, and I am convinced that the rocky spit that now exists was the cause of the river mouth remaining fixed at the old place near the tower from which it was removed by the freshes of the river in a very exceptional season, seeking a more direct opening to the sea. This opening is unfortunately so far from this spit that it has not been acted upon by it, and has maintained itself, in spite of certain efforts to bring back the *status quo*.

2. The drift sand also has been a serious impediment to the re-action. I am confident that a groyne would be the best method to restore comfort to the port, and I hope it will be adopted. I cannot, however, say that I approve of the idea of a small stone work after the groyne has entered the sea, though for its root from the tower to high-water mark to keep off drift sand and check storm current, it would answer with occasional repair; but I should be sorry to see any stones smaller than those used in the Public Works groynes at Madras, or Sir Arthur Cotton's groynes at Vizagapatam, placed in positions where they will be constantly exposed to wave and current action. I do not know the method employed in placing these stones, but I imagine it requires no plant of any expensive quality. The mode of operation must be well known in the Public Works Department. With a groyne of that sort I believe much good may be effected. I also, on reconsideration, think that I overstated the required length. I should like to see a groyne of 150 feet from high-water mark left for a season or two. I think that might suffice, and a portion of the reserved estimate might be used in helping to close the present mouth when the new work is ready. Bimlipatam has never had anything done for it, and when its river is open, it enjoys facilities for rapid despatch of steamers and general landing and shipping that no amount of money available could obtain for Vizagapatam.

I believe they average about one ton weight.
J. H. T.

2/1924

No. 580 C., Public Works.

The present proposals of the Master Attendant, with a copy of the Chief Engineer's memorandum, No. 470 C., dated 23rd February 1883, are forwarded to the Superintending Engineer, First Circle, for early submission of a revised estimate.

2. The method of lifting large stones with chains and by distributing the weight is so well known and universally applied, that no special remark is called for.

3. The collection of materials should proceed in anticipation.

4. The return of the papers now sent is requested.

(By Order.)

10th March 1883. (Signed) J. PENNYCUICK, Major, R.E.,
Deputy Chief Engineer, P.W.D.

From G. T. WALCH, Esq., Officiating Superintending Engineer, First Circle, to the Chief Engineer, Public Works Department, dated Dowlaishweram, 18th March 1883, No. 689 V.Z.

With reference to your memorandum, No. 580 C., dated 10th March 1883, I have the honor to request instructions as to what is to be the limiting size of the stones to be used in the Bimilipatam groyne.

2. The place where they will have to be quarried is about a mile away; from this they will have to be brought in the small carts of the country (unless of course special plant is to be provided, which I understand is not intended), and they will have to be carted or carried over some 200 or 300 yards of heavy sea sand.

1 Master Attendant's letter No. 8883, dated 7th October 1882.
4 Plans.
1 Report.
1 Survey plan (by Taylor, Esq.)
1 Detailed Estimate.
1 Abstract ,,
1 Letter No. 613 V.Z., dated 12th February 1883.
1 Master Attendant's letter, No. 1969, dated 6th March 1883.
1 Memorandum No. 470 C., dated 23rd February 1883.

3. My specification, which has not been approved, provided for one-third of the stones being 3 cubic feet and they would weigh between 400 lb. and 500 lb.; half, not less than 2 cubic feet which would weigh about 300 lb., and the remaining one-sixth, not less than ½ cubic foot or say 75 lb., the last being required, I thought, for filling interstices.

4. As said in my letter, it is perfectly impossible without special plant to place stones the weight of which will prevent their being displaced in really heavy weather; and this being the case, I provided for such sizes, as I considered could be fairly easily handled and roughly *built*, not merely thrown down at random.

No. 703 C., Public Works.

Referred to the Superintendent, Madras Harbour Works, for favor of his opinion as to the weight and size of the stones which, under the circumstances, he would recommend to be used, having in view the experience gained on the Madras Harbour Works.

29th March 1883. (Signed) R. H. SANKEY, Colonel, R.E.,
Chief Engineer, P.W.D.

From F. N. THOROWGOOD, Esq., M. INST. C.E., Superintendent, Madras Harbour Works, to the Chief Engineer, Public Works Department, dated Madras, 30th March 1883, No. 59 W.

I have the honor to return, herewith, the papers which accompanied your memorandum, No. 703 C., of the 29th March, in which you ask for my opinion on the size and weight of stones suitable for building a groyne at Bimlipatam.

2. It appears that the proposed groyne would have to bear the full weight of the surf waves from the south and south-east, and I imagine that these would be very similar to the surf waves at Madras during the south-west monsoon. This being so, there can be no doubt that the larger the stones are, of which the groyne is made, the better. I am of opinion that no stones of less than 4 cwt. should be employed, and that the greater part (say two-thirds) of the work should be built of stones weighing 7 cwt. each, or, at the very least, so heavy that three will weigh one ton. The size of such stones would be about 6 cubic feet.

3. I do not consider that any packing or building up of small stones would be of any use against breaking waves.

4. The surf bank of the south pier of this Harbour was a fairly successful work similar to the proposed groyne, and for the southern side of this the stones were not less than 7 cwt. each. Many of them were taken from the old Public Works Department groynes near Clive's Battery.

5. I would venture to remark that the groyne will not stand with slopes of 1 to 1, but that the waves must be allowed to determine what slope will suit them on the south side. I should think that 3 or 4 to 1 slope would be about the angle of the south side of the groyne.

6. The cost of large boulders brought from the neighbourhood of Guindy and deposited by coolies in the south surf bank was from Rs. 1-12-0 to Rs. 2-4-0 a ton, according to size of the boulders.

No. 753 C., Public Works.

Communicated to the Superintending Engineer, First Circle for information and guidance with reference to his letter No. 689 V.Z., dated 18th March 1883.

5th April 1883. (Signed) R. H. SANKEY, Colonel, R.E.,
Chief Engineer, P.W.D.

3/1924

G. T. WALCH, Esq., Officiating Superintending Engineer, First Circle, to the Chief Engineer, Public Works Department, dated Dowlaishweram, 3rd June 1883, No. 101 V.Z. :—

With reference to your memoranda, No. 753 C., dated 5th April 1883, and No. 850 C., dated 16th April 1883, I have the honor to forward, herewith, revised estimate,* abstract and detail, for the Bimlipatam Groyne together with the documents† connected with it, named in the margin.

2. In accordance with your telegram, dated 16th May 1883, the Divisional Officer has been ordered to push on with the work with reference to which he remarks: "The present opening, however, is what generally occurs every year during the south-west monsoon and so there does not appear to be anything very urgent to call for the immediate execution of the work."

* Rs. 5,980.

† 1 Plan "Survey of port of Bimlipatam Harbour" dated 4th February 1883, which accompanied former estimate.
1 Enlarged Sketch.
1 Sheet of (Tracing Linen) "Levels for the Groyne," dated 28th May 1883.
1 Specification Report with revised estimate.
1 Chief Engineer's Memorandum, No. 939 E., dated 24th October 1882, with a plan.
1 Chief Engineer's Memorandum, No 470 C., dated 23rd February 1883.
1 Madras Master Attendant's letter, No. 1969, dated 6th March 1883, to the address of the Chief Engineer, Public Works Department.

No. 1159 C., Public Works.

Forwarded to the Master Attendant for countersignature to the plan and estimate, if approved.

Early return is requested.

(By Order.)

20th June 1883. (Signed) C. BOWEN, Major, R.E.,
Under Secy. to Govt., P.W.D.

From J. H. TAYLOR, Esq., Lieut., R.N.R., Master Attendant, Administrative Department, to the Secretary to Government, Public Works Department, dated Madras, 26th June 1883, No. 5826.

I have the honor to return the letter from the Superintending Engineer, First Circle, No. 101 V.Z., dated June 3rd, 1883, with revised estimate and plan for the construction of a rough stone groyne at the port of Bimlipatam, at a cost of Rupees (5,980) five thousand nine hundred and eighty, both of which are approved and countersigned by me.

2. With reference to paragraph 2, I would observe that the intention and hope of the groyne are that it will fix the mouth, which, for several years, has been very troublesome in its movements: from this point of view it seems very desirable that expedition should be used, in order to secure the present opening before adverse action sets in.

ORDER—dated 9th July 1883, No. 1924 W., Public Works.

The plan and estimate, amounting to Rs. 5,980, for constructing a rough-stone groyne in the Port of Bimlipatam, in the Vizagapatam Division, are sanctioned for early execution.

2. The Accountant-General will be instructed, in the Financial Department, to place the sum of Rs. 7,445, as per margin, at the disposal of the Public Works Department, from the balance to the credit of Port Funds, for the execution of the work.

	RS.
Works	5,980
Establishment	1,375
Tools and Plant	90
Total ...	7,445

3. The Superintending Engineer will furnish the Examiner, Public Works Accounts, with a duplicate of the abstract estimate in proper form.

4. This sanction has been registered as Local No. 19 W. of 1883-84 and classified as Miscellaneous Public Improvement, Original Works.

(True Extract.)

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

To the Superintending Engineer, First Circle, with six Enclosures.
,, Examiner, Public Works Accounts.
,, Financial Department.
,, Marine do.
,, Master Attendant.

Exd. E. Fernandez
Spare Copies

4/1924

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1883) Madras.

PUBLIC WORKS.

Dated July, 9th.

Recd. *Encl.*

G.O., 9th July 1883, No. 1924 W.

JULY.

Rough-stone Groyne at Bimlipatam

Plan and estimate for constructing a —, sanctioned with remarks.

Administrative Department.

P1 5/1924 B

No. 8883

MADRAS,
Marine Office,
17th October 1882.

From

J. H. TAYLOR, Esq., Lieut., R.N.R.,
Master Attendant,
Administrative Department,
Madras,

To

Colonel J. H. M. Shaw Stewart R.E.
Acting *Chief Secretary to Government,*
Public Works ~~*Marine*~~ *Department,*
Fort Saint George.

Sir,

Bimlipatam

This prosperous port has throughout the past year been very unfavourably situated with regard to its landing and shipping conveniences.

2 The river mouth has continued open in the furthermost North corner of the bay, and the one least suited to boating operations.

3 I have given instruction to cut the sand banks near the round tower in the most favourable place directly a good opportunity occurs, and I am in hopes the Cyclonic weather now reported at Cuttack may furnish such a fresh in the Bimlipatam River as will justify the operation and give help to the Trade, but it is very desirable that the mouth should be fixed, if possible, in the best site, and this in the universal opinion of all local authorities and observers can be done by running out a

moderately long groyne, say 400 feet from the rocky spit off the round tower straight to seaward. I am of opinion that as this is on the South side of the river, and the action of the sand is the same at all mouths on this East Coast, the analogy of the Madras Harbour works would obtain here, and erosion be carried on close round the groyne, if a short one, and the desired result be gained. I would therefore respectfully recommend that this measure be carried out, and an estimate of its cost be submitted to Government as a preparatory step.

4 It should, in my opinion, be of large stone thrown down irregularly and obtained from the neighbouring Hill. There are some rocks already in position in the same site, and these have not been disturbed within the memory of the oldest inhabitants. If the work rises to three feet above high water, it will serve the purpose, and when the river mouth is open, the boats can pass readily in and out of the river, and discharge and load at the river bank in perfectly smooth water at all seasons.

5 The Merchants I am credibly informed would be willing to have a small toll levied on all goods landed and shipped, in order to secure this benefit, as has been proposed at Cocanada, but if the estimate is not large, the expense may perhaps be sanctioned by Government from

P 2 6/~~15~~ 192

from Port Funds, towards which Bimlipatam has largely contributed without having any assistance hitherto.

6 A rough plan of the Port is sent for easy reference.

I have the honor to be
Sir
Your most Obedt Servant
J W Taylor
Master Attendant
Administrative Department

I/1924

18

P 4

No. 937 Eds. 24th October 82

Referred to the Superintending Engineer First Circle for report, and for submission of an Estimate for the work described in paragraph 3 of the Master Attendant's letter

Col. R.E.
Ag. Secy. to Govt.
P.W. Department

St. First Circle (in Original take notes)

OLS 31.10

(188) DEPARTMENT.

From

THE MASTER ATTENDANT,
ADMINISTRATIVE DEPARTMENT,
Madras,

To

THE ~~Chief~~ SECY. TO GOVERNMENT,
P. W. ~~Marine~~ DEPARTMENT,
Fort St. George.

No. 8883.

Dated
Received } 188

8051

No.

P. W. Est. 3/4
2575/83
5704

Subject.

Report on the port of Bimlipatam with a rough sketch of the port.

Referred.

NO. 613 V.Z.

8/1924/5

FROM,
THE SUPERINTENDING ENGINEER
FIRST CIRCLE.

TO,
THE CHIEF ENGINEER
P. W. Department
~~FOR IRRIGATION.~~

Enclosures 9

DOWLAISHWERAM, 12th February 1883.

Despd 16

SIR,

With reference your No. 937-24/10/82 to G.O. No. 47 W. 8/1/83 I have the honor to state that on 21st ultimo I visited Bimlipatam and the accompanying plans & Estimates have been prepared in accordance with orders given on the spot.

* Returned herewith with its enclosures.

1. Survey plan of part of Bimlipatam harbour.
2. Sections across sand bank and part of back water (2 sheets)
3. Levels (Sections) at site of proposed groyne.
4. Specification
5. Detail and abstract Estimates.

2. The efficacy of the work I consider doubtful but as the Master Attendant Administrative Dept. who has more experience about such works than I have, considers it likely to prove useful and as it appears this is also the opinion of local authorities & observers and as the proposed expenditure is small I recommend that the experiment be made.

see para 2 of Capt. Taylor's letter with P. M. G. No. 47 W. 8/1/83

3. The Estimate does not provide for any stone except such as can be carted and handled by appliances now obtainable at the place, to make the groyne of such masses as would not be liable to be disturbed during really heavy weather would require special and costly plant and the stone provided for if well packed will stand all but heavy

ry weather. After such weather the Groyne
ld have, if it proves useful, to be made up
ain.

I have the honor to be
Sir,
Your most Obdt. Servant

C. E.

Offg. Supdg. Engineer
1st Circle.

9/1924

G.O. 299 W d/ 3-2-82
" 300 W d/ 3-2-82
" 1719 W d/ 8-7-82
No 937 E. d/ 24-10-82
G.O. 47 W d/ 8-1-83

From
The Supg Engineer
1st Circle

To
The Chief Engineer
P.W.D.
Madras

Date d 12th
Despd 15th } February / 83
Received

No 613 V.Z.

Enclosure 9

Bimlipatam port
Improvements —
Plans and Estimate
for the — Returns
the — and gives his
Opinion on the subject
Submits —

6 Quote

10/1924

Memo by the Chief Engin. P.W. Dept. & [illegible]
of
28th [illegible] No 4 70 C.

87 11/1924

Administrative Department.

No. 1969.

Madras,
Marine Office,
6th March 1883.

From

J. H. TAYLOR, Esq., Lieut., R.N.R.,
Master Attendant,
Administrative Department,
Madras.

To

Colonel R. H. Sankey R.E. C.B.
~~Chief~~ Secretary to Government,
Public Works ~~Marine~~ Department,
~~Fort Saint George.~~

Sir,

I have the honor to return the correspondence, Plan and Estimate for a [illegible] rough groyne at the Port of Bimlipatam, and to remark thereon that I entirely [illegible] concur in the opinion of the Chief Engineer that there are conditions at that port that remove the case from those where straight sand beach on this coast renders the action of groynes reliable, but I have had great experience of Bimlipatam, having visited it many consecutive years when I commanded Ships in the East India Trade, and I am convinced that the rocky spit that now exists was the cause of the river mouth remaining fixed at the old place near the Tower from which

it

it was removed by the freshes of the river in a very exceptional season, seeking a more direct opening to the sea. This opening is unfortunately so far from this spit that it has not been acted upon by it, and has maintained itself, in spite of certain efforts to bring back the status quo.

2. The drift sand also has been a serious impediment to the reaction. I am confident that a groyne would be the best method to restore comfort to the Port, and I hope it will be adopted. I cannot, however, say that I approve of the idea of a small stone work after the groyne has entered the sea, though for its root from the source to High Water mark to keep off drift sand & check storm currents, it would answer with occasional repairs; but I should be sorry to see any stones smaller than those used in the Public Works groynes at Madras, or Sir Arthur Cotton's groynes at Vizagapatam, placed in positions where they will be constantly exposed to wave and current action. I do not know the method employed in placing these stones, but I imagine it requires no plant of any expensive quality. The mode of operation must be well known in the Public Works Department. With a groyne of that sort I believe much good may be effected. I also on reconsideration think that I overstated the required length. I should like to see a groyne of 150^{ft} from High Water mark left for a season or two. I think that might suffice, and a portion of the reserved estimate might be used in helping to close the present mouth when the new work is ready.

I believe they average about one ton weight

Bimlipatam has never had anything done for it, and when its river is open, it enjoys facilities for rapid despatch of steamers and general landing and shipping that no amount of money available could obtain for Vizagapatam.

I have the honor to be

Sir,

Your most Obed^{t} Serv^{t},

J. W. Taylor

Master Attendant,

Administrative Department

(188) Department.

P.W.C No 2751

From

The Master Attendant,
Administrative Department,

To Madras,

The ~~Chief~~ Secy. to Government,
P.W. ~~Marine~~ Department.
Fort St. George.

No. 1969

Dated 6 } March 1883.
Received 8 }

Encl. 10 No. (C 4 plans

P.W. Encl.

25/5/83

5704

Subject.

Returns correspondence plans &c regarding rough groynes at Bimlipatam with remarks.

P. W. Deptt.

13/9/24

2051/1525

No 580 C. d/ 10/3/83

P 9

Memorandum by the Chief Engr P.W.D.

passed 10th March/83 No 580 C.

Letter from the Master Attendant No 8883. d/ 17th October/82.

Do – from the Supg Engineer, First Circle No 613 V2 d/ 12th Febry/83.

do — from the Master Attendant No 1969 d/ 6th March/1883

The present proposals of the Master Attendant, with a copy of the Chief Engineer's Memorandum No 470 C dated 23rd Febry 1883 are forwarded to the Supg Engineer, First Circle for early submission of a revised estimate.

The method of lifting large stones with chains and by distributing the weight is so well known and universally applied, that no special remark is called for

The collection of materials should proceed in anticipation

The return of the papers now sent is requested.

(B.O.)

(Sd) J. S.

D.E.W.

G.O. 1719 W d/ 8-7-82
" 299 W d/ 3-2-82
" 300 W d/ -do-
No 937 E d/ 24-10-82
G.O. 1 W d/ 18-1-83

No 580 C d/ 10/3/83

E 10

Dsptd with C No 2851
and copy of memo
No 470 C/
23-2-83

To

The Supg Engineer, First Circle
with the papers above quoted
Despt d ~~10/3/83~~ & their enclosures Entd in Recpt Regr

10/3/83

NO. 689 W.Z.

P 10

14/19/24

FROM, THE ~~SUPERINTENDING ENGINEER~~ Offg SUPERINTENDING ENGINEER
FIRST CIRCLE.

TO, THE CHIEF ENGINEER
~~FOR IRRIGATION~~ P.W. Department

DOWLAISHWERAM, 18th March 1883

SIR,

Enclosures
12
Master attendant's letter No 4888 37/7th Octr/82
Plans
Report
Survey plan
Detailed estimate
Abstract do
Letter No 613 W-12-2-83
Master attendant's letter No 196 7/6th March/83
Memo No 470 C 5/
23-2-83

With reference to your Memorandum No 580 C dated 10-3-83, I have the honor to request instructions as to what is to be the limiting size of the stones to be used in the Bimlipatam groyne.

(2) The place where they will have to be quarried is about a mile away - from this they will have to be brought in the small carts of the country (unless of course special plant is to be provided which I understand is not intended) & they will have to be carted or carried over some 200 or 300 yards of heavy sea sand.

(3) My specification which has not been approved provided for 1/3 rd. of the stones

ing 3 cub feet & they would weigh between $\overset{lbs}{100}$ & $\overset{lbs}{500}$ – $\frac{1}{2}$ not less than 2 Cft which would weigh about 300 lbs & the remaining $\frac{1}{6}^{th}$ not less than $\frac{1}{2}$ Cft or say 75 lbs – the last being required I thought for filling interstices –

4) As said in my letter, it is perfectly mpossible without special plant to lace stones the weight of which will prevent their being displaced in really heavy weather & this being case I provided for such sizes, as I considered could be fairly easily handled & roughly built, not merely thrown down at random –

I have the honor to be

Sir

Your most obedient Servant

C. Ewald

Offg Supg Engineer

1st Circle

From ~~P.W.C. No. 25~~ 75
The Supg. Engineer
1st Circle

To The Chief Engineer
P.W.D.

Dated 18th } March
Desp. 20th } March
Received 26/3/83
~~Regd. 12~~

Memo.
PW 2.13
2/3

No. 689 V.Z.

Enclosure 12

Bimlipatam groyne.

Requesting instructions as to what is to be the limiting size of the Stones to be used in the —

To W. on Orders
CE
28/3

2575

P. W. Deptt.
Madras 29th March/83.
16/192

[illegible] by the Chief Engr. P.W.D. [illegible] 29 March/83 No 703.

No. 703 C

Letter from the Supg. Engineer, First Circle No. 689 V.Z. d/ 18th March/83, with 12 encl: requesting instructions as to what is to be the limiting size of the stones to be used in the Bimlipatam groyne.

Referred to the Superintendent, Madras Harbor Works for favor of his opinion as to the weight and size of the stones which under the circumstances he would recommend to be used, having in view the experience gained on the Madras Harbor Works.

(sd) R H Sankey Col. R.E.
Chief Engr., P.W. Deptt.

To
The Supdt., M. H. Works.
with papers in orgl. to be retd.
29/3

No 580 C d/10-3-83
G.O. A.47 W d/8-1-83
No 937 E d/24-10-83
G.O. 300 W d/3-2-82
" 299 W d/3-2-82
" 1719 W d/8-7-82

No 703 C d/29-3-83

31/3

Entered in Receipts Reg

P12

17/1924

No. 59 W.

FROM

THE ACTING SUPERINTENDENT,
MADRAS HARBOUR WORKS,

To

The Chief Engineer
Public Works Department
Madras

MADRAS, March 30th 1883.

Sir,

12 Enclosures

I have the honour to return herewith the papers which accompanied your Memorandum No 703 C of the 29th March, in which you ask for my opinion on the size and weight of stones suitable for building a groyne at Bimlipatam. –

2. It appears that the proposed groyne would have to bear the full weight of the surf waves from the South and South East, and I imagine that these would be very similar to the surf waves at Madras during the S.W. monsoon. This being so there can be no doubt that the larger the stones are of which the groyne is made

the

the better. I am of opinion that no stones of less than 4 cwt should be employed, and that the greater part (say 2/3rds) of the work should be built of stones weighing 7 cwt each or at the very least so heavy that 3 will weigh one ton. The size of such stones would be about 6 cubic feet.—

3. I do not consider that any packing or building up of small stones would be of any use against breaking waves.

4. The Surf bank of the South Pier of this Harbour was a fairly successful work similar to the proposed groyne, and for the Southern side of this the stones were not less than 7 cwt each. Many of them were taken from the old P.W.D. Groynes near Clive's Battery.—

5. I would venture to remark that the groyne will not stand with slopes of 1 to 1, but that the waves must be

allowed

P 13 18/1924

allowed to determine what slope will suit them on the South side. I should think that 3 or 4 to 1 slope would be about the angle of the South side of the groyne.—

6. The cost of large boulders brought from the neighbourhood of Guindy and deposited by coolies in the South surf bank was from $\overset{R}{1}$.12 to $\overset{R}{2}$.4 a ton, according to size of the boulders.—

I have the honour to be
Sir,
Your most obedt Servant,

F. W. Arrowsmith M. Inst. C.E.
Superintendent
Madras Harbour Works

R 14

No 753 C d/ 5th April/83

Communicated to the Supg Engineer First Circle for information and guidance with reference to his letter No 889 V.2 d/ 18 March /83.

~~Alt~~

31/3

No 703 C d/ 29-3-83
No 580 C d/ 10-3-83
G.O. 147 W d/ 8-1-83
No 937 E d/ 24-10-83.
G.O. 300 W d/ 3-2-87
" 299 W d/ — do —
" 1219 W d/ 8-7-82

Dis 6/4

To The S.E. First Circle.

Buildings & Roads

From The Superintendent Madras Harbour Works

No 753 C d/ 5-4-83

No 59 W
Dated 30th March 1883

No of Enclosures 12

Bimlipatam

Reports on size & weight of stone for building a groyne at —

Entered in the Rest [illegible]

Public Works Department, 1883-84

Current No. 5104
Letter No. 101 V Z
Dated the 3d June/83
From the Supg Engr 1st Circle

NOTE OF REMARKS.

1. This estimate, Rs 5,780, with plans, provides for the construction of a groyne at Bimlipatam.

2. This design differs in three points from that originally submitted — In the length of groyne, reduced from 450 ft to 150 ft; in side slopes, formerly 1 to 1, now 4 to 1 on south side and 2 to 1 on north side; and in the size of stone to be employed formerly 1½ c. ft to 3 c. ft., now two thirds of the stones are to be above 6 c. ft. and the remainder to be above 1½ cwts weight. It is to be noted the lengths of groyne above are, the 450 ft from L.W.L., and the other from H.W.L.

3. The Chief Engr. looks on this as but a tentative work

19th June/83
BH

P 15

20/1929

NO. 101 VZ

FROM,

THE SUPERINTENDING ENGINEER

FIRST CIRCLE.

TO,

THE Chief Engineer

Public Works Department.

DOWLAISHWERAM, 3rd June 1883

Encl. 7

SIR,

With reference to your Memorandum No. 753 C. dated 5th April 1883 and No. 850 C dated 16th April 1883, I have the honor to forward herewith revised Estimate× abstract and detail for the Bimlipatam Groyne together with the documents+ connected with it named in the margin.

2. In accordance with your Telegram dated 16th May 1883 the Divisional Officer has been ordered to push on with the work with reference to which he remarks "The present opening however is what generally occurs every year during the south-west monsoon and so there does not appear to be anything very urgent to call for the immediate execution of the work".

× Rs. 5,980.

+ 1 Plan "Survey of part of Bimlipatam Harbour" dated 4/2/83. which accompanied former Estimate

1 Enlarged Sketch

1 Sheet of (Tracing Linen) "Levels for the Groyne" dated 28th May 1883

1 Specification Report with revised Estimate

4/1 Chief Engr's Memo No. 939 E d/24/10/82 with a Plan

1 Do. Do. No. 470 C d/23rd/2/83 –

1 Madras Master Attendant's letter No. 1969 d/6/3/83 to the address of the Chief Engr. Mm

7

I have the honor to be
Sir
Your Most Obedient Servant
C. Dewalt

Offg. Superintending Engineer 1st Circle

21/1924

[illegible]

P 16

[illegible]

No. 4881 of 1883.

Madras
20th June/83.

No. 1159C

Forwarded to the Master-Attendant for countersignature to the plan and Estimate, if approved.

Early return is requested

(By order)

C. Unwin
Major R.E.
Under Secretary to Govt.
P. Wks.

From

The Supdg. Engineer
1st Circle

To

The Chief Engineer
P.W. Department

Dated 3rd
Despd. 12th
Recd. 20th
} June/83

No. 101 V z

Enclosures 7

Bimlipatam Groyne — Revised Estimate for the — Submits —

P 17

22/1924

Administrative Department.

Madras,
Marine Office,
26th June 1883.

No. 5826.

From

J. H. TAYLOR, Esq., Lieut., R.N.R.,
Master Attendant,
Administrative Department,
Madras,

To

The Honorable Colonel R. H. Sankey C.B. R.E.
~~Chief~~ *Secretary to Government,*
Public Works ~~*Marine*~~ *Department,*
~~*Fort Saint George.*~~
Chepauk

Sir,

I have the honor to return the letter from the Superintending Engineer 1st Circle, No. 101 v z, dated June 3rd 1883, with revised estimate and plan for the construction of a rough stone groyne at the port of Bimlipatam, at a cost of Rupees (5980) Five thousand, nine hundred and eighty, both of which are approved and countersigned by me.

2. With reference to para 2, I would observe that the intention and hope of the groyne are that it will fix the mouth, which for several years has been very troublesome in its movements: from this point of view it seems very desirable that

23/1924

that expedition should be used, in order to secure the present opening before adverse action sets in.

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

JH Taylor
Master Attendant
Administrative Department

JM

937 E 24. 10. 82
470 C 23. 2. 83
580 C 10. 3. 83
703 C 29. 3. 83
753 C 5. 4. 83
850 C 24. 4. 83
970 C 17. 5. 83

(188) DEPARTMENT.

P.W.C. No 5524

From

THE MASTER ATTENDANT,
ADMINISTRATIVE DEPARTMENT,
Madras,

To

THE ~~CHIEF~~ SECY., TO GOVERNMENT,
P.W. ~~MARINE~~ DEPARTMENT,
~~Fort St. George.~~
Chepak

No. 5826

Dated 26 June 1883
Received 27/6/83

Enc 9.

No.

Enc 8 (3 [illegible])

Subject.

Returning approved and countersigned Estimate &c. for the construction of a Rough Stone Groyne at Bimlipatam

1. L. 42-6
[illegible] 4/7 Rd 9/7

24/1924

[illegible] of material shall proceed in anticipation

813/83

[illegible]

rough
the Port of Ba

C.A.W.

The present proposals of the Master Attendant should be sent with copy of my minute to the S.E. for early submission of a revised Est. — The method of lifting large stones with chains & by ~~distributing~~ the weights is so well known & universally applied ~~that~~ no special remark is called for

2- 6
Recd 9/7

No 1924 / B.W. 25/ 13

A

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 9th July/83

READ the following

From the Master Attendant	H.E. No 8883 d/17th Oct/82
From the Supg: Engineer First Circle	No 613 V. Z d/12th Feby/83
Memo by the Chief Engr P.W.D	No 470 C d/23rd Feby/83
From the Master Attendant	No 1969 d/6th March/83
Memo by the Chief Engr P.W.D	No 580 C d/10th March/83
From the Supg: Engr First Circle	No 689 V. Z d/18th March/83
Memo by the Chief Engr P.W.D	No 703 d/29th March/83
From the Supt. M.H.Works	No 59 W d/30th March/83
From the Supg: Engineer First Circle	No 101 V. Z d/3rd June/83
From the Master Attendant	No 5826 d/26th June/83

18

The plan and Estimate amounting to Rs 5,980 for constructing a rough stone groyne in the Port of Bimlipatam in the Vizagapatam Division are sanctioned for early execution.

2. The Accountant General will be instructed in the Financial Department to place the sum of Rs 7,445, as per margin[+], at the disposal of the P.W. Department, from the balance to the credit of Port Funds for the execution of the work.

+ Works	Rs 5980
Establishment	" 1375
Tools and Plant	" 90
Total Rs	7,445

3. The Suptg. Engr. will furnish the Examr. P.W. accounts with a duplicate of the abstract estimate in proper form.

4. This sanction has been registered as Local No. 19 of 1883-84, and classified as Miscellaneous

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26/1924 P 19

Miscellaneous Public Improvement original works.

Cw/

CW 4/7

~~[illegible]~~

6/7

JW 6/7

To
The Supg: Engr. First Circle
with 6 enclos:
" Examr. P.W. Accts
" Finl. Dept.
" Marine Dept.
" Master Attendant
(Chief Secy for counterinitials)

+ connected with C No 5524 and one Enclo connected with C No. 5184.

D. W. 18/7

F.C.

B. No. 177W. 21-1-84.
B. - 385W. 11-2-84.

27/24

Govt. of [1883] Madras.

PUBLIC WORKS.

1127

Dated

Recd.

Encl.

G.O. 9 July 1883. No. 1729 W

Nos.

Rough Stone Groyne at Bimlipatam

Plan &c. for construction sanctioned with remarks.

10/7

30/11/7

Entered in Receipt Regis