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MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	3326	Press
B.P. No.		Mis.
Dated	22 - 11 -	1875.
		—195—

Not to be folded or roughly handled

No 478 Read the following letter from J MAY, Esq, Superintendent of the Madras Harbour Works, to Major-General G W WALKER, R E, Secretary to Government, Public Works Department, dated Madras, 8th November 1875, No 26 G —

REFERRING to several conversations with you last week on the subject of the town sewers which fall into the sea within the lines of the proposed Harbour, and particularly of the main sewer, 10 feet in diameter, of which the outfall is 106 yards north—north-east of Clive's Battery at Royapooram, I have the honor to report as follows —

2 I have no particular information of the circumstances which first induced Mr. Parkes to propose the lines of piers defined on a small lithographed plan, accompanying his printed report of 4th November 1873 to the Government, "on the formation of a Harbour at Madras" Without doubt, he considered the advantages of having the Harbour closely connected with a first-class railway leading into the interior and all over the country At Royapooram Terminus the main line of the Madras Railway ends at the exact point where the Harbour Works begin Nothing was required at Royapooram except to extend the Company's metals, level across the beach, into the sea, such extension being the commencement of the North Pier and of the Harbour

3 A plan of the Royapooram station-yard accompanies this to your address It will be seen from the plan that there are four lines of railway, colored *blue*, leading into the platforms at the station. These four lines converge into three lines at a point 457 yards west of the terminus, and into a single line at a point 1,000 yards west. Thence the line is single to Vasarpady Junction, about $2\frac{1}{2}$ miles west, thence double for 1 mile to Perambore, $3\frac{1}{2}$ miles west; and thence a single line of railway throughout

4. The laterite quarries at Ambatoor are situated on the north side of the Madras Railway, 10 miles from Royapooram, and it was understood from the beginning that the Ambatoor quarries should be opened to produce the rubble stone deposits required for the Harbour That was my first instruction It was also arranged from the beginning that the stone for the Harbour should be conveyed by the Railway Company along their main line, in their own wagoons, and delivered at Royapooram to the Harbour authorities This last arrangement is a bad one, and for various reasons, but chiefly because the conveyance of large quantities of rubble stone, to be deposited in the open sea, cannot be conveniently adapted to the time-tables of a railway, which is also used for carrying goods and passengers

5 The delivery of stone in Railway Company's wagoons at Royapooram being thus a first condition, the next step was to consider which pair, if any, of the four lines of metals leading into the terminus was to be given over for the delivery of the Harbour stone This was discussed at my first meeting with the Railway authorities (the Consulting Engineer, the Agent, the Chief Engineer, and the Traffic Manager) on 19th June last One point connected with it appeared to be of some importance. the Ambatoor quarries are on the north side of the railway, and it would therefore be best, if possible, to have the stone delivered on the same side, in order to avoid crossing the passenger line

6 Besides the main line running into the platform at the terminus, there are several branches to other points in the station-yard. Four of them are approached from the westward by a double road through an arched bridge of bricks under Munnauroosawmy Covel Street. Of these branches, two are employed for the coal and coke department, and the other two for the service of the Engineer's workshops. The Company's requirements prevented me from approaching the North Pier through the coal-yard.

7 These are the considerations which led to the selection of the northernmost pair of metals at Royapooram Terminus for the commencement of this Harbour, and ground was broken on 12th July last at point A on the accompanying plan. The outer end of the laterite surf bank, 30 feet in width on the top, with natural slopes to the bottom, level with the beach tramway, and 13 feet above mean sea level, is now in salt water at B, 643 feet from A. B is 200 feet short of the mouth of Black Town sewer C, and, advancing at the rate of 10 feet per day, the bank would have been opposite the sewer four weeks hence. This may be prevented without stopping the laterite train from Ambatoor, by applying the rubble to widen the shore end of the bank, as defined by *pink* color on the Pier approach, with the understanding that A B must one day be the permanent road on to the Pier after the Black Town sewer may be got rid of.

8 I saw the mouth of the Royapooram sewer in June last on first landing in India, and I have since seen the periodical operation of cleaning the sewer on the block-ground by a series of man-holes in the crown of the arch, through which the contents are brought up in buckets and buried in the vicinity. I have also waited several times on the President of the Municipal Commission with reference to the pressing difficulty of the sewer.

9 The first remedy we thought of was to extend the sewer 300 feet in its present direction into the sea, that its mouth might be outside the North Pier surf bank. That would have involved the construction, by Divers, of a 10 feet arch in the heavy sea of this coast, and on a foundation which is a quick-sand. The extension of the arch would have been too complicated a work in the time allowed for it.

10 Another suggestion was to extend the sewer through the surf bank by an iron pipe, some 3 or 4 feet in diameter. This, if practicable at all, would only have been half a remedy.

11 A third suggestion appears on the plan, and it consists in diverting the sewer to the northward along the shore on the line L M N O. This may yet be done without interrupting the Harbour Works, because the diversion of the sewer might be carried on under the Pier approach by a bridge. The difficulty in lengthening the sewer is want of fall, which applies to all the sewers in this low-lying city. It would seem that any extension of the Royapooram sewer must be periodically cleaned from the top in the manner described.

12 In view of an early commencement of the general scheme for draining Madras, there are several ways of bringing the North Pier Works, at least for a time, to the south of the Royapooram sewer, and thus to let it fall into the open sea as at present. Three of these are drawn on the plan.

13 It is assumed that the surf bank A B, now in progress, may be temporarily stopped at point B. The letters E F D, show a proposed new railway, colored *pink*, joining one of the Madras Company's lines in the coal-yard at E. If the Railway Company would deliver the laterite at E instead of at A, the line and approach E F D may be made at once crossing the beach road and tramway on the level and joining the original line of the Pier Bank at D. A road in the direction of F D will soon be required at any rate for conveying blocks from the block-ground to the Pier, and this road formed a part of the scheme from the beginning. The Railway authorities will object to the use of their coal-yard and the branch E, which is employed for sending coals to the points required on their line.

14 The letters D F P G define an alternative approach, colored *yellow*, which, if made, would avoid the eastern part of the station-yard, cut off a triangle K, measuring an English acre in area, at the south-west corner, and join the sidings of the station-yard at G under the bridge which carries the traffic of Munnauroosawmy Covel Street. The Railway authorities will also object to this branch, in respect of the corner cut off from the coal-yard at K.

15 There is yet a third way of approaching the Pier D F P H (P H colored *green*) by running up from the beach parallel to the Railway Company's south boundary wall, and parallel to the Royapooram sewer, through the proposed block-ground, avoiding the station-yard altogether, crossing Munnauroosawmy Covel Street on the level, and joining the Company's branch at H. The level crossing at this street also formed a part of the original scheme, because the street is on the road for conveying granite from Tirutany to the block-ground. There is no reason to apprehend much inconvenience to the public from the level crossing of Munnauroosawmy Covel Street, and I hear no complaints of the level crossing made four months since over the beach road and tramway—a still more crowded thoroughfare—opposite Royapooram Terminus.

16. These three methods of approaching the Pier, pending the difficulty of the main sewer, are submitted for the consideration of Government. Objections to the first and second of them will be raised by the Railway Company, and the objection to the third is the level crossing of the street. Any one of the three branches would answer the purpose, and there is no difficulty in constructing them. On the question of economy for the Harbour Works, the first of the three is the best, and the third the worst, proportionally to the lengths of new railways required, stated below —

		New Railways required	
No. 1, Pink, D F E	.	800	Lineal yards, single line
" 2, Yellow, D F P G	.	1,200	" "
" 3, Green, D F P H	..	1,600	" "

No 479

ORDER THEREON, 22nd November 1875, No 3,326

CIVIL WORKS, No 32-A

HIS EXCELLENCY the Governor in Council has no doubt whatever as to the necessity for adoption of the course proposed by the Master Attendant for avoidance of the nuisance that would be caused by

*Proceedings of the Madras Government, Public Works Department,
22nd November 1875.*

including the main sewer within the new Harbour pending the execution of Mr. Clark's drainage works.

2. The bank at present in progress will, therefore, be temporarily stopped, and one of the three alternative new lines of rail adopted for conveyance of the Harbour material. His Excellency the Governor in Council would prefer that described in paragraph 14 of Mr. May's letter, as avoiding an additional level road crossing. But in deference to the interests of the Madras Railway Company, through whose coal-yard it would run, will accept the third line described in paragraph 15; arrangements for laying which he requests may be carried out without delay.

(True Extract)

Major-General, R.E.,
Secretary to Government

To the Consulting Engineer for Railways
" Superintendent of Harbour Works
" Public Department

Exd E C Shuckler
Spare Copies

No 269.

FROM

THE SUPERINTENDENT
MADRAS HARBOR WORKS,

TO

The Secretary to Government,
Public Works Department.

MADRAS, 8th November, 1875

Sir,

Referring to several conversations with you last week on the subject of the Town Sewers which fall into the sea within the lines of the proposed Harbour; and particularly of the main sewer, 10 feet in diameter, of which the outfall is 106 yards north-north-east of Belive's Battery at Royapuram, - I have the honour to report as follows:-

2. I have no particular information of the circumstances which first induced Mr. Parkes to propose the lines of Piers defined on a small lithographed plan, accompanying his printed Report of 4th November 1873 to the Government, on "the Formation of a Harbour at Madras."

Without doubt, he considered the advantages of having the Harbour closely connected with first class railway leading into the interior and all over the country. - At Royapooram Terminus is the main line of the Madras Railway and at the exact point where the Harbour works begin. - Nothing was required at Royapooram except to extend the Company's metals level across the Beach into the sea, such extension being the commencement of the North Pier and of the Harbour. -

3. A plan of the Royapooram Station yard accompanies this to your address. - It will be seen from the plan that there are four lines of railway, coloured blue, leading into the platforms at the Station. These four lines converge into three lines at a point 457 yards west of the Terminus, and into a single line at a point 1000 yards west. Thence, the line is single to Viasarpany Junction, about $2\frac{1}{2}$ miles west: thence, double for one mile to Perambore, $3\frac{1}{2}$ miles west: and thence,

71 2
a single line of Railway throughout. -
4. The laterite quarries at Ambatoor are situated on the north side of the Madras Railway, ten miles from Royapooram, and it was understood from the beginning that the Ambatoor quarries should be opened to produce the rubble stone deposits required for the Harbour. - That was my first instruction. - It was also arranged from the beginning that the stone for the Harbour should be conveyed by the Railway Company along their main line, in their own wagons, and delivered at Royapooram to the Harbour Authorities. - This last arrangement is a bad one, and for various reasons, but chiefly because the conveyance of large quantities of rubble stone, to be deposited in the open sea, cannot be conveniently adapted to the time-tables of a railway which is also used for carrying goods and passengers. -
5. The delivery of stone in Railway Company's wagons at Royapooram being thus a first condition, the next step was to consider which pair, if any, of the four

lings of metals leading into the Terminus was to be given over for the delivery of the Harbour Stone. — This was discussed at my first meeting with the Railway Authorities (the Consulting Engineer, the Agent, the Chief Engineer, and the Traffic Manager) on 19th June last. — One point connected with it appeared to be of some importance: the Ambatoor quarries are on the north side of the Railway, and it would therefore be best, if possible, to have the stone delivered on the same side, in order to avoid crossing the passenger line. —

6. Besides the main line running into the platform at the Terminus, there are several branches to other points in the Station-yard. — Four of them are approached from the Westward by a double road through an arched bridge of bricks under Munnaroo's sawmy Civil Street. — Of these branches, two are employed for the local and local Department, and the other two for the service

7/11 5
of the Engineer's Workshops. — The Company's requirements prevented me from approaching the north Pier through the local-yard. —
7. These are the considerations which led to the selection of the northernmost pair of metals at Royapuram Terminus for the commencement of this Harbour, and ground was broken on 12th July last at Point A. on the accompanying Plan. — The outer end of the laterite surf bank, 30 feet in width on the top, with natural slopes to the bottom, level with the beach tramway, and 13 feet above mean sea level, is now in salt water at B, 643 feet from A. — B. is 200 feet short of the mouth of Blacktown Sewer, &c.; and, advancing at the rate of 10 feet per day, the bank would have been opposite the sewer four weeks hence. — This may be prevented without stopping the laterite train from Ambatoor, by applying the rubble to widen the shore end of the bank, as defined by pink colour on the Pier approach, — with the understanding

that A. B. must one day be the permanent road on to the Pier after the Black Town Sewer may be got rid of.

8. I saw the mouth of the Royapooram Sewer in June last, on first landing in India, and I have since seen the periodical operation of cleaning the sewer on the block ground by a series of man-holes in the crown of the arch, through which the contents are brought up in buckets, and buried in the vicinity. I have also waited several times on the President of the Municipal Commission with reference to the pressing difficulty of the sewer.

9. The first remedy we thought of was to extend the sewer 300 feet in its present direction into the sea, that its mouth might be outside the North Pier Surf Bank. — That would have involved the construction, by Divers, of a 10 feet arch in the heavy sea of this coast, and on a foundation which is a quick-sand. — The extension of the arch would have been too complicated

4
a work in the time allowed for it. — 10. — Another suggestion was to extend the sewer through the Surf Bank by an iron pipe, some 3 or 4 feet in diameter. This, if practicable at all, would only have been half a remedy. —

11. A third suggestion appears on the Plan, and it consists in diverting the sewer to the northward along the shore on the line L. M. N. O. This may yet be done without interrupting the Harbour works, because the diversion of the sewer might be carried on under the Pier approach by a bridge. The difficulty in lengthening the sewer is want of fall, which applies to all the sewers in this low-lying City. It would seem that any extension of the Royapooram Sewer must be periodically cleaned from the top in the manner described. —

12. In view of an early commencement of the general Scheme for draining Madras, there are several ways of bringing the North Pier works, at least

for a time, to the South of the Royapooram sewer, and thus to let it fall into the open sea as at present. Three of these are drawn on the Plan. —

13. It is assumed that the Surf Bank A. B., now in progress, may be temporarily stopped at point B. — The letters E. F. D. show a proposed new railway, coloured pink, joining one of the Madras Steamship's lines in the Coal-yard at E. — If the Railway Company would deliver the laterite at E, instead of at A, the line and approach E. F. D. may be made at once, crossing the beach road and tramway on the level and joining the original line of the Pier Bank at D. — A road in the direction of F. D. will soon be required at any rate for conveying blocks from the Block-ground to the Pier, and this road formed a part of the scheme from the beginning. — The Railway Authorities will object to the use of their Coal-yard and the branch E., which is employed for sending coals

131 5
to the points required on their line. —

14. The letters D. F. G. define an alternative approach, coloured yellow, which, if made, would avoid the Eastern part of the Station-Yard, cut off a triangle R., measuring an English acre in area, at the South West corner, and join the sidings of the Station-Yard at G, under the bridge which carries the traffic of Munnauroosawmy Civil Street. — The Railway Authorities will also object to this branch, in respect of the corner cut off from the coal yard at R.

15. There is yet a third way of approaching the Pier, D. F. P. H. (P. H. coloured green) by running up from the beach parallel to the Railway Company's South boundary wall, and parallel to the Royapooram sewer, through the proposed Block ground, avoiding the Station-Yard altogether, crossing Munnauroosawmy Civil Street on the level, and joining the Company's branch at H. — The level crossing at this street also formed a part of the original scheme, because the street is on the road for conveying granite

From Tirumang to the Black Ground. - There is no reason to apprehend much inconvenience to the public from the level crossing of Munnaurooawmy level Street, and I hear no complaints of the level crossing made four months since over the beach road and tramways, a still more crowded thoroughfare, opposite Royapooram Terminus. 16. These three methods of approaching the Pier, pending the difficulty of the main sewer, are submitted for the consideration of Government. - Objections ~~to~~ to the first and second of them will be raised by the Railway Company, and the objection to the third is the level crossing of the street. - Any one of the three branches would answer the purpose, and there is no difficulty in constructing them. - On the question of economy For the Harbour Works, the first of the three is the best, and the third the worst, - proportionally to the lengths of new railways required, stated below: -

	New Railways required.	
	Lineal Yards.	Single line.
No 1. Pink. D. F. G.	_____	800
No 2 Yellow. D. F. G.	_____	1200
No 3 Green. D. F. G. H.	_____	1600

I have the honour to be,
Sir,
Your most Obedient Servant,
James Selley,
Superintendent
Madras Harbour

P. W. 1895-Depch
From No. 7206

The Superintendent,
Madras Harbour Works,

To The Secretary to Government
Public Works Department
Fort Saint George.

Dated 8th
Recd 10 } November 1895

21 26/11/95
C. 82/15890/7

Reporting on question
of Royapuram 10 feet sewer
and the Harbour Works.

* The Pick Lines
in the Plans.

Harbours Engineer's
letter No. 269 of 8th
November.

Submitted for
orders, with re-
ference to Capt.
Taylor's proposal
for avoidance
of the Black Town
Main Sewer, 3
different plans
for carrying out
which are detail-
ed in paras 13,
14, & 15 -

Of these, the 1st
is, as Mr. May
states in para 16,
the best, & the 3rd
the worst - Not
only on grounds
of economy, but
on all accounts.
It was noted

1478-

G.O. No 3326. 22-11-95

on the part of
the undersigned,
but ultimately
thrown out by
notice of those
responsible for
working the
coal and coke
supply (See Mr.
Elwin's note
hereunto) -

N^o 3⁺ is the line
which the Rail-
way Autho-
ties approve
As Mr. May says,
it will have to be
constructed ^{at any rate} for
the supply of ma-
terial for the
concrete blocks,
but the obstruc-
tion that will
be caused to
traffic by pass-
ing so small

* The Green Line -

* The Yellow Lines

* marked X

" quantity of
material over
the level crossing
involved, will
be inconsiderable
compared to that
caused by the
~~traffic~~ ^{bulk} of the
entire material
of the Harbours.
The undersigned
has therefore
caused line N^o.
2⁺ to be projected,
and it is the
line which he
recommends
for sanction.

The Railway
Authorities will
object to it, as
infringing on
their coal and
coke yard -
And it is for
the Govt. to de-
termine whether

they will come
but these objec-
tions in the
interests of the
Public, which
will doubtless
be affected by
the passage to
and from ma-
terial trains,
at least once
each way in
every hour,
over the level
topping of
Munira Coram
Civil Street

L.H.W.
9.11.75

Harbour
7206

Minutes - 9-11-75

Council

9.11.75 No 3326

No 3326 ^{and Works} Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 22nd Nov/75.

Read the following -

From the Superintendent
Madras Harbour Works } (H.B. No 26 of 28 Nov/75)

His Excellency the
Governor in Council
has no doubt whatever
as to the necessity for
adoption of the course
proposed by the
Maiden Attendants
for avoidance of the
nuisance that would
be caused by including
the Main Sewer with
in the new Harbour
pending

24/11

pending the execution
of Mr. Clark's Drainage
works.

The bank at present
in progress will
therefore be tempo-
rarily stopped; and
one of the three alter-
native new lines of
rail adopted for
conveyance of the
Hambour material
His Excellency the
Governor in Council
would prefer that
described in para
14 of Mr. May's letter
as avoiding an ad-
ditional level road.

231
Crossing. But in
reference to the in-
terests of the Madras
Railway Company
through whose Coal
Yard it would pass,
will accept the 3rd
line described in
para 15, ^{arrangements}
for laying which
he requests may be
carried out without
delay

G. W. M.

Police Dept

Sept 26-11-75

X^o att^o

120 251
Govt. of 1875 Honduras.

PUBLIC WORKS.

To

Comd. Genl. for

Genl. Wm. H. H. H.

Genl. Wm. H. H. H.

Dated

Issued

Recd

Encl

G. O. 1875, No 3326

Nos. 178-477

General Order. Acting
on order from the
Supt. of Works & Repairs
in the Town Levee which
fall into the sea within the
limits of the proposed Har-
bour.