

(1) Number of pages

(2) Date of repair

(3) Initials of the Referencer

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No.

79

(W)

Press

Mis.

Dated

10

1

18

77

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
10th January 1877. No. 79.*

Read the following papers:—

No. 149. From W. J. ADDIS, Esq., C.E., Consulting Engineer to His Highness the Maharajah of Vizianagram, to Major-General G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Vizianagram, 26th October 1876.

MAY I solicit the favor of your kind attention to my letter to your address, dated 19th February 1874, from Bombay, on the subject of my "single rail tramway." I now again take the liberty of introducing the subject once more for your favorable consideration with a view to its being laid down in any one of the famine districts in this Presidency.

2. I have just laid down a few lengths, with rolling stock complete, for His Highness' inspection, and, if you should wish a full and detail report of its working, I have no doubt Major Wood, the Executive Engineer, and the Collector of the district would be able to furnish all the required information.

3. I have the honor to enclose a plan showing the details of construction adapted to suit any immediate requirements, as all the material can be purchased at once in this country, and constructed at a cost not exceeding Rupees 3,500 per mile.

4. In conclusion, I beg to state that I am prepared to supply any length with the requisite rolling stock, suiting the wants of the district both as regards grain and water.

No. 149-A.

No. 1,607.

For favor of full and detail report of the line and rolling stock, and of their real adaptation for famine purposes.

2. If they can be recommended, Mr. Addis may be invited to send in a tender to supply, say 50 miles complete, with occasional sidings, and due proportion of rolling stock, say at Bellary, 10 miles at a time, by a fixed date, and to lay down the same personally within so many more days. A thorough business-like offer must be made. Any amount of assistance in procuring labor, &c., may of course be relied on from Public Works Officers at the place of delivery.

(Signed) G. W. WALKER, Major-General, R.E.,

4th November 1876.

Chief Engineer, D.P.W.

To the District Engineer, Vizagapatam.

No. 149-B. From Major H. W. WOOD, R.E., District Engineer, Vizagapatam, to Major-General G. W. WALKER, R.E., Chief Engineer, Public Works Department, dated Yellamunchilly, 7th December 1876, No. 1,852.

I REGRET to say that your memorandum, No. 1,607, dated 4th November 1876, endorsed on Mr. Addis' letter regarding his tramway, missed me on circuit, and was not received until after my return to Waltair. A severe attack of jungle fever has subsequently prevented my replying sooner to your above-named memorandum.

2. The system has been pronounced by competent judges as being valuable under certain circumstances, which I will proceed to describe.

3. Mr. Addis' cart costs three times as much as an ordinary cart; but it carries three times the ordinary load. The cost of the carts may therefore be left out of the description; the actual saving by the use of one of Mr. Addis' carts is the monthly hire of two pairs of bullocks and two drivers, say Rupees 10 per mensem for each pair of bullocks and each driver.

4. Capitalising this at 30 per cent. for repairs, interest and depreciation, we have Rupees 800; which is the cost of about 400 yards of the tramway. Where therefore three common carts are *continuously* employed along 400 yards, or say along 300 yards of road to be on the safe side, they might be advantageously replaced by Addis' tramway and cart.

5. Practically the economy of the system, like that of every tramway or railway, is limited by the constancy of its employ. For a short period it will be costly, though it may perform transport operations which could not be carried out by ordinary country carts, owing to the number of these latter which would be required.

6. If it were necessary to deliver 100 tons of grain daily in a famine district, and if 0.75 ton were the load of an ordinary cart, we could only count on $\frac{1}{4} \times 0.75 = 0.15$ ton as the actual quantity that would be delivered by this means; since a return trip *unladen* must be provided for. To deliver 100 tons daily therefore, we should require 222 ordinary carts, or 6,660 per mensem; whereas by using Addis' carts 2,220 per mensem only would be required.

7. Supposing the distance the grain was required to be carried to be 50 miles only, and taking 12 miles as the average daily journey, the number of trips made monthly by each cart would be $4\frac{1}{2}$. Instead therefore of 2,220 carts we should require $\frac{2,220 \times 4}{17} = 523$ carts, and in using ordinary carts we should require 1,570. The saving therefore by Addis' system would be $(1,570 - 523) \times 10 =$ Rupees 10,470 per mensem, pay of drivers and pairs of bullocks. There would also be a saving of from six to seven carts continually transporting grain for these bullocks and drivers, since their supplies would have to be carried into the famine district. Altogether the money saving would be about Rupees 10,700 per mensem. With the tramway, there being 1,047 drivers and 1,047 pairs of bullocks fewer in employ than with the ordinary system, there would be a smaller chance of sickness breaking out and transport operations being so impeded. The actual cost of the tramway would be as follows:—

Fifty-five miles of tramway and siding at Rupees 3,500 per mile...	Rs. 1,92,500
Sundries (say)	20,500
Total ...	2,23,000

The cost of wagons being the same on both systems, may be omitted from consideration.

8. If the tramway is required to be in operation, say six months, to the above cost, Rupees 44,600 say must be added for repairs, making a total outlay of Rupees 2,67,600.

9. On the ordinary system for six months there would be an expenditure above that required for—

Addis' system of Rupees 10,700 $\times$ 6	Rs. 64,200
And repairs will be required for the road	25,000
Total ...	89,200

So that the actual outlay for the tramway would be Rupees 2,67,600 — 89,200 = Rupees 1,78,400 at the end of the first six months. And if the delivery were required to be continued for another six months, the outlay at the end of this would be reduced to Rupees 1,34,000. The tramway also would remain in hand and would be in fair order.

10. Mr. DeMorgan, in charge of the Vizianagram range, speaks in favorable terms of the section of tramway that has been laid down by Mr. Addis at Vizianagram.

11. Mr. Addis writes me to say that he is prepared to supply 50 miles of tramway and 200 wagons at the rate of 10 miles of tramway and twenty wagons per month in the Bellary District.

12. If this proposal be entertained, I should recommend a very strictly worded agreement being forwarded for execution by Mr. Addis previous to his being permitted to commence operations of any kind.

No. 150. ORDER THEREON, 10th January 1877, No. 79.

CIVIL WORKS, No. 8-A.

THE District Engineer has not in any way responded to the Chief Engineer's distinct call on him for full and detailed report of Mr. Addis' tramway and rolling stock; and for submission of a proper tender if they could be recommended as likely to be useful at the present crisis. The arithmetical calculations with which he has favored the Government are such as might have been made without reference to him.

2. Major Wood will lose no time in submitting the necessary information. He will report specially on Mr. Addis' resources and his capacity for carrying an important undertaking to completion.

(True Extract.)

(Signed) G. W. WALKER, Major-General, R.E.,
Secretary to Government.

To the District Engineer, Vizagapatam.

Exd. E. C. Shunker.
Spare Copies

No 1607 3
The District Engineer
Vizagapatam

For forward of full & detailed P. M. S.
report of the line & rolling stock, and of their real ad-
aptation for Commune pur-
poses.

If they can be recommended, Mr. Addis may be in-
vited to send in a further
supply, say 50 mile
complete, with condition
sidings, and also provision

of rolling stock, say at
Bellary, 10 miles at a
time, by a fixed date, or
to lay down the same
permanently within 20 miles
more days. It is thought
business like offer must be
made. Very important of
assistance in procuring
labour to be employed can
be relied on from Public
Works Officers at the place
of delivery.

M. J. Addis
taking to his
Highness the
Maharajah
of Vizagapatam
dated 25th October 1876
Enclor. One

NO. 1852

Vizagapatam District Engineer's Office

Yellamanchili 7 December 1876

From

Major H. W. Wood R.E.

DISTRICT ENGINEER
VIZAGAPATAM

To

Major General G. W. Walker R.E.

Chief Engineer P.W.D.

Madras

Sir,

I regret to say that your Memo N. 1607
dated 4th November 1876 endorsed on Mr. Addis
letter regarding his Tramway, missed me on circuit
and was not received until after my return to
Waltair. A severe attack of jungle fever has subse-
quently prevented my replying sooner to your
above named Memo.

2. The system has been pronounced by com-
petent judges as being valuable under certain circum-
stances, which I will proceed to describe.

3. Mr. Addis' cart costs three times as much
as an ordinary cart, but it carries three times the
ordinary load. The cost of the carts may therefore
be left out of the description: the actual saving by the

use

The cost of waggons being the same on both systems, may be omitted from consideration...

8. If the tramway is required to be in operation, say, six months, to the above cost, Rs. 44,600 say must be added for repairs: making a total outlay of Rs. 267,600.

9. On the ordinary system, for six months, there will be an expenditure above that required for Addis' system of Rs. $10700 \times 6 = 64,200$ and repairs will be required for the road - 25,000

Rs. 89,200
So that the actual outlay for the tramway would be Rs. 267,600 - 89,200 = Rs. 178,400 at the end of the first six months. And if the delivery were required to be continued for another six months, the outlay at the end of this would be reduced to Rs. 134,000. The tramway also would remain in hand and would be in fair order.

10. Mr. De Morgan in charge of the Vizianagaram Range, speaks in favorable terms of the section of tramway that has been laid down by Mr. Addis at Vizianagaram.

11. Mr. Addis writes me to say that he is prepared to supply 50 miles of tramway and 200 waggons at the rate of 10 miles of tramway and 20 waggons per month in the Bellary District.

Sp

12. If this proposal be entertained, I should recommend a very strictly worded agreement being forwarded for execution by Mr. Addis previous to his being permitted to commence operations of any kind.

I have the honor to be

Sir

Your most obedt. Servant,

Ar. M. D. Major R. B.
District Engineer
Vizagapatam

Orig. 42-10-74-2-74-

P.W.D.
15 DEC 76
C.D.

Mr. Adolfo's Single Rail
Tramway—depending
on the Cone of
— designed for same
purpose.

Extd 7-1 }
Sept 7-1 } December 1876
Recd

1876

From
The District Engineer
of
The Chief Engineer of the
Chadras

No 1607

Letter from Mr. Adolfo C.B. dated
26th October 1876 - Relative to his
"Single Rail Tramway"

To the District Engineer Vizcaya.
patam for detail report with
remarks by the Chief Engineer.

Signed J. W. Walker Major Genl.
Chief Engineer
P.W.D.

1st November 1876.

No 1607 B

10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

These papers relating
to Mr. Adair's journey
have been delayed for
want of the letter and
endorsement to which
they reply; the telegram
calling for which was
mislaid, and only
despatched today.

Major Wood has dis-
appointed the Ch. Secy.
(1) by this delay in reply;
and (2) by the nature of the
reply, which is not satis-
factorily accounted for.
The nature of the
reply, which gives no
precise information of the
value of Mr. Adair's experience
and his

papers, Friday and Rolling
Stock, and for submis-
sion of a prospect
tender if ^{they} could be
recommended as likely
to

diets from personal
examination of the sec-
tion said. We have been
led down at Virgin:
valley but only says
that a young Assistant
speaks favorably of
it - and is in my opi-
nion given as to Mr.
Addis's resources. He:
thinks they are likely
to enable him to carry
out his statement of
ability to supply 10
miles of Tramway &
20 Wagons monthly
in the Hallam District.

The mathematical calcu-
lations which make up ^{ment}
The entire letter I did
not require a reference
to Major Wood. What
was wanted was ^{the} ^{type}
opinion, formed after
direct investigation, of
the merits of the
invention & capacity
of Mr. Addis to fulfill
a contract - ^{and}
The Chief Engineer is
not unaware whether there
is any kind of common inco-
sistency in the (so-called)
District in which it is
desirable that a Tramway ^{be}
built.

proposed Tramway and Rolling
Stock, and for submis-
sion of a prospectus
tender if ^{they} could be
recommended as likely
to

should be laid down
 to effect a saving of 2
 out of every 3 bullocks
 employed in carrying
 grain. If it be of any
 length, he fears that
 the time required for
 loading it will pre-
 vent it being likely to
 be lost if little use
 Mr. Adams' invention
 does not appear to have
 been appreciated in the
 Home - Providence
 where it was made;
 its alleged success in
 Portugal is mythical;
 and his own trustworthi-
 ness as a contractor
 doubtful.

C.M.M.
 30.12

10-
 ment.
 11
 14/6
 7
 7
 Ew.
 ind.
 ded
 neces.
 Sim
 tuted
 this
 proposed Framway and Rolling
 Stock, and for submis-
 sion of a proper
 tender if they could be
 recommended as likely
 to

Handwritten notes at the top of the left page, mostly illegible.

I have not the
slightest copy
in Mr. Adair's
and we must know
more of his services
than this story

1877
4/11

No 79 Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 18 Jan 77
Read the following:-

Letter from Mr. Adair. (H.C. dated 26 Oct 76)
Endorsement by Chief Eng. (H.C. 1604 of 1876)
Letter from District Eng. (H.C. 1852 of 1876)
Vizagapatam

Vertical handwritten notes on the left side of the right page, mostly illegible.

The District En-
gineer has not and
may have responded
into the Chief Engineer's
district call on him
for full and detailed
report of Mr. Adair's
tramway and Rolling
Stock and for submis-
sion of a proper
tender if ^{they} could be
recommended as likely
to

to be useful at the
present crisis. The
arithmetical calcula-
tions with which he
has favoured the
Government are such
as might have been
made without reference

to him. [A reference which
was involved consider-
able delay, unsatisfac-

torily explained, and has with respect specially
resulted in nothing; on Mr. Addis' resources
not even in giving & his capacity for
the Government any carrying an important
conception of Mr. Addis' undertaking to completion,
resources and capability
of carrying out to
completion any large

Major Wood will
lose no time in
submitting the necessary
information. He

will report specially
on Mr. Addis' resources
& his capacity for
carrying an important
undertaking to completion.

For miss
Major Wood mistake
what was expected
of him. All

12
8
undertaking] In the
entire absence of any
useful information
on the subject of
this proposal the
Government regret
that they are unable
to entertain it. Mr.
Addis should have
submitted it, in the
first instance, through
the District Engineer.
Major Wood will under-
stand for the future
that the Government
expect from Officers
in his position that
they will not evade
the

the calls made on them
for professional and
general information
on any subject

Q. W.

Soon

~~Mr. R. H. C. R.~~
D. R. Fitzgerald ✓

Dispd. 16-1-77

7940
94
Sakun up. for reference
to be returned to Secy
1-1-77



Obt. of 1877 Madras.
PUBLIC WORKS.

H. B. Kizhappattam

Encl.

G. O., 10th Jan. 1877, No. 79

Nos. 149 + 150. -

Mr. Addis' Single Rail
Tramway - Passing
orders on correspondence
relative to the proposal
to adopt — in one
of the Tamin districts.

To Secy
13/11