

- (1) Number of pages 24
(2) Date of repair 29. 7. 74
(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

GOVERNMENT OF MADRAS

L & M. DEPARTMENT

G.O. No.
B.P. No.

467.M

Press
Mis.

Dated

19. 3. 1890 1890

Not to be folded or roughly handled

Report on Pontoon Bridge Venagapatam



The bridge is built over what is known as the Venagapatam back water, on the main line of road from Venagapatam to Rajamundry.

2. It was constructed in 1887 by Messrs. Burn & Co. Engineers, Calcutta, from designs prepared by the same firm and at a cost of about Rs 90000.

3. It is the joint property of the District Board and of the Venagapatam Municipality and was until Jan 1888 under the charge of the latter body.

4. It was then transferred to the charge of Mr. Seton, the Local Fund Engineer of the District, who represented (a) that it was situated out of his range (b) that it was doubtful if he could devote

to at the necessary time and attention that it seemed to require, and (C) that the proper person to look after it was the Port Officer "who will be always near at hand with a large gang of workmen used to working in water and to some extent in the handling of chains and ropes."

Finally in L.O. No. 1292 M. No. of 3rd October 1889 Government ordered that the bridge be placed under the general charge of the Executive Engineer, but it will be the duty of the Port Officer to look after the moorings.

The Collector of Madras, in his letter to Government No. 3040 dated 5th October 1889 reported that the submerged portions of the iron work had suffered greatly and that arrangements for its

efficient maintenance are not made, at an early date the bridge will not last much longer.

7. Upon this Government called for a full professional report in the P.W. Department and with a view to furnishing this I have carefully inspected the bridge.

8. The breadth of water spanned is 420 ft. The bridge consists of twenty cylindrical pontoons (30 long, 5.8 diameter and of $\frac{1}{4}$ " rivets) placed at intervals of 20 feet from Centre to Centre and connected by wrought iron girders which rest in saddles, fixed to the top of the pontoons to which they are rivetted. There are four of these longitudinal girders, placed 4 feet apart from Centre to Centre. The road way is of longitudinal planking nailed to cross beams of teak, which are bolted to the girders.

9. In the Centre of the bridge
two pontoons are (by a hinge
to arrangement, called the
Kulfe gear) constructed
it so as to open and turn
through an angle of 180°
and lie alongside the re-
maining portion of the
bridge. This allows of boats
and small native vessels
going up the backwater.

10. The first and last
spans are constructed
somewhat differently from
the others. The girders are
of rolled iron 10×5 and
are hinged on to an iron
rod running along the
top of the pontoon so as
to admit of free play
as the pontoons rise and
fall with the tide.

An additional longi-
tudinal play of about
a foot is secured by having
the shore ends of the rolled
iron beams hinged to a

37
similar rod which is
supported by four uprights
hinged at the bottom and
moving through slots in
the direction of the bridge.
A tracing of this arrange-
ment as well as of the Kulfe
gear is appended to make
the description plainer.

11. The pontoons are attached
by chains to buoys (four
above and five below the
bridge). These buoys were
originally anchored to stone
blocks some of which were
found to be too small and
were replaced by anchors,
while in September last,
three additional anchors
were laid down to which
a like number of pontoons
were independently fastened.

12. The submerged portion
of the pontoons is covered
with shell fish, seaweed &c
and it is impossible to say
to what extent the iron work
may be damaged. Two
of the iron buoys (also

made of $\frac{1}{4}$ iron) which were brought ashore were found to be perforated by holes nearly $\frac{1}{4}$ inch diameter and quite circular, as if drilled; I was not on the spot when the buoys were brought ashore but was informed by Mr. Lesser that the perforations had been caused by shell fish.

18. Whatsoever the cause may have been there seems no reason for supposing that the pontoons should enjoy an immunity from danger which the buoys have not escaped and it is evident that they should be brought ashore without delay to be scraped and painted.

19. The upper portion of the pontoons and the iron work in girders is peeling somewhat, but does not

appear to be seriously damaged.

15. I am of opinion that the bridge could be scraped and painted, without hindrance to traffic, by removing the pontoons one by one and supporting the bridge at that place temporarily by a couple of stout boats.

It could be done more expeditiously I think and certainly more thoroughly by entirely dismantling the whole structure, but this of course would necessitate the temporary reopening of the old ferry.

16. Messrs. Burn & Co. estimate for scraping and repainting amounts to Rs 2500 and they agree to do the work in 2 months. I should certainly recommend that their offer be accepted as the only subordinate I have at Head Quarters is quite

unequal to the task of super-
vising such a job, and
with the large number of
government works in pro-
gress scattered over an
unusually large division
I could only look after
the pontoon bridge, re-
pairs myself at the ex-
pense of my own more
legitimate duties.

17. What I wish to point out
more particularly in Con-
nection with the above re-
mark, is that the super-
vision must be almost
constant. Boats (one on
each side) will have to
be placed alongside the
pontoon to be removed
and the bridge properly
secured to them. The bolts
securing the girders to the
saddles on pontoon have
then to be withdrawn
and the pontoon will be
ready to be removed.

18. To effect this, water must
be admitted to the bulkheads
sufficient to sink the pontoon
6", this being required to
admit of the girders clearing
the saddles in which they lie.

19. The pontoon must be
lashed firmly to balks of
timber on each side to pre-
vent it overturning, and
filling through the open bulk
heads, which it would cer-
tainly do unless precautions
were taken to avoid it,
and fishing one of these pon-
toons up out of 20 feet of
water would give some trouble.

20. Care is again necessary
in hauling the pontoon
ashore to prevent the saddles
being injured. Scraping and
grubbing is simple work
but liable to be scamped
unless properly supervised
and when this is completed
almost the same process
only rather more difficult
would have to be undergone.

to refit the pontoon in position.

21. In conclusion I would suggest that some arrangement be made with Messrs Burn & Co for this work to be done by them annually or at least biennially, as it must necessarily be carried out at a time of year when all other works in the District require most attention.

Dr. A. C.

Executive Engineer
Nagapattanam

6th February 1890

No. 48063.

FROM,

J. D. Spratt Esquire
SUPERINTENDING ENGINEER

FIRST CIRCLE.

TO,

Secretary to Government.
THE CHIEF ENGINEER

PUBLIC WORKS DEPARTMENT.

DOWL AISHWERAM, 25th February, 1890
Recd 26-2-90.

SIR,

x communicated
with G.O. no 30024
d/ 22-10-89

Enclosures
1 Report
2 Drawings
3

Referring to para 2 of G.O. no 1300^{ms} of 18-10-89, I have the honor to forward a report on the Pontoon bridge at Vizaga run up by the Executive Engineer of the District, in which there is nothing material that I can add.

2. The bridge has I think been greatly neglected and as the buoys have been pierced it is possible that some of the pontoons also are pierced and are kept afloat simply by the enclosed air, if this is so, care will have to be taken in repairing the manholes.

3. I quite agree with the Executive Engineer that the supervision of the work is entirely beyond his power; the Port Officer is the officer who could best

best look after it, failing him the Local Fund
Engineer who is in charge of the roads would seem
the proper man to attend to it, but if the Executive
Engineer is to supervise its maintenance he will
require a very good man placed under him to be
constantly on the spot to watch every step of the
work. The best plan would be I think to contract
with Messrs Burn and Co or some such firm to
overhaul and paint it once a year, any small
accident to it during the year the Executive Engineer
or Post Office could probably send to.

I have the honor to be

Sir

Your most obedient servant

J. D. Mearns

Superintendent Engineer

Circle

90
54

64.00

FROM,

L. D. Grant Esquire

SUPERINTENDING ENGINEER

FIRST CIRCLE.

TO,

THE CHIEF ENGINEER

PUBLIC WORKS DEPARTMENT.

DATED 25th
DESPATCHED 26th } February 1890
RECEIVED 3rd

No. 480 V.3.

ENCLOSURES

SUBJECT

Pantheon bridge at
Vizagapatam —
Submitting a report on
the — as drawn up by
the Executive Engineer
Vizagapatam.

No. 1192 C of 5 March 90

Forwarded to the
Local and Municipal
Dept. with reference to
para 2 of G.O. dated 18
October 1889, No. 1390 M
(Misc.).

2. Orders are requested
whether Messrs Burn & Co's
estimate referred to in
para 16 of the report may
be accepted, and whether
that firm may be asked
to tender for the annual
maintenance of the
bridge.

Ruedra. Krishnan

Lt. Col. R.B.

Ag. Secy. to Govt.
M.D.

4.3.90.

Entered

1890.

Public Works Department.

H. M.

For Orders

No. 1192.C.

Dated 5th March 1890.

Despatched 6th

Received

Enc: 2 plans &

SUBJECT.

Forwarding a report to

the Pontoon bridge at Vijayapattanam
run up by the Executive
Engineer Vijayapattanam Division.

(For orders)

7/3

LOCAL AND MUNICIPAL DEPARTMENT.

Current No. 630.M

From the Public Works Department

FOR ORDERS.

orders have already
been passed relative
to the repair of the Vijayapattanam
pontoon-bridge during the
current year. (Vide f.o.
of 20 Feb 90 at 339. M.)
It is obvious from this
report that the bridge
will require overhauling
every year by a man
who thoroughly understood
the work. The Engineer recom-
mends that Barn & L. should
be entrusted with this duty
annually. It will probably
be sufficient to communicate

FOR ORDERS.

[6]

LOCAL AND MUNICIPAL DEPARTMENT.

117 Papers to be read in Proceedings:— 117

Again G.O., dated

189 , No.

Current No. 630 m of 1890, dated 5th March from the P. W. Department

Order - 9/19-3-90, No. 467 m m

Communicated to the Collector

of Vizagapatam in continuation of

G.O. dated 28th February 1890 No. 339 m

with the request that he will submit

as to a full report on the measures he

proposes to take in future for the

supervision and repair of the

bridge. 117

(From orders)

To
The Collector of Vizagapatam
with 2 plans

" P. W. D. with a copy of G.O. of 2-2-90
no. 339 m
17/3

17/3
17 Mar -

Handwritten text on a dark, rectangular patch, possibly a stamp or seal, located in the upper left quadrant of the left page. The text is faint and illegible.

12

Miscellaneous.

23/10/03 ✓
31/8/07

LOCAL AND MUNICIPAL DEPT.

G.O., DATED 19-3-90

No. 467. m.

When given for copying

[Despatch Abstract.]

Bridge.

Comm. to the Colly of
Vizagapatnam with
remarks for P.W.D for
report on the Pontoon -
drawn up by the
Executive Engineer
of the Vizagapatnam Division