

Public Works (1897) Department.

G.O., No. 805 W

DATED 18th March 1897

[Despatch Abstract.]

Tower of Connemara Library: Approving
and confirming the decision of the Com-
mittee consisting of the officers named,
to dismantle the —.

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

FURTHER PAPERS.

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

request
N-805W of 18.3.97
 His Excellency the Governor
 PUBLIC WORKS DEPARTMENT.
 PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read the following

*Letter from the Consulting
 Architect to Government N.B. N- — 27 March 97.*

x
The Chief Engr: P.W.D
" Chief Engr: for Irrign:
" Cong: Engr: for Rys:
" Cong: Archt: to Govt:

*The Tower of the
 Commemora Library being
 in a dangerous condition,
 the officers named in the
 margin were, under in=
 = structions from Govern=
 = ment, constituted a
 Committee to consider what
 should be done, and with
 power to carry into in=
 = mediate effect any mea=
 = sures found necessary.
 The Committee having met,
 decided that the tower
 should be dismantled, and
 the Cong: Architect was in=
 = structed accordingly.*

The C.E. P.W.D
" C. A. to Govt:
19/3/97
14.3.97

*2. These proceedings are
 approved and confirmed.*

12/3/97

Urgent

P. W. DEPARTMENT.

H.R. the Governor

Read the following: - stat

Letter from the Consulting Architect to Govt.
8th March 1897.

W 10/3/97
10/3/97

FOR ORDERS.

The informal Committee mentioned in
this Note should at once meet formally
and draw up a joint report. Mr. Truitt
should be invited to make proposals as to
how the tower can be supported. The
Committee should then take full
authority to ~~pull~~ pull down or prop
up the tower as they think best.

As
11/3/97

A.S.H.

9.3.97

Yes, we must leave the Committee
to devise & carry out the practical
measures necessary to ensure
safety. I instructed the Building
on Sunday & told Doctor
Bourne to close the Museum
for the present. The "Informal"
Committee will apparently

I inspected the Com-
muna Library and
Museum about two
months ago, and came
to the conclusion that
the tower was settling
owing to its great weight,
and causing cracks in
the adjacent walls of the
main building, and I
considered the best thing
to do was to wait till
the settlement had stop-
ped and then rebuild
the distorted walls. I did
not for a moment think
the tower itself was in
any danger. On the
morning of the 6th Mr.
Harris came to my house
and informed me that he

he considered the tower was in danger and might collapse any moment. I therefore met him at the site and he showed me numerous cracks which he said had occurred in the last three or four days, and some fresh ones which he said had formed since the day before. From what I saw I consider that the brickwork was crushing and ~~that~~ ^{though} I was not prepared to say definitely that there was any immediate danger, I wrote an order that the buildings on either side were to be vacated and the tower itself lightened as far as possible. I also arranged for an informal Committee comprised of Mr. Hughes, Chief Engineer for Irrigation, Mr. Fowler, Consulting Engineer for Railways, Mr. Harris and myself to meet on the spot at 10 am the next morning Sunday.

report that the bricks & other materials used in building the tower were not strong enough. We did hear what Mr. Irwin says about this as well as about propping up the tower.

JG

9/3/97

7th. After a careful inspection the members of the Committee were unanimously of opinion that the tower was crushing and was in a dangerous state. Mr. West, also who happened to be present, was of the same opinion. If desired the opinion of all ~~other~~ ^{these} gentlemen will be got in writing. Orders were again given that the buildings were to be vacated and it was settled that either the tower must be demolished or some means devised for supporting it from below to prevent further crushing.

The demolition of the tower will be a tedious, difficult and dangerous operation and before this is decided on I would suggest that Mr. Irwin who designed and carried out the work should be asked to make proposals as to how the tower

tower can be supported.
I have spoken to that
gentleman and he is
very anxious that he
should be given an
opportunity of submitting
a design by which the
demolition of the tower
may be avoided. The
failure of the tower is
due to the materials
used not being of suffi-
ciently good quality to
withstand the enormous
pressure to which they
are subjected.

Some rough calcula-
tions have been made
which show that the
weight is much over the
crushing strength of
the materials but these
calculations have to be
checked and gone into
carefully: when this
is done a further report
will be submitted. In
the meantime early
orders are solicited as
to whether the demolishing
of the tower should
be

FOR ORDERS.

be begun at once or
Mr Darwin's proposals
awaited. I recommend
the latter course.


8/3/84
W

Note for His Excellency in continuation of note dated 8th March '97.

Calculations of the weight of the tower at the Connemara buildings have now been completed, and they show that, taking the most favourable view, the pressure per square foot of the ~~base~~ ^{piers} is 23 tons. According to the experiments lately made in London it was found that common stock brick in lime mortar began to fail under 17 tons pressure and crushed with 27 tons pressure, and no doubt both the bricks and lime are better than what are made in this country.

2. *Buttress* gives the crushing strength of ordinary brickwork in mortar as 25 tons. It is well known that in practice it is not considered expedient to load masonry with more than $1/6$ th or $1/10$ th of the ^{weight} crushing as unequal settlement or imperfect workmanship may cause undue strain to be thrown on certain parts: therefore assuming that the materials used in the tower are equal to those manufactured in England, the weight on the piers should not exceed $1/6 \times 27 = 4.5$ tons per square foot while the actual weight is 23 tons.

3. In accordance with a D.O. just received

sum.
A.94
10.3.97

Calc.
10/3/97

92347. N. 10200 dt. m. 11-2-57 N. 12397

received from the Private Secretary
to His Excellency a Committee will
inspect the tower to-morrow morning
and submit a report.

4. Mr. Irwin has sent in proposals
as to how the tower may be supported.
These will be considered by the Com-
mittee ^{and} by the result reported.

[Signature]
9/5/89
W.

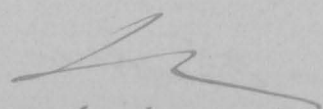
Note for H.E. in continuation of last note
8/5/89

Calculation of the value of the tower in
the Common Law has now been
completed and they show that taking the
most favorable view the person for
whom first the person is 23 tons ~~the~~
~~the~~ according to the ~~the~~ experiments lately
made in London it is found that
Common Law brick is better than London
brick when 17 tons person are worked
with 27 tons person, as the brick has
the brick a better in better the brick are
better in the country.
Further down the country should be
allowing brickwork in stone is 25 tons
It is well known that in practice it is
not considered sufficient to have masonry work
more than $\frac{1}{8}$ or $\frac{1}{10}$ of the country weight in masonry

settlement or unpaid interest may
cause more claims to be thrown on.
Certain facts: Thompson believes that
the materials are in the house as given
H. then a inspection in England, the error
on the plan shows no ~~data~~ necessary
 $\frac{1}{6} \times 27 = 4.5$ tons per year for
the ~~year~~ that is which the actual
weight is 29 tons.

It accordingly will be 9.0 per annum for
the period during H.E. & Committee
will make the total the same as being the
same & after.

Mr. Smith has also in papers a plan
the house ^{being} as the suggestion that will be
considered of the Committee & the same
referred.


7/5/97

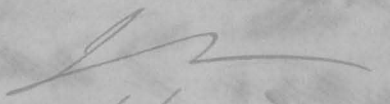
2112-50
I inspected the Panama
Library & Museum about
two months ago and came
to the conclusion that the
town was really owing to its
great wealth & commanding
position in the valley of the Pacific
I considered the
best thing to do was to have
taken the upper part of the
valley & then subside the
city below. I did not
for a moment think the
town itself was in any danger.
On the morning of the 6th
Mr. Harris came to my home
& informed me that he
considered the town was in
danger and might collect
any moment I therefore
met him in the city

could be checked the
Museum which
he said had been in
the last time a few days
or some such or which he
said had been in
the day before from which
I saw I consider that
the incident in country
is that I am not prepared
to say anything that there
is any connection between
I was an actor in the
incident in which you
were to be executed &
the two men killed
is for the purpose. I have
arranged for an informant
connected with one of the
Hatchers in the country
Mr. Tomlinson, being the
name Mr. Hatcher & myself

to meet on the spot at
7 o'clock the next morning
Monday 25. After a couple
inspected the members of
the party who were
many of whom were
the same in country &
in the case of Hatcher & the
the fact the Hatcher &
the Hatcher is of the same
person, I consider the
incident of the Hatcher
was to be in country
from the year since the
the incident was to be
executed & it is within
that date the Hatcher
was to be executed & the
means were to be used
to force Hatcher to go
further country.
The demolition of the Hatcher
was the Hatcher, Hatcher

& dangerous position
before this is decided as
I would suggest that the
Governing Commission
calculate the cost of the
works to be done at each
position & to have the
figures sent to the Commission
I have spoken to the Master
& he is very anxious that
he should be given an
opportunity of submitting
a design of what the works
of the house may be needed
The question of the house
due to the Master's
need for being a building
you are likely to be required
the Master's permission to
what they are required.
Some work calculations have
been made this year but
the result is much as the

the building shown of the Master's
his then calculation how to be
checked & sent to the Commission: the
this is done & further report will
be submitted, in the meantime, now
an estimate & to check the Master's
of the house shown to him as one
of the Master's papers submitted I
recommend the latter course.


8/5/07

Public Works (1897) Department.

CURRENT No. 2457

Order

From

The Cong. Architect.
to Govt.

No. 1

Dated 7. 3. 97

Received 8. 3. 97

Enclosures 1

Spare copies 1

SUBJECT.

Commemorative Library and
Museum: Submitting
a report on the tower of
the ———

No.

Sub-Division Office,

Chepak, 7th March 1897

From

M. G. L. F. Harris

OFFICER IN CHARGE, *Industry Architect*

~~SUB-DIVISION,~~

To

THE The Thief Inspector

P.W.D.

SIR,

With reference to your No. _____, dated _____

With reference to your letter of the 10th inst.,
I have the honour in compliance with your
order of this morning to submit the following report
on the Tower of the Samanara Library & Museum:-

2. It will be as well to here detail what has occurred which led to my urgent visit, and semi-official letter to you, yesterday the 6th inst:-

3. From the time of my taking up the office appointment of Consulting Architect, I have been very anxious about the safety of the new work adjacent to the tower, for I saw that unequal settlements as between the tower and adjacent buildings was going on - I recognized that this was inevitable, because of the enormous disparity of the foundation loads - on this premise, & only on this premise, I made it my business to carefully watch the cracks, and at times to plumb the walls of these adjacent buildings - It was believed that danger to these only existed - It was not until 1889 that danger occurred.

occurred to me to doubt the stability of, or to call in question the design and material composition of the Tower itself:—

4. About 3 months ago — I determined to take down the ^{or} ~~neck~~ of the single bay connecting the tower entrance with the verandah of the new Museum for the key stones were slipping through, the arches of the museum verandah were working out of shape, and the ^{outer} ~~center~~ piers at either end were getting a little out of plumb:— This work was dismantled and at the same time I had the centre arches propped up:—

5. Again it has all along been apparent to me that the two octagonal ^{headed} bays — those next to, and right and left of the Tower would have to be dismantled and reconstructed — but it seemed to me that the proper time to do this would be when the Tower settlement had ceased:— I found lately that these bays were getting worse, that the mullions of the windows were getting more out of the perpendicular, that the soffits were more out of level — that the brick quoins were bulging, and that some deterioration had started in the brickwork itself:— in fact that the octagonal headed bays were parting from the main walls:— It was my intention to erect scaffolds to prop these up — this was a few days ago:—

CONSULTING ARCHITECT DIVISION,

Sub-Division Office,

Chepak, 189

No.

From

OFFICER IN CHARGE,

SUB-DIVISION,

To

The

Sir,

With reference to your No. , dated 189

ENCLOSURES.

6. On Friday the 5th inst. — I went out with Mr. Mahony on inspection, and afterwards took him to the Museum — I then noticed for the first time a crack in the terra cotta cyma molding, forming the capital of the 4 piers supporting the Tower: this I attributed to some defect in that piece of terra cotta — but on further examination, I found small thread like cracks in some of the bricks — and I immediately concluded crushing was proceeding, and told Mr. Mahony so.

7. I here state, positively, that it never occurred to me till Friday morning to question what were the materials the Tower was built of — I felt certain that the bricks were selected pressed bricks set in cement mortar:—

8. I at once asked Mr. Mahony if the bricks were not all pressed — he said, as I then understood "No Sir, only the face bricks — the hearting is all of stock

stake brick - I said "are you quite sure?" he
replied "absolutely" -

9. I went at once to office, and wrote the
urgent letter to you, that you got on Saturday, and
ordered Mr. Mahony to purchase 200 ft. of log line
and to go at the Museum with it, and a 28th
weight next morning - when I found such an alarming
increase in the cracks, that I posted men on each side
to warn people, and saw Mr. Bowne, and warned him -
I told Mr. Mahony, to have carried down all loose
material in the Tower - and I then drove straight
to your house to see you: -

10. You requested me to meet you at 12 O'clock
at the Tower - you then examined it with me, and I
found I was mistaken in thinking the face bricks
were pressed, for Mr. Mahony told us "the face bricks
are only oil moulded, not pressed - the others are the
ordinary stake brick": - This rendered the position
perhaps more unfavorable: -

11. At your direction I saw you again in office,
when you determined to call an informal committee of
experts for this morning (Sunday 7th) -

12. So this morning there was present, at the
Tower, with you, Mr. Hughes, Mr. Fowler, and myself,
shortly after Mr. West arrived, and he kindly gave us
his opinion -

- 13 -

C.A.
39. 1,920-21-7-96.

No.

From

To

THE

Sir,

With reference to your No. _____, dated _____ 189

CONSULTING ARCHITECT DIVISION,

Sub-Division Office,

Chepak, _____ 189

OFFICER IN CHARGE,

SUB-DIVISION,

ENCLOSURES

- 13. We examined first the Library Bays
with the result, that Mr. Bowne was asked to remove
all books etc from them - and they were considered
to be in so dangerous a condition that I understood
they must be dismantled at once: -

- 14. We then discussed the material, and
the plan: - I explained that the mortar consisted of
shell lime (1 of lime 2 of sand) and sand: - that this
had been used through and through - that is in the
middle of the thick piers - and I further stated
my belief that such fat lime - a pure ~~antiseptic~~
lime - had no setting power, beyond the surface
layers - and that it would be either in a pulp,
or if dry like powder in the middle of the work -

- 15. Then as to the stanchions we found that
in places the rickrack was $1\frac{1}{2}$ bricks or 15" thick,
thick, the whole way up - and that supposing Flemish
Bond

Bond (probably the best bond for such thin work) had been employed - & at these points where the $1\frac{1}{2}$ to 2" cinder blocks of the circular staircases had been inserted - the weakness of the wall was very marked: -

16. Next the staircases were examined - to the 1st floor - nearly every tread, if not all, were snapped ^{across} in one or two places - in one place where the mortar was stripped off, the wall of the staircase - the brickwork was found very rough, with large coarse joints: -

17. After this the cracks in the brickwork of the piers were examined - you & I found fresh cracks in places where we had last observed them on Saturday - and lower down: -

18. The dismantled bricks and mortar of the neck taken down were now examined - this material is: Mahony asserts is identically the same material as is the Tower - the mortar was found to be of no strength, and this was work erected 2 or 3 years ago: -

19. The officers present were then individually asked their opinions as to what was taking place in the piers of the tower, they were all unanimous in saying that crushing was proceeding: -

20. I decline without more time to state what

CONSULTING ARCHITECT DIVISION,

Sub-Division Office,

Chepak, 189

No.

From

OFFICER IN CHARGE,

SUB-DIVISION,

To

THE

SIR,

With reference to your No. , dated 189

ENCLOSURE

What the actual weight imposed directly and indirectly on each superficial foot of the weakest of the piers is - till I have had time to carefully take it out - it must be presumed that the Tower from top to bottom was lately encased in heavy scaffolding inserted into joint lock holes - that the Tower is now subjected to wind pressure, and that neither of these ~~was~~ was considered - The weights shown in the schedule I brought with me this morning were taken from the quantities of the revised estimate - and more or less as work done, and mostly paid for: -

Then again it must be decided in association with others what the effective area of the weakest pier is - so must be determined the weights of the various materials: -

21. These calculations do not so much call for urgency, as do the orders which must be issued - viz. - what is to be done to the

Lower - if it is to be at once dismantled - ^{and} how
it is to be done:- I this morning saw my friend

I have the honor to be
Sir

Your most obedient servant.

Wm Barrill
C.A.

Note/ Written on Sunday on
the only paper available
and copied ~~in the~~ ^{by the} to
forward at once by

C.A. 1,920-21-7-96.
39

CONSULTING ARCHITECT DIVISION,

Sub-Division Office,

Chepalk, _____ 189

No.

From

OFFICER IN CHARGE,

Sub-Division,

To

THE

SIR,

With reference to your No _____, dated _____ 189

ENCLOSURES.

all
have
and

to
1.

Wysant

The Little Col^d & Campbell R.R.

C. E. R.

Common Stone - Lime Mortar - 17 tons -

Res Bricks } " " 20 tons - 40
Machine made }

Res Bricks } " " 20 tons - 36
Hand made }

Experiments by Kirkaldy & J. Blackfurness
Bridge - Resistance greatly influenced
by mortar -