

Public Works (1898) Department.

G.O., No. 10842

DATED 29 April 1898

[Despatch Abstract.]

Lt Col W.L.C. Barreley R.E. ~~Cassington~~
Declining to accept as satisfactory the explanation
submitted by — of his failure to check the
design of the Conemaugh Dam Library tower.

BACK PAPERS.

FURTHER PAPERS.

Public Works

DEPARTMENT.

Papers to be read in proceedings :—

189 , No.

189 , No.

Again G.O., dated

Again G.O., dated

Current No. 3098

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33

of 1898, dated 5th April 1898, from Lt. Col. W. L. C. Baddeley.

„ 189 „

” ”

„ 189 „

7 18

ORDER.

N 60846029. 4-98

C. No. 3098

SUBJECT.

HIS EXCELLENCY THE GOVERNOR.
THE HON'BLE SIR HENRY BLISS, K.C.I.E.
THE HON'BLE MR. GROSE, C.I.E.

Failure of Commemorative Free
Library Tower.

FOR ORDERS.

Transmit the views expressed by Mr. De
Winton.

29.4.98 14.4.98 20/4/98

[Handwritten signature and notes, mostly illegible]

[Small handwritten mark]

Colonel Baddeley's explanation
called for in Para 3 of G.O.
No 3527 W dated 16 Decr 1898
is herewith submitted.
He excuses himself from
responsibility on the following
grounds
(1) Col. Deemyer calculated the
pressure on the brickwork
(2) The failure was due to the
change of design & had nothing
(3) Professor Baker considered
that reasonably good brick
work laid in time should
be safe under a pressure
of 20 tons, & that the
limit of safety of 4.5 tons
was 18 1/2 ft given by the
Committee is open to question

18/4/98 [24/4/98]
H.E. 14.4.98 18.4.98

To
Lieut. Col. W. L. C. Baddeley, R.E.

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ignores the fact that, as Deputy Chief
Engineer, it was one of his most im-
portant duties to personally check
the stability of all structures pro-
posed to be built by the Department,
and that it is his neglect of this
duty which needs explanation.
4. It is no doubt true to say that
good brickwork properly built on good
soil will stand 20 tons per sq. ft.
without failure, but it is well known
that the factor of safety of all en-
gineering structures is never less
than 4, i.e. that a structure should
never be exposed to more than 1/4 the
weight it might possibly bear, and
this margin was not given in the Com-
memorative Tower.
5. It is also true that if the tower
had been properly built, Colonel Bad-
deley's neglect of proper scrutiny
would never have been noticed, but
this is no excuse for that neglect.
6. His Excellency the Governor in
Council cannot therefore, accept as
satisfactory the explanation submit-
ted by Lieut. Colonel Baddeley.

Public Works (1898) Department

CURRENT No. 309

In making this reflection
 Lt. Biddleley's entire ignorance
 of the fact that, as Deputy
 Engineer, it was one of
 his most important duties
 to personally check the
 stability of all structures
 proposed to be built by the
 Dept., and that it is his neglect
 of this duty which needs
 explanation.

It is no doubt true to say
 that good brickwork properly
 built on good soil will stand
 20 times its height without
 failure, but everyone knows
 that the factor of safety of all
 engineering structures is never
 less than 4, i.e. that a structure
 should never be exposed to more
 than $\frac{1}{4}$ the weight it might
 possibly bear. This margin
 was not given in the Connemara
 Tower.

It is also true that if the tower
 had been properly built, Lt. Biddleley's
 neglect of proper scrutiny would have
 been more noticed, but this is
 because his neglect of duty

is reflected in the fact that

Order

From

Lieut. Col. W. L. C. Biddle

No.

Dated 12.3.98

Received }
 Registered } 5.4.98

Enclosures

Spare copies

SUBJECT.

Connemara Free Library, &c.

Submitting Explanation

Connection with the fact

of the

W.
 for orders

C. W. S.
 6/4 D.W.

025.7.27/4
 P.W. 29.
 [1,000-7-12-97.]

No.	Date.
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3527	16-12-97
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Wootton Hill

Bournemouth

17 March 1898

From
Lieut Colonel W.L.C. Baddelery P.E.
To The Secretary to Government P.W.D.

In reference to C.O. 3527 W of 16 Dec 97
I have the honour to report that I am
informed by Colonel Pennington that
he calculated the pressure on the brickwork
of the tower of the Commemorative Library.

2) In his opinion the tower would not have
failed if the design had not been
altered & if the quality of the work
had been up to the original specifications.

3) Personally I am convinced that the
failure was due to the change of design
& bad building -

4) As regards the statement of the
Committee that 4.5 tons is the
greatest pressure the brickwork could
bear with safety, I beg to point out
that ^{this} is open to question.

5) Professor Baker says "the strength
of brick masonry is mainly dependent
upon the strength of the mortar" and
"reasonably good brick laid in lime
should be safe under a pressure of

20 tons per square foot. The Committee quote the test carried out by Professor Unwin, but it is admitted by some authorities that these tests were excessively severe & not quite under the conditions that would obtain if the bricks were in a wall.

6) Personally I consider ornamented towers to be very useless additions to buildings & apparently I did my best when the original design was sent in to have the tower omitted or reduced.

7) I left India in March 91 & I have nothing whatever to do with the revised design, or with the building of the tower -

I have the honour
to be Sir,
Yours most obedient servant
H. C. Baddley.
Lieut Colonel R.E.