

(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. <i>1847.</i>	Press <i>Original</i>
~~B.P. No.~~	Mrs.
Dated <i>21. 7. 1876</i> 195 <i>1875</i>	

Not to be folded or roughly handled

Read the following :—

No. 97-W.

No. 350.

Note by the Chief Engineer for Irrigation.

THE Officiating District Engineer, Bellary, forwards, with his letter marginally noted, estimate in connection with the No. 226, dated 23rd April 1876. Tadpatry upper channel tank situated in the Tadpatry Taluq, Ghooty Range.

2. The nature of the work proposed for execution and the heads of account to which it is chargeable are as follow :—

<i>Ordinary Agricultural.</i>				RS.
Constructing a masonry weir.	Original Works	..	...	707
Do. a masonry drop.	Do.	...	...	123
Total Original Works				830
Diverting the channel.	Repairs...	...	...	285
Grand Total				1,115

3. The following particulars of this tank are recorded :—

Ayacut area	...	...	...	...	Acres 111
Assessment	...	...	...	...	Rupees 566
Average revenue	...	...	...	...	645
Highest do.	...	...	...	...	659
Expenditure during the previous four years	...	...	...	...	155

The weir is to provide for the cross drainage of the land above the channel.

The area of the catchment basin of the stream, for the passage of which provision is made, is not given ; the maximum flood supply is calculated at 435.78 cubic feet per second, for discharging which, as surplus, there is to be an escape forty-four feet in length which is under construction ; the stream is the chief outlet for the drainage of the flood-water which is stated to accumulate near the Railway embankment not far from Tadpatry, the weir has one sand vent. A masonry drop is also under construction. The District Engineer reports that the soil is soft, that the course of the channel is being altered so as to avoid the present low and bad ground, as well as the breached portion of the channel, and that as the emergency of the case would admit of no delay the works are being carried out in anticipation of sanction.

4. It is apparent that the necessity for this work has arisen from the interference of the Railway embankment with the drainage of the country, for the District Engineer explains that flood-water which formerly was spread over the land and entered the channel at different points is now intercepted by the embankment and forced to concentrate itself at one outlet. The case illustrates the necessity for attention to two rules in designing the Railways. First, that the natural drainage should be interfered with as little as possible ; and, second, that if, in the interests of the Railway, diversion of drainage is necessary or desirable, it should never be carried out without full preliminary inquiry in conjunction with the Local Public Works Officers into the effects proximate or remote of such diversion, and the proper assessment against the Railway Company of the cost of changes in works of irrigation which may thereby be rendered necessary.

5. The work having been undertaken as emergent, the sanction required is merely formal, but it is necessary to point out that there seems to be evidence that the

*Proceedings of the Madras Government, Public Works Department,
21st July 1876. No. 1,847.*

waterway of the jungle stream near its junction with the channel is insufficient to carry the flood discharge, seeing that it breached its banks in two places.

The breaches are to be closed and seemingly the water surface at flood level raised by the channel weir. It is probable therefore that the jungle stream approach to the weir will require widening.

If other circumstances were not unfavorable, it would have been better to have used the upper breach and the outlet from it as the permanent line of drainage and to have blocked up the old bed and lower breach since the line of the first is more direct.

6. The District Engineer should give attention to the following points:—

(1.)—The wing walls of the weir are only $1\frac{1}{2}$ feet above H. W. M. which is apparently intended to represent M. W. L., and this is a small margin. It would seem to be better to allow another foot on the line of the top of the embankments. The cost of the few cubic feet of masonry will be nominal and the addition to safety considerable.

(2.)—The length of the surplus weir may possibly be adequate, but what evidence there is, is against this being the case. Had the area of the drainage basin been given, a proper estimate of discharge might have been made, as it is without information as to the normal flood depth in the jungle stream, apart from the raising of the water level by the flood banks, it is impracticable to make any reliable calculation. The depth so modified is six feet, and if the normal depth be four and a half feet which seems not an excessive supposition, the 45 feet length of weir would be just about half what would be necessary.

(3.)—The section of the masonry drop shows no wing walls, and these are apparently essential.

(4.)—The embankments should be brought to a minimum height throughout the length affected of $2\frac{1}{2}$ feet above M. W. L., which again is supposed to be $2\frac{1}{2}$ feet above F. S. L. in channel.

OOTACAMUND, (Signed) A. DEC. SCOTT, Major, R.E.,
14th July 1876. Dy. Chief Engineer for Irrigation,
for Chief Engineer for Irrigation.

To the Secretary to Government, Public Works Department.

No. 351. ORDER THEREON, 21st July 1876, No. 1,847.

IRRIGATION, No. 37.

Account.

THE following estimate from the Ghooty Range forwarded by the Officiating District Engineer, Bellary, is sanctioned:—

TADPATRY UPPER CHANNEL.				RS.
Irrigation.—Ordinary Agricultural.				
1. Constructing a masonry weir.	Original Works	...	...	707
2. Do. a masonry drop.	Do.	...	...	123
Total Original Works				830
3. Diverting the channel.	Repairs	...	...	285
Grand Total				1,115

*Proceedings of the Madras Government, Public Works Department,
21st July 1876. No. 1,847.*

The cost of the original works will be met from the District grant for Minor New Works.

2. This sanction has been registered as No. 69-I. of 1876-77.

3. These Proceedings will be communicated to the Consulting Engineer for Railways, with a view to its being ascertained whether there is any reason against the debit to the Railway of the cost of these improvements and repairs.

(True Extract.)

Colonel,

Offg. Under Secy. to Govt., P.W.D.

To the District Engineer, Bellary.

- „ Collector of Bellary.
- „ Chief Engineer for Irrigation.
- „ Examiner of Public Works Accounts.
- „ Revenue Department.
- „ Consulting Engineer for Railways.

Exd. W. H. French.

Spare Copies

OFFICE OF THE CHIEF ENGINEER

FOR IRRIGATION,

1876.

No. 97-W.

Note by Chief Engineer for Irrigation.

Encls. 4.

No.

226

Dated

25th

April 17/76

The Offg. District Engineer, Bellary

forwards with his letter marginally noted, Estimate in connection

with the Tadpatry upper channel Tank situated in the

Tadpatry Taluq, Ghoshty Range.

2. The nature of the work proposed for execution and the heads of account to which it is chargeable are as follow:—

Ordinary Agricultural	
Constructing a masonry weir, super	
original works	3707
— do — a masonry drop — do —	123
Total original works	830
Diverting the channel. Repairs —	285
Grand Total Rs	1115

3. The following particulars of this Tank are recorded—

Ayacut area.	111 Acres.
Assessment.	566 Rupees
Average revenue.	645 Rupees.
Highest do.	657 Rupees
Expenditure during the previous four years.	165 Rupees

The weir is to provide for the cross drainage of the land above the channel. ^{of the stream for the passage of which provision is made}
The area of the catchment basin is not ^{given}; the maximum flood supply is calculated at 435.78 cubic feet per second for discharging which,

as surplus there is to be an escape 44 feet in length which is under construction. The stream is the chief outlet for the drainage of the flood water which is stated to accumulate near the Railway Embankment not far from Tadpatry. The weir has one sand vent. A masonry drop is also under construction. The District Engineer reports that the soil is soft, that the course of the channel is being altered so as to avoid the present low and bad ground as well as the breached portion of the channel, and that as the emergency of the case would admit of no delay the works are being carried out in anticipation of sanction.

4 It is apparent that the necessity for this work has arisen from the interference of the Railway

72
embankment with the drainage of the country; for the District Engineer explains that flood water which formerly was spread over the land and entered the channel at different points is now intercepted by the embankment and forced to concentrate itself at one outlet. The case illustrates the necessity for attention to two rules in designing the railways. 1st that the natural drainage should be interfered with as little as possible and 2^d that if, in the interests of the railway, diversion of drainage is necessary or desirable, it should never be carried out without full preliminary inquiry in conjunction with the local Public Works officers into the effects proximate or remote of such diversion, and the proper assessment against the Railway Company of the cost of changes in works of irrigation which may thereby be rendered necessary. The work having been under-

taken as emergent the sanction required is merely formal, but it is necessary to point out that there seems to be evidence that the water way of the jungle stream near its junction with the channel is insufficient to carry the flood discharge, seeing that it breached its banks in two places.

The breaches are to be stopped and seemingly the water surface at flood level raised by the channel weir. It is probable therefore that the jungle stream approach to the weir will require widening.

If other circumstances were not unfavorable, it would have been better to have used the upper breach and the outlet from it as the permanent line of drainage and to have blocked up the old bed and lower breach since the line of the first is more direct.

b. The District Engineer should

give attention to the following points.
(1) The wing walls of the weir are only $1\frac{1}{2}$ feet above H. W. M. which is apparently intended to represent M. H. L. and this is a small margin. It would seem to be better to allow another foot on the line of the top of the embankments. The cost of the few cubic feet of masonry will be marginal and the addition to safety considerable.

(2) The length of the surplus weir may possibly be adequate, but what evidence there is, is against this being the case. Had the area of the drainage basin been given a proper estimate of discharge might have been made as it is without information as to the normal flood depth in the jungle stream, apart from the raising of the water level by the flood banks, it is impracticable to make any reliable calculation. The depth

2. 4. 1876 Def

805250

is modified is 5 feet, and if the normal depth be $4\frac{1}{2}$ feet which seems not an excessive supposition, the 45 feet length of weir would be just about half what would be necessary.

(3) The section of the masonry drop shows no wing walls, and these are apparently essential.

(4) The embankments should be brought to a minimum height throughout the length affected of $2\frac{1}{2}$ feet above M.W.L. which again is supposed to be $2\frac{1}{2}$ feet above F.S.L. in channel.

Qual Secte

By: Chief Engineer for Irrigation
for Chief Engineer for Irrigation

To
The Secretary to Govt P.W.D.

FORMER CASES.

No. of 187.

Issue No.

Dated

LATER CASES.

No. of 187.

Sent to Government with No.

18

Printed with G. O. No.

dated

REMINDERS ISSUED.

No. 1, dated	187
" 2, "	"
" 3, "	"
" 4, "	"
" 5, "	"

350

KEEP-WITHS.

I. E. Form No. 81.

1876. Department
The Chief Engineer for Irrigation.

RECEIPT No. 1578.

Dated 25 April 1876.

Dated 14th July 1876.
Received at 11th 1876.
Rs 97 8

Subject:—

Tadpatry Upper channel
Bellary District - Submits
estimate for certain
works to —

ENCLOSURES.

4

1 Plan given
to Librarian

Issue Case.

E. I. Form No. 4.

No 1847. M D 13
Proceedings of the Madras Govt.
Under date 21 July 76.
Read the following
From the Chief Eng for Irrigation (H.E. of the July 76).

The following Estimate from the Ghooty Range forwarded
by the District Engineer, Bellary is sanctioned:—

Part.

Tadpatry Upper channel

Irrigation.

Ordinary Agricultural

1. Constructing a masonry weir — Original works Rs. 707

2. " " a masonry drop — do — " 123
Total original works — 830.

3. Diverting the channel Repairs — Rs. 285

Grand Total Rupees. 1115
The cost of the original works will be met from
the District grant for minor new works.

2. This sanction has been registered as No. 69. I. of 1876-77.

3. These Proceedings will be communi-
cated

Sd/- Bellary
Chief Engineer
for Irrigation
Dated 3/8/76

Cir 19-7-76. M. Shuk. 36 July

ated to the Consulting
Engineer for Railways
with a view to its being
ascertained whether there
is any reason against
the debit to the Railway
of the cost of these im-
provements and repairs.

Recd

5250
CH 15

Govt. of 1876 Madras
PUBLIC WORKS.

To

The N. E. Bellary

Dated

Issued

Recd

Encl.

G. O. 21st July 1876, No. 1867

Nos 350-357

Tadpatri Upper Channel
Channel - Bellary St.

Estimate for certain
works to the — — — — —
a copy of the Proceedings
came to the Comr. for P.
with a view to its being as-
certained whether there is
any reason against the debit
to the Railway of the cost of the
the improvements &c.