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MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No.	278	Press
B.P. No.		Mis.
Dated	2-4-	1955

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
2nd April 1875.*

Read the following papers:—

No. 47 From Major J. BEATTY, R.E., District Engineer, Godavery, to Lieutenant-Colonel J. MULLINS, R.E., Chief Engineer for Irrigation, dated Camp at Nursapur, 19th February 1875, No. 3,576.

I HAVE the honor to submit, herewith, the estimate for improving the Ralinghy channel, an important branch of the Attili canal, which takes off at $11\frac{1}{4}$ miles on that canal and terminates in the Cara Kodu near Mogallu.

2 Survey Plans	} Despatched by banghy
1 Longitudinal and	
1 Cross Sections	
1 Plan of Dam	
2 Estimates	
1 Report by Range Officer.	

2. This channel is the one mentioned in paragraph 38 of the late Major Ryves' memorandum printed with G. O., No 768, of 14th March 1871. It is about $13\frac{1}{2}$ miles long, and expected to irrigate 9,750 acres, a large part of which will be new cultivation.

3 The present estimate and report was also called for in your memorandum, No 184 C, of 26th February 1874, paragraph 50, where it is also observed that no provision was made in the completion estimates for these improvements ~~except~~ for a head sluice since built. The Range Officer explains in his report, herewith sent, the reason for providing in his present estimate for irrigating by this channel a larger* area than was contemplated when the completion estimates were submitted.

* 9,750 acres instead of 8,750

4. No new masonry works are now proposed except a regulating dam near the end, and the improvements mainly consist of correcting the sections, clearing the bed to a proper fall, and embanking where necessary.

5 The estimate amounts to Rupees 7,500, of which Rupees 5,000 may be met from savings on the estimate of the earthworks of Attili canal, and 500 from the masonries of that canal, leaving Rupees 2,000, which I can only suggest should be met from the Minor New Works grant.

6. As the principal extension of irrigation under the Attili canal is expected under this channel, early sanction is very desirable in order that it may be well advanced towards completion before next irrigation season.

From Lieutenant A. R. F. DORWARD, R.E., Assistant Engineer, in charge No 3 or Western Delta Range, to Major J. BEATTY, R.E., District Engineer, Godavery, dated Pennamtra, 30th January 1875, No 634.

I HAVE the honor to forward survey plans,* longitudinal and cross sections, statement of discharges, and estimate of Rupees 7,500 for the improvement of Ralinghy channel, a branch of Attili canal. In Chief Engineer for Irrigation's memorandum, No. 297, of 26th February 1874, the above estimates are called for. The channel is intended to carry 19,500 cubic yards per hour for the irrigation of 9,750 acres.

* List shown below

2 In papers accompanying the project estimates it is stated that this channel would irrigate ultimately 8,750 acres. It is now considered advisable to provide for the irrigation by the Ralinghy channel of 1,000 acres now irrigated by the Rameswaram channel. The latter channel has its

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2nd April 1875.*

Let about 1 mile further up the Attili canal than the Ralinghy channel, and runs nearly parallel to it close along the right bank of the Godavalli, interfering with the natural drainage of not only the strip of country between the two channels but also of a considerable area on the right of Ralinghy channel. At 3 1/2 miles down Ralinghy channel there is an under-slope by means of which the country to the left of the Ralinghy channel is very inefficiently drained. Water flowing from it under the Ralinghy channel to the Iriacola, and down that drain to the Godavalli. Did the Rameswaram channel not prevent it the drain water of the intermediate strip would flow direct to Godanaddi, and the under-tunnel would probably be sufficient for passing the drainage (from right to left) of such land on the right of it as naturally drain that way. From the under-tunnel to the Godanaddi there is a well-marked valley, down which the drainage would pass. Both the Rameswaram and Ralinghy channels are carried over this valley in embankment, and it is now proposed to stop the Rameswaram channel there, so as to allow drain water to flow freely to the Godanaddi and to irrigate all land now irrigated by the Rameswaram channel below this valley from the Ralinghy channel.

3 There is a provision of Rupees 6,270 for earthwork of minor channels under Attili canal in the project estimates, the whole of this provision can well be utilised on other channels, so none of it is available for the Ralinghy channel, but there will probably be a saving of Rupees 5,000 on the earthwork of Attili canal, and Rupees 500 on the masonry, so that additional sanction will be required for Rs. 2,000 only. It is hoped that the proposed arrangements will be clearly understood from the sections and remarks on statement of discharges, and that sanction will be given for the work early enough for it to have made good progress before the coming irrigation season.

List of Plans, &c

- 1 Survey of Ralinghy Irrigation Channel from 11 1/2 mile on Attili Canal to Mogallu, 2 sheets.
- 1 Longitudinal and Cross Sections of do do.
- 1 Plan of dam proposed to be built at 12 1/2 miles, Ralinghy Channel. do do.
- 1 Estimate for constructing dam across Ralinghy Channel at 12 1/2 miles.
- 1 Statement of Discharges of Ralinghy Channel and General Estimate.

No. 47-A.

No. 254-A.

Note by the Chief Engineer for Irrigation.

THE estimate of Rupees 7,500 for the improvement of the Ralinghy branch

Western Delta, Godavery.

to be settled is how funds for it are to be provided. In paragraph 50 of the Notes of Inspection it is mentioned that no provision was made in the completion estimate for the work required, but it is not quite clear that such was the case, seeing that the late Major Ryves (paragraph 38 of Memorandum printed in the Proceedings on the estimates) knew that improvements were required, and the estimates contain certain entries for distribution, viz., minor channels, earthworks Rupees 6,270, masonry Rupees 8,920. However, the District Engineer reports that these sums are required for minor improvements, but that Rupees 5,000 will probably be saved on the earthworks of the canal and 500 on masonries. The work provided for has to be carried out,

Proceedings, Madras Government, 15th July 1874, No. 1,906

No. 763, 11th March 1871.

*Proceedings of the Madras Government, Public Works Department,
2nd April 1875.*

and the proposed expenditure is considerably less than 1 Rupee an acre. Also the ultimate excess* will amount to less

* Rupees 2,000.

than 2 1/2 per cent. on the estimate, Rupees

86,000, sanctioned for the Attili canal, and there appears to be therefore no objection to the approval of the estimate for this principal distributary.

CAMP, SUNGUM,
4th March 1875

(Signed) JOHN MULLINS, Lieut.-Colonel, R.E.,
Chief Engineer for Irrigation.

No. 48.

ORDER THEREON, 2nd April 1875, No. 878.

IRRIGATION, No. 5

FROM the foregoing papers it appears that it is necessary to expend Rs. 7,500 on the Ralinghy branch of the Attili canal in the Western Delta, Godavery, and that although Rupees 15,190 were provided in the sanctioned estimate of Rupees 86,000 for the canal under distribution, no special provision was made for the Ralinghy branch beyond Rupees 1,110 for a head sluice. The Ralinghy canal is designed to irrigate 9,750 acres, and the expenditure proposed is considered by the Chief Engineer for Irrigation to be moderate and reasonable.

2. The District Engineer reports that Rupees 5,000 on earthworks and Rupees 500 on masonries are likely to be saved out of the canal estimate, and such being the case the Government approve of the carrying out of the Ralinghy canal improvements, as the net excess will be less than 2 1/2 per cent on the total sanction.

(True Extract.)

(Signed) G. W. WALKER, Colonel R.E.,
Secretary to Government.

To the District Engineer, Godavery.
" Chief Engineer for Irrigation.
" Controller of Public Works Accounts.

Ed S T. Austin.
Spare Copies

12301 Western Delta Range
Office Santa Monica
126311.
27 January 1875

From The Officer In Charge
12301 Western Delta Range

To The District Engineer
Los Angeles District

Sir,

See
shown below.

I have the honor to forward
Turner's plan, longitudinal and cross
sections, statement of discharges
and estimate of \$2,7500 for the improve-
ment of Ralough's Channel - a branch
of the Alhambra Canal. In Chief Engineer
for Irrigation's memorandum of 26/2/75
the above estimates are called for.
The Channel is intended to carry
19,500 cubic yards per hour for the
irrigation of 8,750 acres.

In papers accompanying the
Project Estimates it is stated
that this Channel would irrigate
ultimately 8,750 acres. It is now
considered advisable to provide
for the irrigation by the Ralough's
Channel.

Channel of 1000 acres now irrigated
by the Rameswaram Channel. The
latter channel has to head about
 $3\frac{1}{4}$ miles further up the Attali Canal
than the Ralinghi Channel and
runs nearly parallel to it close
along the right bank of ^{the} Attali Canal
interfering with the natural drainage
of not only the strip of country between
the two channels but also of a consi-
derable area on the right of Ral-
inghi Channel. At $3\frac{3}{4}$ miles down
tunnel by means of which the country
to the left of the Ralinghi Channel
is very inefficiently drained. Water
flowing from it under the Ralinghi
Channel to the Sirla Coda, and
down that drain to the Gostanaddi.
Did the Rameswaram Channel
not prevent it the drain water of
the intermediate strip would flow
direct to Gostanaddi and the
undertunnel would probably be
sufficient for passing the drainage
(from right to left) of such land
in the right of it as naturally
runs that way. From the

undertunnel

to the Gostanaddi there is a
well marked valley down which
the drainage would pass. Both
the Rameswaram and Ralinghi
Channels are carried over this valley
in subbankment and it is now
proposed to stop the Rameswaram
Channel there so as to allow drain
water to flow freely to the Gostanaddi
and to irrigate all land now
irrigated by the Rameswaram
Channel below this valley from the
Ralinghi Channel.

There is a provision of Rs 6270 for
earthwork of minor Channels under
Attali Canal in the Project esti-
mates. the whole of this provision
can well be utilized on other Channels
so none of it is available for the
Ralinghi Channel. but there will
probably be a saving of Rs 5000 on
the Earthwork of Attali Canal
and Rs 500 on the masonry. So
that additional sanction will
be required for Rs 2000 only. It is
hoped that the proposed arrange-
ments will be clearly understood
from the sections and remarks
on statement of discharges and

channel of 1000 acres area situated
by the Rameswaram channel. The
latter channel has to be about
 $\frac{3}{4}$ mile further up the Athli Canal
than the Ralughi Channel and
runs nearly parallel to it, close
along the right bank of the Athli Canal
interfering with the nature of the
of not only the Athli Canal but also
the two channels but also a considerable
area on the right of the
Ralughi Channel. At $\frac{3}{4}$ mile down
tunnel by means of which the water
to the left of the Ralughi Channel
is very inefficiently drained. A
flowing from it under the Ralughi
Channel to the Siria Canal, and
down that drain to the Siria Canal.
Did the Rameswaram Channel
not prevent it the drain water
the intermediate stage would be
direct to Gostanaddi and the
undertunnel would probably be
sufficient for passing the drainage
from right to left of such land
in the right of it as a natural
drain that way from the Siria

to the Gostanaddi there is a
well marked valley down which
the drainage would pass. Both
the Rameswaram and Ralughi
Channels are carried over this valley
in embankment and it is now
proposed to stop the Rameswaram
Channel there, so as to allow drain
water to flow freely to the Gostanaddi
and to irrigate all land now
irrigated by the Rameswaram
Channel below this valley from the
Ralughi Channel.

There is a provision of Rs 6270 for
earthwork of minor Channels under
Athli Canal in the Project Esti-
mates. The whole of this provision
can well be utilised on other Channels
so none of it is available for the
Ralughi Channel. But there will
probably be a saving of Rs 5000 on
the Earthwork of Athli Canal
and Rs 500 on the masonry. So
that additional sanction will
be required for Rs 2000 only. It is
hoped that the proposed arrange-
ments will be clearly understood
from the sections and remarks
on statement of discharges and

that sanction will be given for
the work early enough for it
to have made good progress before
the coming irrigation season.

I have the honor to be,
Sir

Your most obedt Servt

G. R. L. Dorrance
Asst Engineer

List of Memoirs.

- 1 Survey of Raleigh Irrigation Canal
from $11\frac{1}{4}$ miles on alt. Can. to irrigation point.
- 2 Longitudinal & cross sections of same - C.C.
- 3 Plan of dam proposed to be built
at $12\frac{1}{4}$ miles Raleigh Channel.
- 4 Estimate for construction of same across
Raleigh Channel at $12\frac{1}{4}$ miles.
- 5 Statement of discharge of Raleigh
& general Estimate.

3576

Director of Irrigation,
Camp Verde, Ariz 1906

9

being largely a copy of the part of the
in the construction.

The present action is and report was made

10. 11
11. 11
called for in the "Irrigation" of 1894, page 50, where it is also stated

that no provision was made in the construction

that no provision was made in the construction



- 1 Survey of
from 11 $\frac{1}{4}$
1 Longitudes
1 Plan of a
at 10
1 Estimate
Radius
1 Statement
4 given

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to office
to come

[Faint handwritten notes at bottom:]

No. 100
Godwin's Patent

Calculus 30 } Summary

40624

Am. Encl. and Policies
All 2 April - 5 11 57
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Sections, Conclusions, Remarks
and Estimates given for
in house made of Building
Enamels.

Mr. 1699/5

3576

Director, Department of Education,
Cassell Building, 1950

21. 11. 1944

$\frac{1}{\sqrt{2}} \left(\begin{matrix} 1 & -i \\ i & 1 \end{matrix} \right)$

1. General Character of the Machine
 2. General Character of the Machine

The first of these is the fact that the
 water is not only a good solvent for the
 gas, but it is also a good conductor of
 electricity. This is due to the fact that
 the water molecules are polar, and the
 oxygen atoms are more electronegative
 than the hydrogen atoms. This results in
 a partial negative charge on the oxygen
 atoms and a partial positive charge on
 the hydrogen atoms. This polarity allows
 the water molecules to form a network of
 hydrogen bonds, which makes the water
 a very good solvent for many substances.
 The second of these is the fact that the
 water is a very good conductor of
 electricity. This is due to the fact that
 the water molecules are polar, and the
 oxygen atoms are more electronegative
 than the hydrogen atoms. This results in
 a partial negative charge on the oxygen
 atoms and a partial positive charge on
 the hydrogen atoms. This polarity allows
 the water molecules to form a network of
 hydrogen bonds, which makes the water
 a very good solvent for many substances.

C. The present station to which report was made
could have been reached by rail at 18th, 7-26th or
May 18th, para 50, where it is well illustrated.
than for the present one, as seen from above.

9750 acres
instead of
8750.

[illegible]

The first thing I noticed when I stepped out of the car was the cold. It was a sharp, biting cold that seemed to penetrate my coat. I shivered as I walked towards the entrance of the building. The air was thick with the scent of old wood and the faint smell of coffee. I looked up at the large, arched doorway and felt a sense of anticipation. This was the place where I had come to work for the past few years, and it always felt like I was entering a new world.

L. Beatty - Fair. B. 4

the
of
min
then
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Ms. 768 - 111
March 1871

estimate for the work required, but it is not quite clear that such was the case, seeing that the late Major Bynes (para. 38 of Memorandum printed in the Proceedings on the estimates) knew that improvements were required, and the estimates contain certain entries for Distribution viz. Minor channels, Earthworks Papers 6270 Masonry Papers 8720. However the District Engineer reports that these sums are required for minor improvements.

hidoluro
King.

Western Dollar
Good money

Proceedings Madras
Government 156
July 18/14 No. 1906

768-111
2nd
18/11

The estimate of Rupees 7,500 for the improvement of the Ratalinghy branch of the Attili canal appears to have been carefully prepared, and the only matter to be settled is how funds for it are to be provided. In para. 30 of the notes of inspection it is mentioned that no provision was made in the completion-estimate for the work required, but it is not quite clear that such was the case, seeing that the late Major Pym and para. 38 of Memorandum printed in the Proceedings on the estimates) know that improvements were required, and the estimates contain certain entries for Distribution, viz. Minor channels, Earth works Rupees 6,270, Masonry Rupees 8920. However the District Engineer reports that these sums are required for minor im-

22nd 94: Made 75
1/2 2540.

E. J. 377

[illegible]

On gr. - 27th Oct 1954

The first set of minutes
 and report are very in-
 complete. The following
 documents:
 Dr. 1/22/25

[illegible]

improvements, but that Rupees 5000 will
probably be saved on the earth-works of
the canal and 500 on masonries. The
work provided for has to be carried out
and the proposed expenditure is con-

siderably less than 1 Rupee an acre.
Also the ultimate excls will amount
to less than 2 1/2 per cent on the estimate
Rupees 8,000, sanctioned for the Attili
canal, and there appears to be therefore
no objection to the approval of the estimate
for this principal distributary.

+ Rupees 2000

10/3/85

Comptroller
Langun, 4th
March 18/85

Chief Engineer for Irrigation

To The Secretary to Government
(P. M. P.)

P. W. 1875-Sept.
No: 1599

From

The Chief Engr. for
Irrigation

Dated 4 March
Recd. 13th — } 1875

E.g. No: 254 A.

Note on a letter from
the S. Engr. Godavery
submitting Plans and
Estimates for improvements
of Ralinghy Channel
Western Delta Godavery.

G.O. No. 878. 2.4-75

147A

G.O. 15th July 75 No 1906
" 18th Mar 71 " 768

147A

Proceedings of the Madras Govt.
Read the following
878
From
The Chief Engineer
for Irrigation } (N. E. No. 254 A & 40
March 1875)

From the foregoing papers
it appears that it is necessary
to expend Rupees 7500 on the
Ralinghy branch of the
Attli canal in the Western
Delta, Godavery, and that,
although Rupees 15,190 were
provided in the sanctioned
estimate of Rupees 80,000 for
the canal, no special pro-
vision was made for the
Ralinghy branch beyond
Rupees 1110 for a head-
sluice. The Ralinghy canal
is designed to irrigate 9750
acres.

acres and the expenditure proposed as considered by the Chief Engineer for irrigation to be moderate and reasonable

2 The District Engineer reports that Rupees 5,000 on earth works, and 500 on masonry are likely to be saved out of the canal estimate, and such being the case the Government approve of the carrying out of the Rulinghy canal improvements, as the net crops will be less than 2% per cent on the total sanction.

MT

47-8

1099 ✓
Govt. of 1875: *Madras*
PUBLIC WORKS.

To
Dist Engineer
Madras.

Dated
Recd.
10 April 1875
Recd. 4-7-75

Rulinghy Channel
Western Delta. Godavary

The improvements to
the Godavary