

No. Name of Gauge Station		1890												1891												Average High Side during year		Average Low Side during year		Highest during year		Lowest during year		Maximum floods of other years where higher																																																																																																																																																																																																																																																																																																																																																																																																														
		April		May		June		July		August		September		October		November		December		January		February		March		Average High Side during year		Average Low Side during year		Highest during year		Lowest during year		Maximum floods of other years where higher																																																																																																																																																																																																																																																																																																																																																																																																														
Name of Gauge Station		April		May		June		July		August		September		October		November		December		January		February		March		Average High Side during year		Average Low Side during year		Highest during year		Lowest during year		Maximum floods of other years where higher																																																																																																																																																																																																																																																																																																																																																																																																														
Name of Gauge Station		April		May		June		July		August		September		October		November		December		January		February		March		Average High Side during year		Average Low Side during year		Highest during year		Lowest during year		Maximum floods of other years where higher																																																																																																																																																																																																																																																																																																																																																																																																														
1	S. Palau River near Hwoddalora	2.50	-0.85	-0.87	-0.50	-1.05	-0.98	-0.99	-0.52	-1.50	-1.22	-1.22	-0.48	-1.55	2.00	-0.15	-0.15	-0.10	-0.35	-0.17	0.15	0.85	-0.24	0.58	0.27	1.70	-0.17	1.07	0.38	2.00	0.00	1.69	0.75	4.90	-0.50	0.66	-1.16	2.00	-1.35	0.93	-1.15	1.75	-1.28	0.33	-1.02	1.10	-1.25	0.07	-1.39	0.75	-1.50	+0.19	-0.54	+4.90	-1.55																																																																																																																																																																																																																																																																																																																																																																																									
2	Sadras	4.50	-0.43	"	-0.25	"	-0.43	"	-0.42	"	-0.37	"	0.25	"	2.00	0.18	"	0.42	"	0.23	"	0.75	"	0.61	"	1.75	"	0.59	"	3.00	"	1.02	0.89	3.10	0.90	0.41	-0.07	1.50	-0.50	0.33	-0.18	0.90	-0.60	0.13	-0.19	0.50	-0.50	-0.01	-0.28	0.16	-0.70	+0.18	+0.03	+3.00	-0.70																																																																																																																																																																																																																																																																																																																																																																																									
3	Salaucoopam	2.00	-0.71	-0.77	-0.60	-0.99	-0.65	-0.71	-0.55	-0.86	-0.66	-0.71	-0.15	-1.00	2.00	-0.14	-0.19	0.02	-0.40	0.04	-0.02	0.31	-0.26	0.86	0.78	1.53	0.01	1.02	0.95	2.32	0.27	1.88	1.84	3.10	1.22	0.88	0.58	2.47	-0.25	0.01	-0.12	0.95	-0.55	-0.39	-0.52	-0.08	-0.20	-0.76	-0.85	-0.24	-1.15	+0.10	+0.02	+3.10	-1.15																																																																																																																																																																																																																																																																																																																																																																																									
4	Covelong	2.00	-0.13	-0.42	-0.45	-0.70	0.09	-0.22	0.35	-0.55	-0.20	-0.28	0.50	-0.57	2.00	0.20	0.17	0.27	-0.12	0.22	0.20	0.45	-0.07	1.14	0.94	2.05	-0.10	1.04	0.83	3.30	0.10	1.66	0.66	2.30	0.25	0.85	-0.45	2.15	-0.90	0.55	-0.68	0.90	-0.82	0.27	-0.80	0.72	-0.90	0.10	-0.85	0.55	-0.93	+0.48	-0.08	+3.30	-0.93																																																																																																																																																																																																																																																																																																																																																																																									
5	Sholanalloor	2.00	0.03	-0.42	0.60	-0.70	0.09	-0.16	0.50	-0.50	-0.18	-0.22	0.35	-0.65	2.00	0.09	"	0.30	"	0.13	"	0.58	"	0.40	0.14	2.10	-0.05	1.04	0.91	2.40	0.30	2.09	1.97	3.00	0.90	1.45	1.20	3.55	-0.30	0.28	-0.12	0.70	-0.60	-0.16	-0.63	0.30	-1.00	-0.25	-0.80	0.20	+2.0	+0.48	+0.19	+3.55	-1.20																																																																																																																																																																																																																																																																																																																																																																																									
6	Head of Sadras bank	4.50	"	"	"	0.08	"	0.90	"	-0.25	"	0.50	"	2.00	0.13	"	0.44	"	0.14	"	0.50	"	1.10	"	4.50	"	0.96	0.86	3.90	0.10	2.24	2.15	3.30	1.20	0.77	0.36	4.10	-0.30	0.50	-0.06	1.00	-0.70	-0.15	-0.64	0.30	-0.90	-0.08	-0.68	0.60	-0.90	+0.49	+0.33	+4.50	-0.90																																																																																																																																																																																																																																																																																																																																																																																										
7	Adyar River	4.50	0.92	"	1.15	"	0.48	"	0.70	"	0.06	"	0.23	"	2.00	0.47	"	0.85	"	0.81	"	1.20	"	1.11	"	4.65	"	0.75	0.09	4.50	0.50	1.89	-0.13	3.00	-0.40	0.73	-1.01	3.00	-1.60	0.67	-0.93	1.30	-1.65	0.31	"	1.05	"	0.45	"	1.05	"	+0.72	-0.50	+4.65	-1.65																																																																																																																																																																																																																																																																																																																																																																																									
8	Greenways Bridge	4.50	0.90	"	1.10	"	0.48	"	0.70	"	0.06	"	0.23	"	2.00	0.46	"	0.85	"	0.81	"	1.20	"	2.14	"	4.65	"	1.87	"	3.70	0.55	1.80	0.82	3.25	-0.40	0.92	-0.61	2.90	-1.60	0.71	-0.39	1.20	-1.05	0.66	"	1.66	"	0.45	"	1.05	"	+0.94	-0.06	+4.65	-1.60																																																																																																																																																																																																																																																																																																																																																																																									
9	S. Basin	4.50	0.95	"	1.00	"	-0.23	"	0.45	"	-0.45	"	-0.25	"	2.00	0.17	"	0.50	"	0.52	"	0.90	"	1.86	"	3.00	"	1.53	"	2.50	"	1.23	0.01	2.90	-0.50	0.45	-0.83	3.00	-1.40	-0.01	-1.30	0.10	-1.35	1.02	"	1.30	"	0.62	"	0.65	"	+0.64	-0.71	+3.00	-1.40																																																																																																																																																																																																																																																																																																																																																																																									
10	Shadajoucoopamlock	6.12	0.32	"	0.64	"	-0.11	"	0.18	"	-0.61	"	-0.37	"	6.12	-0.08	"	0.38	"	0.24	"	0.56	"	1.44	"	2.58	"	0.93	"	1.98	"	1.54	0.96	5.68	-0.52	0.51	-0.50	3.43	-2.12	0.55	0.17	1.13	-2.02	0.71	0.69	1.03	0.38	0.40	0.36	0.58	0.18	+0.48	+0.34	+5.68	-2.12																																																																																																																																																																																																																																																																																																																																																																																									
11	Do North gauge	6.12	-0.99	-1.63	-0.54	-2.29	-0.98	-1.21	-0.46	-1.87	-0.95	-1.22	0.21	-0.62	6.12	-0.77	-1.02	-0.12	-1.29	-1.43	"	-0.79	"	-0.35	"	1.10	"	-0.20	"	-0.32	"	1.41	0.78	5.78	-0.42	0.37	-1.12	3.43	-2.52	0.07	-2.05	0.80	-3.02	-0.08	-2.32	0.48	-2.62	-0.42	-2.54	0.48	-2.62	-0.38	-1.37	+5.78	-3.02																																																																																																																																																																																																																																																																																																																																																																																									
	Evergreen	1.00	-0.25	-0.32	0.00	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	2.57	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25	-0.25

No 86 of 30 July/79
Memo

The accompanying memo
sent me yesterday by
the P.E. of the B.C. this
not what I intended
it to be with perhaps
allow of my defining
more clearly the form
which the Estimate
now being formed by
Submission to the P.E.
should take

(A) The Estimate
proper should embrace
in detail and abstract
all work between Mer-
-Kamun and Kummamore
in which there has as
yet been no consistent
Sanction

The form of classifica-
-tion of the Abstract
must follow the last
form laid down for
works like the

Ordinary

(B) will be simply
all booked outlay
which can readily be
shown against the
work done to the period
embraced by the detailed
Estimates above.

Mr O'Shaughnessy takes
as reports this only the
outlay since 1862-63
but by P.O. No 1102 of
20. Aug 1879 (Recd)
I wish the following
outlays (appropriations?)
from

Q

1856-57 ... 1,21,873

57-58 ... 40,931

58-59 ... 27,896

and there are doubtless
other items which can
be traced by reference
to the Accounts or

dealing with these it
will be essential to
distinguish Capital from
Revenue outlay

(C) As regards the outlay
on the Canal since
of construction there
being no details forth-
coming and it being now
too late to commence
collecting the data, the
amount can only be given
Approximately in one
line the Report appended
Such explanation as
may appear desirable
in reference to this

(D)(E)(F) are similarly
the Estab. Works & Plant
Indirect charges which
call for no remarks here

The total of all the
 foregoing items will be
the amount (excluding
however (C) and

Est. of India will
have to be applied
for

To show the actual
cash outgoing in which
appropriations will have
to be made commencing
with the current official
year down to which the
actual entry must be
completed it will be necessary
to append a statement
showing (1) the total booked
entry for same and others
wise against Estimate
(A) down to end of the
last off. year and (2)
the value of the work so
performed at the normal
rates - of the last item
be deducted (J)

$A + D + E - J$ will
be the amount for which
appropriations will have
to be found in the current
year

The Buckingham Canal Estimate

1 The total length of the line of the
canal is 407 miles, of which 281 miles
is open to traffic, and a great deal of
the work of the remaining 126 miles
has been executed.

2 Estimates for 199 miles of the work
have been sanctioned at various times
during the past 30 years, an estimate
for a further length of 82 miles was
submitted for sanction a year ago.
This estimate has been recently returned
with instructions to have it incorporated
with previously sanctioned estimates in
view to the financial position of the
whole work being included in one
comprehensive

comprehensive scheme, as originally proposed, and the question now is how this is to be done.

3 One proposal is. To submit a detailed estimate in the prescribed form, for portions of the work already executed and for which estimates have not been sanctioned, to add ^{to this estimate} the expenditure incurred since 1862-63, and the probable cost of the work still to be done. thus -

Amount of detail estimates
now submitted for portions
of the work for which estimates Rs.
have not been previously
sanctioned _____

Expenditure incurred since
1862-63 _____ } Rs.

Probable cost of portions of the
work for which detail estimates
have not been prepared _____ } Rs.

Total Estimate Rs. _____

4 An estimate prepared in the above form will not be complete, in so far as that the original cost and upkeep of the 126 miles of the canal open to traffic ^{be} before 1862-63, will not be included in it, and an approximate or guess estimate for the portion for which detail estimates have not been prepared, will deprive the whole estimate, of that completeness and confidence in its accuracy, which seems to be required.

5 A second proposal is
To estimate section by section for the whole line, what the formation of the work should have and will cost,
To charge to this estimate or "Capital" account, section by section, the value of the work as it now stands,

To deduct this charge from the past expenditure

expenditure, and to charge the balance to the "Revenue" and "Famine" account of the work.

6 Complete surveys and plans of the whole line are already available to admit of an estimate being prepared ~~according~~ in the above manner, and all the outdoor work required, is a line of levels with cross sections ~~of the~~ ~~between~~ between Mercanum and Negapatam, distance about 100 miles to ascertain the present value of the existing work, The cost of this outdoor work would be 1000 Rs. as follows

3 Surveyors for 3 months } Rs. 540
at 60 Rs. each per month }

18 Lascars for ~~20~~ @ 6 Rs. ~~20~~ = 324

Contingencies ————— = 36

Total Rs. ————— 1,000

If Overseers of the permanent Establish-
ment

ment could be deputed to the work, this extra outlay would be unnecessary, an Assistant Engineer from the permanent Establishment would be required to superintend the above establishment.

7 Considering the length of time since 1837, over which the accounts to be incorporated in this proposal extend, it seems at first sight a formidable undertaking to have an estimate prepared in this manner, but the work is not so difficult or heavy as it may appear to be. ^{and of} There can be no difference of opinion as to the great value of a complete financial history of the work which such an estimate would supply, and if the preparation of the estimate in this form is at once sanctioned it would be

be in the hands of Government by
the 1st of January next.

W. H. R. R. R.
Executive Engineer

Received 2^d July 1879
Att

Received 2^d July 1879
Att

Govt. of (1881) Madras.
PUBLIC WORKS.

To

Dated

Amount

Recd.

Encl.

G.O. 6th June 1881, No. 1408A

Nos. 13-14

~~Water Supply and~~

Colacannid drainage scheme

A Committee appointed for
considering and reporting on
the —

7th 7/18