

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

Irrigation.

READ—the following papers :—

From the President of the Central Irrigation League, Victoria, to His Excellency the Governor of the Presidency, Madras, dated Durham Ox, Victoria, 8th September 1883.

In the interests of the Central Irrigation League of Victoria, I have the honor most respectfully to apply to you for a copy of any State or other papers, reports, diagrams, &c., which are likely to assist us in our inquiries respecting the practicability and profitableness of irrigation works in this province similar to those which have been successful with you in various parts of India.

The following are the chief points upon which we are gathering facts and figures :—

- (1) Description and cost of works actually carried out in conserving water and irrigating land.
- (2) Quantity of water required, per acre, for irrigating various kinds of crops, in differing soil and seasons.
- (3) Profit or loss of enterprise, viz., as to—
 - (1) charge levied for water upon consumer ;
 - (2) other taxation (if any) resulting from irrigation ;
 - (3) influence of irrigation upon climate, public health, &c. ;
- (4) increased yield of various crops through irrigation as compared with dry cropping ;
- (5) cost of repairs to works, administration and oversight of distribution of water ;
- (6) profit realized upon invested capital ;
- (7) effect of irrigation upon the practice of agriculture in general, such as the development of new branches, &c.

We apologise for the trouble we impose, but have adopted this course in our anxiety to secure reliable data. Any further information which you may be pleased to forward to me upon the foregoing and kindred questions will be most acceptable.

No. 133 I.

Note by the Chief Engineer for Irrigation.

The subjects on which information is asked for cover a very wide field, and, in order to comply with them as far as possible, it is recommended that the following reports and orders of Government be forwarded to the President, Central Irrigation League, Victoria :—

- (1) Administration Report of the Irrigation Branch for 1882-83.
- (2) Irrigation Series, No. I, Red Hills Tank.
Do. No. II, Ryves' Canal.
Do. No. III, Srivaikuntham Anicut Project.

- (3) Report on the direct and indirect effects of the Godáviri, Kistna and Coleroon Anicuts.
- (4) Book of Narratives of the Godáviri, Kistna, Pennér and Cauvery Productive Public Works Systems.
- (5) Narratives of the Kurnool Canal (late Madras Irrigation and Canal Company's Canal), Madras Water-supply, and Srivaikuntham Anicut Systems, contained in the following G.O.s:—

No. 455 I. of 10th June 1882.

„ 603 I. of 2nd Aug. „

„ 746 I. of 10th September 1883.

- (6) G.O., No. 260 I., of 21st March 1882, forwarding the completion estimates of the Godáviri Delta System.
- (7) Report of Committee on Madras Irrigation Canal Company's Canal, contained in G.O., No. 448 I., of 6th June 1882.
- (8) Appendix V to the Report of the Indian Famine Commission.
- (9) Statement of Financial Results of Irrigation Works, contained in G.O., No. 941, of 24th November 1882.

2. It is intended to lithograph the drawings of the head works (as actually carried out) of the Productive Public Works Systems, and also the diagrams of the rivers which supply them. When this has been done, copies might be sent to the Irrigation League.

3. The following Standing Orders and Professional Circulars of the Chief Engineer for Irrigation also give information which will be of use:—

(a) *Regarding quantity of Water required for irrigated land.*

Standing Order 24, giving quantity of water required for the irrigation of an acre of land under varying circumstances.

Professional Circular No. 7, giving water-supply for irrigation of crops.
Do. No. 30, giving results of experiments regarding quantity of water required for irrigation of crops.

(b) *Preparation of River Diagrams.*

Standing Orders Nos. 39 and 39-A

(c) *Drainage from Catchment Basins.*

Professional Circulars Nos. 22 and 31. (N.B.—For method of calculating co-efficients of discharge, *vide* last paragraph of Standing Order No. 24).

(d) *Tanks or Reservoirs.*

Professional Circular No. 23, surplus arrangements.
Do. No. 26, lengths of do.

(e) *Distribution of Water.*

Professional Circular No. 45, regulation of tank sluices.
Do. No. 45-A, discharge of do.

(f) *Miscellaneous.*

Professional Circular No. 43-A, giving dimensions and cost of storage works in Bombay.

Professional Circular No. 47, giving the most recent formulæ for the velocity and discharge of channels.

CHEPAUK,
26th November 1883.

To the Acting Joint Secretary to Government,
Public Works Department, Irrigation Branch.

(Signed) A. S. RUSSELL,
for Ag. Chief Engineer for Irrigation.

ORDER—dated 30th November 1883, No. 980 I., Public Works.

The papers referred to in paragraphs 1 and 3 of the note of Chief Engineer for Irrigation will be forwarded to the President of the Central Irrigation League, Victoria.

2. Lithographed copies of the drawings and diagrams mentioned in paragraph 2 of the same note will also be forwarded when available.

(True Extract.)

(Signed) J. O. HASTED, Colonel, R.E.,
Ag. Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.

„ Public Department.

„ Editors' Table.

„ President, Central Irrigation League, Victoria,
with covering letter and papers.

Exd. A. Aubert.
Spare Copies

IRRIGATION.

Govt. of (1883) Madras.

PUBLIC WORKS.

Dated November, 30th.

Recd.

Encl.

G.O., 30th Nov. 1883, No. 980 I.

NOVEMBER.

Irrigation Works

Papers and diagrams, &c., connected with
— in the Madras Presidency, forwarded to
the President of the Central Irrigation
League, Victoria.

Note by the acting Chief Engineer for Irrigation

N^o 39 W.

In para 2 of G.O. N^o 980. I. dated
30th November 1883, the proposal to lithograph
the drawings of the head works, as actually
carried out, of the Productive Public
Works Systems, and the diagrams of the
rivers which supply them, has been
sanctioned. Before sending the drawings
and the diagrams to be lithographed,
it is considered necessary that they
should be redrawn to a convenient
scale, and as the Drawing Establish-
ment of this office is unable to take
up this additional work without
allowing the ordinary work of the office
to fall in arrears, it is requested that
a temporary Draughtsman on Rs 35 per
mensem may be sanctioned until the
end of the current official year. Should
the services of this Draughtsman be
required longer, a further application
will be submitted for sanction.

Camp
Maunipatam
Canal -

28th Jan'y 1884

Signed 6/2

7/3
The Secy to Govt.
P. W. D.

Attest. Colonel. Rk.

Ac. Chief Eng for Irriga

N^o 4065

N^o 336W PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 8th Feb'y/84

READ the following

Note by the Chief Engineer
for Irrigation - A.E. N^o 39 W of 28 Jan'y/84.

No 6/2/84

N^o 336W of 8th Feb'y/84

Sanction is ac-
-corded to the entertain-
-ment, in the office of
the Chief Engineer for
Irrigation, of a temporary
drafterman on Rs 35 per
month. An appropria-
-tion of funds will be
made on the exact sum
required being reported.

2. This sanction has
been registered as Provin-
-cial N^o 73 W of 1883-84, and
classified as establishment

Temporary. It will re=
= main current till the
end of the official year.

Cy
6-2-84

ll
6.2.84

7C

B. No 542 x 28.2.84

B. - 1019 x 21.4.84

No. 336 W a/s 8th Feb/84

Chief Engr. for Irrig.
Ex. P.W. accounts

Entered in Receipt Book

10TH MARCH 1884, No. 264 I., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

READ—the following papers :—

From R. B. BUCKLEY, Esq., Officiating Under Secretary to the Government of India, Public Works Department (Civil Works—Irrigation), to the Secretary to the Government of Madras, Public Works Department, dated Fort William, 7th January 1884, No. 5 I.

I am directed to request that you will be so good as to furnish this office with the following map and plans connected with all irrigation projects which have received the sanction of the Secretary of State during the past five years :—

(1.) Map showing position of main and principal distributary channels, escapes, and drainage courses with reference to the larger towns and main lines of communication of the country.

(2.) Longitudinal section showing slope of *main canal*, and transverse sections of *main canal* at head and any important points, such as regulators, &c. These sections to show high-water and low-water marks.

(3.) Plans showing principal dimensions of the more important works, on *main canal* only, such as head works, works for regulation of supply and passage of drainage, and type drawings of one or two of principal bridges.

No. 41 I.

Note by the Acting Chief Engineer for Irrigation.

The information asked for by the Government of India will take some time to furnish, and will probably necessitate the employment of temporary additional establishment in the drawing branch of this office.

2. Lists have been drawn up of surveys, plans, &c., available in this office, and references will have to be made to the Superintending Engineers concerned for the additional information required.

3. The following are the irrigation projects which have received the sanction of the Secretary of State during the past five years :—

- | | |
|------------------------------------|--------------------------|
| (1) Godáviri Delta. | (6) Madras Water Supply. |
| (2) Kistna Delta. | (7) Rushikuliya. |
| (3) Sangam Anicut. | (8) Barur Tank. |
| (4) Cauvery and Vennár Regulators. | (9) Buckingham Canal. |
| (5) Srivaikuntham Anicut. | |

4. The "map showing the position of main and principal distributary channels, escapes, and drainage courses with reference to the larger towns, and main lines of communication of the country" will be prepared in this office on a scale of 4 miles = 1 inch.

5. The longitudinal and transverse sections of main canals will be obtained from Superintending Engineers, and tracings will be supplied to the Government of India.

6. The plans of the more important works on main canals of the productive public works systems have already been ordered to be lithographed, in G.O., No. 980 I., of 30th November 1883. When this has been done, copies can be forwarded to the Government of India, and tracings of the important works on systems other than "Productive" will meanwhile be prepared in this office.

CAMP CHATRAPUR,
25th February 1884.

(Signed)

J. O. HASTED, Colonel, R.E.,
Ag. Chief Engineer for Irrigation.

To the Acting Joint Secretary to Government,
Public Works Department, Irrigation Branch.

ORDER—dated 10th March 1884, No. 264 I., Public Works.

The suggestions of the Chief Engineer for Irrigation are approved, and the necessary plans, &c., required should be called for.

2. The Chief Engineer for Irrigation will submit, in due course, an application for the additional draughtsmen (if any) required for the preparation of the drawings, &c., required by the Government of India.

3. Ordered that a copy of these proceedings be forwarded to the Government of India in reply to their letter, No. 5 I., dated 7th January 1884, with an intimation that the information asked for will be supplied as soon as possible.

(Here enter No. 265 I., dated 10th March 1884.)

(True Extract.)

(Signed) J. O. HASTED, Colonel, R.E.,
Ag. Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Superintending Engineer, I Circle.
" " " II "
" " " V "
" " " VI "

" " " IV ✓

IRRIGATION.

Govt. of (1884) Madras.

PUBLIC WORKS.

Dated March, 10th.

Recd.

Encl.

G.O., 10th March 1884, No. 264 I.

MARCH.

Irrigation Projects

Suggestions of the Chief Engineer for Irrigation for furnishing the Government of India with maps and plans, &c., of all — which have received the sanction of the Secretary of State during the past five years, approved with remarks.

25TH MARCH 1884, No. 799 W., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Establishment.

READ—the following memorandum from Colonel J. O. HASTED, R.E., Acting Chief Engineer for Irrigation, to the Secretary to Government, Public Works Department, dated Chepák, 19th March 1884, No. 9 W. :—

With reference to paragraph 2 of G.O., No. 264 I., dated 10th March 1884, the sanction of Government is requested for the employment, from the 15th April next, of two draughtsmen for six months at Rs. 35 each per mensem, for the preparation of maps and drawings of irrigation projects sanctioned by the Secretary of State during the last five years.

ORDER—dated 25th March 1884, No. 799 W., Public Works.

Sanctioned as proposed by the Chief Engineer for Irrigation.

2. An appropriation of funds will be made early in April.

3. This sanction has been registered as Provincial No. 86 W. of 1883-84, and classified as Establishment, Temporary.

(True Extract.)

(Signed) J. SHAW-STEWART, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Chief Engineer for Irrigation.
„ Examiner, Public Works Accounts.

Exd. E. Fernandez.
Spare Copies

GENERAL.
ESTABLISHMENT.

Gobt. of (1884) Madras.

PUBLIC WORKS.

Dated March, 25th.

Recd.

Encl.

G.O., 25th March 1884, No. 799 W.

MARCH.

Draughtsmen

The employment of two — for six months, for the preparation of maps and drawings of irrigation projects sanctioned by the Secretary of State during the last five years, sanctioned.

Irrigation

N: 92 E W.

Memorandum

The sanction for one of the draftsmen appointed, under G.O. No. 799 W, dated 25th March 1884, will expire on 22nd instant, and as much work remains to be done, it is recommended that the continued employment of one draftsman, until the end of the current official year, may be authorized.

2. Owing to the difficulty experienced in obtaining a suitable man, the second draftsman sanctioned in G.O. No. 799 W of 25 March 1884, was not appointed till September last, and this sanction will therefore not expire till February 1885.

3. It is not anticipated that further sanction for either of these men will be required.

Chepauk
4th November 1884
To The Chief Engineer, P.W.D.

A.S. Russell.

For Chief Eng^r in Irrigation

G.O. 799. Wa/25-3-84

Mch 9/2/9

The sanction
accorded in G.O. 799. W
dated 25th March 1884
will be extended to
the end of the current
official year as regards
one of the draftsmen.

C.B.
6.11.84

W.S.

6.11.84

W
8.11

C.B. for I.V.
Ex. W. acc'ts

Despatch 10-11-84

11/11

No 4250

Note by the Chief Engineer for Irrigation

In P. M. L. No 799. W dated 25th March 1884;
two ^{temporary} draughtsmen on Rs 35 per mensem were sanctioned
for this office, for six months for the preparation
of maps and drawings (called for by the Govt
of India) of irrigation projects sanctioned by the
Secretary of State during the last five years. The
sanction for one of these draughtsmen expired on
the 1st instant and that for the other was extended
in P. M. L. No 2794. W dated 8th November 1884 to the
end of this month. In P. M. L. No 336. W. dated
8th February 1884 another temporary draughtsman
on Rs 35 per mensem was sanctioned for the
preparation of drawings of the head works of Productive
Public Works ordered to be lithographed for general
circulation. This sanction also will expire by the end
of this month. As several drawings of the head works
of Productive Public Works to be lithographed, as well
as those important works required to be submitted
to the Govt of India have taken ^{much} longer than was
anticipated, and much still remains to be done, it is
requested that the continued employment for another
six months of the three draughtsmen referred to above
may be sanctioned.

Chepauk
26 March 1885

Sd/-
Chief Engineer for Irrigation
Coll. B.E.

To

The Chief Engineer. P. W. Department

22-12-16 ✓
 2794 W 7 8/11/84
 1799 W 7 25/3/84
 264 I 7 10/3/84
 336 W 7 2/2/84
 430 I 7 30/11/84

3.
 No. 828. W 7 1st April/85

The employment
 of the three temporary
 draftsmen will be
 extended, as proposed,
 for a period of six
 months, from the
 1st April 1885.

Cd.
 31.3.85
 31.3.85

Batter dispatch
 6. E. for I. ✓
 24. P. W. A. ✓
 2/4/85
 15/4/85

✓
 From.
 The Chief Engineer for
 Design.

To.
 The Chief Engineer W.D.

Dated 28th March 1885
 Recd 30

No. 42 En.
 B. No. 828. W 7 1st April/85
 Subject

Three temporary draftsmen
 reqd for the preparation of
 certain drawings to be sub-
 mitted to the Govt of India.
 Under the circumstances
 noted continued employment
 for another 6 months of the
 may be sanctioned.

with order