(1) Number of pages 92

(2) Date of repair December 1987

(3) Initials of the Referencer

TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

Public Works DEPARTMENT

G.O. No. ~~B.P. No.~~	1280 – W	Press. ~~Mis.~~
Dated	21-5-1886	~~19~~.

Not to be folded or roughly handled

Archives 1—10,006 1 -80.

1/1280

21st May 1886, No. 1280 W., Public Works.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Establishment.

Read—the following papers :—

From the Superintending Engineer, IV Circle, dated 11th May 1885, No. 187 E.W.
„ „ „ III „ „ 15th „ „ „ 339.
„ „ „ Tank Maintenance Scheme, 29th June 1885, No. 1512 T.
„ Consulting Architect to Government, dated 1st July 1885, No. 502.
„ Superintending Engineer, VI Circle, „ 11th „ „ „ 567 T.J.
Memo to „ „ IV „ „ 25th „ „ „ 1282 C.
From the „ „ V „ „ 31st „ „ „ 1870.
„ „ „ IV „ „ 21st Sept. „ „ 385 E.W.
„ „ „ II „ „ 17th Oct. „ „ 245 G.L.
„ „ „ I „ „ 14th Nov. „ „ 304 G.L.
Note by the Chief Engineer for Irrigation, dated 10th May 1886, No. 122.

Order—dated 21st May 1886, No. 1280 W., Public Works.

In paragraph 3 of G.O., No. 643 W., dated 16th March 1885, officers of the Public Works Department were invited to submit completion reports of important works which they considered adapted for separate publication as selections.

2. Replies as recorded above have been received. The Superintendent of Works, in charge II Circle, addressed Government on the subject on the 31st March last, and his letter is under disposal in the office of the Chief Engineer for Irrigation.

3. The Superintending Engineer, VI Circle, the Superintending Engineer, Tank Maintenance Scheme, and the Consulting Architect, state that they can furnish no completion reports of the nature required; while the Superintending Engineer, III Circle, reports, in letter of the 15th May 1885, that no sufficiently important works were completed in his circle "*this year.*" It was not the intention of Government that only works recently finished should be reported on. The attention of the Superintending Engineer, III Circle, will be directed to the concluding clause of paragraph 3 of G.O., No. 643 W., dated 16th March 1883, and if any of the officers to whom that order was communicated have omitted to mention important works for which completion reports have already been submitted, they will be requested to do so on receipt of this order.

4. The Superintending Engineer, I Circle, considers the Godávari delta system of irrigation and navigation, and the Potinghi ghât road, sufficiently important works for the purpose required. It is observed that a narrative of the former was printed with G.O., No. 28 I., dated 11th January 1881. A completion report of the latter work will be awaited.

5. The Superintending Engineer, IV Circle, will be informed that the post and telegraph office at Ootacamund is not considered of sufficient importance for the purpose.

6. The Superintending Engineer, V Circle, mentions the following works :—

(*a*) Coast batteries
(*b*) Pálár anicut project.
(*c*) Poiney do.
(*d*) Cheyár do.
(*e*) Pelandorai anicut project.
(*f*) Chembrambaukum tank.
(*g*) Red Hills tank project.

Of these, short histories of (*b*), (*c*), and (*g*), have already been written. The first is reported to have been submitted to the Chief Engineer for Irrigation in November 1881, and the other two have been printed in G.O., No. 474 I., dated 10th May 1884, and G.O., No. 603 I., dated 2nd August 1882, respectively. The Superintending Engineer states that it was reported in 1881 that histories of (*c*) and (*d*) could not be furnished, and he adds that materials for a history of (*f*) are not available. This, therefore, leaves only (*a*), and the Superintending Engineer will be requested to submit the necessary report, drawings, &c., in connection therewith.

7. It is observed that a short history of the Cruz Milagre Dam has been prepared and recorded in G.O., No. 857 W., dated 30th March 1886.

8. Steps are being taken by the Chief Engineer for Irrigation for the preparation of histories of all the important systems of irrigation in the presidency. As remarked by the Chief Engineer, it will be possible to undertake only one history at a time; as in view of the existing financial pressure no extra office establishment can be sanctioned for the purpose.

(True Extract.)

Major, R.E.,
Under Secy. to Govt., P.W.D.

To Superintending Engineers.
To the Superintendent of Works, Tank Maintenance Scheme.
,, Consulting Architect to Government.
,, Chief Engineer for Irrigation.

Exd. E. Fernandez.
Spare Copies.

2/1280

GENERAL.
ESTABLISHMENT.

Gobt. of (1886) Madras.

PUBLIC WORKS.

Dated May, 21st.

Recd. *Encl.*

G.O , 21st May 1886, No. 1280 W.

MAY.

Publication of Selections from Completion Reports

Orders on replies from officers of the department to the call for completion reports of important works considered by them to be adapted for separate publication as selections.

3/1280

. 857 W., PUBLIC WORKS.

MENT OF MADRAS.

ORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

Engineer, IV Circle, dated 2nd February 1886, No. 80 C./E.W.

rch 1886, No. 857 W., Public Works.

annexed history of the Cruz Milagre Dam, which has been Engineer's office, be recorded in the proceedings of Government.

(True Extract.)

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

To the Superintending Engineer, IV Circle.
" Chief Engineer for Irrigation.
" Marine Department.

Exd. E. Fernandez.
Spare Copies.

Dated

Read.

G.O., 30th Mar.

MARCH.

Cruz Milagre Dam

History of the —, recorded.

4/1280

Annexure to G.O., No. 857 W., dated 30th March 1886.

A BRIEF HISTORY OF THE CRUZ MILAGRE DAM, COMPILED FROM THE RECORDS OF THE CHIEF ENGINEER'S OFFICE.

G.O., No. 2967, dated 19th September 1868.

In September 1868, when passing orders on a report submitted by the Consulting Engineer for Railways on the general question of the extension of the railway system in this Presidency, the Government remarked that "the recent action of the sea near Cochin and the protective measures which have in consequence been rendered necessary suggest the propriety of a deliberate professional opinion being obtained on the capabilities of the Cochin backwater as a harbour, and the value and prospects of that port, as well as of the anchorage at Narakal." The Government accordingly requested the Master Attendant of Madras, the Consulting Engineer for Railways, and Mr. Anderson, Chief Engineer of the Madras Railway Company, "to investigate the present circumstances and future prospects of the port."

2. The report of the Committee thus appointed was submitted in December 1868, and, among other matters, the "Cruz Milagre Gap," near Cochin, was reported on. In 1862 the sea, which had for some years been making gradual inroads upon the coast to the north of the town of Cochin, broke through into the backwater at a point called "Cruz Milagre" (or the Miraculous Cross, from a church of that name which formerly stood there, but which had been submerged) about a mile and-a-quarter to the north of the Cochin channel,* and the gap then formed, though it had varied in size from year to year, had never been closed. When examined by the Committee the width of the gap was nearly 300 yards and the depth of the water at low-tide exceeded twenty-one feet in some places. The Committee recorded their unanimous opinion that there could be no question "as to the danger with which the very existence of the port of Cochin is threatened so long as this gap remains open."

* Old mouth of the backwater.

3. Although the depth of water in the greater portion of the Cochin channel † and river harbour had not been affected by the gap, nor had there been any sensible diminution of water over the bar, the effect of the escape to the sea, through the Cruz Milagre Gap, of a large volume of water, which would otherwise have contributed its force to scour the Cochin channel, had become manifest by the gradual silting up of the southern margin of that channel. The Committee therefore urged the necessity of at once closing the gap in the manner suggested by Mr. Dalrymple, the Master Attendant of Madras, namely, by the construction of two groynes, one being run from the north and the other from the south side of the gap.

† Old mouth of the backwater.

4. In submitting the Committee's report for the orders of Government, the then Secretary to Government, Public Works Department, Colonel Orr, remarked that it appeared to him doubtful whether groynes placed as recommended would effect what was expected of them to the extent of causing a sufficient accumulation of sand to close the gap. He thought that they would only make the opening tortuous and deeper—to say nothing of the cost of the groynes, which would be heavy. Colonel Orr considered that an attempt should be made to accomplish the desired object, in the manner practised in Tanjore and other localities for closing breaches in river and channel banks, by means of "*modussils*" made of palmyra or cocoanut trees, and by brushwood, grass and earth.

G.O., No. 453, dated 11th February 1869.

5. In disposing of the Committee's report, the Government accepted Colonel Orr's recommendation and directed that "before adopting the more costly expedient of constructing stone groynes, the simple

and inexpensive method by which breaches in river and channel banks are closed in Tanjore by means of '*moolusals*' should be tried."

6. In October 1870 an estimate, amounting to Rs. 31,500, for closing the Cruz Milagre Gap in the manner above mentioned was sanctioned; and the Cochin Sirkar shortly afterwards consented to contribute towards the cost. The work was commenced, but in January 1871 the Government were informed of the arrival from England of an Engineer who had been deputed by the Secretary of State to examine and report on the harbours of India. It was therefore directed "that all further outlay on the operation of closing the Cruz Milagre Gap be suspended until Mr. Robertson, the Harbour Engineer, has had an opportunity of inspecting that gap and of affording the Government the benefit of his advice."

G.O., No. 2643, dated 25th Oct. 1870.
" 2767 " 17th Nov. "
" 147 " 19th Jan. 1871.

G.O., No. 587, dated 28th February 1871.

7. In April 1871 Mr. Robertson communicated his opinion that the gap might be closed, without much difficulty and at little expense, by throwing out a groyne from the inner northern angle of the gap, so that the current might be diverted sufficiently to cause comparatively still water in the opening. This, Mr. Robertson thought, would allow the natural action of the sea and the incoming tide to do spontaneously what could only be accomplished artificially at a great expenditure of labor and money. He considered that the sand brought in from seaward would soon diminish the depth of the breach sufficiently to permit of its being finally closed by manual labor.

8. The Government thereupon directed the Superintending Engineer to put the construction of the groyne in hand, and to take the necessary steps for protecting the opposite angle of the gap with a revetment of stakes and stones. It was observed that the groyne need not be formed entirely of stone, but could be constructed of stakes, leaves, or grass and clay, strengthened, if necessary, with loose stone. An estimate, amounting to Rs. 8,662-8-6, was sanctioned for the work in June 1871.

G.O., No. 1567, dated 12th June 1871.

9. It was soon found impossible to face the strong current running through the gap with a groyne constructed of the specified materials, and a revised estimate of Rs. 24,824 for a substantial stone groyne was therefore sanctioned by the Government in December 1871.

G.O., No. 3055, dated 4th December 1871.

10. In May 1872, the Superintending Engineer reported that the groyne had been completed to a length of 115 feet, and that, although it was an experimental one, he had every hope of its terminating successfully. He submitted a further estimate, amounting to Rs. 15,277, for the extension of the groyne for 80 feet and for strengthening the southern bank. The Government were, however, of opinion that it was too late in the season to make any further attempt to close the gap as river freshes might be expected shortly, and therefore directed that the estimate lie over until fresh observations had been taken after the monsoon.

G.O., No. 1125, dated 2nd May 1872.

11. In accordance with these instructions the Superintending Engineer, in due course, inspected the gap, and found that, in consequence of the wind having blown freshly from the northwest for several days, the gap had been suddenly widened to a considerable extent. After carefully studying the action of the groynes, the Superintending Engineer recommended, in June 1872, that all further lengthening of the experimental stone groyne should cease; and, in lieu thereof, a sand-bag groyne, 100 feet in length, should be constructed parallel to the stone groyne. He thought that four parallel equidistant groynes would reduce the gap to damable proportions. The Government approved the Superintending Engineer's recommendations and sanctioned an estimate of Rs. 15,277 in order that they might be carried out.

G.O., No. 1757, dated 24th July 1872.

5
1280

12. On the completion of the first sand-bag groyne it was found that the actual result was not up to expectations, as the spit of sand deposited on the sea-face of the groyne did not extend beyond the head of the groyne. It was therefore necessary to construct an artificial base, from which the second sand-bag groyne could be projected; and this was done by laying a return of sand-bags—55 feet in length—at right angles from the head of the groyne running seawards. The second sand-bag groyne was then constructed; but precisely as the anticipated effect of the first sand-bag groyne fell short of what was realised by the experimental stone groyne, so the anticipated effect of the second groyne fell short of what was realised by the first sand-bag groyne.

13. With regard to the financial aspect of the question at this stage, it should be stated that out of the Rs. 15,277 sanctioned by the Government, no less than Rs. 7,309 had been expended in protective works to the gap and for maintenance during the monsoon of 1872; thus leaving Rs. 7,968 only for executing the actual closing of the gap by means of *echelon* sand-bag groynes. This sum, the District Engineer reported, had been largely exceeded already although the work had not approached completion. The first groyne, the return, and the second groyne had cost, respectively, Rs. 5,860, Rs. 1,330, and Rs. 8,400; or in all Rs. 15,590. From the foregoing data it was calculated that the second return would cost Rs. 3,500, and the third groyne Rs. 7,000; but there were large contingencies to be provided for, and the District Engineer was of opinion that the work would be completed for Rs. 15,000, which, added to the excess expenditure already incurred, brought the total to Rs. 22,550. This was the amount required for finally completing the work.

14. In passing orders on the report, the Government remarked that the sand-bag groynes *en echelon* had proved practically more expensive and less efficient than a sand-bag Dam directly across the gap would have been; and directed that, on completion of the second sand-bag return, sand-bags should be deposited in a direct line between its end and the nearest point of the opposite shore, so as to shallow the gap as quickly and directly as possible. The Government could not specially appropriate funds to cover the excess expenditure incurred, but the question of the provision of Rs. 15,000 stated to be necessary for the completion of the work would be considered in the Financial Department. The required amount was allotted in the following month.

G.O., No. 1323, dated 13th May 1873.

G.O., Financial, No. 830, dated 13th June 1873.

15. Immediately on receipt of G.O., No. 1323, dated 13th May 1873, Colonel Farewell commenced the Dam across the Cruz Milagre Gap. It was completed to 2 feet above low-tide level by the 25th June, or within a month and a week. It was not perfectly water-tight, but the leaks were stopped as discovered. Colonel Farewell did not propose to protect the Dam by a roughstone revetment inside the backwater as he hoped that at least 8 or 9 feet of clay would silt on in front of it, by which means the toe of the Dam would be well secured. Fresh sand-bags were to be added, where required, to protect the contents of the old bags when they commenced to rot. It was hoped that with due care the front of the Dam would be silted straight across within two months.

16. In reporting the satisfactory completion of the work, Colonel Farewell stated that the total cost of closing the gap (876 feet in width) including maintenance and all expenditure from first to last amounted to Rs. 83,827. The actual cost of the Dam alone was Rs. 24,614, and of the entire work as completed Rs. 59,230, while establishment, contingencies, &c., cost Rs. 24,597. Of this sum a certain portion was defrayed by the Cochin State, the closing of the gap being one of the "coast defensive works" towards the cost of which the Cochin State contributed Rs. 30,000.

17. In December 1873, a revised estimate for the work, amounting to Rs. 72,320,* was submitted for sanction. The excess was owing to the Dam having sunk considerably, and Colonel Farewell reported

---

* Exclusive of establishment, contingencies, &c.

that he had authorised the District Engineer to thoroughly secure the Dam by adding sand slopes outside and sand-bags. The revised estimate was as follows:—

	RS.	A.	P.
Total additional amount required for strengthening the Dam.	10,080	6	3
Amount actually expended on the work before the original estimate was submitted, but which was inadvertently omitted	2,999	9	9
Amount of original estimate	59,240	0	0
Total ...	72,320	0	0

18. During the next two years various estimates for minor works and repairs were sanctioned, and sundry bills on account of actual expenditure on the maintenance of the Dam were passed.

19. In November 1875, the District Engineer, Malabar, submitted a report on the beneficial results of the closing of the gap. Among other improvements reported may be noticed the fact that at low-tide there was a foot more water over the bar at the mouth of the Cochin harbour than there had been during the preceding year. The Government ordered the report to be recorded "with the renewed expression of the satisfaction of His Excellency the Governor in Council at the success with which the operations of closing the Cruz Milagre Gap and guarding against erosion of the coast at Cochin has been attended."

G.O., No. 3450, dated 6th December 1875.

20. From this time until the middle of 1878 no important alterations or repairs to the Dam were carried out; but several estimates for minor works and bills for maintenance were sanctioned. An estimate of Rs. 3,260 for widening the Dam to 50 feet at the top was sanctioned in September 1878.

G.O., No. 3682 W., dated 19th September 1878.

21. There is nothing else important on record in connection with the Dam until August 1881, when the Government approved the undermentioned arrangements for future guidance in connection with the Cruz Milagre Dam and groynes at Cochin—

G.O., No. 1883 W., dated 1st August 1881.

(*a*) That the Dam, groynes, &c., should be in the charge of the Port Officer, Cochin, who should, under the Marine Department, carry out all necessary repairs to them which did not exceed Rs. 1,000; and even repairs exceeding that amount under special arrangement.

(*b*) That the Public Works Department should, when called on, give their advice regarding the repairs, &c., and should also occasionally inspect the works; and, if necessary, report on their state and recommend any action they considered necessary.

22. During the same month the Superintending Engineer brought to notice that the Port Officer at Cochin was of opinion that the eastern side of the Dam required further protection as the shingle revetment had sunk below high-tide level and consequently the earth was being gradually washed away. The Port Officer recommended a permanent protection of stone pitching or shingle, and the Executive Engineer was directed to prepare an estimate for the thorough repair of the Dam. It amounted to Rs. 1,350 and was sanctioned in May 1882.

G.O., No. 1987 W., dated 12th August 1881.

G.O., No. 1802 W., dated 1st May 1882.

23. The question of the incidence of the charge of maintaining the Dam in good repair having been again brought forward, and it having been represented that the Cruz Milagre Gap was closed in the interest of the port of Cochin, viz., for increasing the scour on the Cochin bar, the Government directed that all such charges should be debited to Port Funds.

G.O., No. 2226 W., dated 8th September 1881.

6/1280

24. The next paper on record in connection with the Cruz Milagre Dam is a note by the Chief Engineer, dated 16th February 1883. Having been at Cochin in the early part of the month, he took the opportunity to examine the works at the gap. These he found in fair order, and in the memorandum referred to said: "From information on the spot it would seem that on the setting in of last monsoon the sea after reducing the sand spit in front to some 90′ in width bowled freely over at high-tide and caused a rather heavy wash against the east face of the bund, flattening the slope on that side. It would be well to have the edge of the revetment of the bund on this side dealt with in the same way as the west, *i.e.*, with larger material; and, again, that the whole of the top of the bund should be covered with rabbit wort to hold better together the sandy surface. A few small trees, in themselves perhaps harmless, have been allowed to grow on the top of the bund but should be cut away, and all kept quite clear of trees as the roots may displace the stones of the revetment. I could not well ascertain whether any erosion is going on the side of the backwater during flood, and think it will certainly be necessary to have a sufficient number of cross sections taken and recorded after every monsoon so as to help future reference on this point. The sections should extend to 60′ or 80′ on both sides of the bunds, and embrace the whole work from south to north. These should be regularly submitted yearly to the Chief Engineer." These remarks were communicated for the information and guidance of the Superintending Engineer.

No. 460 C., dated 21st February 1883.

25. In November 1883 the Superintending Engineer submitted an estimate, amounting to Rs. 1,920, for revetting the east or lagoon side of the Dam, and covering the top with "rabbit wort" in the manner directed by the Chief Engineer in his memorandum above quoted. The estimate was sanctioned for early execution, and the necessary allotment made from Port Funds.

G.O., No. 3477 W., dated 4th December 1883.
„ 728 W., „ 17th March 1884.

26. In February 1885, Colonel Beatty reported that the works ordered by the Chief Engineer had been fully carried out; but as the sections showed a tendency towards the deepening of the river bed on the side of the backwater, he recommended that to prevent the toe of the revetment on the backwater side of the Dam from slipping, about two cubic yards of stone per running yard should be dropped in along the toe of the revetment. It was at the same time reported that the lagoon was apparently being gradually filled up by silt brought in through the escape by the river floods, and also by drift sand from the sea-beach. The Government directed that the work recommended by the Executive Engineer should be carried out; and the estimate, which amounted to Rs. 2,190, was sanctioned in July.

G.O., No. 605 W., dated 13th March 1885.
„ 1613 W., „ 13th July „

27. It having been reported by the Superintending Engineer that the planting of cocoanut trees on the lagoon side of the sand-bank that lies between the Cruz Milagre Dam and the sea would greatly tend to strengthen the bank and protect the Dam, the Cochin Government was addressed on the subject. In reply, the Cochin Government stated that there was no objection to the measure, but it was desirable that the land should be parcelled out to different persons who would expend capital and who were either natives or permanent residents of the State. It was requested that arrangements might be made for the payment of rent for the land. The Superintending Engineer was instructed accordingly.

G.O., No. 2245 W., dated 28th Sept. 1885.

28. The latest cross sections of the Dam were taken in May 1885; they show that the lagoon is silting up gradually, and that there is a slight scouring action going on at the backwater face of the Dam. If this continues it will become necessary to specially protect the Dam on the backwater side.

G.O., No. 2614 W., dated 5th November 1885.

29. The entire cost of the work, up to the end of 1885, has amounted to about Rs. 1,20,000.

CHEPÂK.
1st April 1886.

No. 187
W.

Supg. Engineer's Office IV Circle
Coimbatore 11th May 1885

7
1280

From

The Superintending Engineer
IV Circle

To

The Chief Engineer
P. W. Department.

Sir,

With reference to para 3 of G. O. No. 643 W. dated 16th March 1885, I have the honor to inform you that there are no Completion Reports of important works now in this Office suitable for separate publication as selections, but I have requested the Divisional Officers in future to submit plans and sections of all new works costing more than Rs 20,000, together with the Completion Reports, and to give in the report an account of the chief engineering features of the work.

2. I do not know whether you would consider the Post and Telegraph Office at Ootacamund for instance of sufficient

importance; but probably the drainage and water supply works of Ootacamund when Completed will be.

I have the honor to be,
Sir,
Your most obedt. Servt.,

J. Beatty - Col: R.E.
Superintending Engineer
IV Circle

8/1280

CHIEF ENGINEER
27 NOV

Ext'd

3535/86

From

The Supdg. Engineer,
Fourth Circle.

W45/86
14

Dated 11th }
Recpd. Do. } May /85.

No. 187
G.W.

IV Circle Report recd. [illegible] —

Completion Reports:—

Informs that there are no — of important works suitable for separate publication as selections.

Copy file —
Col.
Eng. W.
12.5

SUPERINTENDING ENGINEER'S OFFICE,

No. 339

~~Madras~~,

Camp Ramandroog ~~Chepauk~~, 15th May 1885.

From

Lt. Col. H. M. Vibart R.E.

~~The~~ SUPERINTENDING ENGINEER,

III ~~1st~~ CIRCLE,

9/1280

To

THE Chief Engineer

P.W.D.

Madras

SIR,

Enclosures.

With reference to para 3 of G.O. No. 643 W. dated 16th March 1885, I have the honor to report that there are no works of (i.e. completed this year) sufficient importance in this Circle whose completion Reports are worth being sent for separate publication as selections

I have the honor to be
Sir,
Your most obdt. Servant
H. M. Vibart
Lt. Col. R.E.
Supdg. Engineer
3rd Circle

justify the publication of their completion reports as separate selections.

It may be noted that the instructions of the Surveyor General promised in para 2 of the G.O. in question have not yet been received.

I have the honor to be
Sir
Your most obedient servant

Lieut Col R.E.
Superintendent of Works
Tank Maintenance Scheme

1/1280

CHIEF ENGINEER
27 NOV
885
IRRIGATION

188 3551/86

From

THE SUPERINTENDENT OF WORKS,

Tank Maintenance Scheme,

To

THE

No.

Dated

Despatched

Received 30/6/85

ENCLOSURE.

Subject.

Compile

12/1280

No.

P. W. D.

Consulting Architect's Office,
Chepauk, Madras,
1st July 1885.

No. 502

From

The Consulting Architect to the Government of Madras,

To

The Chief Engineer, Public Works Department

Sir,

Enclosures.

In reply to G. O. No. 643 W. dated 16th March 1885, I have the honor to state that no important Engineering works have been completed in this division.

I have the honor to be
Sir
Your most obdt. Servant
R Chisholm
Consg. Archt. to Govt.

13
1280

P. W. D.

Roads and Buildings.

From

THE CONSULTING ARCHITECT
TO THE GOVERNMENT OF MADRAS,

To

The Chief Engineer
P. W. D.

No. 502

Dated 1st July 1885
Received 2

No. of Enclosures.

Subject.

Completion Reports for important Engineering Works.

Compile

CE

OFFICE OF THE SUPERINTENDING ENGINEER,
6TH CIRCLE.

Trichinopoly 11th July 1885.

No. 567 T.S.

14/1280

From

The Superintending Engineer,
6th Circle.

To

The Chief Engineer
P. W. D.

ENCLOSURE. – 4 –

Sir,

With reference to para 3. of G. O. No 643. W. of 16th March 1885, I have the honor to report that Completion Reports of the kind referred to therein have not been submitted from this Circle. and I do not consider that there are any important works fit for separate publication as selections that have not been published in book form.

2. Mr Grimes calls attention to the work of closing the Cruz Milagre Gap at Cochin in 1873/74 of which there has been no complete history published

published: the papers etc are in the Chief Engineer's Office, Madras and as the work was of a Special Character, the history and method Employed in the final Successful closing would, if published, be of great interest and probably prove most useful should at any time a Similar work be undertaken

I have the honor to be,
Sir,
Your most obdt Servt

Lt Col R.E.
Superintending Engineer
6 Circle

G.O. No. 644 W dt. 16.3.85.
No. 330 E dt. 7-7-85.
" 2096 C dt. 18.12.84

1

G.O. No. 605 W dt. 13-3-85.
" " 1714 " 25-6-74
" " 2437 " 28-8-74
" " 1377 " 22-5-74
" " 453 " 11-2-69
" " 871 W " 21.2.78
" " 903 W " 2.4.84
" " 725 W " 17.2.84
" " 702 W " 14.3.84
" " 3477 W " 4.12.83.
" " 1982 W " 16.7.83.
" " 1804 W " 26.6.83.
No. ~~406~~ 460 C " 21.2.83
G.O. " 1082 W " 1.5.82
" " 737 W " 21.3.82
" " 2226 W " 8.9.81.
" " 1987 W " 12.7.81
" " 1883 W " 1.7.81.
" " 4321 W " 11.12.78.
" " 3682 W " 19.8.78.
" " 3217 W. 12.9.78.
" " 2341 W. " 31.5.78
" " 2037 W " 3.5.78
" " 624 W " 22.8.77
916 " 17.3.77
" " 2967 " 19.9.68
" 3217 W " 12.8.78
2341 W " 31.5.78
2037 W " 3.5.78
624 W " 22.8.77
916 W " 17.3.77
2967 " 19.9.68.
1775 12.7.76.

G.O. No. 363 dt 14.2.74 3055 – 4.12.71
Do 1757. " 24.7.72 1507. 12.6.71
1449. " 12.7.72. 1105. 20.4.71
1125. " 2.5.72 2523. 25.10.70

P. W. D. 6TH CIRCLE. Ser 6722

3531/85

27 NOV 1885 FOR IRRIGATION

From

The Superintending Engineer,

6th Circle.

R 45 Ind
60

To

The Chief Engineer
P. W. D

No. 567 I.I.

Dated 11th } July 1885
Received 13 }

Enclosure.

No. 1282 C dt. 25th July 1885

Completion Reports of important works suitable for separate publication as selections.

Reports that have not been submitted.

Compiled

Ed

No. 1870

SUPERINTENDING ENGINEER'S OFFICE,
5TH CIRCLE, MADRAS,
Chepauk, 31st July 1885.

16
1280

From

THE SUPERINTENDING ENGINEER,
5TH CIRCLE,

To

THE Chief Engineer
D.P.W.

Enclosures.

SIR,

With reference to G.O. No. 643 W dated the 16th March 1885, I have the honor to report, that the Executive Engineer, Presidency Division proposes, if it is approved, to send plans &c of one of the Coast Batteries at Madras.

The Executive Engineer North Arcot considers the works of importance in his Division, to be, the Palar, Poiney and Cheyaur Anicut Projects. He mentions that a History of the Palar Project was sent × to the Superintending Engineer of the 4th Circle in November 1881, and it was reported at the

× to the Chief Engineer for Irrigation on the 30th November 1881. No. 242.

same

same time that a history of the other projects could not be furnished.

The Executive Engineer South Arcot does not think any histories of projects can be furnished beyond the account of the Pelandorai Anicut project published in G. O. No. 474 I. dated 10th May 1884.

The Executive Engineer Chingleput considers it would be desirable to have a history of the Chembrambaukum tank project, but there are not materials available. A history of the Red Hills Tank Project, has been printed has been printed with G.O. No. 808 I. dated 2 August 1882.

I have the honor to be
Sir
Your most Obedient Servant
Chw Prendergast Coll. R.E.
Superintending Engineer
5th Circle

17
1280

From

The Superintending Engineer,

5th Circle,

To

The Chief Engineer

P. W. Department.

Dated 31st July 1885.
Recd.

Enclosures.

No. 1870.

Histories of Projects.

Reports the names of the several works, of which histories might be kept.

Complete

No 141

Palghaut Division office
Palghaut 9th February 1878

18/1280

From,

The Assistant Engineer, D. P. W.
Palghaut.

To,

The District Engineer,
Malabar,
Calicut.

Sir,

In forwarding the enclosed estimate Rupees 53 for repairing the Government Cabin boat at Cochin. I have the honor to inform you that last year and in previous years it had been repaired with funds specially sanctioned by Government, but as there is a large unspent Balance Rs 248-5-9 on this years allotment Rs 485 for maintenance of Cruz Milagre Dam, it might be debited to that work.

I

I take this opportunity of requesting you will be pleased to inform me if there is any likelihood of the works "strengthening and Cruising Bund at Cruz Milagre Dam" as suggested by Chief Engineer in his No. 3593 dated 29th October 1877 being done soon; if not the remaining balance (deducting cost of boat repairs) will have to be spent at once for strengthening surplus channel & making a dam across its mouth to keep out the tides and allow the surplus to flow off without deepening the channel.

I have &c.
(Signed) J. Grimes
Assistant Engineer
D. P. W.

(True Copy)
(Signed) Ross Thompson Col R.E.
Exe: Engineer,
West Coast Division

(True Copy)

Ross Thompson

Offg: Superintending Engineer
4th Circle.

20/1280

To,

The District Engineer,

Sir,

With reference to G. O. No. dated I have the honor to forward herewith the enclosed papers (the plan to be obligingly returned with your remarks).

The rate in the estimate Rs 1-4-0 & Rs 1-0-0 is insufficient, if the work has to be done as per sanctioned plan and estimate and Specification, 6795 cft of gunny bags filled with earth and sand has to be laid down in embankment, I knew by actual measurement that the largest gunny bag only holds about 4½ cft. These bags alone will give 1510 at Rs 25 per 100 = Rs 337-8-0 + Rs 141-9-0; for sewing and filling and depositing at 1½ annas per bag = Rs 479-1-0 - Rs100 Value of Bags in Store = Rs 379-1-0. The estimate only allows Rupees 304.

I think the proposed channel is dangerously close to the sand bag groins and returns. I know that the height of the Stone given A is nearly the same as the sand bag dam, therefore the lagoon water can never be driven over it and I doubt if there is room enough for it to go through. I think the better place for the surplus channel would be as shewn by the blue pencil lines, where the water would surplus over the long stone revetment C and which is much lower than A. If we try to drive the lagoon water through the groin A I fear the water will (not being able to get through fast enough) burst the South bund and break through at return B which is much lower than the Stone groin A. If there is any danger I would recommend that the surplus water be turned over the stone revetment C as shown per dotted red pencil lines (as an alternative plan)

The sea beach may break and this channel may not be required at all, but I think, there is no harm in telling you what I know to the best of my belief to be for the safety of the works.

I shall go to Cochin about the 24th Instant so that I shall be on the spot at the most dangerous time and ready to act as you may deem proper to order or as necessity may dictate.

(Initialled,) J. G.

True Copy,

Rob Thompson

Offg. Supg: Engineer,
Fourth Circle.

5
3396/85

No. 474.

Executive Engineer's Office
West Coast Division
Calicut 31st August /85

22
128

From,
The Executive Engineer
West Coast Division

To,
The Superintending Engineer
Fourth Circle

Sir,

With reference to your No. 429 W.C of 19th August 1885 I have the honor to inform you that the proposal of Colonel Farewell to close the Cruz Milagre Gap by a series of sand bag groynes is contained in his letter to the Secretary to the Government No. 45, dated 8th June 1872 printed with G.O. No. 1757 of 24th July 1872 P.W. Department. Vide also his Reports Nos. 246 of 24th February 1872 and 107 A of 12th July 1873 recorded in the Proceedings of Government P.W. Department Nos. 1125 of 2d May 1872 and

These Proceedings are in bound files of Govt orders which will be sent if ordered.

and 2138 of 27th August 1873 respectively.

2 Copy of Mr Harris's report of 15th June 1874, No 79 is not forthcoming among the records of this office, but the original will probably be found in the Chief Engineer's Office, it was forwarded with the Malabar District Engineer, Mr Harrington's letter to the Chief Engineer No 59 of 17th June 1874. A further report was submitted by Mr Harrington in his letter No 75 of 8th July 1874.

3. No other reports or plans prior to 1874 are forthcoming in the office.

I have &c

(Signed) S. Subroyachariar
Offg: Executive Engineer

(True copy)

Rm Thompson Colonel RE
Offg Superintending Engineer
4 Circle

Conf. 1/385/85
1280

CHIEF ENGINEER
27 NOV
85
IRRIGATION

P.W. Do. 7/4
8396/885
35 .../86

N 45 ...
5

No. 385
C.W.

Supg. Engineer's Office, 4th Circle,
Camp Calicut, 21st Septr. 1885.
Despd. 25th -do-

24
1280

From

The Offg: Supg. Engineer,
Fourth Circle.

To

The Chief Engineer,
P. W. Department.

Sir

With reference to your Memorandum No. 1282C of 25th July 1885, I have the honor to forward for your information, copy of a report from the Executive Engineer, West Coast Dn., No. 474, dated 31st August 1885, with 5 enclosures, and to state that no other Plans and information are available in this Office, except those contained in the above report in connection with the Cruz Mileagre Dam.

Enclosures
1. Copy of letter.
3. Plans 3
2. Old Correspondence
6

Wrk No. 7277
Rg 14-9-85
28th

I

I have the honor to be,
Sir,
Your most Obedt. servant.

R. W. Thomasson Col: R.E.,
Offg. Supdg. Engineer, 4th Circle.

A.G.

P.W.D. No. 839 I
35/p/86

(4)

From

The Offg. Supdg. Engineer
Fourth Circle
R.45 Im.
2

Dated 21st
Desp'd 25th } September 1885.
Recd. 26th

No. 385.
I.W.

Enclosures. 6. (3 plans)

Cruz Milagre Dam.

States that, no other plans and information are available in this office except those contained in the report herewith forwarded, from the Ex. Engineer West Coast Dn. in connection with the —

W.S. 1479.

No. 304 G.L.
2t
I 280

FROM,

THE SUPERINTENDING ENGINEER
FIRST CIRCLE.

TO,

THE CHIEF ENGINEER
PUBLIC WORKS DEPARTMENT.

DOWLAISHWARAM, 14th Novr. 1885.

SIR,

With reference to para 3 of G.O. No. 643 W, dated 16th March 1885, calling for completion reports of important works, I have the honor to state that the only important works in this Circle are the Godavari Delta System of irrigation and Navigation and the Potinghy Ghât road in the Vizagapatam District.

2 A narrative of the former which has already been submitted by Colonel J. Mullins late Chief Engineer for irrigation was printed with G.O. No. 28 I of 11th January 1881 and a completion report for

for the latter will be submitted
as soon as the work is Completed.

I have the honor to be
Sir
Your Most Obedt. Servt.

Asst. Engr.
for Supdg. Engr. 1st Circle

27/1280

FROM,

THE SUPERINTENDING ENGINEER
FIRST CIRCLE.

TO,

THE CHIEF ENGINEER
PUBLIC WORKS DEPARTMENT.

DATED 14th
DESPATCHED [illegible] November 1885
RECEIVED

No. 304 G.C.

ENCLOSURES. nil

Completion Reports of Important works Considered adaptable for Separate publication as Selections

Reports regarding the —

With other letters.

10045 — 27122
26-11-85

No. 330 G.C.

28/1280

FROM,

THE SUPERINTENDING ENGINEER
FIRST CIRCLE.

TO,

THE CHIEF ENGINEER
P. W. Department
FOR IRRIGATION.

DOWLAISHWARAM, 27th November 1885.

Desp. 27th Nov/85

SIR,

With reference to your memo No. 1844 C dated 13th November/85, I have the honor to inform you that para 3 of G.O. No. 643 W dated 16th March 1885, about Completion Reports of Important works has been replied to in my letter No. 304 G.C. dated 11th November 1885.

2. The G.O. was received in this Office on the 30th March 1885, and was communicated to Divisional Officers on the 5th April/85, whose replies have been received in my Office by the 10th August/85; but the information as to what Completion Reports have been previously submitted was not immediately available and

Consequently the submission of a reply to the above L/O has been delayed until 11th November 1885.

3 With reference to your remarks regarding the ignoring of reminders from the Central Office, I would respectfully submit that altho my Office is not altogether such as I should wish in the punctual despatch of business yet I am not aware that any orders or reminders have been deliberately ignored. The instructions contained in the last para of your Memo under reply will be strictly attended to in future.

I have the honor to be
Sir
Your Most obedt Servt.

[illegible] Asst. Engr.
for Supdg. Engr. 1st Circle

Let me see the papers here alluded to
[illegible]
14.1.86 [illegible]
5-1-[illegible]

R.E. - 86

E° 2052 C 1/14th Decr/85

Recorded
Receipt
3.12.85

FROM,

THE SUPERINTENDING ENGINEER

FIRST CIRCLE.

TO,

THE CHIEF ENGINEER

~~FOR IRRIGATION.~~

P.W. Department

DATED 27th }
DESPATCHED 27th } November 1885
RECEIVED

No. 330 G.L

ENCLOSURES. nil

E° 2052 [illegible]

Completion Reports of important works considered adaptable for separate publication as selections.

Reports that the reply about the — was submitted on the 11th Novr 1885.

Ak 29 I of 11-1-81
" " 604 I of 2-8-82
" " 475 I of 10-6-84
" " 644 W 16-8-85
S.Ac 833 W 16-3-85
S.Ac 644 W 16-8-85
Ac 1282 C 25-7-85
Ac 2712 D 26-11-85
" 2524 W 26-10-85
" 1844 C 13-11-85

Write disposal

Ki 7/12/12

P.W. Dept
Chepak 26th Novr/85

No. 2712 D

30/1780

From the S. E. IV. C. 187. E.W. d 11/5/85.
— " — III. C 339. d 15/5/85.
— " — I. M.S. 1512 - d 29/6/85.
— " — C.A. 502 - d 1/7/85.
— " — VI. C. 567. I. J. d 11/7/85.
— " — V. C. 1870. d 31/7/85.
— " — IV. C. 385. E.W. d 21/9/85.
— " — I. C. 304. G. L. d 14/11/85.

Forwarded to E. I. for favor of remarks.

25.11.85
E.W.

R. I. Form No. 34-F.

Keep-with.

No. dated 188

31/1280.

GOVT. OF MADRAS } 1886. { P. W. DEPT.

CHIEF ENGINEER FOR IRRIGATION.

Madras, 10 May 1886.

OFFICE NOTE.

No. 122

Encls 14/15

Circulation Register.

To	From	Despatch Date.	Receipt Date.
Dr.	22.		

Govt No. 2712 D – 26 Nov. 1885.

G. I. writes that he thinks it very desirable that we should have complete histories of all the important systems of irrigation, accompanied by an atlas similar to that which has been prepared for the "Ganges Canal"

Steps are being taken to collect the plans &c

G.O. No 837 W. 30.3.86.
No 2712 D. 26 — 11.85
" 2652 C. 4. 12.85
" 1844 C. 13. 11. 85
B. No 2574 W. 26. 10. 85
G.O. No 644 W. 16. 3. 85
B. No 633 W 16. 3. 85
G.O. No 475 I. 11. 5. 84
" " 604 I. 2. 8. 82
" " 29 I. 11. 1. 81.

S.W.C. No 3532

of the Godavery works in this office and others not available will be obtained from the S.E. It will then be necessary to estimate the cost of printing & lithographing. Recd 11/5

The E.I. is doubtful about funds at present and he would only undertake one history at a time as we certainly cannot get a special office for the purpose —

10/5/86

PW Depts

No. 2712 D d/ 26th November/85

From the S.E. IV C — 187 E.W. d/ 11/5/85 — 32/1280
" III C — 339 — d/ 15/5/85 —
" T.M.S — 1512 — d/ 29/6/85 —
" C.A — 502 d/ 1/7/85
" VI C — 567 T.J. — d/ 11/7/85 —
" V C — 1870 d/ 31/7/85 —
" IV C — 385 E.W. d/ 21/9/85 —
" I C — 304 G.L. d/ 14/11/85 —

C No. 4219
" 4454
" 5724
" 5789
" 6122
" 6753
" 8396
" 10045

(Reports regarding the Completion reports of important works considered adaptable for separate publication as selections) —

Forwarded to E.I. for favor of remarks —

E.W.

No 1844 C d/ 13-11-85
GO. B 2524 W d/ 16-10-85
No 1282 C d/ 25-7-85
GO. A 644 W d/ 16-3-85
" 7/633 W d/ do
" A 475 I d/ 10-5-84
" 604 I d/ 2-8-82
" 299 d/ 11-1-81

No 2912 D d/ 26-11

C/

P. W. Department

Memorandum.

33/1288

In para 3 of GO No 643 W dated 6th March 1885, Suptg Engineers were invited to send in completion reports of important works which they might consider adapted for separate publication as selections.

2. Copy of the order was despatched to the Suptg Engineer I Circle

on the 25th March 1885.
No reply having been
received, a reminder was
despatched on the 25th
June and ~~as it~~ that did not
elicit a reply, a second
reminder was despatched
on the 9th October 1885,
with ~~a similar further~~ like
result.

3. The Chief Engineer
~~must~~ requests that the
Supdg Engineer I Circle
will submit ~~a very~~ an early
reply to the GO quoted,
and ~~#~~ explain why the
reminders issued from

this office are ~~systematically~~ frequently
ignored in his Circle.
~~This is not the first
case of the kind by
many that has occurred
in the I Circle.~~

4. If, on receipt
of a reminder, the
information called for
is not immediately
available, ~~it would seem
desirable, that~~ a brief
~~memorandum~~ statement to that
effect should be submitted.

~~In the case in point
however the Chief
Engineer is at a loss~~

to account for the
long delay that has
occurred.

10/11/85

EW

S.E. I Circle

FB.

DW

P. W. Dept

Rº 1844 Cap 13th Nov/85

Memorandum.

35/1280.

C Rº 6753
5789
5724
4219
& 4454

In para 3 of G.O. No. 643 W dated 6th March 1885, Supdg Engineers were invited to send in completion reports of important works which they might consider adapted for separate publication as selections.

2. Copy of the order was despatched to the Supdg Engineer I Circle on the 25th March 1885

No reply having been received, a reminder was despatched on the 25th June; and as that did not elicit a reply, a second reminder was despatched on the 9th October 1885 with a like result.

3 The Chief Engineer requests that the Supdg Engineer I Circle will submit an early reply to the G.O. quoted, and explain why the reminders issued from this office

are frequently ignored in his Circle.

4 If, on receipt of a reminder the information called for is not immediately available, a brief statement to that effect should be submitted.

11-11-85
EW

S.E. I Circle

Despd. 14-11-85.

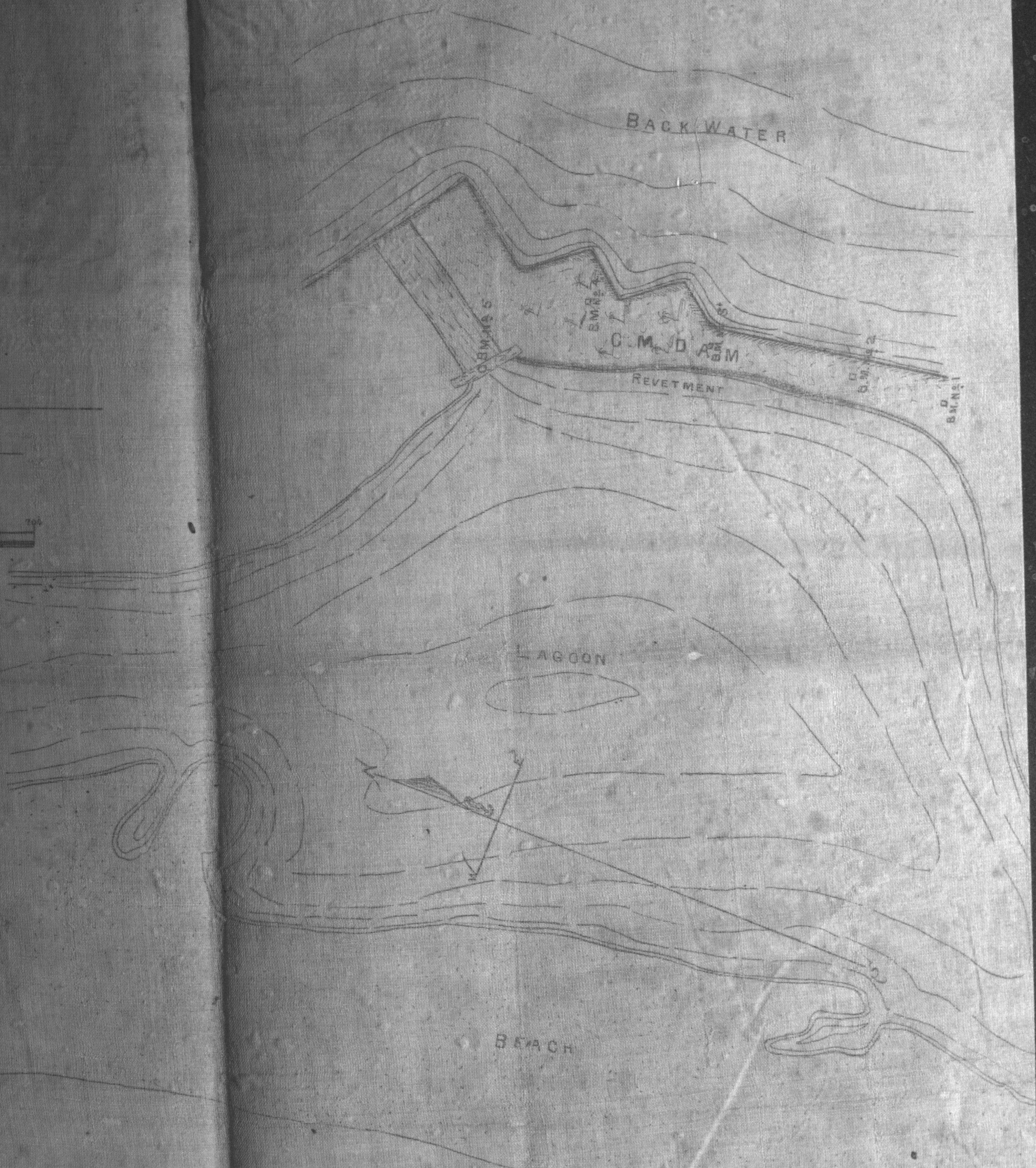
Ue. 9524 Wa/26-10-85
„ 644 Wa/16-3-85
„ 633 Wa/16-8-85
„ 4577 Ja/10-5-82
„ 604 Ja/2-8-82

„ 1844 Ca/13-11-85

SURVEY
OF THE
CRUIZ MILAGRY DAM
AT COCHIN
TAKEN IN MAY 1883

SCALE = $\frac{1}{2000}$

100 50 0 100 200 300 400 500 600 700



EXECUTIVE ENGINEER

5.10.8

ENGINEER'S
10346
9 NOV 23
CIRCLE

13166
DEC

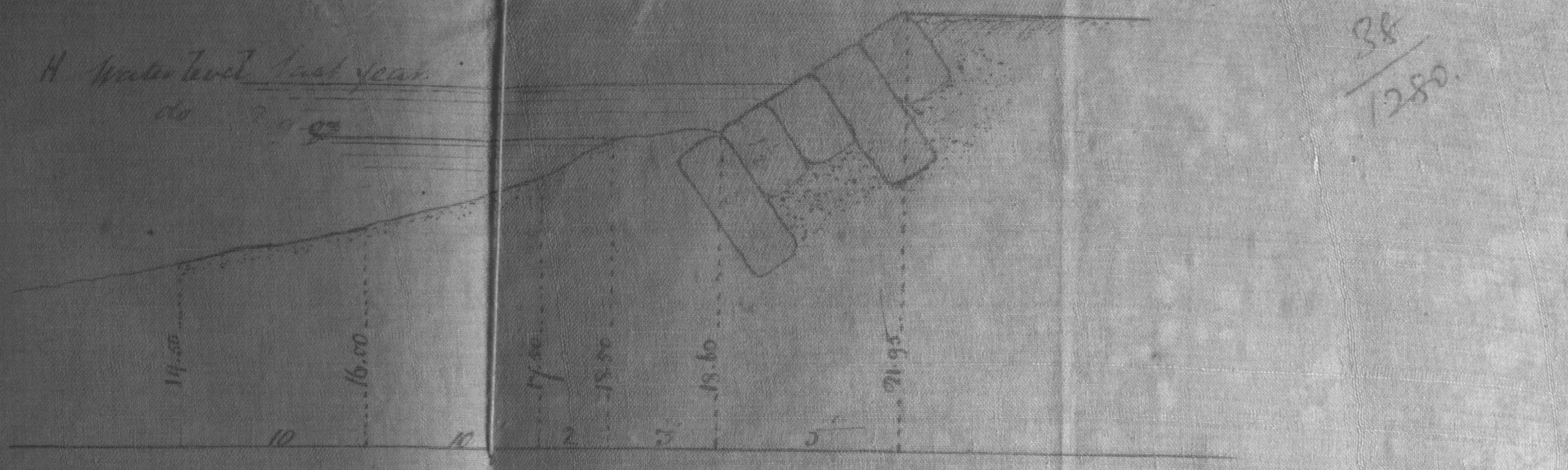
58246

R 45 Ser
3532

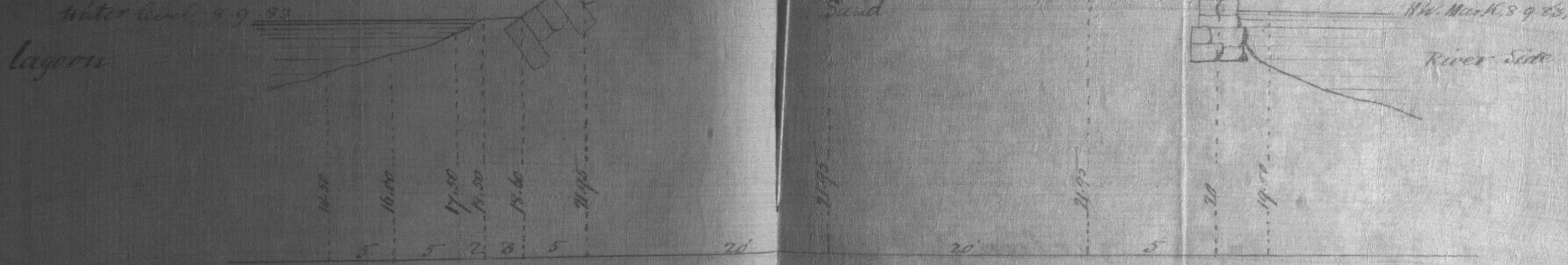
38/1280.

Section of the Cruz Milagre dam.

Enlarged Section



Scale 1/50



Scale 1/100

yellow indicates new work

J. P. Davidson
Executive Engineer
S. 10. D.

John Nicholson
Sub Dist Offr
15/9/83

C. Beatty. Colonel R.E.
Supg Engineer 4th Circle

In a report from the Executive Engineer Coimbatore Dn No 1474 dated 6th Novr/83

582 Wc

~~8~~ / 1/5

5 OCT 1883
P.W.D.
COIMBATORE

SUPDG ENGINEER'S OFFICE
1034 C
9 NOV 83
P.W.D.
FOURTH CIRCLE

Section of Anuz Mela-gre dam Cochin

EXECUTIVE ENGINEER'S OFFICE
8 AUG 1884
P.W.D.
COIMBATORE

En: to No $\frac{4441}{14/8/85}$

No. 1280 W.

General Establt
39
1280

P. W. Department

Proceedings of the Madras Government

Under date the
21st May 1886
Read the following:—

From the S. E. IV Circle No. No $\frac{187}{E/4}$ d/ 11 May/85
" " S. E. III " " 339 d/ 15 May/85
" " S. E. Tank Maintenance Scheme " 1512 I d/ 29 June/85
" " Consg: Archt: to Govt: " " 502 d/ 1st July/85
" " S. E. VI Circle " " 567 I d/ 11 July/85
Memo. to S. E. IV Circle " " 1282 C d/ 25 July/85
From the S. E. I Circle " " 1870 d/ 31 July/85
" " S. E. IV Circle " " $\frac{385}{E/4}$ d/ 21 Septr:/85
" " S. E. II Circle " " 245 G L d/ 17 Octr/85
" " S. E. I Circle " " 304 G L d/ 14 Novr./85
Note by C. E. for I. " " 122 G 10. 5. 86.

See para 3 of G. O.

No 643 W d/ 16 March/85

officers of the P. W. Department were invited to submit completion reports of important works which they considered adapted for separate publication as selections.

2. Replies as recorded above have been received. The Supdt. of Works in charge II Circle, addressed Government on the subject on the 31st March last, and his letter is under

disposal in the office of the Chief Engineer for Irrigation.

3. The Supdt. Engr. II Circle, the Supdt. Engr. Tank Maintenance Scheme, and the Consulting Architect, state that they can furnish no completion reports of the nature required, while the Supdt. Engineer III Circle reports, ~~that~~ in his letter of the 15th May 185 that no sufficiently important

works were completed in his circle "this year". It was not the intention of Government that only works recently finished should be reported on. The attention of the Suptg. Engineer III Circle will be directed to the concluding clause of para 3 of G.O. No. 643.W., of 16 March/83, and if any of the officers to whom that order was communicated

have omitted to mention important works for which completion reports have already been submitted, they will be requested to do so on receipt of this order.

4. The Suptg. Engr. I Circle considers the Godavari Delta System of Irrigation and Navigation, and the Potinghi Ghat Road, sufficiently important works for the purpose

required. It is observed that a narrative of the former was printed with G.O. No. 28 I of 11 January 1881. A completion report of the latter work will be awaited.

5. The Supdg. Engr. II Circle will be informed that the Post and Telegraph office at Ootacamund is not considered of sufficient importance for the purpose.

43/1280

6. The Supdg. Engr. V Circle mentions the following works:—

(a) Coast Batteries
(b) Palar anicut Project
(c) Poiney — do —
(d) Cheyaur — do —
(e) Palandorai — do —
(f) Chembarambaukum Tank
(g) Red Hills Tank Project

Of these, short histories of (b), (c), and (g), have already been written. The ~~former~~ first is reported to have been submitted to the Chief Engineers

Dam has been prepared and recorded in G.O. No. 857 W. of 30/3/86.

8. Steps are being taken by the C.E. for Irrigation for the preparation of histories of all the important systems of irrigation. As remarked by the C.E. it will be possible to undertake only one history at a time, as in view of the existing financial pressure no extra office establishment can be sanctioned for the purpose.

11/5/86

(2)

3532
10045/85
8396/85
6753/85
6122/85
5789/85
5724/85
4656/85
4219/85

Before orders are passed on these letters, they should go to E.I. for favour of remarks

25.11.85

SAW

1280 W

DW

E.I's reply recd. Please see draft order with pencil additions.

21.4.86

DW

W

4 / 1280

Suptg. Engineer will be requested to submit the necessary report, drawings, &c, in connection therewith.

7. It is observed that a short history of the Cruz Milagre Dam has been prepared and recorded in G.O. No. 857 W of 30th March /86.

8. Steps are being taken by the Chief Engineer for Irrigation for the preparation of histories of all the important systems of irrigation in the Presidency. As remarked by the Chief Engineer, it will be possible to undertake

95
1280

only one history at a time, as in view of the existing financial pressure no extra office establishment can be sanctioned for the purpose.

19/5/86

17.5.86

Despd
28/5/86

Supdg: Engineers
Supdt: of Works. T.M. scheme
Consg: Archt: to Govt:
Chief Engr: for Irrgn:

B
21/5

GB
1280

Govt. of 1886 Madras.

PUBLIC WORKS.

24/5/86

Dated

Recd.

G.O., 21st May 1886, No. 1280

Publication of Selec
from Completion rep

orders on replies from
Officers of the Dept to
the call ~~for~~
for Completion report
important works an
them to be adopt
Separate publica
Selections.

180/12