O/9. 3,000—17-12-98.

Revenue (1899) Department.

MISCELLANEOUS SERIES.

G.O., No. 414

DATED 27th January.

[Despatch Abstract.]

Approving the proposals of the Supdt. Madras Survey for the posting of Mr Mac Hutchin on return from leave —

BACK PAPERS.

G.O.	No	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.
		C No.	1606/99	Go 4592 15-3-99			
		Ro No. 334 - 335 ~~Re~~ Pol		dt 25-5-99			
		C No. 3596 of 99					
		C No. 3667/99					

Revenue (1899) Department.

CURRENT No. 592

Df & keep file intact
27/1/99

From The Superintendent
Madras Survey

Order Misc No. 414 27th Jany 1899.

The Supt's proposals
re approved.

Dr
1.99

Me
26.1.99

No. 13
G

Dated 23 January
Received 24 — do —
Registered 24 — do —
Enclosures
Spare copies

e Supt Madras Survey
he Secy Genl } Despd 27.1.99.
To Political Dept
with Pol. c. no. 1389. — Despd 15.2.99.

SUBJECT.

Postings of Mr. MacHutchin
Assistant Superintendent
Madras Survey —

Submitting for approval
proposed arrangements to

BACK PAPERS.

G.O.	No.	Department.	Date.
Lp	172	Rev	10-1-99

FURTHER PAPERS.

G.O.	No.	Department.	Date.

(C. O. Form No. 13-A 2.)

SURVEY OFFICE, MADRAS,
23 January 1899.

No. 13/G

From

H. O'C. Cardozo, Esq., C.I.E.,
Superintendent, Madras Survey,

To

The Secretary to Government,
Revenue Department.

REFERENCE. G.O. No. 172 Mis dated 10 January 99 Communicating Order of the Secretary of State permitting Mr Mac Hutchin, Assistant Superintendent Madras Survey, to return to duty within the period of his leave –

Sir,

I have the honour to report that Mr Mac Hutchin's leave will expire on 4 March 1899 –

Followin

arrangement is Submitted for approval –
On return to duty, Mr. Mac Hutchin will be placed on Special duty for inspection of the Pudukkottai Survey – This will take at least 10 days – Mr. Mac Hutchin Can then resume Charge of No. IV Survey Division (Tinnevelly, Madura, Trichinopoly and Tanjore Districts) from Mr. Narayana Aiyar –

2. Mr. Narayana Aiyar has applied for 2 months' privilege leave from date of relief by Mr. Mac Hutchin – On return to duty, Mr. Narayana Aiyar will be available for Charge of the proposed Survey of the Sivaganga Zemindari regarding which I Venture to recommend that orders may be expedited

This is with the Bd. Send an urgent reminder
18/11

I have the honour to be
Sir
Your Most Obedient Servant
W Cardozo
Superinten t

No. 166.
Revenue Dept.

Despatched
29.11.98.

Dp and please return file to me
29.11.98

My dear Cardozo,
The Political Agent for Pudukota states that the Durbar is anxious to have your opinion after inspection as regards the quality and outturn of the survey work done under Mr. McMahon. Kindly let me know ~~how long the work is likely to last~~ ~~and~~ whether it would be convenient for you to do this. I don't suppose it would take ~~undertake the work~~ inspection long or seriously interfere with your work ~~& how long it is likely to take. If your business~~.

If you could not go perhaps you might be able to suggest the name of one of your Dy Supts.

28/11/98.

29.11.98

Fort St. George
29th Novr. 1898

$\frac{O}{18}$ 4 [illegible] 8-10-98.

Revenue (1898) Department.

D.O. **CURRENT No.** 197

To Under Secy

For orders as to whether the papers may lie over until receipt of a further communication from Mr Cardozo.

KR
8-12-98

From

H. O'C. Cardozo Esq,
Supt., Madras Survey.

No.

Dated 1st Dec: 1898
Received } 2nd " "
Registered }
Enclosures –
Spare copies.

Secy

~~**Order**~~ This may go to Political to see with ref. to the notes below.

[illegible]
9/12/98

Yes [illegible]

Pol Dept no

CHIEF SECRETARIAT, 13 DEC. 1898 MADRAS.

CS

Subt. that the file may be returned to Revenue ~~Dept~~
~~[illegible]~~

Cur. S.
16.12.98

To Rev. Dept. u.o. 2878
d/17-12-98.

17-12-98.

K. Iowla noted
Cur. 16/12/98.

SUBJECT.

Stating that he is now on his way from Calicut to Trichinopoly and that he will see Mr. Shipley about the Pudukota Survey.

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

MADRAS REVENUE SURVEY
Camp

Podanur
1 Dec 98

My dear Forbes

In reply to your D.O. of November 29 – I am now on my way from Calicut to Trichinopoly I will see Shipley about the Pudukota Survey – & will write again after I have seen him.

Yrs truly

$\frac{O}{18}$ 4,000—18-10-98.

Revenue (1899) Department.

D. O. CURRENT No. 6.

From H. O. C. Cordozo
The Supdt. Madras Survey.

Order

No.

Dated 5-1-99

Received 6-1-99

Registered 7-1-99

Enclosures ~~two~~.

Spare copies.

SUBJECT.

Forwarding a note of his inspection in connection with the Pudukkottai Survey and offering certain suggestions in connection therewith.

Ord [illegible]

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

CENTRAL ~~SURVEY~~ OFFICE.
MOUNT ROAD,
MADRAS.

5 January 1899.

My dear Forbes

In continuation of my D.O. dated 1st December 1898, regarding Pudukkottai Survey.

I saw the Collector at Trichinopoly and afterwards went to Pudukkottai where I spent two days.

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

To thoroughly inspect the Survey Party and send in a detailed report on the state of the work, outturn, accuracy, Cost &c. would take at least a week or ten days and I would recommend that an Officer should be sent to make such an inspection.

I enclose a brief note of my inspection copy of which has been sent to the Collector of Trichinopoly.

Yours sincerely

W Pardo

Note on Pudukkottai Survey
by the Supt. Madras Survey

1. The Office appears to be in very fair order. I confined my inspection to a careful examination of the finished records of 50 villages in the Alangudi Taluk and to enquiry into the real reason for the recent falling off in outturn.

2. The records prepared for each village are:—

1. The 16 inch village map shewing the field boundaries, topographical details and the chain triangulation upon which the accuracy of the map depends.

2. The Field measurement book or Atlas of Field maps, scale 1 inch = 1 chain, or 2 chains, according to area, shewing field and subdivision boundaries and all measurements

himself. 20 days monthly should be spent in the field, ten days with each Section. He should carefully test the accuracy of the work, comparing the maps with the demarcation on the ground and remeasuring as many chain lines as possible, to satisfy himself that the survey is correct.

4. There has been unnecessary expenditure on Theodolite work. There is already a Theodolite traverse for the State boundary. No more Theodolite traverse lines are really required except for Metalled roads. No Theodolite work is required for the village maps as explained in the enclosed printed Memoranda on the Survey of Zemindaries, Survey Miscellaneous orders Nos. 43 and 85. I would recommend that these orders should be strictly carried out in future.

Survey Office
6 January 99

Superintendent
Madras Survey

1899
REVENUE DEPT.
Encl. No. 1
D-a. Curr. No. 6

MISCELL. No. 43.

INSTRUCTIONS FOR THEODOLITE WORK IN ZEMINDARIS.

1. The object of the Theodolite survey is to provide a sufficient number of accurately fixed points for a geographical map on a scale of 1 Inch = 1 Mile or smaller.

2. As a rule, the outer boundaries of all zemindari's have already been traversed with Theodolite. The only additional Theodolite work necessary is a traverse survey of all the railways and metalled roads that pass through the zemindari.

3. The traverses should start from and close on existing Theodolite stations.

4. The traverse stations should be as far apart as convenient, about 5 chains as a rule, and must be at the side of the road or railway, not in the middle. In towns, the stations should be buried flush with the ground so as not to interfere with traffic.

5. To facilitate measurement in the case of roads, the chain lines should generally run along the road diagonally. Thus, if station No. 2 is on the right side of the road, stations 1 and 3 will be on the left side of the road. In the case of railways, the chain lines should run on one side only of the railway.

6. Every angle (both interior and exterior) must be observed twice and both readings must be recorded in the Field Book.

7. At intervals of 40 or 50 stations, the azimuth of one line should be observed at each end of the line.

8. The Surveyor will have two chains, one containing 100 links and the other 93 links. The measurements by both these chains should be separately recorded, the larger number being, of course, the measurement with the shorter chain.

9. The Traverse Surveyor should note carefully the points at which the traverse crosses village boundaries, rivers, streams and cart-tracks. In the case of rivers and streams, it should be stated in the Field Book whether they are bridged or not.

10. The position of all mile stones should be fixed by offsets.

11. Important buildings such as temples within offset distance from the chain line should be fixed with offsets. When such buildings and temples are not within offset distance but are visible from the traverse stations, they should be fixed by intersection with the Theodolite from at least three stations.

12. The minimum outturn of a Theodolite Surveyor should be 40 linear miles a month.

H. O'C. CARDOZO,
Superintendent, Madras Survey.

2nd May 1895.

Miscell: No. 85.

Cadastral Survey of Zemindari Villages.

1. At each village trijunction, a stone should be fixed 30 inches by 9 inches by 9 inches with a triangle on the top.

2. The village should then be divided into triangles as large and equilateral as possible by fixing about 40 chains apart, where convenient, other and smaller stones, size 2½ feet by 8 inches by 8 inches, with a cross on the top.

3. If possible, these stones should be at points of junction of three or more properties. If this is not possible, they should be between 2 properties. If near the village boundary, they should, if possible, be on the boundary itself.

4. These triangles form the skeleton of the village map, 16 inch scale. The triangles should be plotted on the 16 inch scale on sheets of sectional paper as explained in the printed instructions.—Miscellaneous No. 4 (Revised) Section 74.

5. The village should be divided into survey fields formed by clubbing not more than 10 putta holdings of the same description of soil and tenure up to a limit of 4 acres in wet and 8 acres in dry.

6. No survey field will contain more than 10 sub-divisions.

7. At each point of junction of 3 or more such survey field boundaries, a stone not smaller than 2 feet by 6 inches by 6 inches should be fixed.

8. Each survey field should be divided into triangles by chaining lines from stone to stone. If it is not possible to chain directly from trijunction to trijunction, which should seldom be the case, additional stones may be fixed, but it is essential that there shall be a boundary stone at each field trijunction. Additional stones must be on field boundaries.

9. These triangles should be plotted in a field measurement book, each field on a separate page.

The scale will depend upon the area thus:—

Area.	Acres.
Up to 5 acres.	1 Inch = 1 Chain.
From 5 to 20 acres.	1 Inch = 2 Chains.
Over 20 acres.	1 Inch = 5 Chains.

10. The field measurement book, not the village map, should then be given to the Karnam who should remeasure the lines from stone to stone, take offsets to all important bends on the boundary of the survey field and of the included putta holdings and then plot his work in pencil in the field measurement book recording all measurements in pencil on the plot. No offsets longer than 2 chains should be allowed.

11. The area of each field and of the included putta holdings or sub-divisions should be taken by the Karnam with the area square.

12. The Karnam should also write up the register in pencil for each survey field and sub-division.

13. The plotting and some of the Karnam's measurements should be tested and the field measurement book should then be neatly inked in black.

14. At least 10 per cent of the lines measured by the Karnam must be remeasured by the Testing Surveyor. For each line so remeasured, the number of links as recorded by the Karnam and as recorded after remeasurement by the Testing Surveyor must be entered in the Inspection Report in parallel columns together with the difference. These remeasurements are the only check measurements that should be made by subordinates, *i.e.*, non-gazetted officers. Check lines measured across a block which require to be plotted before the result is known and which often only deface the original record should not be allowed. Gazetted officers can, of course, check work themselves in any way which appears advisable to them.

15. After testing, any corrections which are absolutely necessary should be neatly entered in the record by the Testing Surveyor. Care should be taken not to deface the original record by unsightly entries and scribbled remarks.

16. The area of each survey field should then be taken with the area square and compared with the area obtained by the Karnam.

17. The register prepared by the Karnam should also be examined and inked.

18. The plotting of the 16 inch village map should then be completed in blue ink. No entries in black ink should be made in the village map in the field. The village map should show the survey field boundaries and topographical items but not the sub-division boundaries which will be found in the field measurement book and would overcrowd the village map.

19. Important topographical details only need be shewn in the village map. These should generally be sketched, but the place at which the road crosses a field boundary should be fixed by measurements.

20. The 16 inch village map should be inked and typed in black by a Draftsman at head office for photo-reduction to 8 inch scale.

21. The following records should be prepared.

1. Village map, shewing survey fields only, not sub-divisions; scale 16 inches = 1 mile, drawn for photo-reduction to 8 inch scale.

   The skeleton of chain triangles should be recorded in blue ink on the village map.
2. Field measurement book shewing all sub-divisions.
3. Survey and Settlement Register.
4. Area lists (Rough and Fair.)

14 March 1898.

H. O'C. CARDOZO,
Superintendent, Madras Survey.

1899
Encl. No. 2
D.O. Corr. No. 6

1899
REVENUE DEPT.
Encl. No. 1
D.O. Corr. No. 6

Rec. 19-1-99

D-O no. 6

My dear Cardozo,

~~I am directed to acknowledge the receipt of~~ Your demi official of the 5th instant enclosing a note of inspection of the work done by the Pudukkottai survey Party :- I am directed to request that you will be good enough to depute an Officer of the Survey Dept. to make ~~a thorough~~ the required examination of the work and to report the result ~~[illegible]~~. Formal Orders will issue when the ~~present~~ inspection is over & Yours Sincerely.

the precise no. of days spent on the ~~work~~ duty is known

S.D.O. ~~[illegible]~~ and send papers to Political
19.1.99

.x. Please orders already issued in the Pol Dept. [illegible] No. 334-335 Pol dy 25-5-99.

Fort St. George,
18th January 1899.

$\frac{0}{18}$ 4,000—18-10-98.

Revenue (189) Department.

D.O. **CURRENT No.** 20

From

The Supdt. Madras Survey

Order

No.

Dated 22 - Jan 99
Received 24 - do
Registered 24 - do
Enclosures
Spare copies.

SUBJECT.

stating that no officer is at present, available for the inspection of PuduKKotai Surv and that Mr. MacHutchin can be sent, on his return, from leave, to make the said inspection.

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

CENTRAL SURVEY OFFICE,
MOUNT ROAD,
MADRAS.

22 Jan 99

GOVERNMENT OF MADRAS
20 JAN 99
REVENUE DEPARTMENT

My dear Forbes

In reply to your D.O. of 18th regarding inspection of Pudukotai Survey; no officer is available just at present, but when MacHutchin returns from leave – he is due 4 March 99 – he can be sent to

BACK PAPERS.

G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.

make the inspection before
resuming charge of his
Survey division - Trichinopoly
Tanjore - Madura & Tinnevelly -
I am writing officially abt
this - Yours sincerely

[G. / 20 A]
500—9-8-93.

Political DEPARTMENT.

C. No. 1389.

SUBJECT.

Proposal to depute Mr. Cardozo of the Madras Survey to inspect the work done by Mr. McMahon in the Survey of Pudukkottai State.

FOR ORDERS.

In 1893 the Pudukkottai Politi-
cal Agent submitted to Govt. two
I & II resp.— reports from the Diwan Regent of
that State (No. 15-O d/ 3rd Mch
& 29-O d/ 30th Mch) dealing
with proposals for a new Land
Reven[illegible] Settlement proposed to
be introduced into the Pudukk[illegible]t-
tai State. These were recorded in
B.— GO No 359 Pol d/ 7-6-93 in
which, also, the two reports above
referred to are printed in full.

2 In March 1894 the Pol Agent
further addressed Govt. on this sub-
Printed in GO No 240 Pol d/ 9-4-94. & flagged — C. ject to the effect that a ~~native~~ certain
Salt & Abkari Supt. was in charge
of the Survey work, that his ef-
ficiency for the conduct of the
Survey was in question & recom

mending, with the Diwan-Regent's concurrence, that Mr Cardozo of the Madras Survey — or one of the latter's subordinates — be deputed to test the work done & report on the capability of the existing staff to properly complete the Survey.

3 This recommendation was acted upon & the result reported in detail in correspondence printed in full with G.O. No 180 d/ 15th Mch /95. In this order Govt, having already urged on the Diwan the need for suspending the work pending more efficient supervision, & having approved of Mr Cardozo's proposal to transfer the services of Mr McMahon of the Survey Dept. to Pudukkottai State as Supt of the Survey directed that officer to report himself to the Political Agent @ Pudukkottai for duty.

the present Current the tical Agent submits a request from the Pudukkottai Darbar that Mr Cardozo be deputed to inspect & report professionally on the Quality & out-turn of Survey work done under Mr McMahon, Mr Cardozo having stated that he was unable to comply with the Darbar's wishes without Govt orders.

The Political Agent states that the deputation will last only for a very short time. —

Pol D

F.W.E. 4/11/98

P.S

The P. A does not state how long the inspection of Mr. Cardozo will ~~take~~ be likely to take, so that it is not clear whether it will be necessary to treat his deputation, if approved, as a temporary transfer to foreign service. Revenue may it is sub'd, be first consulted as to whether there is any objection to Mr. Cardozo's depn. That dept. will doubtless ascertain from him how long the work is likely to last.

Cnd 4.11.8 Rev. Dept. u.o.

No 2466 d/ 11-11

4/11/98.

Please see G.O No 334-335 Pol d/ 25-5-99

Ask him D.O.

15/11/98

Revenue Dept.

To Under Secy

Please see draft d.o. submitted below for approval.

KW
25-11-98

(10 days in the office!) Please explain

Ke
28-11-98

Secy

Please see draft for approval

Ke
28/11/98

Seen

SB 29/11/98

To Under Secy:

In D.O. No 166 of 29-11-98 Mr Cardozo was asked to report whether he could inspect the survey work done by Mr McMahon in Pudukkottai and if he could not so to suggest the name of one of his Dy Supts.

2. Mr Cardozo now reports that he spent two days in Pudukkottai ~~and~~ submits certain remarks on the work done by Mr McMahon — It is submitted that Mr Cardozo's remarks

99

remarks may be ~~communicated~~ transferred to the Political Dept ~~Pudukkottai Durbar for information~~.

2. Mr Cardozo ~~[illegible]~~ states that to thoroughly inspect the Survey Party and send in a detailed report on the state of the work, out-turn, accuracy cost &c it would take at least a week or ten days and recommends that an officer should be sent to make such an inspection.

[illegible]

Secy The Political Dept will no doubt let us know if a detailed inspection & the special deputation of an officer is thought necessary.

KW
7.1.99

Ke
9-1-99

There is no need to return to Pol. Dept. yet. Mr Cardozo has not been able to inspect the work as it should be, & he may be asked to depute an officer to make the exam^n he recommends

5-1-99

To Under Secy

Please see draft D.O. to Mr Cardozo submitted below

12.1.99

Secy

Please see draft D.O.

A formal G.O. transferring the officer deputed to foreign service can be issued subsequently if necessary. Pol Dept may be informed of what has been done

16.1.99

17/1/99

Issue D.O. Pol Dept U.O.

CHIEF SECRETARIAT
19 JAN. 1899

Returned with thanks.

No 186, d/20-1-99.
To
The Rev: Dept. U.O.

SECRETARIAT
20 JAN 99
REV. DEPT.

Yes when we know no. of days employed (about 10 to 14 probably)

* Formal orders issued in the Pol Dept. Please see G.O. No 334-335 Pol dt 25-5-99.

To Under Secy

In D.O. No 6 d/ 18th January 99 Mr Cardozo was asked to depute an officer to inspect the work done under Mr McMahon and he was at the same time informed * that formal orders will issue when inspection is over and the precise number of days spent on the duty is known. In his D.O. dated the 22nd instant Mr Cardozo reports that no officer is available at present and that Mr McHutchin may be put on the duty when he returns from leave on the 4th March next. In his letter No $\frac{13}{9}$ d/ 23.1.99. (C. No 592 in the linked file.) Mr Cardozo submits for the approval of Govt. formal proposals accordingly.

For orders as to whether the proposals may be approved

2 Please see draft on C. No 592.

25-1-99

Secy

26.1.99

Yes

26.1

To Under Secy:-

The ~~deputation~~ detailing of Mr McHutchin to inspect the Pudukkottai Survey has been sanctioned in G.O. 414 d 27 Jany 99

For orders as to whether the file may now go to the Political depth

[illegible]
6.2.99

Secy

The file may go to Political to see. Col may be asked to return such of the notes as it does not require for record in this Dept with G.O. 414 d 27 Jany 99.

6/2/99

Yes
7/2/9

Pol Dept uo

CHIEF SECRETARIAT.
7-FEB.1899
MADRAS.

Exmd.

No.
To

Depu
Please do so
[illegible]

[G./75]
500—12-1-99.

Political Department.

NOTE FOR THE CHIEF SECRETARY.

Revenue may be asked to communicate G.O. No. 414, dated 27th January 1899, to Political and to return with the copy of that G.O. Current No. 1389, Political. Political will then communicate the Revenue G.O. to the Political Agent, Pudukkottai, who will know what has been done and Political will have something on record. Political does not require any of the notes which, it is thought, had better be kept with the Revenue G.O.

D
E

Cmb
10.2.99

No 437, d/ 11-2-99.

To
The Rev. Dept. u.o

~~Please see draft endt. submitted below~~

8
13.2.99

Office

I have added the address; ~~& send C/p~~ now desp to Political with current No 1389 Pol. Stitch all these notes in proper order with the origin

al of G.O. 414

When given for copying ____
When copied ____
When examined ____
When signed ____
} 189

READ AGAIN G.O., No. , DATED 189 .							
CURRENT No.							
ENCLOSURES TO C. No.							
ORDER OF GOVERNMENT	A	A	A	A	A	A	A
LETTER OF GOVERNMENT							
STATEMENT WITH DITTO.							
PAPERS NOT FILED UP, BEING MEANT FOR DESPATCH IN ORIGINAL.							

N.B.—

A = Copy in full.
B = Not to be copied.
P = Copy abstract only.
Q = Copy heading only.