

(1) Number of pages 43

(2) Date of repair

(3) Initials of the Referencer

## MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 844

Press  
Mis.

(430-431)

Dated 18. 3

18/3

Not to be folded or roughly handled

Read the following papers:—

No. 430. From the Officiating District Engineer, South Arcot, to the Chief Engineer for Irrigation, dated Cuddalore, 6th February 1873, No. 42.

I HAVE the honour to re-submit the plans, estimates, and specifications connected with the project for cutting a channel from the Pooniar river for the supply of certain villages in the Cuddalore Taluq; these were returned with observations contained in your memorandum No. 10 of the 12th January 1870.

- 1 Survey with Sections.
- 4 Plans.
- 1 Estimate.
- 2 Specifications.
- 1 Revenue Statement.
- 1 Note.
- 1 Copy of Convention.

2. This project, as you have been informed by Colonel Foord, R.E., in No. 146 of 25th November 1869, has been under consideration since 1839, and the delay that has taken place in re-submitting these papers is due to the frequent changes of officers in the range, as also to a want of interest in the scheme exhibited by the French Authorities, owing to the fact, I believe, that they see very little prospect of any ulterior benefit to themselves from the work.

3. After a good deal of correspondence and delay, I was directed, as Range Officer, in the month of April last to meet the French Authorities on the spot and show them the line of channel decided upon for the second time by this department; at this meeting some slight alteration in the line of channel we had proposed was again suggested, and some additional masonry works; there being no particular objections to this proposal, I was finally able to revise my plans and estimates and submit them to the late Superintending Engineer, by whom they were sent to the Collector for his countersignature and approval; these have now been returned to me, and I do myself the honour to forward them on to you without loss of time, and trust the project will meet with your approval.

4. The channel is intended to supply direct irrigation to lands situated in Goondoo Ooppalavady and three other villages, in which are 219-10-8 cawnies, available for irrigation (171-2-1 cawnies of punjah into nunjah, and 48-8-7 cawnies of nunjah which has at present no source of irrigation, but depend on local rains).

5. The minimum depth of water in the channel is expected to be one foot. Considering how irregular the freshes in the Pooniar are as to their times, height, and duration, it is exceedingly difficult to state accurately how much water this channel will deliver, and the probability of the Ooppalavady lands being irrigated can only be ascertained from the results of similar channels in the Pooniar irrigating under the same conditions; this has been done and the following information has been obtained:—

|            |                 |                                            |
|------------|-----------------|--------------------------------------------|
| Marathadoo | ... 130 Cawnies | } Direct irrigation from<br>river Pooniar. |
| Nuttaputt  | ... 130 "       |                                            |
| Thottaputt | ... 64 "        |                                            |
| Kondoor    | ... 60 "        |                                            |

In the same way there are other channels from this river affording direct uninterrupted irrigation.

6. The Ooppalavady channel, with a depth of one foot water, should discharge 1,115 cubic yards per hour, or sufficient for 276 cawnies at 4 cubic yards per hour per cawny; and it is presumed that this supply will be available throughout the season of cultivation, as the river under the Pooniar bridge situated about 2 miles below the head of the channel is never without a very fair summer stream.

*Proceedings of the Madras Government, Public Works Department,  
18th March 1873.*

7. The revenue that may be expected therefrom is Rupees 1,252, on an outlay of Rupees 6,250, gives a return of Rupees 20 per cent. ; but making every allowance for bad seasons, 15 per cent. may, I think, be fairly calculated upon. The estimate is higher than when it was last submitted, but this is due to extra masonry works required by the French Authorities.

8. When I inspected the line of channel with the French Authorities, it was admitted by Mr. Carriall, the French Engineer, that no French land except at the tail end of the channel would be commanded by it, and very little is even then available for cultivation in French limits. I am therefore of opinion the channel will supply all the water that will be required.

9. The masonry works in this channel are few in number and unimportant, and do not need to be specially described here.

No. 106.

No. 430A. *Note by the Chief Engineer for Irrigation.*

IN November 1869, the Superintending Engineer, 5th Division, submitted an estimate, amounting to Rupees 4,720, for cutting a channel from the Pooniar in South Arcot for the irrigation of certain lands in Ooppalavady and other villages. It appears that this project has at different times during the last thirty-three years been under consideration ; but it being necessary to carry a part of the channel through French territory, difficulty was experienced in settling the arrangements, and it was not until 1869 that the line to be followed was agreed upon.

2. The information submitted with the project of 1869 not being sufficiently complete, a reference was made to the Superintending Engineer, and now, with his letter No. 42 of the 6th February 1873, the present District Engineer has sent up a revised scheme, the estimated cost of which is Rupees 6,250, supported by a revenue statement, a copy of the convention with the French Government, and the usual estimates and plans of details. The survey and sections do not, as they should have done, show the exact line to be followed by the channel, as certain small modifications, made at the suggestion of the French Authorities, do not appear therein, and it would seem moreover that this survey is not the plan which was before the parties to the convention at the time the latter was drawn up. As, however, the convention itself appears to be sufficiently precise, it has not been thought requisite to delay any longer the submission of the project to Government.

3. The scheme provides for supplying water to 219 cawnies or about 290 acres by means of a channel having a bottom width of  $4\frac{1}{2}$  feet, to which it is anticipated that the river will afford water to a minimum depth of one foot during the time necessary to irrigate the lands concerned without the aid of tanks, which are not available. With the intended fall of  $1\frac{1}{2}$  feet a mile, this channel will carry about 1,080 cubic yards per hour, which, as the actual quantity likely to be required for the acreage is but 580 cubic yards per hour, at the rate of 2 cubic yards per acre, may be accepted as a sufficient allowance to compensate for fluctuations in the supply, and to provide for the branch channel which will probably be constructed by the French Government, and which, by the convention, is to be allowed a head sluice with a vent  $1\frac{1}{2}$  feet wide, and water sufficient for one-third of the area of the Ooppalavady land (by which one-fourth of the whole supply appears to be intended), so that the channel may be taken as designed to supply 387 acres, and the allowance per acre per hour at the supposed minimum depth of

*Proceedings of the Madras Government, Public Works Department,  
18th March 1873.*

water is nearly 2.80 cubic yards. The information regarding the water supply in the Pooniar is not as definite as is desirable, and it would have been preferable had the discharge at the Pooniar bridge been gauged and the minimum supply during the season of irrigation ascertained. Colonel Foord, however, appears to have entertained no doubt as to water being sufficiently abundant, and Mr. Norfor says (end of paragraph 6) that the river at the bridge is never without a very fair summer stream.

4. The revenue statement shows that the expected returns from the project will be derived from  $48\frac{1}{2}$  cawnies of land classed as nunjah, but which at present have no artificial supply, and from  $171\frac{1}{2}$  cawnies of punjah to be converted into nunjah, and subjected to an additional assessment of Rupees 5 an acre. The money returns are thus estimated at Rupees 1,252-14-5, or about 20 per cent. on the amount required for carrying out this scheme.

5. The project appears likely to be fairly useful and remunerative, and its sanction is therefore recommended.

CHINTACONA, (Signed) J. MULLINS, Lieut.-Colonel, R.E.,  
19th February 1873. *Chief Engineer for Irrigation.*

No. 431. ORDER THEREON, 18th March 1873, No. 844.

IRRIGATION, No. 18.

THE Government sanction the estimate of Rupees 6,250 for cutting a channel from the Pooniar to supply 290 acres of land in Ooppalavady and other villages in South Arcot, and they approve of the arrangements which have been made with the French Government at Pondicherry, whereby, in consideration of the grant of permission to carry the channel through French territory, that Government is to be allowed to cut a branch channel, in conformity with Article 4 of a Convention dated the 21st December 1872.

2. The expected returns from this project amount to about 20 per cent. on its estimated cost, and they afford a sufficiently wide margin for contingencies due to unfavourable seasons, etc., which, for a work of this kind, cannot be very accurately calculated.

3. Funds for carrying out this scheme are not likely to be available in 1873-74, and the District Engineer will accordingly enter the work in his Budget list for 1874-75.

(True Extract.)

Lieut.-Colonel, R.E.,

*Joint Secretary to Government.*

To the District Engineer, South Arcot.  
.. Controller of Public Works Accounts.  
.. Revenue Department.  
.. Chief Engineer for Irrigation.

Exd. E. C. Shunker.

No. 146.

Superintg. Engineer's Office, 5<sup>th</sup> Div.  
Cuddalore, 25<sup>th</sup> Novbr. 1869

From

The Superintending Engineer,  
5<sup>th</sup> Division.

To,

The Chief Engineer for Irrigation  
and Joint Secretary to Government,  
Public Works Department.

Sir,

I have the honor to forward,  
for the sanction of Government, an  
estimate of Rs. 4,720 [accompanied  
by plans and Specifications] for  
cutting a channel from the Somiar  
for the irrigation of the lands of  
Copalavandy and another village  
in the Cuddalore taluk of South  
Arcot.

2.

The head of the channel  
will be situated a little above the  
bridge over the Somiar, on the  
Tondicherry road, and the lands lie  
to the East of the road. The channel  
has been under consideration, at  
different times, for more than  
twenty years. The difficulty that  
has always been in the way arises  
from the channel having to be cut  
through

Enclosed 12.  
2 Detailed estimates  
2 Abstract -- Do --  
1 General abstract of estimates  
11 Specifications  
1 Revenue Statement  
1 Survey  
4 Plans.

through French territory. Last year I had a fresh survey prepared, and it was forwarded, accompanied by an estimate of Rupees 1,710, by the collector for the consideration of the Governor of Pondicherry. When returning it he stated that there would be no objection to the channel being cut, provided the line indicated by him on the survey were adopted, and the ryots in French territory had leave to draw water from the channel by picottals.

3. The alteration of the course of the channel necessitated the revision of the estimate, the amount of which has been very much increased, as the proposed line is longer and involves more cutting than the one first selected. The revised estimate also provides for two road tunnels and two aqueducts, which were not in the original.

4. In the revenue statement furnished by the Tahsildar the increase of revenue is set down at Rupees 855, from the conversion of ponnjah into runjah. In a favorable year, like the present, I have no

doubt

7.

doubt that amount would be realized, but hardly in a bad season. If the channel were cut, as at first intended, there would be no question as to the remunerative nature of the undertaking.

I have the honor to be  
Sir,

Your most Obedt. Servant.

E A Mordaunt Esq  
Superintg. Engineer.

the retaining wall is at the line with the retaining wall of the same dimensions as the foundations of the wing walls &c.

20. The duty of  
the 10 of the  
January - 70

[illegible]

For masonry works for the proposed  
Popalavady channel-

Head Piece

The head Stair is to be built with 2 rectangular  
vents of  $3' \times 8'$ ; closed with teak wood shutters <sup>as per plans</sup>  $10\frac{1}{2}" \times 2\frac{1}{2}"$ .

The abutments on side wing walls and the pier will be covered over with granite laid stones 1' x 1'.

The foundations throughout to be  $4\frac{1}{2}'$  deep and 3' 9" thick at top with offsets of  $4\frac{1}{2}"$  to every 18" in depth.

The Side wing walls of the openings to be 9' high 6' long 1'.10 $\frac{1}{2}$ " thick at top and 3' at bottom, with 3 steps on their inner faces.

The pier to be 9' high 6' long with cutwater and 2' thick -

There will be 3 lintel stones  $1' \times 1'$  at a height of  $3\frac{1}{2}'$  above flooring, between the abutments and pier, to receive the Shutters.

The front returns to be  $10\frac{1}{2}$  feet in length, and 9' in height. These and the Side wing-walls will be built with 3 Steps on their interior face. the top thickness being  $1' 10\frac{1}{2}"$  and the bottom 3 feet (see Sec C.D.)

The wing walls in rear will have an outward splay of  $2\frac{1}{2}'$  in a length of 9' and will fall from 9' to 6' in height. the remainder of the wing walls will run out straight for a length of 8' with a height of 6 feet.

The front retaining wall to be in line with the returns and of the same dimensions as the foundations of the wing walls &c.

The rear retaining wall is to be 5' deep between the wing walls 1' 6" thick at top and 2' 6" at bottom. The flooring between wing walls to be 1' 6" thick throughout.

The whole to be built of the best brick in Chumam and all exposed parts to be plastered with 2 coats of chumam.

The aqueducts and Tunnels to be built according to standard plans, in 'Foord's' Notes.

Range Office No. 12  
Cuddalore  
14: July 1870

W. A. Puchas  
Lieut. R.E.  
Assistant Engineer  
No. 1 Range S. Area L.

EA and Colonel R.E.  
Superintending Engineer S. Area

Specifications for the  
Works proposed for  
Channel from the Dam  
to Oopalavady in  
Cuddalore District.

P. M. 1265/74

5/1/74 - 18-5-70

2/10/70

28

## Notes on Oopalavady Channel.

Object of channel. - This channel is designed to convey the water of the Ponnai, to the dry cultivated lands of Oopalavady village in Cuddalore Taluk. These lands which aggregate 219 bawanis will be converted into use & cultivation, by means of direct irrigation from the channel and it is expected that other lands will also be benefited by it whenever freshes come down the Ponnai.

The channel being taken from the deep side of the river will receive water from all freshes, but it will mainly depend for its supply, on the drainage and springs in the bed of the river. The length of the channel from its head to the branch channels near Oopalavady is about 3 miles. (See Longitudinal Section).

The channel is to have a fall of  $1\frac{1}{2}$  feet per mile. The sole is  $4\frac{1}{2}$  feet, and the side slopes to be 2 to 1 on account of the loose nature of the soil. It will be partly in cutting and partly embanked. (See Sections).

Head Sluice. - The channel is to be provided with a Head Sluice of 2 vents of 3 feet each, 3 Tunnels under district roads and 2 Aqueducts.

Capacity of discharge of channel. - With one foot of water passing over the sides of the Head Sluice the channel will discharge about 1115.14 cubic yards per hour.

This depth of one foot will be the ordinary drainage of the river in the dry season, but during freshes

Notes on Cuddalore  
Channel Project.

P.M. 1265/73.

Sanctioned Rs. 87,500-13-00-00

10/100/73

freshes, the depth of water in the channel will of course be much more, at the allowance of 2 Cubic yards per hour per acre hitherto adopted in this Department the lands to be irrigated 1219 Cawnies / will require 584 Cubic yards per hour.

The increase of Revenue will be about Rupees 1,095.

The amount of the estimate as revised is Rupees 6,340.

*[Signature]*  
Executive Engineer,  
No. 1 Range, S. Arcot.

Major Colonel, P. C.  
Superinsg. Engineer, S. Arcot.

Statement showing the Nungah as well as the Nungah lands in the villages of Appalarady &c. which will be brought under wet cultivation by cutting a channel from the Ponnai River to Appalarady in the Cuddalore District.

| Number.                                                                               | Villages.          | Nungah Syauat. |     | Cawnies. | Statement. | Remarks.                                                |
|---------------------------------------------------------------------------------------|--------------------|----------------|-----|----------|------------|---------------------------------------------------------|
|                                                                                       |                    | 5              | 12  | 3        | 50         | 5                                                       |
| 1                                                                                     | Ochimodas.         | 21             | 9   | 3        | 213        | 7                                                       |
| 2                                                                                     | Gungamamcothum.    | 21             | 9   | 3        | 213        | 7                                                       |
| 3                                                                                     | Suba Appalarady.   | 21             | 9   | 3        | 213        | 7                                                       |
| 4                                                                                     | Gondos Appalarady. | 21             | 9   | 3        | 213        | 7                                                       |
| Total increased revenue of Rupees 855-11-9 in Cawnies exclusive of Cunnah Settlement. |                    |                |     |          |            |                                                         |
| 48                                                                                    | 8                  | 7              | 397 | 2        | 8          | Gondos Appalarady Cawnies 41-12-1 at 5 Cawnies 208-13-3 |
|                                                                                       |                    |                |     |          |            | Series Gungamamcothum do 6-15-11 at 5 do 34-11-11       |
|                                                                                       |                    |                |     |          |            | Ochimodas do 14-7-11 at 5 do 72-3-6                     |
|                                                                                       |                    |                |     |          |            | Suba Appalarady do 108-11-11 at 5 do 540-11-11          |
|                                                                                       |                    |                |     |          |            | 191-2-1                                                 |
|                                                                                       |                    |                |     |          |            | 855-11-9                                                |
|                                                                                       |                    |                |     |          |            | 397-2-8                                                 |
|                                                                                       |                    |                |     |          |            | 1252-14-5                                               |
|                                                                                       |                    |                |     |          |            | Add Nungah. 48-8-7                                      |
|                                                                                       |                    |                |     |          |            | 219-10-8                                                |

16<sup>th</sup> January 1868.

*[Signature]*  
Collector of South Arcot.

Signed, Mr. Sambamurti  
Sahsildar.  
Major Colonel, P. C.  
Superinsg. Engineer, S. Arcot.

Convention relative au Canal destiné  
à arroser les terres de l'aldie Anglaise  
d'Oupalavady.

Après visite des lieux et toutes les parties  
intéressées entendues dans l'enceinte de  
Commodo et Incommodo ouverte, à cet effet,  
les dispositions suivantes ont été adoptées  
d'un commun accord entre les Souverains  
en qualité qu'ils agissent:—

Article 1<sup>er</sup>

Le creusement du Canal demandé pour  
assurer l'irrigation des terres de l'aldie  
Anglaise d'Oupalavady est autorisé, et  
le tracé de ce canal, tel qu'il résulte du  
plan annexé à la lettre de M. le Colonel  
de la division Sud-bret, en date du  
30 Mars 1872, N<sup>o</sup> 50, accepté sous la modi-  
fication suivante.

La ligne d'axe du canal en projet  
qui, d'après le plan, doit traverser le réservoir  
d'Aratchicoufom, sera reportée de 200 pds  
anglais plus au Nord, et passera dans la  
première allée d'arbres située au bord de  
la digue Nord du dit réservoir.

Article 2<sup>o</sup>

Le passage des hommes et des bestiaux  
entre la prise d'eau du canal et l'étang  
d'Aratchicoufom, sera assuré par un ponton  
constitué

Seventy and six

1871-1872-73

1871

28

9/1873

P. M. 12657/3

Statement showing the Murgh  
as well as English lands in the  
village of Oupalavady 82 which  
will be brought under cultivation.  
— from by cutting a channel from  
the common river to Oupalavady  
in the Bundalaw 1872.

constituit au point A du plan.

La même servitude sera également ménagée au point B entre la tige d'arbres et le village.

### Article 3.

Le Gouvernement français se réserve la faculté de faire un embranchement sur le canal d'Oupalavady, au point qui sera le plus avantageux aux intérêts des aldeis français, d'Aratchiouppom ou d'Outehmodou, le creusement de cette branche et de son écluse de tête, devant rester entièrement à ses frais.

### Article 4.

L'étendue des terres des aldeis français ayant droit aux eaux du nouveau canal, équivalant au tiers de celle des terres de l'aldei anglaise d'Oupalavady, la largeur du plafond du canal principal est fixée à 4 pieds et demi, soit 1 mètre 568 millimètres, et celle de l'écluse de prise d'eau du bras de canal français, à 0 mètre 456 millimètres.

### Article 5.

Les deux Gouvernements s'engagent, par la présente, à empêcher l'irrigation des terres avec les eaux du canal, au moyen des picottes ou autres machines et à défendre de creuser des puits dans les 10 yards des berges du canal, à partir du talus.

Il

### Article 6.

Ils s'engagent, en outre, à punir les infractions et les contraventions aux règles prescrites, conformément aux lois qui sont actuellement en vigueur ou qui le seront, à l'avenir, dans leurs territoires respectifs au moment où le fait aura lieu, pourvu qu'il ait été constaté par un procès-verbal régulier.

### Article 7.

Est annulée la convention signée, à Aratchiouppom, le dix-huit Avril dernier, entre les sou signés, au sujet du creusement du même canal.

Fait double, à Pondichery, le vingt et un  
Quatrième, mil huit cent soixante douze.

Le Chef du Service des Contributions.  
(Signé) Eug.<sup>ne</sup> Sue.

(Signé) R. E. Norfor,  
District Engineer.

Approuvé

Le Collecteur de la Division  
du Sud d'Arcot.

(Signé)

H. E. Sullivan.

1/2 new copy /  
Off. Dist. Eng. S. Arcot.

Le Chef du Service des Ponts (Chaussées,  
(Signé) A. Lamiol

Approuvé.

Le Commissaire Général,  
Gouverneur des Etablissements français  
de l'Inde,  
Faron

Revised Specification for a New Supplying channel from the Ponnar River to irrigate the lands of Oopalavady and other villages in the Coondalor Taluk of the South Arcot District.

1. Excavating a channel from the Ponnar River for irrigating the lands of Coondos Oopalavady, Parea Kungamancospur, Oochimodoo and Looka Oopalavady.

2. Amount of Estimate Rupees 6,340 of Six thousand three hundred and forty only.

3. The extent of <sup>Punjab</sup> land to be irrigated by the channel and its branches is as follows.

|                                     |          |         |             |
|-------------------------------------|----------|---------|-------------|
| Coondos Oopalavady.                 | Cauries. | 41-12-1 | No 208-13-3 |
| Parea Kungamancospur                | "        | 6-15-   | " 34-11-    |
| Oochimodoo                          | "        | 14-7-   | " 72-3-6    |
| Looka Oopalavady                    | "        | 108-8-8 | " 540-2-8   |
| Add Punjab as per Revenue Statement |          | 48-8-7  | 397-2-8     |
| Total Cauries                       |          | 171-2-  | No 855-11-9 |

Rupees 13 1/2 per Cant on proposed expenditure.

4. The country through which the channel is to be taken consists principally of clay and sandy soil, the total length of the channel is 2 miles, 7 Furlongs and 202 1/2 Yards. The channel is to have a slope of 2 1/2 to 1 and the earth excavated therefrom to be thrown up as an embankment and foot path on each side at a distance of 15 feet from the edge of the channel.

5. The channel in its course will cross the following roads viz.

1. The cart and Cattle track from the Ponnar to Arachecospur and other small villages in the limits of Arachecospur for which a tunnel of one vault of 6 feet span is to be provided.
2. The road from the Ponnar to Bahorra via Arachecospur for which a tunnel of one vault of 6 feet span

Length of land 18-2-27

0 R. 1265/75.

100/75

28

is to be provided.

3. The road from Buddalore to Pondichery for which a Tunnel of 2 vents of 6 feet span has been already built.

4. The road from Singanacoopuram to Oorhimodoo for which a Tunnel of one vent of 6 feet span is to be provided.

6. In addition to the above, the channel will be provided with the following masonry work.  
One Head Sluice of 2 vents each  $3 \times 3\frac{1}{2}$  feet to regulate the supply of water with a road-way 4 feet in width.

7. The three Tunnels above mentioned are necessary for the passage of traffic to the English & French villages.

8. Two Aqueducts also to be built across the Irrigating Channels.

*[Signature]*

Executive Engineer,  
2<sup>d</sup> Range, South Arcot.

EM and Colonel R.E. }  
Superintending Engineer 5<sup>th</sup> Bn }

Amount of Estimate Rs 6250

Review of Specifications for  
a new supplying channel  
from the Permain River to  
irrigate the lands of Cofo-  
lavar by 2<sup>d</sup>

28. 11. 12 65/73

8. 11. 18 - 2 - 73  
20. 11. 61

7/100/73

28

Agricultural.

5<sup>th</sup> Division D. P. W.

New Works

Detail Estimate of 1872-73.

South Arcot District.

N<sup>o</sup> 1 Range.

Buddalore Talook.

Work. - Cutting a new supplying channel from the Ponnai to irrigate the lands of Copalavady and other villages in the Buddalore Talook of the South Arcot District.

| Particulars of work.                                       | Number | Measurements. |                   |                  | Total Quantity |
|------------------------------------------------------------|--------|---------------|-------------------|------------------|----------------|
|                                                            |        | Length        | Breadth           | Depth            |                |
| Cutting a supplying channel from the Ponnai to Copalavady. |        |               |                   |                  |                |
| Track N <sup>o</sup> 1 at A.                               |        | 500           | 27 $\frac{1}{3}$  | 11 $\frac{1}{2}$ | 157,166        |
| 2                                                          |        | 400           | 28 $\frac{1}{3}$  | 12               | 136,000        |
| 3                                                          |        | 400           | 28 $\frac{1}{4}$  | 11.85            | 133,905        |
| 4                                                          |        | 400           | 27.60             | 11.55            | 127,512        |
| 5                                                          |        | 400           | 25.10             | 10.30            | 103,412        |
| 6                                                          |        | 500           | 23.35             | 9.42             | 109,979        |
| 7 and 8.                                                   | 2      | 400           | 22.55             | 9                | 162,360        |
| 9 and 10.                                                  | 2      | 400           | 23 $\frac{1}{4}$  | 9 $\frac{1}{8}$  | 174,375        |
| 11                                                         |        | 400           | 22 $\frac{1}{2}$  | 9                | 81,000         |
| 12                                                         |        | 400           | 21.75             | 8 $\frac{1}{8}$  | 75,038         |
| 13                                                         |        | 400           | 21 $\frac{1}{2}$  | 8 $\frac{1}{2}$  | 73,100         |
| 14                                                         |        | 400           | 20                | 7 $\frac{3}{4}$  | 62,000         |
| 15                                                         |        | 400           | 18 $\frac{1}{4}$  | 6 $\frac{1}{8}$  | 50,188         |
| 16                                                         |        | 400           | 17 $\frac{3}{4}$  | 6 $\frac{3}{8}$  | 45,266         |
| 17                                                         |        | 400           | 16 $\frac{3}{4}$  | 6 $\frac{1}{8}$  | 41,039         |
| 18                                                         |        | 400           | 16                | 5 $\frac{3}{4}$  | 36,800         |
| 19                                                         |        | 400           | 14 $\frac{1}{8}$  | 4 $\frac{1}{8}$  | 27,544         |
| 20                                                         |        | 400           | 11 $\frac{1}{10}$ | 3 $\frac{1}{4}$  | 17,850         |
| Cutting and forming Embankment from B. to C.               |        | 7344          | 36 $\frac{1}{2}$  |                  | 268,052        |

Total cubic feet 1882,585  
do cubic yards of Earthwork 69,425

# Constructing an Head sluice in the Head of the Channel.

|                                                            |    |      |          |          |         |
|------------------------------------------------------------|----|------|----------|----------|---------|
| Foundation to front wing walls.                            | 1  | 30-- | 4-6      | 4-6      | 60 7/2  |
| do to pier                                                 | 1  | 4--  | 3-6      | 4-6      | 63      |
| do to side walls                                           | 2  | 3--  | 4-6      | 4-6      | 12 1/2  |
| do to do                                                   | 2  | 9-6  | 4-1/2    | 4-6      | 352 1/4 |
| do to do                                                   | 2  | 9--  | 3-9      | 4-6      | 303 3/4 |
| Retaining wall                                             | 1  | 11-6 | 2--      | 4-6      | 103 1/2 |
| Flooring                                                   | 2  | 4-6  | 2-3      | 1-6      | 30 3/8  |
| do                                                         | 1  | 9-6  | 9--      | 1-6      | 128 1/4 |
| do                                                         | 1  | 11-9 | 8--      | 1-6      | 141     |
| Front wing wall                                            | 2  | 10-3 | 2-7 1/2  | 5--      | 269 1/8 |
| do                                                         | 2  | 10-3 | 1-10 1/2 | 4--      | 153 3/4 |
|                                                            | 2  | 5-6  | 2-7 1/2  | 5--      | 143 3/8 |
|                                                            | 2  | 5-6  | 1-10 1/2 | 4--      | 82 1/2  |
| Side walls                                                 | 2  | 9-6  | 2-7 1/2  | 5--      | 249 3/4 |
|                                                            | 2  | 9-6  | 1-10     | 2-6      | 89 1/8  |
|                                                            | 2  | 8--  | 2-3      | 5--      | 180     |
|                                                            | 2  | 8--  | 1-10 1/2 | 1--      | 30      |
| Pier                                                       | 1  | 6-6  | 2--      | 8--      | 104     |
| Retaining wall over cross stones                           | 2  | 2--  | 3--      | 3-6      | 42      |
| Front wing wall                                            | 2  | 12-3 | "        | 9--      | 220 1/2 |
| Side walls                                                 | 2  | 8--  | "        | 9--      | 144     |
|                                                            | 2  | 9-6  | "        | 7-6      | 142 1/2 |
|                                                            | 2  | 10-- | "        | 6--      | 120     |
| Top of side walls                                          | 2  | 33-- | "        | 1-10 1/2 | 124 2/3 |
| Pier                                                       | 1  | 14-- | "        | 9--      | 153     |
| Total square feet of Plastering or 9 1/5 Squares.          |    |      |          |          | 904 2/3 |
| Cross stones                                               | 18 | 5--  | 1--      | 1--      | 18      |
| Grooved stones at bottom                                   | 2  | 5--  | 1--      | 1--      | 2       |
| Cross stones Total.                                        |    |      |          |          | 20      |
| Teakwood for shutters                                      | 2  | 3-6  | "        | 3 11--   | 19 1/4  |
| Total cubic feet of Teakwood shutters including iron work. |    |      |          |          | 19 1/4  |
| Excavating foundation.                                     |    |      |          |          | "       |
| Baling water and temporary dam.                            |    |      |          |          | "       |
| Sundries.                                                  |    |      |          |          | "       |

Total cubic feet of Brickwork in chunam. — 3196

Total square feet of Plastering or 9 1/5 Squares. — 904 2/3

Cross stones Total. — 20

Total cubic feet of Teakwood shutters including iron work. — 19 1/4

# Constructing a Tunnel of 6 feet span on the left track from the Ponnaiar to Arachicorum, as per Standard Plan.

|                                              |   |      |      |         |          |
|----------------------------------------------|---|------|------|---------|----------|
| Foundation to flooring including side walls  | 1 | 18-- | 9-6  | 1-6     | 256 1/2  |
| do do wing walls                             | 2 | 10-- | 11-6 | 1-6     | 345      |
| Retaining walls                              | 2 | 13-6 | 1-6  | 1-6     | 60 3/4   |
| Side walls above                             | 2 | 18-- | 1-6  | 7-6     | 405      |
| Wing walls above                             | 4 | 10-- | 1-6  | 9-3     | 555      |
| Face walls                                   | 2 | 9--  | 1-9  | 1-6     | 47 1/4   |
| Blocking course                              | 2 | 9--  | 1-6  | "-9     | 20 1/4   |
| Parapets                                     | 2 | 9--  | 1-3  | 2-0     | 45       |
| Arch                                         | 1 | 18-- | 11-- | 1-1 1/2 | 222 1/4  |
| Total cubic feet of Brickwork in chunam.     |   |      |      |         | 1912 1/2 |
| Square feet or 12 7/5 Squares of Plastering. |   |      |      |         | 1268     |
| Excavating foundation and filling.           |   |      |      |         | "        |
| Baling and centering.                        |   |      |      |         | "        |
| Sundries.                                    |   |      |      |         | "        |

# Constructing a Tunnel of 6 feet span across the Popalavady Channel on the road from Ponnaiar to Bahoor via Arachi-corum as per Standard Plan.

|                                             |   |      |      |          |         |
|---------------------------------------------|---|------|------|----------|---------|
| Foundation to flooring including side walls | 1 | 18-- | 9-6  | 1-6      | 256 1/2 |
| do do wing walls                            | 2 | 8--  | 11-6 | 1-6      | 276--   |
| Retaining walls                             | 2 | 13-6 | 1-6  | 1-6      | 60-9    |
| Side walls above                            | 4 | 18-- | 1-6  | 5--      | 270--   |
| Wing walls above                            | 4 | 8--  | 1-6  | 6-10 1/4 | 329--   |
| Face walls                                  | 2 | 9--  | 1-9  | 1-6      | 47-3    |
| Blocking course                             | 2 | 9--  | 1-6  | "-9      | 20-3    |
| Parapets                                    | 2 | 9--  | 1-3  | 2--      | 45--    |
| Arch                                        | 1 | 18-- | 11-- | 1-1 1/2  | 222-9   |
| Total cubic feet of Brickwork in chunam     |   |      |      |          | 1527-6  |
| Square feet or 7 1/2 Squares of Plastering  |   |      |      |          | 768     |
| Excavating foundation and filling.          |   |      |      |          | "       |
| Baling water                                |   |      |      |          | "       |
| Baling and centering.                       |   |      |      |          | "       |
| Sundries.                                   |   |      |      |          | "       |

Constructing a Tunnel of 6 feet span on the road from Gunganamecoorumpu to Cochimodora as per Standard Plan.

|                                             |   |      |      |      |       |
|---------------------------------------------|---|------|------|------|-------|
| Foundation to flooring including side walls | 1 | 18-- | 9-6  | 1-6  | 256-6 |
| do do wing walls                            | 2 | 5--  | 10-9 | 1-6  | 161-3 |
| Retaining walls                             | 2 | 12-- | 1-6  | 1-6  | 54--  |
| Side walls above                            | 2 | 18-- | 1-6  | 1-7½ | 87-9  |
| Wing walls above                            | 4 | 5--  | 1-6  | 4-2  | 125-- |
| Face walls                                  | 2 | 9--  | 1-9  | 1-6  | 48--  |
| Blocking course                             | 2 | 9--  | 1-6  | --9  | 20-3  |
| Parapets                                    | 2 | 9--  | 1-3  | 2--  | 45--  |
| Arch                                        | 1 | 18-- | 11-- | 1-1½ | 222-9 |

Total cubic feet of Brickwork in chunam 973-9

|                                        |     |
|----------------------------------------|-----|
| Square feet or 5 squares of Plastering | 504 |
| Excavating foundation and filling      | "   |
| Doling and centering                   | "   |
| Sundries                               | "   |

Constructing 2 Aqueducts across the proposed new line of the channel from the Ponnai to irrigate the Popalavady fields.

|                                              |   |      |     |     |         |
|----------------------------------------------|---|------|-----|-----|---------|
| Foundation to abutment                       | 2 | 7-9  | 2-9 | 3-- | 127-10½ |
| do do wing walls                             | 4 | 11-- | 2-9 | 3-- | 363--   |
| Flooring                                     | 1 | 7-6  | 5-6 | 1-6 | 61-10½  |
| Retaining walls                              | 2 | 5--  | 1-6 | 1-6 | 22-6    |
| Abutments                                    | 2 | 7--  | 2-- | 5-- | 140--   |
| Wing walls                                   | 4 | 11-- | 1-9 | 6-- | 462--   |
| Parapet walls                                | 2 | 32-- | 1-3 | 3-- | 240--   |
| Outer walls between parapet walls / Flooring | 2 | 12-- | 4-- | 1-- | 96--    |
| do do do                                     | 1 | 8--  | 4-- | --3 | 8--     |
| Retaining walls under do                     | 2 | 4--  | 1-6 | --9 | 9--     |

Total cubic feet of Brickwork in chunam 1530--

|                       |     |
|-----------------------|-----|
| Squares of Plastering | 247 |
| Stones (8' x 1' x ½') | 247 |
| Excavating foundation | "   |
| Sundries              | "   |

## Abstract

361

| Quantity | Description of work                                                                                                                         | Rate | Per  | Amount  | Total |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------|------|------|---------|-------|
| 69725    | Cutting a Supplying Channel from the Ponnai to Popalavady                                                                                   | 1    | Cent | 4357 13 |       |
|          | Sundries                                                                                                                                    |      |      | 42 3    | 4400  |
| 3196     | Constructing an Abutment at the Head of the Channel                                                                                         | 2    | Cent | 399 8   |       |
| 9        | Cubic feet of Brickwork in chunam                                                                                                           | 2    | 8    | Sqrs    | 22 8  |
| 20       | Squares of Plastering with 2 coats                                                                                                          | 4    | 8    | Each    | 90    |
| 19¼      | Cross stones                                                                                                                                | 3    | 4    | Cent    | 62 9  |
|          | Cubic feet of Teakwood for shutters including iron work                                                                                     |      |      | 30      |       |
|          | Excavating foundation                                                                                                                       |      |      | 30      |       |
|          | Doling water and Temporary dam                                                                                                              |      |      | 25 7    | 660   |
|          | Sundries                                                                                                                                    |      |      |         |       |
| 1912½    | Constructing a Tunnel of 6 feet span on the bank Track from Ponnai to Arachioorumpu as per Standard Plan                                    | 2    | Cent | 239 1   |       |
| 12½      | Cubic feet of Brickwork in chunam                                                                                                           | 2    | 8    | Sqrs    | 31 12 |
|          | Squares of Plastering with 2 coats                                                                                                          |      |      | 6       |       |
|          | Excavating foundation and filling                                                                                                           |      |      | 10      |       |
|          | Doling and centering                                                                                                                        |      |      | 13 3 10 | 300   |
|          | Sundries                                                                                                                                    |      |      |         |       |
| 1527½    | Constructing a Tunnel of 6 feet span across the Popalavady Channel on the road from Ponnai to Bahoor via Arachioorumpu as per Standard Plan | 2    | Cent | 190 14  |       |
| 7½       | Cubic feet of Brickwork in chunam                                                                                                           | 2    | 8    | Sqrs    | 18 12 |
|          | Squares of Plastering with two coats                                                                                                        |      |      | 6       |       |
|          | Excavating foundation and filling                                                                                                           |      |      | 10      |       |
|          | Doling and centering                                                                                                                        |      |      | 9 6     | 235   |
|          | Sundries                                                                                                                                    |      |      |         |       |
| 974      | Constructing a Tunnel of 6 feet span on the road from Gunganamecoorumpu to Cochimodora as per Standard Plan                                 | 2    | Cent | 121 12  |       |
| 5        | Cubic feet of Brickwork in chunam                                                                                                           | 2    | 8    | Sqrs    | 12 8  |
|          | Squares of Plastering                                                                                                                       |      |      | 6       |       |
|          | Excavating foundation and filling                                                                                                           |      |      | 10      |       |
|          | Doling and centering                                                                                                                        |      |      |         |       |
|          | Carried over                                                                                                                                |      |      | 150 4   | 5595  |

|                                                                                                                               |                                     |       |         |
|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------|---------|
|                                                                                                                               | Brought over                        | 150 4 | 5595    |
|                                                                                                                               | Sundries                            | 4 12  | 155     |
| Constructing 2 Aqueducts across the proposed new line of the channel from the Ponnar to irrigate the Copalavady Paddy fields. |                                     |       |         |
| 1530                                                                                                                          | Cubic feet of Brickwork in channel. | 2     | 191 4   |
| 3                                                                                                                             | Squares of Plastering with 2 coats. | 2 8   | 7 8     |
| 7                                                                                                                             | Wones (8x1x1/2)                     | 5     | Each 35 |
|                                                                                                                               | Excavating foundation.              |       | 10 4    |
|                                                                                                                               | Sundries                            |       | 6 4     |
|                                                                                                                               | Total for 1 Aqueduct                |       | 250     |
|                                                                                                                               | do for another as above.            |       | 250     |
|                                                                                                                               |                                     |       | 500     |

Total Amount of Estimate Rupees. - 6250  
Rupees six thousand two hundred and fifty only.

N<sup>o</sup> 1 Range Office, S. Arcot  
Cuddalore, 5<sup>th</sup> November 1872

/Signed/ P. E. Norfor  
Executive Engineer,  
N<sup>o</sup> 1 Range, S. Arcot

P. Mucina  
Collector of South Arcot.

Edmd Colonek, P. E.  
Superintending Engineer, S<sup>th</sup> D<sup>o</sup>

[illegible]

1/2

Lead Clerk:

The Registrar of the *Stock*

Sancti in die 86<sup>th</sup>  
82, 4 - 18 Dec 1879  
98:26

Estimate for

Amount of Estimate \$ 6,250.00

Ch.  
6/100/73

N<sup>o</sup> 106

Note by the Chief Engineer for Irrigation.

In November 1869 the Superintending Engineer 5 Division submitted an estimate, amounting to Rupees 4720, for cutting a channel from the Poonias in South Arcot for the irrigation of certain lands in Oopalavady & other villages. It appears that this project has, at different times during the last 33 years, been under consideration; but, it being necessary to carry a part of the channel through French territory, difficulty was experienced in settling the arrangements, and it was not until 1869 that the line to be followed was agreed upon.

2. The information submitted with the project of 1869 not being sufficiently complete, a reference was made to the Superintending Engineer, & with his letter N<sup>o</sup> 42 of the 6<sup>th</sup> February 1873, the present District Engineer

Engineer has sent up a revised scheme, the estimated cost of which is Rupees 6250, supported by a Revenue statement, a copy of the convention with the French Govt & the usual estimates & plans of details. The survey & sections do not, as they should have done, show the exact line to be followed by the channel, as certain small modifications, made at the suggestion of the French authorities, do not appear therein, and it would seem moreover that this survey is not the plan which was before the parties to the convention, at the time the latter was drawn up. As however the convention itself appears to be sufficiently precise, it has not been thought requisite to delay any longer the submission of the project to Government.

3. The scheme provides for supplying water to 219 *caueries* or about 290 acres, by means of a channel having a bottom width of  $4\frac{1}{2}$  feet, to which it is anticipated

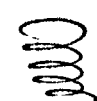
that the river will afford water to a minimum depth of 1 foot during the time necessary to irrigate the lands concerned without the aid of tanks, which are not available. With the intended fall of  $1\frac{1}{2}$  feet a mile, this channel will carry about 1000 cubic yards per hour, which, as the actual quantity likely to be required for the acreage is but 500 cubic yards per hour, at the rate of 2 cubic yards per acre, may be accepted as a sufficient allowance to compensate for fluctuations in the supply, & to provide for the branch channel, which will probably be constructed by the French Govt, and which, by the convention, is to be allowed a head-slice with a vent  $1\frac{1}{2}$  feet wide, and water sufficient for one-third of the area of the Sopalarady lands (by which one-fourth of the whole supply appears to be intended), so that the channel may be taken as designed to supply 387 acres

acres, and the allowance per acre per hour at the supposed minimum depth of water is nearly 2.00 Cubic yards. The information regarding the water supply in the Poonias is not as definite as is desirable, and it would have been preferable had the discharge at the Poonias bridge been gauged & the minimum supply during the season of irrigation ascertained. Colonel Ford however appears to have entertained no doubt as to water being sufficiently abundant, and Mr. Norfor says (end of para 6) that the river at the Bridge is never without a very fair summer stream.

4. The Revenue statement shows that the expected returns from the project will be derived from 40 1/2 cawnies of land clasped as Kumbh, but which at present have no artificial supply, & from 17 1/2 cawnies of Poonjah, to be converted into Kumbh.

Kumbh and subjected to an additional apportionment of Rupees 5 an acre. The money returns are thus estimated at Rupees 1252-14-5 or about 20 per cent on the amount required for carrying out this scheme.

5. The project appears likely to be fairly useful & remunerative, & its sanction is therefore recommended.

Chintamona  Volubilis St Col Rs.  
19 February 1873. } Chief Magistrate for Irrigation

To  
The Secretary to Govt.  
P. W. D.

No 1265

No 844  
Public Works Department  
Proceedings of the Madras Government

Read the following  
Note by the Chief Engineer for  
Irrigation. } J.H.E. No 106 of 19th Feb 1901

The Government  
sanction the estimate  
of Rupees 6250 for  
cutting a channel  
from the Pooniar  
to supply 290 acres  
of land in Poppala-  
vady & other villages  
in South Arcot, &  
they approve of the  
arrangements, which  
have been made  
with the French  
Govt at Pondicherry,  
whereby, in considera-  
tion of the grant  
of permission to  
carry the channel  
through

J.H.E.

M 430 A

No 844. 18th March 1901

through French ter-  
ritory, that Govt  
is to be allowed  
to cut a branch  
channel, in confor-  
mity with article  
4 of a Convention  
dated the 21<sup>st</sup> Decem-  
ber 1872.

2. The expected  
returns from this  
project amount  
to about 20 per cent  
on its estimated  
cost, and they  
afford a sufficient-  
ly wide margin  
for contingencies  
due to unfavour-  
able seasons &  
which, for a work  
of this kind, can  
not be very ac-  
curately

curately calculated.

3. Funds for carry-  
ing out this scheme  
are not likely to  
be available in  
1873-74, & the Dis-  
trict Engineer will  
accordingly enter  
the work in his  
Budget list for  
1874-75.

Y.M.

May 20/73

To The District Engineer  
- Controller  
- Rev. Dept  
- Ch. Engineer

Desp 21/3/75

Ch 1265

Gobt. of 1873 Madras.

PUBLIC WORKS.

The District Engineer  
South Arcot

Dated

Recd.

Encl. 12

S. P. P. 12

18th Dec 1873 844.

4334 438

Channel. Passing orders

in note by the District Engineer for  
migration submitting estimates  
for the Copalavady  
Channel project, ~~Ch 1265~~  
South Arcot Dk.

11-430-31.

61st March

P. W. 1873 Department

No 1265.

From  
The Chief Engineer  
for Migration  
to the Secretary Dept  
P. W. D.

No 106.

Dated 19th Feb 1873.  
Recd 25th

Encl. 12 subd. to the Engineer for Design  
5/2/76

12 enclosures  
+ 4 P. W. D. to Chief Engineer  
Ch 1265/73-27-11-73

Recommends the  
execution of the project  
for cutting a channel  
from the Ponnai to  
supply 290 acres of  
land in Copalavady  
other villages.

2-20-44 ✓  
13/11/22 511 ✓  
8-11-45 W ✓  
18-2-46 W ✓

MADRAS RECORD OFFICE.

Government Records.

*Public Works* Department.

G. O. (Printed).

Dated 18-3-1873

No. 844

Back No 430-431