M.R.O. 1—10,006—23-2-50.

(1) Number of pages_____

(2) Date of repair_____

(3) Initials of the Referencer_____

# MADRAS RECORD OFFICE

## Government of Madras

Public Works DEPARTMENT

| | | | |
|---|---|---|---|
| G.O. No. / B.P. No. | 1193-94 | Press / Mis. | |
| Dated | 3-4-1875 | | 195 |

***Not to be folded or roughly handled***

PUBLIC WORKS DEPARTMENT,
FORT ST. GEORGE, 30*th April* 1875.

No. 704. No. 1,194.

FROM

COLONEL G. W. WALKER, R.E.,
*Secretary to the Government of Madras,*
*Public Works Department,*

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
*Public Works Department.*

IRRIGATION, No. 72.

SIR,—I am directed by His Excellency the Governor in Council to transmit all the papers connected with the Perryaur Project for development of irrigation in the Madura District at an estimated cost of 30 lakhs of rupees; with a request that they may be referred through the Secretary of State for India to the highest Engineering authorities, with a view to the possible elaboration of some means of damming up the course of the Perryaur river and diverting its waters for the benefit of cultivation which shall be free from the enormous risks that have induced this Government reluctantly to withhold their approval to the measures devised by their own Engineers.

2. The fullest information regarding the project is available from the surveys and plans, &c., of which a list is given with G. O., No. 1,193, of 30th April 1875 with which also are recorded elaborate reports and minutes on the subject.

I have the honor to be,
Sir,
Your most obedient servant,

(Signed) G. W. WALKER, Colonel, R.E.,
*Secretary to Government.*

Exd. W. J. Lewis.

Spare Copies

## Summary of the Periyaur Project Papers.

The first detailed proposal for carrying out the Project of diverting the head waters of the Periyaur River in Travancore into the valley of the Varoolay and thence to that of the Vigay River in Madura, is contained in the late Major Ryves Report of the 4th August 1867, which is reviewed in Government Order No. 34-37 of 14th December 1867. The site proposed by him (No. 1) was about 800 yards below the junction of the Cheima and Periya Moollyaur with the Periyaur, where the bed of the stream was 169 feet below the watershed Saddle. His Estimate was

| | |
|---|---|
| 1. Preliminary (Plant Roads and buildings) | Lakhs 0.12 |
| 2. Bund (16 2½ feet Escape | 8.64 |
| 3. Water shed Cutting | 3.12 |
| 4. Regulating Reservoirs | 0.75 |
| 5. Coorooliyar Water Co | 0.80 |
| 6. Distribution of water | 4.03 |
| 7 Reserve for Contingencies | 3.51 |
| Total - Lakhs | 21.00 |

Govt G.O. No. 2809 of 22 September 1868 the services of Lieutenants Pennycuick and Foster were placed at Col Anderson's disposal for further investigation of the Periyar Project. Major Ryves accompanied the two latter officers to the spot to show them the ground, and Lieut Foster was afterwards joined by Lieutenant Pennycuick. Their first season's work resulted in Lieut Pennycuick's Report published with G.O. No. 2466 of 28 July 1869, recommending an increase of height of the bund, and much more liberal rates; so that the estimate for the Head works alone would amount to Rs. 32,20,000 - Major Ryves proposed method of securing the work, while he agreed was also objected to - It consisted in the use of hydraulic - wherewith to pass the River over the work while operations went on in its bed, and in carrying on the earth and puddle work in front of a stone dam to protect the surface from erosion in the freshes - by lieu of which it was proposed to raise the bund on the top of a number of small arches

through which the steam should pass during construction, after completion of which the arches would be closed by shutters and rapidly filled in with masonry while the water was rising.

Lieutenants Christie and Greer appear to have joined the work in 1869, when Lieutenant Colonel Mullens for the first time inspected the site, and reported that there was yet much to be done for the collection of information before complete plans and estimates could be prepared; especially stating that it was by no means certain that the site selected for the bund was the



only one, or the best available and he recommended that the River should be surveyed down to the Nellampatty Swamp, and the levels of the hills and saddles north of the Perryaur ascertained - He stated further that the original site was at the head of a deep pool which extended 1½ or 2 miles down the river (see G.O. No. 3763 of 26th Nov/69).

The result was the selection of sites Nos 2 and 3 close to one another and the latter only 2000 yards below No 1 - of these No 2 or Capt Pennycuick's site seems ultimately to have been preferred by both officers to No 3 or Lieut Col Mullins's site - and it was proposed that a bund 200 feet

high should there be constructed by the silting process, the water freshes being disposed of during its construction through a tunnel cut in the solid rock 40 feet wide, 30 feet high at the sides and 50 feet in the centre, and about 330 yards in length exclusive of the open cuttings at each end, the execution of which was supposed to require about 4 years of time. The method of finally closing it is also detailed in Lieut. Mullen's memo published with G. O. No. 1236 of 12th May 1870.

Mr. R. Smith was appointed in April 1870 to complete the investigation of the project, especially in connection with the distribution of the water below, while Captain Pennycuick worked out the details of the Head works on sick leave at home. But these latter when submitted by him were found to be vitiated by his disregard of the instructions given him, and the calculations connected with the Head works had finally to be worked out by Mr. R. Smith. (See G. O. No. 1236 of 4th May 1871).

While engaged in this work with the officers under his orders Lieutenants Christie, Green and Rawson, Mr. R. Smith had a further examination made of the water shed and country adjacent to the Goodalore Chaut, which resulted in the discovery, and

ultimate adoption of Dam 4 or Latt Christies Dam site 3 miles lower down the valley than the others, but only 35 feet lower in level, the water shed at the head of the Goodaloor Chaut being also found 50 feet lower than that in the line of the proposed outfall from sites Dos 2 and 3.

The relative merits of the projects as finally worked out for Dam Sites Dos 2, 3 and 4 are summed up in Paras 9 and 10 of Major Oat Pinhote, with great preponderance in favour of Dam 4, where a Dam 168 feet high or 60 feet less than that at Dam 2, and estimated to cost 26½ against 32½ Lat Cho, would store 200 millions against 200 millions



of cubic yards of water, besides having space available for deposit to the extent of 240 millions, as against 20 millions only.

The Dam is proposed to be composed of Silt throughout; a permanent escape 400 feet long is to be formed at a level of 30 feet below the crest of the dam by cutting down an adjacent saddle about 33 feet in earth, and 14 feet in solid rock; and a temporary escape 420 feet in length, 40 feet wide, with a height of 30 feet of which the upper half in arched, will be bored through the solid rock on the left bank of the River to carry off the flood water during

Section
1064 Lg: ft:

construction of the Dam - To draw off the water for supply of irrigation in Madura a Channel is proposed through the watershed saddle 2270 yards in length, taking off from a cutting upwards of a mile in length, with a section and fall sufficient to discharge 1600 cubic feet per second.

The total estimate of the Head works amounts to Rs 26,43,000, as follows, viz:-

| | | |
|---|---|---|
| Temporary Escape Tunnel | Rs 5,63,482 | including Rs 48,100 for clearing |
| Reservoir Embankment | 5,22,600 | |
| Permanent Escape | 1,37,176 | |
| Watershed Tunnel & Regulator | 4,34,900 | |
| Silting Dam | 41,500 | |
| Road | 82,715 | 19 miles at Rs 4353 per mile |
| Temporary buildings | 49,000 | |
| Tools and Plant | 2,19,025 | |
| Travelling Batta | 35,000 | |
| Preliminary Investigations | 1,10,000 | of which Rs 63,168-6-1 already spent. |
| Labour Collectors | 41,000 | |
| Establishment | 2,75,000 | |
| Sundries | 1,31,000 | |
| | 26,43,000 | |
| which add cost of maintenance during Construction | 19,756 | |
| | 26,62,756 | |

and the cost of the works in the plains is estimated at

| | |
|---|---|
| Works for 86 miles above the Periyanay anicut | 3,09,820 |
| Canals under the Periyanay on North bank of the Vaigay | 22,14,654 |
| Stationery and office furniture | 55,950 |
| Maintenance during construction | 70,320 |
| | 26,50,244 |
| Grand Total Rs | 53,13,000 |

The work on the Hills will be completed in 5 working seasons of 200 days each - requiring 3600 coolies per diem - Rs 85,000 out of the Rs 1,10,000 allowed for preliminary expenses having

been already laid out Rs 3,00,000 are allowed for collection of Plant and for the road to the site of the work to be laid out before the actual work to commence. And the sums to be provided in the 5 working seasons are put down at Above Chaut Below Chaut

| | | | |
|---|---|---|---|
| Preliminary | 3,85,000 | | |
| 1st | 4,00,000 | | |
| 2nd | 5,75,000 | 5,50,000 | =4,00,000 |
| 3rd | 4,80,000 | 6,60,000 | =11,25000 |
| 4th | 3,95,000 | 7,25,000 | =11,40,000 |
| 5th | 4,27,756 | 7,15,244 | =11,20,000 |
| | 26,62,756 + | 26,50,244 | =11,43,000 |
| | | | =53,13,000 |

The temporary escape is proposed to be carried out in the first 3 seasons, and not to be closed till the end of the last season for safety of the works in progress. No water can be stored till it is closed, hence none can be supplied



for cultivation. Yet to ensure early return the Channels in the plains must be undertaken from the 2nd season so as to be finished simultaneously with the Head works. The water shed Tunnel work will be spread over all 5 seasons, but executed chiefly in the 2nd, 3rd and 4th. Preliminary work towards the Reservoir Dam having been undertaken in the 2nd and 3rd seasons it is intended to raise the Dam 120 feet high before November of the 4th and to complete it in the 5th; the permanent weir being commenced in the latter part of the former but the bulk of it carried out in the 5th season. The material to be used in the Dam is generally

spotters of as silt, but three trenches 6 feet deep cut into the rock from the bullah bed up to the high water mark of the Reservoir on both sides are also filled with puddle, to prevent percolation between the dam and the rock.

The anticipated return on our capital of 60 Lakhs (including abatement of assessment on land taken up, and interest &c capitalized) are stated at

4 per cent on the 6th or year after completion

7 3/8 ——— 7"

9 3/16 ——— 8½"

10 ——— 9"

subject to decrease if the works take longer to carry out, or if the



land is not taken up so readily as Estimated.

Total gross Revenue expected to be realized less Rs 1,00,000 for maintenance of work say Rs 6 Lakhs or 60 Lakhs or 10 per cent - acreage irrigated 93,172 acres.

G.M.W.

11-4-88

GB Mss 1193 — 30 — 4/75



Poems by the Rev. Sydney Godolphin Osborne — Private 1874

from the Rt Hon Lord Lyttelton — Private 1874

" President in Chancery and [illegible] — Private 1874

Music by the Rev. Sydney Godolphin Osborne — Private 1874

Music by the late Rev. [illegible] — Private 1874

" by the late Rev. J. B. Sale — Private 1874

" — W. Robinson Esq. — Private 25 June 1874

Poems by the Rev. [illegible] — Private 7 June 1874

Books by the late Rev. [illegible] — [illegible]

— by the late Governess — 6 [illegible] 1875

— by the late Mrs Sale — 1 Feb 1875

# Project for the diversion of the Penyaur
## General Abstract Estimate of the probable cost of the Scheme

| Sections &c | Cost of each section according to Mr. Smith's Estimate | Revised Cost | Remarks |
|---|---|---|---|
| Head Works | | 264000 | |
| Works in the valley of the Smallyaur | 264900 | 309820 | |
| Northern main Channel & Branches | 321760 | 221454 | |
| Stationery and Office furniture | 2392290 | 5950 | |
| Maintenance of work during construction | 55960 | 9076 | |
| | 90000 | 531200 | |
| | 5514900 | 66700 | |
| Deduct | | | |
| Value of land to be reclaimed | 1614900 | | |
| | 3900000 | 5399700 | |

Sum to be capitalized
by abatement
of Land
for the Channels
Say 5400

Interest upon Capital
Cattle upon Land
Repairs &c
Establishment

H. Dale Major R.E.

# Project for the diversion of the Periyaar

## Abstract Estimate of the Cost of the proposed Head Works

| | Sections | Cost of each section according to Mr. Smith's estimate Rs. | as. | p. | Revised Cost Rs. | as. | p. | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | Escape Tunnel | 563481 | 14 | - | 563481 | 14 | - | Difference due to insertion in original estimate of finishing the top of bank and the provision for sitting Pressflood from 38 to 40 as soon as bank is completed. |
| 2 | Reservoir Embankment | 504846 | 8 | - | 522600 | - | - | |
| 3 | Permanent Dam | 204176 | - | - | *137176 | - | - | |
| 4 | Watershed Tunnel and Regulator | 430200 | - | - | *434900 | - | - | * Difference due to Mr. Smith having 5 feet higher than proposed less cutting away required |
| 5 | Silting Dam and Silting Channel &c | 41600 | - | - | 41600 | - | - | |
| 6 | Road from Gudalur to site of Dam | 127000 | - | - | *82715 | - | - | * Due to slight modification in cutting owing to the water level being raised by 5' |
| | Temporary Buildings | 49000 | - | - | 49000 | - | - | |
| | Tools plant and Machinery | 219025 | - | - | 219025 | - | - | * See para 32 of Report. |
| | Travelling Cattle for Labourers | 35000 | - | - | 35000 | - | - | |
| | Preliminary investigations and Cost of Establishment to superintend the Construction of the Road &c | 110000 | - | - | 110000 | - | - | Rs 85717 expended up to date |
| | Labour Collection | 41000 | - | - | 41000 | - | - | |
| | Establishment for 4 years vide Appendix L dated 20th October 1871 | 191152 | - | - | 275640 | 13 | 7 | Establishment required for 5 years see para 61 of Report instead of for 4 years. |
| | Sundries | 136618 | 10 | - | 131012 | 2 | - | |
| | | 2656900 | " | " | | | | |
| | Deduct | | | | | | | |
| | Value of 10718 acres of land to be reclaimed from the beds of the tanks enumerated in Appendix B dated 20th October 1871 | 1614900 | - | - | | | | |
| | | 1240000 | | | 2623800 | | | |

H. Dalrymple Major R.E.

15

16

# Project for the diversion of the Serpentine

No. 2

# Abstract Estimate of the Cost of the proposed Head Works

70-No 1193—30-4/75

| | | | | | |
|---|---|---|---|---|---|
| | Brought forward Total | 104 | 103 | 86 | 32 |

| | | | |
|---|---|---|---|
| 39 | Appendices &c as per enclosed List | | 40 |
| | Note on the Project | | 1 |
| | Tracings | | 104 |
| | Original Plans including 3 on tracing cloth | | 103 |
| | Estimates | | 86 |
| | Specifications | 1 | 32 |
| | Total of Enclosures | | 366 |

Madras
20th January 1873

H. Yates Major R.E.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 48 | Plan of Surplus Sluice for Patchecolum tank in 7th mile | 1 | 1 | 1 | 1 | | |
| 47 | Do. Do. Bridge of 3 arches in 7 mile | 1 | 1 | 1 | 1 | | |
| 46 | Do. Do. Surplus Sluice for Ramavaya-puram tank in 6th mile | 1 | 1 | 1 | 1 | | |
| 46A | Do. Do. Shutters & Gearing for 46 & 48 " | 1 | 1× | | | | ×in Tracing Cloth |
| 45 | Do. Do. Om Aqueduct in the 3rd " | 1 | 1 | 1 | 1 | | |
| 44 | Do. Do. Fall & Bridge Combined in 2nd " | 1 | 1 | 1 | 1 | | |
| 23 | Do. Do. Culvert in ... 1st mile | 1 | 1 | 1 | 1 | | |
| 42 | Do. Do. Regulating Sluice 1st. | 1 | 1 | 1 | 1 | | |
| 40 & 41 | Do. Do. Head & Under Sluices on Northern flank of Paramay lower Paramay Ament | 2 | 2 | 1 | 1 | | Plans in Case No 7 |
| 39 | Do. | 1 | 1 | | | | |
| 38 | Do. Do. Regulating Sluice above Gullanur Weir in the Vagay | 1 | 1 | 1 | 1 | | |
| 37 | Do. Do. Fall adjacent to the Palam Paravu Weir in Channel pond that Work | 1 | 1 | 1 | 1 | | |
| 36 | Do. Do. Regulating Sluice above the Sekampatty Weir | 1 | 1 | 1 | 1 | | |
| 35 | Do. Do. Do. Ostannath Do. | 1 | 1 | 1 | 1 | | |
| 34 | Do. Do. Do. Kolathar Do. | 1 | 1 | 1 | 1 | | |
| 33 to 28 | Survey and Longitudinal Sections of the Sorroly aur from Cumbum Weir to the Vagay | 6 | 6 | x1 | | | |
| | Abstract estimate of North Main Channel & branches | | | 1 | | | |
| 1 | General Abstract estimate | | | 1 | | | |
| | Contour Survey of proposed Lake | *2 | 1 | | | | *tracing in 2 Sheets |
| 1 | Sketch Map showing whole Project in one Sheet | 1 | 1 | | | | In Case No 3 |
| | Head Works at each Site - ⊛Sheets 1 to 8 and 11 | 9 | 9 | 6 1× | 1 | | In Case No 1 Plans & Tracings ×Abstract |
| | Alternative scheme for open cutting Sheets 9 & 10 | ϕ2 | ϕ2 | ϕ1 | | | ⊛ Sheets 9 and 10 for open cutting not required |
| | Carried over Total | 104 | 103 | 86 | 32 | | ϕ estimate sent but not included in the Project |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 71 | Do | Do | Head Sluice for 1st class Distributary Channels | 1 | 1 | 1 | | |
| 70 | Do | Do | Regulating Sluice at Head of Villiagundam Distribution Channel | 1 | 1 | 1 | | |
| 69 | Do | Do | Fall in the 35th mile main channel | 1 | 1 | 1 | 1 | |
| 68 | Do | Do | " of 8 feet in 34. " | 1 | 1 | 1 | 1 | |
| 67 | Do | Do | " 5 feet in 11 Reach | 1 | 1 | 1 | 1 | |
| 66 | Do | Do | " 6 in 33 mile | 1 | 1 | 1 | 1 | |
| 65 | Do | Do | Bridge of 1 arch of 18' span | 1 | 1 | 1 | 1 | |
| 64 | Do | Do | Do 2 arches in 29 mile | 1 | 1 | 1 | 1 | |
| 63 | Do | Do | Do one Arch in 26 mile | 1 | 1 | 1 | 1 | |
| 62 | Do | Do | Do Do Do 24 " | 1 | 1 | 1 | 1 | |
| 61 | Do | Do | Inverted Syphon in 21 " | 1 | 1 | 1 | 1 | |
| 60 | Do | Do | Aqueduct for conveying main Channel under Nowangalawa 20 mile | 1 | 1 | 1 | 1 | |
| 59 | Do | Do | Bridge of 2 Arches in 20 mile | 1 | 1 | 1 | 1 | |
| 58 | Do | Do | Aqueduct to convey main Channel under Shattypour in 20 miles | 1 | 1 | 1 | 1 | Plans in Case |
| 57 | Do | Do | Occupation Bridge of 3 arches of 20 Span in the 3d Reach | 1 | 1 | 1 | 1 | |
| 56 | Do | Do | Head Sluice of 2d class Distribution Channels | 1 | 1 | 1 | | |
| 55 | Do | Do | Outlet Sluice in 12 mile | 1 | 1 | 1 | 1 | |
| 54 | Do | Do | Inlet Weir " 12 " | 1 | 1 | 1 | 1 | |
| 53 | Do | Do | Outlet Sluice " 11 " | 1 | 1 | 1 | 1 | |
| 52 | Do | Do | Inlet Weir " 11 " | 1 | 1 | 1 | | |
| 51 | Do | Do | Outlet Sluice General Plan for Drainage of 6 Square miles & under | 1 | 1 | 1 | | |
| 50 | Do | Do | Inlet Weir Do Do | 1 | 1 | 1 | 1 | |
| 49 | Do | Do | Outlet Sluice in 11 mile for supply of Ingrajar tank | 1 | x1 | 1 | | x On Tracing dft ml |
| 49A | Do | Do | Inlet weir to pass 61 D | 1 | x1 | 1 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 89 | " | " | 5 ft | 1 | 1 | 1 | Plans in Case No 3 |
| 90 | " | " | 6 ft + 7 ft | 1 | 1 | 1 | |
| 91 | " | " | 8 | 1 | 1 | 1 | |
| 92 to 95 | " | " | 9 ft | 4 | 4 | 1 | |
| 96 to 98 | " | " | 10 ft | 3 | 3 | 1 | |
| 99 | " | " | 11 ft | 1 | 1 | 1 | |
| 100 | " | " | 12 ft | 1 | 1 | 1 | |
| | | | | | | 1 × | |
| 83 | Plan of a Regulator at the head of the subsidiary branch Channels | | | 1 | 1 | 1 | |
| 82 | Do | Do | Drainage Culvert | 1 | 1 | 1 | |
| 81 | Do | Do | Irrigation Sluice for plots not exceeding 50 acres | 1 | 1 | 1 | Plans in Case No 4 |
| 80 | Do | Do | Do for plots from 50 to 100 | 1 | 1 | 1 | |
| 79 | Do | Do | Do " " 100 to 200 | 1 | 1 | 1 | |
| 78 | Do | Do | Do " " 200 to 300 | 1 | 1 | 1 | |
| 77 | Do | Do | Head Sluice for Minor Distribution Channels | 1 | 1 | 1 | |
| 76½ | Do | Do | of a Disp. of 6 feet up to 15 feet in length | 1 | 1 | 1 | 1 |
| 76 | Do | Do | " " above 15 | 1 | 1 | 1 | 1 |
| 75 | Do | Do | Road Tunnel of 1 Vent of 8' Span for 2nd Class District Roads | 1 | 1 | 1 | |
| 74 | Do | Do | 2 Vents of 8' span for Do | 1 | 1 | 1 | |
| 73 | Do | Do | Do of 1 Vent of 8' span for Main Roads | 1 | 1 | 1 | |
| 72 | Do | Do | 2 Vents of 8' span for Do | 1 | 1 | 1 | |

# List of Enclosures to Accompany Report on Perryaur Project

## Enclosures

### Appendices

A— Statement showing the discharge of the Perryaur at No 1 Site

B— Table showing the surface level of the Lake & the discharge of the temporary escape Tunnel at No 4 Site during a great flood similar to that of the 17th & 18th November 1869.

C— Statement showing height to which water would actually have risen in the Season of 1869/70 during the flood in November

D— Table showing the discharge of the Perryaur adjacent to No 4 Site

E— Table showing the Capacity of the Reservoir at No 4 Site and the area of the surface at various levels.

F— Table showing the surface level of the Lake and the discharge of the Permanent escape at No 4 Site during a great flood similar to that of the 17th & 18th November 1869

FF— Statement showing work proposed for execution and the daily number of effective labourers required in the Hill tract during each working Season

FFF— do do do do do Revised

G— do do Abstract for do

H— Estimate of the Probable sum required for Machinery Tools and Plant

I— Statement showing the discharge of the Perryaur from July 69 to October

Il— Statement showing the probable sum that will be required annually for the Management & conservation of the several works

Il— do do do do Revised

K— Abstract Statement of Cultivation and Revenue derived from the tract of the Country shown on the Sketch map from the Officer in Charge of the Perryaur investigations as commanded by the proposed Channels on the Bank of the Vegay River

KK— Abstract of do do do

L — Copy of a Letter from the Acting Collector of Madura regarding the average amount likely to be Realized per acre, by the sale of the lands in the beds of Tanks.

M — Average amount of compensation to be paid per acre for the land required for the Periyaur Channels and Subsidiary works

MM — Subsequent letter from Collector on the above subject — A

N — Copies of correspondence regarding the difference between the value of dry and wet lands and also certain rates to be fixed for single and double crop lands

O — Copy of Letter No 1772 of 15th October 1872 from Collector of Madura regarding the Assessment to be levied for single and double crops supplied from the Periyaur works

Q — Statement showing the anticipated annual expenditure how the Capital has been calculated and how the returns have been estimated

S — Statement showing fall of Sornoliyaur River bed

T — Statement of the amounts in the Vigaye and Sornoliyaur with information relative to them

U — Statement showing the area of land to be taken up for the main and branch channels from the Vigay and the Compensation to be paid for it

UU — Statement showing the amount to be capitalized on account of abatement of assessment on land taken up for the main & branch channels from the Vigay

V — Statement showing the quantity of water to be carried by the main channel and its branches

W — Circular Memorandum on allowance of water for small areas — H

Y — Table of the average monthly and annual Rainfall at seven stations in the Districts, adjacent to the catchment basins of the Periyaur

BB — Statement showing the acreage in the beds of the Tanks proposed to be reclaimed on the North of the Vigay and the villages in which they are situated

CC — Statement showing the probable monthly state of the Periyaur Reservoir in a season similar to 1869-70. 22

Z — Do — Do — do — for 1869/70 Revised

$Z_1$ — Do — Do — do — for 1870/71.

$Z_2$ — Do — Do — do — for 1871/72.

DD — Statement showing the estimated annual Cost of the establishment necessary for the Periyaur Project if sufficient labor can be obtained to complete the works in five years

DDD — Do — Do — Do — do — Revised.

HH — Statement showing the actual quantity of water available for irrigation in the plains of Madura.

Memorandum by Mr. Smith on the Project for the diversion of the Periyaur No 2 Site and works in the Plains dated 30th October 1871.

Memorandum by Mr. Smith on the Head works proposed for No 4 Site dated 15th April 1872

R — Memorandum by Major Oakes on the Work in the Plains

H. F. Oakes Major
R.E.

Madras
18 January
1873

Statement shewing the annual outlay incurred on the preliminary investigation of the Periyaur Project

| | Madura Range | Dindigal Range | Establishment Dindigal | Total | Remarks |
|---|---|---|---|---|---|
| 1866-67 | 248 - 9 | - - - | - - - | 248 - 9 | |
| 1867-68 | 199 15 5 | - - - | - - - | 199 15 5 | |
| 1868-69 | - - - | 6129 6 - | 9544 11 10 | 15,674 1 10 | |
| 1869-70 | 502 - - | 8595 8 3 | 8351 13 1 | 17,151 5 4 | |
| 1870-71 | 1040 14 10 | 10,600 x 4338 15 5 | 459 - - | 15,838 14 3 | |
| 1871-72 | - - - | 8,665 6 9 | 33,334 10 5 | 41,900 1 2 | |
| April to December 1872 | - - - | - - - | 10,376 8 5 | 10,376 8 5 | |
| | 2192 15 - | 37,629 4 5 | 62,066 11 9 | 1,01,888 15 2 | |
| | | Deduct Rs | | 16,129 6 - x | Chargeable to Local |
| | | | | 85,759 9 2 | |
| | | Deduct plus Rs | | 2,591 3 1 | Vide correction entry made in the month of January 1873 in accordance with instructions conveyed in G.O. No. 2535, dated 29th October 1872. |
| | | | | 83,168 6 1 | |

Office of the Controller of Public Works Accounts
Madras 9 August 1873.

Asst. Controller of P.W. Accounts

A.F.

After several years of careful investigation, during which all the sites on the Bory- -aur available for the construction of a dam to turn the waters of the 2½/per part of Hall River into the Madura Div. -ision have been fully examined,

Enclosure in a letter from the Offg. Controller of P.W. Accounts to the Secretary to Government P.W. Department dated 7 August 1873 No. 2833

P.W. 4457/73.

GP No 1193 – 30–6/75

examined, a project has been matured, providing for all the works necessary to irrigate with Perryaur water a considerable track of Country in Madura, and is now submitted for the consideration of Government.

2 The care and attention which have been bestowed upon this scheme by several Officers in succession, afford reasonable ground for believing that the very considerable engineering difficulties, which it presents, have been adequately provided for in the works as now designed



designed, and in the arrangements for their execution which are detailed in the papers accompanying the estimates.

3 The project contemplated the irrigation of, in round numbers about 155,000 acres of first and second crop land, in the proportion of three fifths of the former and two fifths of the latter, and the estimates, including establishments, maintenance of works during construction,

cost

cost of preliminary inves-
-tigations, and all as-
-certainable charges con-
-nected with the scheme
amount to 53,99,700 Rs
or nearly 54 lacs. The
probable Revenue returns
which may be expected
from the outlay have been
calculated on information
obtained from the Collector
of Madura, and they
amount, as shewn in
para 82 of Major Oakes'
note to a gross revenue,
derived principally from
water rates of Rupees 6
for first and Rupees 3
for second crop irrigation,
# of Rupees 6,94,015 or
12



12.8 percent on the esti-
-mated. This Officer
also shews, in Appendix
Q, what the net returns
on the accumulated
Capital, after deducting
1 lac from the gross reve-
-nue for maintenance
may be estimated to be
in each year from that
succeeding the completion
of the works; which,
unlike those confined
exclusively to the plains,
will not come even
partially into operation
until the whole, or at
any rate all but possibly
some portion of the minor
distribution works, have
been

been completed - The accu-
-mulated Capital includes
interest on the outlay from
year to year, and it is
shewn that by the time
the project may be expected
to yield a clear return of
4 percent, the Capital
will approximate to 60
lacs of Rupees.

4. These papers
will be communicated to
the Revenue Board through
the Revenue Department,
in order that the Revenue
considerations involved
may be fully examined
into, and reported upon.
It should be clearly explained,
assuming the water supply
to



to be sufficient for the area
mentioned in para 3
above, what the returns
would be on the one
hand if a water rate to
be imposed, and on
the other hand if the
lands be assessed on
munjah, while in the
former case the grounds
on which the water
rates for both first
and second crops may
be determined should
be fully set forth. It is
moreover of great im-
portance that the Govern-
ment should be correct-
-ly advised as to the
probability or otherwise
of

of the water being promptly
taken up for irrigation,
when made available,
and the Revenue Board
should therefore make
special enquiries on this
point, and should show
on what data the conclu-
-sions, which may be
arrived at, have been
based.

5 His Excellency
the Governor in Council
has much pleasure in
noticing the very complete
manner in which the
investigations connected
with this great and
difficult project have been
carried out by Mr F
Smith



Smith, and the able
assistance rendered to
that Officer by Lieutenants
Greer and Christie,
the latter having been
employed during the
earlier examinations,
and the former during
nearly the whole time
of the preparation
of the scheme.- To
Captain Pennycuick
and Lieutenant Cooke,
who rendered good
service in the examina-
-tion of the sites ul-
-timately selected, and who
prepared the way
for subsequent investi-
-gations, much of the
credit

credit appertaining to the successful working out of the project is due — Other Officers have at different times contributed to the solution of the problem involved in ascertaining whether it be feasible to divert water, having its natural outfall on the Western Coast, to the plains of Madura on the Eastern side of the mountains, but it is not necessary to do more here than acknowledge the good service rendered by those who have been engaged in working out the project in detail.

6 During the interval that must necessarily elapse before the report of the Revenue Board on the Revenue, or financial, features of the scheme can be prepared, the Government would wish, with reference to the remarks contained in para 6 and 9 of the note by the Chief Engineer for Irrigation, for additional information as to the nature of the soil available for the formation of the proposed

proposed dam in the Perryaur by sitting, and as to the position of the nearest Villages below the dam site which could possibly be injured by the accidental breaching of the embankment during its construction Mr R. Smith will be able probably to afford the necessary particulars regarding the soil; and, if it differs materially from that used by Mr Mc Ivor on the bund across the Poorthy Nullah on the Neilgherries, it may be advisable to

to ascertain by a special examination and analysis whether the Perryaur soil contains a sufficient proportion of dense clay to make it probable that a bund formed with it will possess, in an equal degree, the remarkable properties of the Poorthy dam. Lieutenant Orer will be instructed, when the right season of the year comes round, to make enquiries on the spot with regard to the second



heads

point referred to, and having ascertained what Villages, if any, are situated on the margin of the river, while its course continued to run through mountainous Country, he should visit them, and see whether their level above maximum floods in the river is such as to remove all apprehension of danger.

W. 22/4/13.

P. W. D.

## Proceedings of the Madras Government,

*Under date the* 187

Read the following :—

The Chief Engineer
P.W.D. states his intention to
recommend this scheme for
execution in its present shape
on the ground that of
want of sufficient experience
of the material which it is
proposed to use for the dam,
viz sifted earth in quantity
upwards of 2 millions of cubic
Yards, and in height 170 feet;
and of the amount of labour
and time required for de-
-fecating such material -
-wherefore it appears to be a
Conclusion essential to the
success of the work that

the grounds which are
fully stated in his D.O.

I suggest the D.O. as altered, except para 3, which I would omit

9/5

5.12

upwards of one-half the quantity or more than a million of Cubic yards, shall be raised to a height of 95 feet within 42 days - 2nd If the uncertainty of success in closing the temporary escape banks by either of the Expedients suggested by Major Oakes or Lieut Colonel Mullins within a limited maximum period of 43 days as appears to be equally essential ~~Element of success~~

2. Were these costly Experiments to be carried out under the most favorable circumstances, in a healthy accessible situation such as the Gulgheries, where the labour supply and means of conveying it could be reckoned on with certainty, the greatness of the results aimed at, might

perhaps justify His Excellency the Governor in Council in overruling the objections stated, and in recommending the acceptance even of so considerable a risk - But as the case stands he is unable to ~~accept~~ the responsibility.

3. He must ~~accordingly~~ ~~remit to higher authority the~~ ~~fact of further dealing with~~ ~~the papers submitted with~~ the expression of his regret that so much pains and money should have been expended in preliminary researches without practical result. A misfortune which would appear to have been owing to the Office of Chief Engineer for Irrigation having been held by 3 different officers during the period

I shd be inclined to recommend this ~~proposal~~ Sanction of Govt. I don't quite understand the ~~proposal~~ & submit the whole question to Govt? Should Govt. obtain further information on the matter without further reference to us.

"H. C. determine"
"on the whole scheme be one of"
"the present"

Should Govt. so decide the papers will be open generally with the views expressed by the Chief Engr as to the causes of the failure

of the investigations; and to want of previous knowledge of the locality on this part and on that of the Officers employed, which does not appear to have been remedied by the issue of general instructions on the one hand; or by individual services on the other till a late date. It cannot be too strongly insisted on for the future that Elaboration of details of such projects shall always be preceded by thorough scientific investigation of the scene of operations.

6 ~~The verification of the Revenue calculations, and the Consideration of the~~ project from a Revenue point of view, ~~may be~~ ~~has been~~ [illegible]

Would suggest
it would accord
para 3. Walker

22/5

4. As regards further action in the matter His Excellency in Council is unwilling that so grand a project should be ~~[illegible]~~ abandoned without ~~[illegible]~~ attempt to turn to account the science, labor, and money that have been expended upon it. And he resolves accordingly to transmit all the papers connected with it to the Secretary of State for India, through the Govt. of India, with a request that they may be submitted to the highest Engineering authorities, ~~at home~~; in order that the enquiries suggested in para 6 of Col. Walker's Memorandum may be made with the greatest prospect of success.

available ~~[illegible]~~ data
basic Telegraph

H.E. in Council thinks it very desirable that this reference should not be limited to professional Engineers in England if, as is probable, works on a project of large scale, similar to the Sevgar project, have been carried out in other countries of Europe or in America.

9/3

5. With reference also to the concluding suggestions of that memorandum, similar to which appear to have occurred to the District Engineer of Madura, it will be remitted to the Chief Engineer for Irrigation for ~~careful~~ future enquiry, (when the services of a qualified Officer ~~that~~ may be described are available) whether a considerable portion of the waters of the Upper Perry ~~&~~ Vaigai and its tributaries may not be diverted by an intercepting Channel, and ~~turning these~~ ~~turned~~ by a tunnel or cutting through the lowest Saddle into the Valley of the Vaigai River; ~~&~~ there utilized with or without storing reservoirs.

In the mean time the attention of the Chief Engineer for Irrigation will be directed to the suggestion contained at the end of Col Walker's Memorandum. ~~and he will be instructed to make all the necessary arrangements for investigating~~

~~as an alternative Project~~ ~~the alternative proposal~~

~~diverting~~

~~in~~

H.E. in Council is anxious that no time should be lost in ~~commencing~~ the preparation of this alternative project and directs that a qualified officer be at once selected for this work. H.E. in Council relies upon the Chief Engineer for Irrigation taking an active part in the direction of the Enquiry & giving by his presence on the spot, as often as may be necessary, the fullest assistance in ~~the prosecution of the project~~ to the officer in charge

in augmentation of existing supply. It is possible that the results aimed at by the project as at present laid out may to a very great extent be realized with lies cost, more facility of execution, and greater certainty, by such a scheme; whereby the work to be performed in the more inaccessible and unhealthy tract of country above Chanthi would be reduced to a minimum, and the construction of such storage reservoirs as may be feasible, freed from the chief elements of uncertainty and danger.

6. The verification of the Revenue Calculations

and

of the original project
and the consideration of the
project from a Revenue
point of view, may be post-
poned for the present.

11-4-85

Govt.

will be taken up by
a Revenue officer
to be selected by
the Bd of Revenue
under instructions
from Mat Dept.

Govt.

Recommended

GO. No 1193 -30-4/75

GO-3-75

56

Statement of Plans &c, to accompany the Report on the Periyaur Project.

| No of Sheet | Names | Plans. |
|---|---|---|
| 1-13 | Survey, longitudinal and transverse | 13 |
| 14 | Section of the north main channel | 1 |
| 84 | Survey & Section of the branch channel | 1 |
| 85 | do 2nd do | 1 |
| 86 | do 3rd do | 2 |
| 87 & 88 | do 4th do | 1 |
| 89 | do 5th do | 1 |
| 90 | do 6th & 7th do | 1 |
| 91 | do 8th do | 4 |
| 92 & 93 | do 9th do | 3 |
| 96 & 98 | do 10th do | 1 |
| 99 | do 11th do | 1 |
| 100 | do 12th do | 1 |
| 83 | Plan of Regulator at the head of the subsidiary branch channels | 1 |
| 82 | do drainage culvert | 1 |
| 81 | do Irrigation Sluices for plots not exceeding 50 acres | 1 |
| 80 | do do for plots from 50 to 100 acres | 1 |
| 79 | do do do 100 to 200 do | 1 |
| 78 | do do do 200 to 300 do | 1 |
| 77 | do head Sluice for minor distribution channels | 1 |
| 76½ | do of a drop of 6 feet & to 15 feet in length | 1 |
| 76 | do do do above 15 | 1 |
| 75 | do road tunnel of 9 feet & 8 feet span for 2nd Class district roads | 1 |

| | | | | |
|---|---|---|---|---|
| 74 | Plan of Regulating 2 vents of 8 ft span for 2d Class dist. roads | 1 | 57. | Plan of Regulator outlet Sluice general plan for drainage |
| 73 | do do 1 vent of 8 ft span for main roads | 1 | | of 6 square miles and under 1 |
| 72 | do do 2 vents of 8 ft span for do | 1 | 50 | do do inlet weir do do 1 |
| 71 | do do head sluice for 1st Class distribution channels | 1 | 49 | do do outlet Sluice in 11 mile for supply of |
| 70 | do do regulating sluice at head of Vellagundam dis- | | | Iyengar tank 1 |
| | tribution channel | 1 | 49A | do do inlet weir to do do do 1 |
| 69 | do do fall in the 3½ mile, main channel | 1 | 48 | Plan of Surplus Sluice for Notcheelum tank in |
| 68 | do do do of 8 ft in 3½ mile, main channel | 1 | | ½ mile 1 |
| 67 | do do do of 5 ft in 11 peach | 1 | 47 | do do bridge of 3 arches in ½ mile 1 |
| 66 | do do do 6 in 3d mile | 1 | 46 | Plan of Surplus Sluice for Ramaswapuram tank in |
| 65 | do do bridge of 1 arch of 18 feet Span | 1 | | 6 mile 1 |
| 64 | do do do of 2 arches in 29 mile | 1 | 46A | do do Shutters & gearing for 46 & 48 mile 1 |
| 63 | do do do of 1 arch in 26 mile | 1 | 45 | do do an aqueduct in the 3d mile 1 |
| 62 | do do do do 2½ mile | 1 | 44 | do do fall and bridge combined in 2d mile 1 |
| 61 | do do inverted syphon in 21 mile | 1 | 43 | do do Regulating Sluice in 5th mile 1 |
| 60 | do do aqueduct for conveying main channel | | | do do Culvert in ½ mile 1 |
| | under Morangahaven, 20 mile | 1 | 40 & 41 | do do head & under Sluices on northern flank of |
| 59 | do do bridge of 2 arches in 20 mile | 1 | 39 | Saranay weir 2 |
| 58 | do do aqueduct to Onvey main channel | | | do do Saranay anicut 1 |
| | under Shattyaur in 20 mile | 1 | 38 | do do regulating Sluice above Gullianur weir |
| 57 | do do occupation bridge of 3 arches of 20 ft | | | in the Vigay 1 |
| | Span in the 3 reach | 1 | 37 | do do fall adjacent to the Salampavara weir in |
| 56 | do do head sluice of 2nd class distribution chan | 1 | | channel pound that work 1 |
| 55 | do do outlet sluice in 12 mile | 1 | 36 | do do regulating Sluice above the Selliempatty |
| 54 | do do inlet weir in 12 mile | 1 | | weir 1 |
| 53 | do do outlet sluice in 11 mile | 1 | 35 | do do Aotamutt do 1 |
| 52 | do do inlet weir 11 mile | 1 | 34 | do do Kotahar do 1 |
| | | | | Contour Survey of proposed Lake 1 |

1 Sketch Map showing whole project in 1 Sheet 1.
Head works at No 2 Site. Sheets 1 to 8 & 10 9 [illegible]

~~2 Appendices &c as per enclosed List~~ ~~X~~

Note on the project 1

Tracings 104

Original plans, including 3 in tracing cloth 108

Estimates 86

Specification 82

Table of Enclosures

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*Statement of Plans, &c., to accompany the Report on the Perryaur Project.*

| No. of Sheet. | Names. | Tracings. | Plans. | Estimates | Specifications. | Remarks. |
|---|---|---|---|---|---|---|
| | | | | rs. | | |
| 1 to 13 | Survey, longitudinal and transverse ... ... | 13 | 13 | 12 | ... | * Alternative line estimated for No. 1— not required. † Abstract. |
| 1A | Sections of the north main channel ... ... | 1 | 1* | 1† | ... | |
| 84 | Survey and Sections of the 1st branch channel: | 1 | 1 | 1 | ... | |
| 85 | Do. do. 2nd " " ... | 1 | 1 | 1 | ... | |
| 86 | Do. do. 3rd " " ... | 2 | 2 | 1 | ... | |
| 87 & 88 | Do. do. 4th " " ... | 1 | 1 | 1 | ... | |
| 89 | Do. do. 5th " " ... | 1 | 1 | 1 | ... | Plans in case No. 8. |
| 90 | Do. do. 6th & 7th " " ... | 1 | 1 | 1 | ... | |
| 91 | Do. do. 8th " " ... | 4 | 4 | 1 | ... | |
| 92 to 95 | Do. do. 9th " " ... | 3 | 3 | 1 | ... | |
| 96 to 98 | Do. do. 10th " " ... | 1 | 1 | 1 | ... | |
| 99 | Do. do. 11th " " ... | 1 | 1 | 1 | ... | |
| 100 | Do. do. 12th " " ... | ... | ... | 1† | ... | |
| 83 | Plan of Regulator at the head of the subsidiary branch channels. | 1 | 1 | 1 | ... | |
| 82 | Do. do. drainage culvert ... ... | 1 | 1 | 1 | ... | |
| 81 | Do. do. Irrigation sluice for plots not exceeding 50 acres. | | | | | |
| 80 | Do. do. for plots from 50 to 100 acres. | 1 | 1 | 1 | ... | |
| 79 | Do. do. do. do. 100 to 200 " | 1 | 1 | 1 | ... | |
| 78 | Do. do. do. do. 200 to 300 " | 1 | 1 | 1 | ... | |
| 77 | Do. do. head sluice for minor distribution channels. | 1 | 1 | 1 | 1 | |
| 76½ | Do. do. of a drop of 6 feet up to 15 feet in length. | 1 | 1 | 1 | 1 | |
| 76 | Do. do. do. do. above 15 ... | 1 | 1 | 1 | ... | |
| 75 | Do. do. road tunnel of 1 vent of 8 feet span for 2nd-class district roads. | 1 | 1 | 1 | ... | |
| 74 | Do. do. 2 vents of 8 feet span for do. do. | 1 | 1 | 1 | ... | |
| 73 | Do. do. of 1 vent of 8 feet span for main roads. | 1 | 1 | 1 | ... | |
| 72 | Do. do. 2 vents of 8 feet span for do. | 1 | 1 | 1 | ... | |
| 71 | Do. do. head sluice for 1st-class distribution channels. | 1 | 1 | 1 | ... | |
| 70 | Do. do. regulating sluice at head of Velliagundam distribution channel. | 1 | 1 | 1 | 1 | |
| 69 | Do. do. fall in the 35th mile, main channel. | 1 | 1 | 1 | 1 | |
| 68 | Do. do. do. of 8 feet in 34 mile, main channel | 1 | 1 | 1 | 1 | |
| 67 | Do. do. do. of 5 feet in 11th reach ... | | | | | |
| 66 | Do. do. do. of 6 in 33rd mile. | 1 | 1 | 1 | 1 | |
| 65 | Do. do. bridge of 1 arch of 18 feet span. | | | | | |
| 64 | Do. do. do. of 2 arches in 29th mile. | 1 | 1 | 1 | 1 | |
| 63 | Do. do. do. of 1 arch in 26th mile. | 1 | 1 | 1 | 1 | |
| 62 | Do. do. do. do. do. 24th " | 1 | 1 | 1 | 1 | |
| 61 | Do. do. inverted syphon in 21st mile ... | 1 | 1 | 1 | 1 | |
| 60 | Do. do. aqueduct for conveying main channel under Morangahaven, 20th mile. | 1 | 1 | 1 | 1 | |
| 59 | Do. do. bridge of 2 arches in 20th mile. | 1 | 1 | 1 | 1 | |
| 58 | Do. do. aqueduct to convey main channel under Shattyaur in 20th mile. | 1 | 1 | 1 | 1 | |
| 57 | Do. do. occupation bridge of 3 arches of 20 feet span in the 3rd reach. | 1 | 1 | 1 | ... | |
| 56 | Do. do. head sluice of 2nd-class distribution channels. | 1 | 1 | 1 | 1 | |
| 55 | Do. do. outlet sluice in 12th mile ... | 1 | 1 | 1 | ... | |
| 54 | Do. do. inlet weir in 12th mile ... | 1 | 1 | 1 | 1 | |
| 53 | Do. do. outlet sluice in 11th mile ... | 1 | 1 | 1 | ... | |
| 52 | Do. do. inlet weir, 11th mile. | 1 | | | | |
| 51 | Do. do. outlet sluice general plan for drainage of 6 square miles and under. | | 1‡ | 1 | 1 | ‡ On Tracing cloth only. |
| 50 | Do. do. inlet weir do. do. ... | 1 | 1 | 1 | ... | |
| 49 | Do. do. outlet sluice in 11th mile for supply of Iyengar tank. | | ‡ | 1 | ... | |
| 49A | Do. do. inlet weir to pass do. do... | 1 | 1 | 1 | 1 | |
| 48 | Plan of Surplus sluice for Notchicolum tank in 7th mile. | 1 | 1 | 1 | 1 | |
| 47 | Do. do. bridge of 3 arches in 7th mile. | | | | | |

Estimate in case No. 9

## Cenyons Project

Plans & tracings Nos 9910 27
stated not to be required and
should therefore be retained in
Office. Plans & tracings Nos 2855-
Surveys &c. of the Sonallayans
to the Vigay. are not entered in
the printed list & perhaps they
ought not to be sent to the
Government of India.

20/4/75 J.T.

*Statement of Plans, &c., to accompany the Report on the Perryaur Project.*—(Concluded.)

| No. of Sheet. | Names. | Tracings. | Plans. | Estimates. | Specifications. | Remarks. |
|---|---|---|---|---|---|---|
| | | | | Rs. | | |
| 46 | Plan of Surplus sluice for Ramavajapuram tank in 6th mile. | 1 | 1 | 1 | 1 | * On Tracing cloth. |
| 46A | Do. do. shutters and gearing for 46th and 48th mile. | 1 | 1* | ... | ... | |
| 45 | Do. do. an aqueduct in the 3rd mile ... | 1 | 1 | 1 | 1 | Plans in case No. 7. |
| 44 | Do. do. fall and bridge combined in 2nd mile. | 1 | 1 | 1 | 1 | |
| 43 | Do. do. culvert in 1st mile ... ... | 1 | 1 | 1 | 1 | |
| 42 | Do. do. regulating sluice, 1st mile ... | 1 | 1 | 1 | 1 | |
| 40 & 41 | Do. do. head and under sluices on northern flank of Paranay weir. | 2 | 2 | 1 | 1 | |
| 39 | Do. do. Paranay anicut ... ... | 1 | 1 | ... | ... | |
| 38 | Do. do. regulating sluice above Gullianur weir in the Vigay. | 1 | 1 | 1 | 1 | |
| 37 | Do. do. fall adjacent to the Palamparara weir in channel round that work. | 1 | 1 | 1 | 1 | |
| 36 | Do. do. regulating sluice above the Seliemputty weir. | 1 | 1 | 1 | 1 | |
| 35 | Do. do. do. Ootamuth do. ... | 1 | 1 | 1 | 1 | |
| 34 | Do. do. do. Kotahar do. ... | | | 1* | ... | |
| 35 to 38 | Survey and Longitudinal Sections of the Sonoohyaur from Cumbum weir to the Vigay. | 4 | 4 | ... | ... | |
| | Abstract estimate of north main channel and branches. | ... | ... | 1* | ... | |
| | 1 General Abstract Estimate ... ... ... | ... | ... | 1* | ... | † Tracing in 2 Sheets. |
| | Contour Survey of proposed lake... ... ... | 2† | 1† | ... | ... | In case No. 3. |
| | 1 Sketch Map showing whole project in one sheet. | 1 | 1 | ... | ... | |
| | Head works at No. 4 site. ‡ Sheets 1 to 8 and 11. | 9§ | 9§ | 6 | 1 | § In case No. 1. Plans and Tracings. |
| | | | | 1‖ | | ‖ Abstract. |
| | | | | | | ‡ Sheets 9 and 10 for open cutting not required. |
| | Alternative Scheme for open cutting. ‡ Sheets ‡9 and 10. | 2¶ | 2¶ | 1¶ | ... | ¶ Estimate sent but not included in the project. |
| | 39 Appendices, &c., as per enclosed list | 40 | ... | ... | ... | |
| | Note on the project ... ... ... | 1 | ... | ... | ... | |
| | Tracings ... ... ... ... | 104 | ... | ... | ... | |
| | Original plans, including 3 on tracing cloth... ... ... ... ... | 103 | ... | ... | ... | |
| | Estimates ... ... ... ... | 86 | ... | ... | ... | |
| | Specification ... ... ... ... | 32 | ... | ... | ... | |
| | Total of Enclosures ... | 366 | | | | |

(Sigend) R. F. OAKES, Major, R.E.

MADRAS,
*20th January* 1873.

List of Plans relating to the Peryaar Irrigation Project which have been handed over to the Chief Engineer

1. Sheet No 34 Plan Section & Elevation of the Regulating sluices proposed for construction on the Left bank of the Vorrallayaru adjacent to the Kalabeh weir

2. Sheet No 35 do do do do on the right bank of do about immediately above the Catchment weir

3. Sheet No 36 do do do do about immediately above the Gullavaram weir

4. " " 37 Plan Section & Elevation of the fall proposed for construction adjacent to the Kalabeh weir

5. " " 36 do do do of the Regulating sluices proposed for Construction on the left bank of the Vorrallayaru above the Kalabeh weir

6. " " 48 Plan Section & Elevation of the Surplus sluices proposed for construction in the embankment of on the Kalabeh Tank

7. " " 50 Northern Main Channel - General plan of inlet weirs to admit the drainage from Catchment basins not exceeding 6 sq. miles

8- Sheet No. 57- General plan of the occupation bridge proposed for construction in the 3rd reach of the Northern main channel.

9- " - 49A Plan of inlet for supply of Syenpen tank.

10- " - 49 Do — outlet for — do — do —

11- " - 83- General plan of the Regulator proposed for construction at the head of the subsidiary branch channel.

12- " - 82- General plan of drainage culverts proposed for construction in connection with the main distribution channels.

13- " - 81- do — of Irrigation sluices for plots not exceeding 50 acres.

14- " - 80 — do — of Irrigation sluices for areas from 50 to 100 acres.

15- " - 79 — do — do — from 100 to 200 acres.

16- " - 78 — do — do — from 200 to 300 — "

17- " - 77 — do — of sluices proposed for construction at the heads of minor distribution channel for areas from 500 to 1000 acres.

18- " - 76½ — do — for over falls in branch channels with crest upto 10 ft in length.

19- " - 76 — do for falls of 6 ft in the minor distribution channel.

20- " - 75 — do — of Road tunnels proposed for construction over 2nd Class distribution channels in the line of 2nd Class do Roads.

21- " - 74 — do — do — do — 1st Class — do do

22- " - 73 — do — do — do — 2nd Class — do do

23- Sheet No. 72- General plan for Road Tunnels proposed for construction over 1st Class distribution channels in line of Trunk Roads.

24- " - 71 — do — of Head sluices for distribution channels taking off from 188 to 288 c.ft per second.

25- " - 70 Plan, Elevation & Section of the sluice proposed for construction at the head of the Vellia-gondlum distribution channel.

26- " - 69- Northern Main channel — Plan, Elevation & Section of the Fall proposed for construction in the 36th mile.

27- " - 68 — do — do — do — of the Falls & Regulator combined proposed for construction in the 36th mile.

28- " - 67 — do — Genl plan of the Falls of 6 ft in the 11th reach.

29- " - 66 — do — Plan Sections & Elevation of the 6 ft falls proposed for construction in the 33rd mile.

30- " - 65 — do — do — do — do — of the bridge — do — in the 32nd mile.

31- " - 64 — do — do — do — do — do — in the 29th mile.

32- " - 63 — do — do — do — do — in the 26th mile.

33- " - 62 — do — do — do — do — in the 21st mile.

34- " - 61 Northern Main Channel- Plan & Section of the inverted Syphon in the 21st mile.

35- Sheet № 60. Northern main channel. Plan Section & Elevation of the Aqueduct & Culvert combined proposed for construction at the Manimgalian

36 — " — 59 — do — Bridge proposed for construction in the 2d mile.

37 — " — 58 — do — Aqueduct & Culvert combined proposed for construction in the Kattiyan in the 20th mile.

38 — " — 56 — General Plan of the Sluices for distribution channels taking off from 42 to 94 c. ft. per second.

39 — " — 55 — Northern main channel - Plan Section & Elevation of the outlet sluices proposed for construction in the 12th mile.

40 — " — 54 — do — do do do - of inlet

41 — " — 53 — main — do — across the Angy-a-tanniy.

42 — " — 52 — do — do do do - of outlet sluice — do — in the 10th mile.

43 — " — 51 — do — General plan of inlet weir to admit the drainage from catchment basin not exceeding 9 sqre miles.

44 — " — 47 — do — do — do — not exceeding 6 sqre miles.

45 — " — 46 — do — Plan, Section & Elevation of the bridge proposed for construction in the 7th mile.

46 — " — 46A — Plan Section & Elevation of the surplus sluice proposed for construction in the embankment of the Ramarajapuram Tank

for Nos 46 & 48.

41- Sheet № 46. Northern main channel - Plan Section of the aqueduct proposed for construction in the 3d mile.

48 — " — 44 — do — of the fall & bridge combined do in the 2nd mile

49 — " — 43 — do — of the culvert do in the 1st mile of the main channel from the Karaiyan Aniout.

50 — " — 42 — do — of sluices for supplying the 11th Lake of the existing & proposed channels from the

— — — do

51 — " — 41 — Proposed № 2 under sluices at the — do —

52 — " — 40 — Plan & Section of the — do — proposed for construction at the — do —

53 — " — 39 — Plan of the Karaiyan Aniout showing the positions of the proposed № 1 & 2 Sluices —

54 — Sketch Map showing the Lakes proposed for the Head Works; the Valleys of the Soorallyaar & Vigay & the alignments of the distribution channels in the Plains of Ellayan.

55- Sheet № 88. Survey & Section of the 4th Branch channel (2nd Line)

56 — " — 89 — do — 5th — do — from the Northern main line.

57 — " — 90 — do — 6·17th — do — from — do —

58 — " — 91 — do — 8th — do — from — do —

59 — " — 92 — do — 9th — do — from — do —

60 — " — 93 — do — 9th — do — from — do — 12th Mile

61- Sheet No 94 - Survey & Sections of the 9th Branch Channel (3rd Sheet)
62 " - 95 — do — 9½ — do — (4th Sheet)
63 " - 96 — do — 10½ — do —
64 " - 97 — do — 10½ — do — (2nd Sheet)
65 " - 98 — do — 10½ — do — (3rd Sheet)
66 " - 99 — do — 11½ — do —
67 " - 100 — do — 12½ — do —
68 } 11 Transverse & Longitudinal Sections.
to }
78 }
79 Sheet to accompany Sheet No 1A } Northern main Channel - Longitudinal Section -
80 - Survey Longitudinal & Transverse Sections of the Northern main channel
81 — do — do — do — (Sheet 2)
82 - Sheet No 82 - Survey & Sections of the North branch channel from the Northern main line -
83 " - 85 — do — of the 2nd Branch channel from — do —
84 " - 86 — do — 3½ — do — do —
85 " - 87 — do — 4½ — do — do —
86 " - 9 Project for the deviation of the Perryans Head works No 4 Lake - Plan & Section of the Regulator designed in connection with the Water shed cutting Sheet No 1 (with one tracing)

87 - Sheet No 10 - Perryans Head Works - Lake No 4 - Water shed cutting Regulator Sheet No 2 - (with one tracing)
88 - " - 28 - Project for the diversion of the Perryans Survey & Longitudinal Section of the Sorrallyan from near the foot of the Chimney-Sorrally hill to the Vgay - (with one tracing)
89 " - 29 Survey of the Sorrally ways Sheet No 2
90 " - 30 — do — " " 3
91 " - 31 — do — " - 4
92 " - 32 — do — " " 5
93 " - 33 — do — " " 6
Sheets 2 to 6 inclusive to accompany No 28

Dft

Original Contours 12/9/75 of the Project given by Mr Hawkins to Mr Smith S.E. Nellore - This plan could not be found when the project was submitted to the Govt of India -

Dft
29/9/75

As the plans & tracings of the works connected with the Bernard Project have been submitted & instructions are solicited as to whether the plans or the tracings or both plans & tracings should be sent to the Govt of India.

10/5

P.P

As required by Office Memo dtd 27" May all plans &c. connected the Berryans Project have been entered in a list and shown over to the Office of Secy to Engrs for Signature - & one of the prints to the Executive Judicial instructions under Colonel Walker to send the to the Govt of India for [illegible] having in office authority accordingly done on the 1st

9/6/75 by Colonel Walker's instructions

64

Public Works Department.

PROCEEDINGS of the MADRAS GOVERNMENT.

Under date the

READ the following:—

From Major R. F. Aikes R.E. H.E. No 28 dy 20 Jan 73.
" Ch Engr for Mysore — " — 288 dy 17 April 73.
" Resident in Travancore Cochin, thro Ch Engr & Govt — " — 25 - dy 29 Oct 73 —
Memo by Chief Engr P.W.D — 24 May 1874
Minute by H.E. the Governor — 4 June 1874
" Hon J. D. Sim C.S.I — 26 Jan 1875
" Hon W. Robinson C.S.I — 17 June 1874
" H.E. the Comr in Chief — 15 March 1875
Note by Hon R.S. Ellis C.B — 6 March 1875
" H.E. the Governor — 1st Feb: 1875.
" Hon. J. D. Sim C.S.I —

The Chief Engineer P.W.D. states his inability, on grounds which are fully stated in his note, to recommend this scheme for execution in its present shape.

2. Were these costly proposals to be carried out under the most favorable circumstances, in a healthy accessible situation such as the Kurg hill stations where the labour supply and means of supervising it could be

23/3

R.S.E

23/3

reckoned in with certainty, the greatness of the results aimed at, might perhaps justify His Excellency the Governor in Council in overruling the objections stated, and in recommending the acceptance even of so considerable a risk as that which would thus be incurred.

But as the case stands he is unable to accept the responsibility.

3. As regards further action in the matter His Excellency in Council is unwilling that so grand a project should be abandoned without an attempt to turn to account the science, labour, and money that have been expended upon it.

And he has

to transmit all the papers connected with it to the Secretary of State for India, through the Government of India, with a request that they may be submitted to the highest engineering authorities available; in order that the inquiries suggested in para 6 of Colonel Walker's memorandum may be made with the greatest prospect of success. His Excellency in Council thinks it very desirable that the reference should not be limited to professional Engineers in England if, as is probable, works on a large scale, similar to the proposed Perryaur project, have been carried out in other countries of Europe or in America.

Para. 4. In the meantime the attention of

of the Chief Engineer for
Irrigation will be directed
to the suggestion contained
at the end of Colonel Walker's
Memorandum, And he will
be instructed to make all
the necessary arrangements
for investigating the alterna-
tive proposal of diverting
a considerable portion of the
waters of the Upper Periyaur
and its tributaries by an in-
tercepting Channel, and
turning them by a tunnel
or cutting through the lowest
Saddle into the Valley of
the Vaigay River; there to be
utilized with or without storing
Reservoirs in augmentation of
existing supply. It is possible
that the results aimed at,
by the Project as at present
laid out may to a very

great extent be realized with
less cost, more facility of re-
tention, and greater certainty
by such a scheme; whereby
the work to be performed in
the more inaccessible and
unhealthy tract of country
above Ghauts would be reduced
to a minimum, and the con-
struction of such storage Re-
servoirs as may be feasible,
freed from the chief element
of uncertainty and danger.

His Excellency in Council
is anxious that no time should
be lost in the preparation of
this alternative project and
directs that a qualified Officer
be at once selected for this
work. His Excellency in Coun-
cil relies upon the Chief
Engineer for Irrigation taking
an active part in the direction
of the Enquiry and giving to

his presence on the spot, as often as may be necessary, the fullest assistance to the Officer in charge.

5. The verification of the Revenue calculations of the original project, and its consideration from a Revenue point of view will be taken up by a Revenue Officer to be selected by the Board of Revenue under instructions from that Dept.

Circular

The Chief Secy to Govt
" Revenue Dept
" Dist. Engr Madura
" Resident at Travancore & Cochin.
" Political Dept

Only Engr Copy despd 10-5-75.
Seven Copies despd 12-5-75.



Letter from the Resident at Travancore & Cochin dd 27 Oct 1875 No 96 on the question of the Remuneration to be given to Tahsildars, for the use, in carrying out the Periyar project, of the land & water belonging to the State

Forwarded to Complete the file on the subject of the Periyar project now in Circulation.

Recd 7th November 1875

Recd 6th November 1875

Secy to Govt
Mad

Public Works 1875 - Dept

No. 1193.

Proceedings of the
Madras Government

Dated 30th April 1875.

No. 692 C/04.

Go No 1193 of 30-4-75



No 1194 of 30th April 1875

To

The Secretary to the
Govt: of India
P.W.D.

Sir,

I am directed by
His Excellency the Governo
in Council to transmit
all the papers connected
with the Periyaur Project
for development of
Irrigation in the Madu
District at an estimated
cost of 60 Lakhs of Rupe
with a request that the
may be referred thro

Seen
07/4

the Secretary of State for India to the highest Engineering authorities, with a view to the possible elaboration of some means of damming up the course of the Perryaur river and diverting its waters for the benefit of cultivation which shall be free from the enormous risks that have induced this Government reluctantly to withhold their approval to the measures devised by their own Engineers.

The fullest information now

information regarding the Project is available from the Surveys and Plans &c of which a list is given with G.O. No. 1193 of 30th April 1875 with which also are recorded elaborate Reports and Minutes on the subject.

Lyon

P 1193
to copies described
1876

Desp. 13-5-95 with plans* as per list annexed & 90 Cp. of G.O. 1193 of 1875.
* sent to Calcutta with Despatch No. 35 Copies sent to Colombo with letter. * being printed

16 Sept/67 11-2-21.
3rd Sept/68 — 2809
28 July/69 — 659.660
8 Dec/70 — 183.182
26 Feb/69 — 530.531
8 April/70 — 122.123
12 Aug — 183.182
9 Oct — 149.151
4 Aug/71 — 71-72
28 Mar — 657-658
29 — 681-682

11-2-0 3-11

11 93-96
3.0.2
P. W. D
Original

29-1-95 Thus
2-1-11
13.8.09