

(1) Number of pages 234
(2) Date of repair 7.1.87
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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

P.W.D

DEPARTMENT

G.O. No.
B.P. No.

1861-A-W

Press.
Mis.

Dated

8-7-1879

197 .

or roughly handled

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

8th July 1879, No. 1,801 A-W.

Buildings & Roads
Civil Works

Read the following papers:—

No. 38. Proceedings of the Board of Revenue, dated 14th March 1878, No. 695.

Proceedings of the Madras Government in the Revenue Department, dated 21st February 1878, No. 284.

ABSTRACT.—*Sadras and Buckingham Canal.*—Considering that the time has arrived for a complete change in the system of tolling hitherto in force and for the introduction of a plan similar to that sanctioned in 1872 provisionally, and requesting the Board of Revenue to report on the subject.

From R. W. BARLOW, Esq., Collector of the Chingleput District, to the Acting Secretary, Board of Revenue, dated Saidapet, 5th March 1878, No. 98.

With reference to paragraph 15 of the Board's Proceedings, dated 21st January 1878, No. 216, I have the honor to report that at the time the budget of the Cochrane's and Sadras Canal Fund for 1878-79 was prepared, I had no information before me either as to what portions of the East Coast Canal in the district of Nellore, recently completed from Famine Funds, would be opened for traffic during next year, or as to what number of boats might arrive from those parts at Madras and pay tolls. I therefore restricted the estimate to the average collections of ordinary years; if, however, the Board are in a position to estimate the additional revenue that might be derived from the extension of the canal northwards, I would suggest that the necessary alteration may be made in the budget.

From the same Officer, dated Saidapet, 7th March 1878, No. 100.

ADVERTING to the Board's Proceedings, No. 400, dated 14th ultimo, and in reply to a demi-official from the Secretary, dated 5th instant, I have the honor to forward a set of draft rules for the whole system of the East Coast Canals.

2. As I have been directed in the demi-official to prepare the draft to suit the introduction of Act I of 1870 and the license system throughout, I have adopted the rules approved of by Government in G.O., No. 1,100, dated 10th October 1872, the only addition being one to regulate the speed at which steam launches are to run. I should have preferred to add a rule regarding the overcrowding of boats necessary, in my opinion, for the comfort, though perhaps not for the safety, of the passengers; but have omitted it as Government in the order above quoted laid down that such interference is not necessary.

3. In conclusion, I have to inform the Board that the Salt Boat Contractor cannot claim any compensation for change of system, as there is an express condition in his contract barring such claim, though the Board will doubtless award what they may consider equitable.

ENCLOSURE No. 1.—Draft Rules.

From Colonel E. A. FOORD, R.E., Chief Engineer, Public Works Department, to the Acting Secretary to the Board of Revenue, dated Fort St. George, 9th March 1878, No. 1,226.

I HAVE the honor to forward herewith as requested by you personally a statement of the establishment proposed to be entertained for the supervision and maintenance of the Buckingham Canal, which will be divided into the following executive charges:—

	Head-quarters.
Buckingham Canal Division	Madras.
No. 1 Sub-division for Sub-divisional Officer	Pulicat or Coromandel.
Do. for Overseers	Madras and Dugurazpatam.
No. 2 Sub-division for Sub-divisional Officer	Ramapatam.
Do. for Overseers	Eskapilly and Pakala.

The Divisional charge will include 250 miles of canal, each sub-divisional charge 125 miles, and each Overseer's charge 62½ miles.

This establishment does not include the subordinate agency which may be required for the collection of revenue.

Maintenance such as clearing, &c., 230 rupees per mile for 250 miles.

ENCLOSURE No. 1.

ESTABLISHMENT proposed for the Buckingham Canal.

Establishment—				Cook.
1 Executive Engineer, 1st Grade, at Rupees 950	...	...	...	Rs.
1 Supervisor, do. at " 200	...	...	...	950
1 Do. 2nd do. at " 150	...	...	...	200
2 Overseers, 1st do. at " 100	...	...	...	150
2 Do. 2nd do. at " 80	...	...	...	200
1 Do. 3rd do. at " 60	...	...	...	160
				60

Total per mensem ... 1,720

Total per annum Rupees 1,720 × 12 = 20,640

Establishment for one Executive Engineer—

1 Accountant, at Rupees 60	...	...	...	60
1 Draftsman and Estimator, at Rupees 40	...	...	...	40
1 Assistant Accountant and Writer, at Rupees 30	...	...	...	30
1 Do. do. at " 20	...	...	...	20
3 Lascars, at Rupees 7 each	...	...	...	21

Total per mensem ... 171

Total per annum Rupees 171 × 12 = 2,052

Establishment for two Supervisors—

1 Writer and Accountant, at Rupees 25	...	...	...	25
2 Lascars, at Rupees 7 each	...	...	...	14

Total per mensem ... 78

Total per annum Rupees 78 × 12 = 936

Establishment for five Overseers—

1 Gumastah, at Rupees 15	...	...	...	...	Rs.
2 Lascars, at Rupees 6 each	...	...	...	...	15
					12
					27
					5

Total per mensem ... 135

Total per annum Rupees 135 × 12 = 1,620

Grand Total per annum ... 25,248

MEMORANDUM.

The license fee on the Southern Canal is Rupees 2 per ton per annum.

2. Boats on the Northern Canal are only charged for passing the Shadayan-cooppam Lock as they come into Madras. No charge is made for boats leaving. The charge is 4 annas per ton for all cargo boats. Passenger boats pay 4 annas per trip per boat and only as they come in.

Exceptions.—Budgerows pay 8 annas for inward trip. The boats of the officers of the Public Works Department on inspection and of the Police Inspector of the northern salt-pans pay nothing.

3. Lattice bridge will do for the new toll on the Southern Canal, as I think it is a sufficient distance from Madras without being too far.

4. A table is enclosed showing financial results. The change will not be great on the Northern Canal. Assuming the aggregate tonnage of the serviceable boats to

* The exact tonnage will follow. Since reported as 13,460 tons on the Northern Canal.

be 10,000* tons, these figures show the increase in Rupees 10,000. The change on the Southern Canal, where no tolls have been hitherto levied, will be considerable, amounting roughly to Rupees 5,190 of increase against the aggregate previous collections Rupees 1,400 per year; but it is a question whether the change may not cause a falling off in the traffic, and therefore in the estimated receipts.

5. Government do pay tolls on salt boats on the Northern Canal, but nothing towards licenses on the Southern.

6. The Boat Contractor on the Northern Canal can claim no compensation, as there is an express provision in his contract to the contrary; but if the Board should award any, the amount will be trifling, say, if the salt boats are employed for three months in the year, the amount of compensation to be paid would be one-fourth of the fees for their aggregate tonnage.

11th March 1878.

(Signed) R. W. BARLOW,
Collector.

ENCLOSURE No. 1.

PASSENGER BOATS.					CARGO BOATS.					Total of Columns 4 and 8.	
Year.	Number.	Rate per Boat.	Amount.		Year.	Tonnage.	Rate per Ton.	Amount.			
		RS. A. P.	RS. A. P.					RS. A. P.	RS. A. P.		
1	2	3	4		5	6	7	8		9	
<i>Northern Canal.</i>											
1875	2,417	0 4 0	604 4 0	1875	...	202,038½	0 4 0	50,509 9 0	51,113 13 0		
1876	2,161	0 4 0	540 4 0	1876	...	157,315	0 4 0	39,328 12 0	39,869 0 0		
1877	1,825	0 4 0	456 4 0	1877	...	90,615½	0 4 0	22,653 13 0	23,110 1 0		
Total for three years ...	6,403	0 4 0	1,600 12 0		Total for three years ...	449,968½	0 4 0	1,12,492 2 0	1,14,092 14 0		
Average for one year ...	2,134½	0 4 0	533 9 4		Average for one year ...	149,989½	0 4 0	37,497 6 0	38,030 15 4		
	...	...	...	Add license fee at 1 rupee per ton per annum ...	...	...	...	...	13,460 0 0		
	...	...	...	Total Estimated Revenue ...	...	...	...	...	48,080 15 4		
<i>Southern Canal.</i>											
1875	2,155	0 4 0	538 12 0	1875	...	26,398	0 4 0	6,599 8 0	7,138 4 0		
1876	2,074	0 4 0	518 8 0	1876	...	20,805	0 4 0	5,201 4 0	5,719 12 0		
1877	1,708	0 4 0	427 0 0	1877	...	17,558	0 4 0	4,389 8 0	4,816 8 0		
Total for three years ...	5,937	0 4 0	1,484 4 0		Total for three years ...	64,761	0 4 0	16,190 4 0	17,674 8 0		
Average for one year ...	1,979	0 4 0	494 12 0		Average for one year ...	21,587	0 4 0	5,396 12 0	5,891 8 0		
	...	...	...	Add license fee at 1 rupee per ton per annum ...	...	...	...	...	700 0 0		
	...	...	...	Total Estimated Revenue ...	...	...	...	...	6,501 8 0		

IN the foregoing order the Board are called upon to report on the question of applying Act I of 1870 to the whole line of the East Coast Canal from the Kistna to the South Arcot Districts, and of introducing a uniform system for the collection of dues thereon, the plan of tolls and licenses combined being suggested. It being desired that the new system should be brought into force from the commencement of the next official year, the Board were directed to lose no time in settling, in communication with the Public Works Department, what the establishment and rates should be. The Board have accordingly conferred with the Chief Engineer on the subject and have obtained some information from the Collector of Chingleput, but the time allowed for report does not admit of their consulting the Collector of Nellore as they would have done had time permitted, or of procuring such full information as is essential to a proper consideration of the subject. It is apparently in contemplation to appoint an officer of standing in the Public Works Department to the charge of the whole line, and the Board would prefer to see the system at present in force continued for a short time longer where traffic exists, whilst a little delay in introducing taxation where traffic has to be commenced may not be impolitic. Meantime the special officer would be able to investigate the conditions and prospects of traffic thoroughly, and to submit matured proposals after consulting the local authorities. Constant changes are undesirable, and as the information at the Board's disposal is very limited, it is highly probable that any arrangements which they may now propose will require modification at no distant date. They will endeavour, however, to comply with the wishes of Government.

2. As regards the application of Act I of 1870, the Board opposed the proposal in their Proceedings of the 20th November 1875 on the ground that the sole object of the suggestion was to provide for the extension of the East Coast Canal northwards from the surplus funds of other districts. The bulk of the balance of the Canal and Ferry Fund belongs to the Godavari and will shortly be locally utilized. If therefore immediate action is considered necessary, the Board see no objection now to steps being taken to introduce the Act. They think that the rules embodied in G.O., dated 10th October 1872, will suffice, at any rate till some experience of their working is gained. The draft forwarded by the Collector of Chingleput is a transcript of these rules, with an additional clause to regulate the speed of steam launches. The Board must, however, point out that under the provisions of Section 23 of the Act the rules cannot be brought into operation until the expiration of at least two months from the date of first publication in the official gazettes.

3. As regards the introduction of a uniform system, the Board are in favor of a combination of tolls and licenses. At present there are no tolls on the Sadras Canal, a license fee of Rupees 2 per ton per annum being the only charge. On Cochrane's Canal there are no license fees, but tolls are leviable on boats passing the Shadayancooppam lock at the rate of 4 annas per ton on all cargo boats and 4 annas per trip on passenger boats. These tolls are collected at the basin by the Superintendent; the traffic is registered at the lock and passes are issued which are given up to the Superintendent at the basin. Accounts are rendered both by the Superintendent at the basin and by the Conicopillay at the lock to the Salt Deputy Collector. No tolls are levied on traffic outwards. Budgerows pay 8 annas per inward trip; boats of public officers are exempt. The Board think that a uniform annual license fee entitling boats to ply on any part of the canal throughout its whole length during the year should be fixed with reference to tonnage; as traffic on the portion of the canal recently completed will not be developed for some time it is obvious that boats plying on that section will not be able to pay so high a fee as those engaged on the portion which has long been in working order; a very moderate rate must therefore be fixed at first, and the Board would suggest 1 rupee per ton for all boats which appears from G.O., dated 4th March 1873, No. 691, to be the rate in force on the Godavari and Kistna Canals. The Board think that a differential rate for boats exceeding a certain limit of size, as proposed when the subject was under discussion before, is highly desirable. The rate might be Rupees 2 per ton on all boats registered as over 30 tons. On the Northern Canal the license fees will be so much clear gain, as no reduction of the number of boats is likely to result from

the imposition of the charge. The present tonnage of boats plying on the Northern Canal is reported by the Collector of Chingleput to be 13,460 tons. The license fees on the Southern Canal aggregate Rupees 1,400; if the rate is reduced to one rupee per ton there will be a loss of Rupees 700. The Board however propose to levy tolls on this canal also at some suitable site at a sufficient distance from the town to prevent evasion by unloading outside. The lattice bridge appears a suitable site, and the Collector approves the selection. The tolls on the Northern Canal should continue to be levied at existing rates, and the same rates may be tried on the Southern Canal; but as under the proposed arrangement boats will be able to make only four trips per annum for the charge formerly levied, it may be necessary to lower the tolls on the south. As boats passing outwards are not charged through traffic will not be twice tolled.

4. The financial effect of the Board's proposal appears from a statement furnished by the Collector of Chingleput showing the traffic on both sections during the past three years. The number of boats registered as over 30 tons was not, however, called for through an oversight; hence the license fee has been calculated at a uniform rate of one rupee. The average of the receipts from tolls on the Northern Canal is Rupees 38,031, and a license fee at one rupee per ton will give an additional income of Rupees 13,460. The traffic on the Southern Canal would have yielded at the same rates of toll Rupees 5,891 on an average per annum. With a license fee of one rupee per ton the receipts would have been about Rupees 6,591 instead of Rupees 1,400. The total receipts on traffic equivalent to the average of the past three years would be about Rupees 58,000 instead of Rupees 39,400. The Budget Estimate for the ensuing year is Rupees 40,050, which, as explained by the Collector of Chingleput in his letter of the 5th March, is based on the average collections in his district. The Board can frame no estimate of the receipts likely to be derived from license fees upon the boats plying between the Kistna District and Pulicat Lake, and time does not admit of a reference to Nellore; it may eventually be possible to levy moderate tolls on this section also, but the annual fee must suffice until the traffic has been fairly established. There will however be the license fees leviable on any accession to the number of boats that the opening of this section may give rise to; and there can be little reasonable doubt but that the junction of the canals and the extension of the line already effected will greatly increase the amount of traffic plying.

5. Turning to outlay the statement appended to the Board's review* of the Budget Estimates of the Cochrane's and Sadras Canal Fund for the ensuing year shows the maintenance allowance proposed and cost of establishment, both petty establishment under the Public Works Department and staff for the collection of revenue; the former item is Rupees 33,500, the latter Rupees 4,690 for Chingleput, and Rupees 4,610 for Nellore. Cost of supervision is entered at Rupees 2,440, exclusive of cost of petty establishment. The Chief Engineer states that the establishment to be entertained for the supervision and maintenance of the Buckingham Canal will cost Rupees 25,248 per annum, exclusive of the subordinate agency required for the collection of revenue; the only item which may be struck out of the budget is the entry of Rupees 5,930 for cost of petty establishment which appears to have been provided for by the Chief Engineer; on the other hand the levy of tolls on the Southern Canal may necessitate a slight increase of the establishment there. The cost of maintenance is put down by the Chief Engineer at Rupees 230 per mile for 250 miles or Rupees 57,500 in lieu of Rupees 33,500; this will swallow up nearly all the receipts; the allowance is now only Rupees 100 per mile south of Pulicat, and Rupees 150 has been entered in the budget for 1878-79 for the section north of Pulicat. The total expenditure according to the information furnished by the Chief Engineer will be as follows:—

Maintenance	Rs.
Public Works Department Establishment	57,500
Establishment for collection of revenue and contingencies	25,248
	3,366
Total	86,114

No information as to the probable cost of necessary improvement has been furnished. It is clear that the eventual increase may be expected; the receipts will not, at present at any rate, cover the whole cost of the expensive establishment proposed and maintenance allowance at so high a rate as Rupees 230 per mile; the Board think that the debit for Public Works Department supervision should be limited to 25 per cent. of the outlay, following the usual course where Local and Special Funds are concerned, and that the maintenance allowance must be reduced if equilibrium is to be maintained. If the collections do not fall short of the sum estimated on the traffic of the past three years, viz., Rupees 58,000 (and the contrary may be expected), they will suffice to meet maintenance at Rupees 150 per mile, 25 per cent. for Public Works Department supervision and charges for collection, a margin being left for unforeseen expenses or miscalculation of receipts.

Maintenance of 250 miles, at Rs. 150.	Rs. 37,500
25 per cent. for Public Works Department Supervision	9,375
Establishment for collection and Contingencies, say	4,000
Total	50,875

6. One other point requires notice. A contract has been entered into for the conveyance of salt to Homes' Gardens and the Madras Cotours from the pans, and this contract does not expire until 31st March 1880. The tolls on the Northern Canal are paid by Government, but no reduction of the license fee on the Southern Canal is allowed on this account. There will be no difficulty in arranging terms with the contractor by remitting a portion of the license fee to be newly imposed with reference to the tonnage and period of employment.

(True Copies and Extract.)

(Signed) C. A. GALTON,
Acting Secretary.

RULES FOR THE REGULATION OF THE NAVIGATION OF THE BUCKINGHAM CANAL.

NOTE.

The outline draft of the above rules now submitted is framed on the rules published in the *Fort St. George Gazette*, dated the 3rd December 1878, which have been sanctioned for the Godavari and the Kistna Canals.

- These rules appear to be defective or capable of improvement in the following respects:—
 - 1st.—They do not appear to be based on Act I of 1870 (The Canals and Ferries Act), and several of their provisions, more especially bye-laws 15 and 19, cannot, it is thought, be legally carried out.
 - 2nd.—The fees charged are altogether incommensurate with the advantages gained by the use of the canals and out of all proportion small in comparison with the expenditure incurred in forming or in fitting the canals for navigation or in providing for even the upkeep of the works.
 - 3rd.—The varying classification of vessels and fees seems to be unnecessarily complicated, and the rates appear to be in some respects inequitable.

3. In regard to the first mentioned defect, instances have occurred in which the servants of the Public Works Department have been prosecuted and punished for forcibly removing carts found obstructing traffic on public roads, and it is to be feared that similar serious results would follow the seizure, the removal, and the sale of derelict vessels on the canals on the sole authority of the rules in question. It is possibly intended that these rules should be enforced under the authority of Act I of 1870, but this is not mentioned, and the Act is not once referred to anywhere in the rules in support of their provisions.

4. In reference to the second defect. The cost of carriage by the canal from Madras to Nellore and Ongole is at the present time only one-twelfth of what it is by the comparatively excellent road to those towns, and the time occupied on the journey by canal is only about one-third of the time occupied by road. The cost of carriage by the canals of the Godavari and the Kistna is probably not one-twentieth of the cost of carriage on the bad roads of those districts; and it is probable that much of the produce of those districts would never be moved if it had to be carried by road alone. In these respects the value of the canals to the public in general and especially to the provinces is very great, while the profits of carrier or boat-owners are enormous.

5. For example, an ordinary cargo boat to carry 30 tons can be purchased for 500 rupees; it is worked by two men and a boy at a cost of 15 rupees a month or 180 rupees a year, and, taking the Godavari scales of fees as the standard, it pays 2 rupees per ton or 60 rupees per annum for the use of the canals. It travels easily 200 miles a month or 2,400 miles a year, and its hire, according to the rates now prevailing, is about 3 pie per ton per mile.

The annual outlay for such a boat is:—

	RS.
Interest on original cost of 500 rupees at 5 per cent. ...	25
Depreciation and repairs at 15 per cent. ...	75
Working expenses ...	180
Canal dues ...	60
Total annual outlay ...	340

and calculating the earning at the rate of 3 pie per ton per mile—

The income is $2,400 \times 30 \times 3$ pie ...	1,125
Which gives a clear gain of ...	785
or one and a half times the original cost of the vessel to the owner.	

6. On the other hand the return to Government is extremely small. There are 750 miles of navigable canals in the Godavari and Kistna Districts, and the navigation fees collected amount to about 50,000 rupees per annum or between 60 and 70 rupees per mile, an amount which must be quite insufficient for the up-keep of the establishment and the works much less to yield any return for the original cost of making the canals navigable.

7. The third defect, that is to say, the various classification of vessels and fees, seems likely to create unnecessary trouble and confusion, to the navigation establishment as well as to the owners of vessels; it is, moreover, inequitable in its application, and gives rise to a practice of circumvention on the part of boat-owners which it seems desirable to avoid; for instance, a passenger boat is supposed to pay a fee of 6 annas for every square foot of deck surface, the average depth of such boats is about 3 feet and 16½ square feet is equal to a ton or 50 cubic feet of cargo measurement. The fee of 6 annas a square foot for passenger vessels is therefore equal to 6½ rupees a ton, and if the same vessel was classed as a cargo boat it would have to pay only 2 rupees a ton in the Godavari and 1 rupee a ton in the Kistna District. As a matter of fact the rule is to a great extent inoperative by having passenger boats registered as cargo boats, and there is nothing in the rules to prevent cargo boats carrying passengers which they really do.

8. The alternative fee provided for in Rule XIV seems to be even more objectionable than the high rate charged for passengers' boats. It demands a fixed toll without reference to the size or circumstances of the vessel or the length of the canal to be used. For instance, an unlicensed 5-ton boat has to pay 6 rupees for using the canal from Dowlishvaram to Cocanada a distance of about twenty-eight miles or at the rate of about 8 pie per ton per mile, a 60-ton boat can perform the same journey for 6 rupees also or at the rate of ⅓rds of a pie per ton per mile. The Commamur Canal over fifty miles long can be used by the same boats at about half the cost per ton per mile they would have to pay respectively on the Cocanada Canal.

9. An attempt has been made in drafting rules for the Buckingham Canal to avoid the above-mentioned apparent defects in the rules for the Godavari and the Kistna Canals.

The Buckingham Canal rules are based entirely on Act I of 1870, and the repetition of what is fully provided for in the Act is avoided in the rules. The fees proposed to be levied are comparatively extremely low, but they are sufficient to provide for the upkeep of the work and to yield some return on its first cost which is all that is required. The fees provided for are the same on all vessels using the canal except fishing and pleasure boats, from which for obvious reasons and for registration purposes only but a very small fee is demanded. The fees are proportional to the size of the vessel and to the extent to which in the case of each vessel the canal is used.

10. Owing to the limitation and exemption provided for in Section 4 of the Act it has been necessary to treat each of the old and new sections of the canal as separate lines of navigation. If Section 4 of the Act was amended by providing for tolls and licenses instead of tolls or licenses, and if the last paragraph was expunged, the drawing up of navigation rules for canals generally would be much simplified, and the division of the Buckingham Canal into distinct lines of navigation would be in the present case unnecessary.

11. In fixing the scale of fees and tolls provided for in these rules, three things have been considered.—

- 1st.—the cost of the works and the amount required to maintain them in efficient order;
- 2nd.—the extent of the traffic and its capability to produce the amount required;
- 3rd.—the earnings and the ability of boat-owners to pay the fees and tolls proposed to be levied.

12. The Buckingham Canal has (or will) cost one mile with another 15,000 rupees per mile, and its upkeep including establishment will cost 300 rupees per mile per annum. The annual revenue for each mile of the canal should therefore be—

	RS.
The interest on first cost of Rs. 15,000 per mile, at 5 per cent. ...	750
And the cost per mile per annum for repairs and establishment ...	300
or a total of ...	1,050

13. The present system of registering traffic on the Buckingham Canal is thoroughly unreliable and unsatisfactory, passenger boats of from 5 to 10 tons burden are, according to Madras rules, registered as 1 ton burden, while in one instance at least the registered tonnage of the Cocanada boats now plying on the canal is by a mistake in the measurement double what it should be; there is no apparent check on the returns of traffic or revenue, and their accuracy is wholly dependent on the disposition of the subordinate establishment. There may be nothing wrong in the collection and disposal of the revenue, but there is much room for irregularity in this respect, while from competent observation there is no doubt the reported traffic is much less than what the traffic really is.

14. It is useless however to speculate on what the actual traffic is at present, and for the purpose in hand the official returns must be accepted.

These returns give the following results for the year ending the 31st December last:—

Floating tonnage on the canal in round numbers ...	Tons	15,000
Inward and outward traffic from Madras ...	"	268,902
Ton mileage ...	Miles	9,162,295
Passengers carried ...	No.	140,011
Fees and tolls collected to ...	Rs.	52,282-1-0

15. On the Sadras section where boats are licensed and no tolls collected:—

The traffic amounted to ...	Tons	71,286
The ton mileage ...	Miles	1,223,923
The average distance each ton of the traffic was carried ...	"	17½
The fees collected were ...	Rs.	878
which is equal to Rupees 21-6-8 for each mile of the 41 miles of canal open, or ⅓th of a pie per ton per mile carried.		

16. On the northern section 196 miles in length where one toll is collected at 4 annas a ton and where boats are not licensed:—

The traffic amounted to ...	Tons	205,616
The ton mileage to ...	Miles	7,938,432
The average distance each ton of cargo travelled ...	"	38½
Tolls collected ...	Rs.	51,404-1-0
Which is equal to ...	"	262-4-3
Per mile of canal open, or ...	"	0-0-1¼
nearly per ton per mile of traffic.		

17. The quantity of salt carried on the Sadras section was 31,880 tons, and on the Pulicat section 95,709 tons, equal in each case to nearly half the entire traffic.

The average distance salt was carried on the Pulicat section is 12 miles, the ton mileage is therefore equal to $95,709 \times 12 = 1,148,508$. The fees collected from this traffic amounted to Rupees 23,927-4-0 or 4 pie per ton per mile, while the remainder of the traffic on this section of the canal amounting to 109,997 tons was carried 67,89,924 miles or an average distance of 61½ miles per ton, the fees charged being 27,476-13-0 or about ⅓th of a pie per ton per mile. This shows that the canal revenue has been greatly dependent on the salt traffic, and that the fees paid by Government per ton per mile on this account is five times greater than what is paid by the public for the similar use of the canal.

18. It would be inconvenient to divide the canal into sections of 12 or 15 miles to suit the salt traffic and to equalise the incidence of the fees on this and other traffic on such a short distance. The most convenient limit for the length of a section of the canal is considered to be 48 miles, and salt like other traffic must pay more or less in proportion to the actual distance it travels within and beyond these limits. The division of the canal into sections of this limit will equalise the charges on all traffic as nearly as such equalisation can practically be carried out, this limit of about 48 miles has therefore been adopted in the rules and it is proposed to erect toll bars as near to these limits as local circumstances will admit.

19. The rules provide for a license or registration fee of 2 rupees per ton all round, on all vessels of all descriptions using a distinct section of the canal, except fishing and pleasure boats which will be registered for a fee of 4 annas a ton. The rules provide also for the collection of tolls at the rate of 4 annas a ton or 1 pie per ton per mile for the use of any section of the canal other than the section in which the vessel is registered, which it is allowed to use free of tolls.

20. The length of canal now open is round number 245 miles, and calculating on the present returns of traffic, the registration fees and tolls will yield a revenue of Rupees 516-10-8 per mile as follows:—

	RS.	A.	P.
Registration fees on 15,000 tons at 2 rupees	30,000	0	0
Do. on fishing and pleasure boats say 1,000 tons at 4 annas	250	0	0
Tolls on traffic carried 48 miles and less 200,000 tons at 4 annas	50,000	0	0
Do. do. carried more than 48 miles and less than 96 miles, 50,000 tons at 8 annas	25,000	0	0
Do. do. from 96 to 144 miles 10,000 tons at 12 annas	7,500	0	0
Do. do. from 144 to 192 miles 5,000 tons at 1 rupee	5,000	0	0
Do. above 192 miles that is to say entering the canal at its north end 3,902 at 1½ rupees	4,877	8	0
Rafts, say	500	0	0
Rest-house fees, canal produce, &c.	872	8	0
Total	1,24,000	0	0
or ...	516	10	8

per mile of canal open.

21. This is only about half what is required to pay interest on first cost and to maintain the canal in working order, but it is more than sufficient for the latter purpose, which is one great point that will be gained by the introduction of the new rules. The calculation does not moreover include intermediate traffic, that is to say traffic that does not leave or enter Madras which is not now included in the returns and upon which an additional revenue of 25,000 rupees per annum at least may be expected. It does not include traffic entering Madras that is probably omitted from the present return, and it takes no account of the daily increase in the traffic from the north end of the canal; when all these are accounted for there can be no doubt the traffic on the canal is quite able to pay its way in a liberal manner.

22. In regard to the ability of boat-owners to pay the fees and tolls provided for in the rules, it has been shown that the owner of a 30-ton vessel clears the large sum of Rupees 785 per annum after paying all current demands, and the payment of tolls at the rate of 1 pie a ton a mile or 375 rupees per annum when the vessel is in tolerably full work will still leave the owner a very large margin of profit; but even if this was not the case, and considering that the present cost of carriage by the canal is only from 1/4th to 1/5th of the cost of carriage by road the present charges for carrying traffic might be reasonably increased, if necessary, to meet the additional fees for which the rules provide.

23. The rules provide for boats licensed to use the canals of the Godavari and Kistna Districts being allowed to use the Buckingham Canal without undergoing the expense and trouble of taking out a fresh license, and the payment of the tolls is all that will be demanded of them. The boats of the Buckingham Canal should be allowed to use the canals of the Godavari and Kistna in a similar manner without taking out a license or licenses in those districts, but anything that can be done in this direction will be of no avail so long as Rule XIV of the Godavari and Kistna rules is allowed to stand as it is. This rule is apparently intended to force the owners of vessels to take out licenses, and this could be done by simply ruling that all vessels should take out licenses. Rule XIV would not then be necessary for the purpose for which it is apparently intended.

24. It has been already shown (paragraph 8 above) how inequitably this rule bears on the boats of the Godavari and Kistna Districts. It acts with still greater hardship on the small boats of the Southern Districts, and it is causing much obstruction to traffic at the junction of the Commamur and Buckingham Canals; for instance, a 6-ton boat with goods or passengers say for Santaravar only 8 miles from the junction of the two canals has to pay 6 rupees or about 12 annas per ton per mile for the use of this short length of the Commamur Canal or take out a license for navigating the Kistna Canals, or not use the canal at all. The latter alternative is generally adopted and the goods or passengers have to be landed and kept on the bank until a boat belonging to the upper canals can be brought to take them to their destination. The result is that owners of goods or passengers to or from the Northern Districts will not, if they can at all help it, employ the Madras boats; the boats of the Northern Districts are not always available and goods and passengers are often kept waiting for days and weeks for them while there are hundreds of Madras boats idle and ready for the work. The obstruction to traffic and

the hardships caused by this rule should be removed by having it cancelled as soon as possible, and a rateable and reasonable system of tolls established instead.

25. It is some times argued that canal revenue should be collected in the shape of license fees alone, but a license fee that would yield anything approaching adequate revenue would appear at first sight a formidable amount, as for instance in the example given in paragraph 5 above, the proportional fee would amount for a 30-ton boat to Rupees 435 per annum, enough to frighten the most ardent speculator away from boat building or from investing money in any way connected with canal navigation; and it might happen from some cause or other that while one vessel was lying idle the greater part of the year, another would be at constant work; in the first case the fee would be a heavy burden for which no return was received; in the latter case it would be no burden at all on the constant earnings of the vessel, a license fee should therefore be as small as possible in order to bear lightly on those who had no work, and in this view it might be advisable to reduce the fees provided in the Buckingham Canal rules from 2 to 1 rupee per ton. The amount thus given up would be comparatively small and the canal can afford to lose it.

26. The objection to tolls is the difficulty and expense of collecting them; these are evils that cannot be avoided, and experience shows that with ordinary caution and check they are not so great as might be supposed or as some people think. Tolls must be the back-bone of canal revenue; this is clearly shown by the experience of the northern and southern sections of the Buckingham Canal, where in the one case with a very imperfect system of tolls the revenue amounts to the comparatively decent sum of Rupees 262-4-3 per mile, while in the other case where the license system is in force and the traffic nearly as great, the revenue amounts to only 26-6-8 per mile, and the revenue in the Godavari and the Kistna though better than on the Sadras Canal amounts under the license system to only between 60 and 70 rupees per mile. There is the further advantage in regard to tolls, and that is, that they bear only on those who are really using the canals and whose earnings can well afford to pay them. With these remarks the rules are recommended for adoption and early sanction.

(Signed) J. O'SHAUGHNESSY,
Executive Engineer.

OOTACAMUND,
20th June 1879.

I.—The Buckingham Canal includes the following lines of navigation, extending from the Palar river in the district of Chingleput to the junction of the tidal and fresh water canals in the Kistna District near Poddaganjam, together passing over a continuous distance of about 245 miles, namely,—

- 1st.—The Sadras Canal extending from the right bank of the Palar river to the right bank of the Adyar river, distance about 43 miles.
- 2nd.—The Madras Canal extending from the right bank of the Adyar river to the Shadayancooppam Lock, distance about 12 miles.
- 3rd.—The Pulicat Canal extending from the Shadayancooppam Lock to near Raiduravoo, distance about 48 miles.
- 4th.—The Kistnapatam Canal extending from near Raiduravoo to near Kodoor, distance about 48 miles.
- 5th.—The Ramapatam Canal extending from near Kodoor to Ramapatam, distance about 48 miles.
- 6th.—The Kottapatam Canal extending from Ramapatam to the junction with the Commamur fresh water canal in the Kistna District, distance about 46 miles.

II.—These lines of navigation include also all navigable estuaries, backwaters, rivers and channels, whether salt or fresh, connected with each such line; they shall be each and severally distinct lines of navigation as defined in Section 1 of Act I of 1870 (The Canals and Ferries Act) the provisions of which shall apply to each of these distinct lines of navigation separately, and they shall be denominated sections of the Buckingham Canal as follows:—

- 1st.—A or the Sadras Section.
- 2nd.—B or the Madras Section.
- 3rd.—C or the Pulicat Section.
- 4th.—D or the Kistnapatam Section.
- 5th.—E or the Ramapatam Section.
- 6th.—F or the Kottapatam Section.

III.—From and after the 15th day of September 1879, no vessel shall be allowed on, or to use any of the above mentioned distinct lines of navigation without—

1st.—The payment of an annual license fee at the rates specified in the Schedule A annexed for the use of any one of the above mentioned distinct lines of navigation.

Exception.—Vessels possessing licenses for the navigation of the canals of the Godavari or Kistna Districts will not be required to pay a license fee for the use of any section of the Buckingham Canal.

2nd.—The payment of a toll at the rates specified in the Schedule B annexed for passing from any one to any other of the above mentioned distinct lines of navigation for which the owner does not hold a license.

IV.—The Executive Engineer of the canal will issue licenses (in the Form C annexed) personally or by agents authorised by him in writing for the purpose, at such times and places as he may notify in the *Fort St. George Gazette* and in the official gazette of the district in which the line of navigation, for which licenses are to be issued, is situated. The vessels to be licensed must be brought at the time specified in the notifications to the places where licenses are to be issued, to be measured and registered and to have the necessary distinguishing marks put on them.

V.—These marks will show by letter the section of the canal to which the vessel belongs and which it is licensed to navigate. They will show the registered number of the vessel, and the tonnage, or the number of passengers the vessel is licensed to carry. They shall be put on under the direction of the Executive Engineer at the cost of the owner of the vessel who will be held responsible that they are not defaced or obliterated, and that they are renewed from time to time as required.

VI.—Applications for licenses shall be made in the Form D annexed, at any time before the 15th September for the current calendar year, and in the months of October, November, or December for the ensuing calendar year. Printed forms of applications for licenses will be issued by the Executive Engineer of the canal at his office in Madras and by the Superintendents of Sections of the canal at their offices at Covelong, Madras, Pulicat, Duganajapatam, Eskapilly, and Kottapatam.

VII.—The maximum dimensions of vessels brought on the canal hereafter will be limited to 90 feet in length, 13 feet beam and $2\frac{1}{2}$ feet draft; vessels of greater length and beam that may be now on the canal will be allowed to remain upon it at the owner's risk until they are worn out or renewed, but the draft of water will be limited in all cases to $2\frac{1}{2}$ feet, and no vessel shall hereafter be laden beyond this depth, which will be marked by a painted band or water line round the outside of the hull. The height of fixed fittings, such as the roofs of boats, mast partners, funnel sockets, &c., shall be limited to $6\frac{1}{2}$ feet above the deep lead line. The height of piled cargo, such as firewood, cotton, leaves, &c., will be limited to the same dimensions and in a similar manner.

VIII.—The gross tonnage of all vessels will be obtained by the following Rule $\frac{L \times B \times D}{60}$:—

L being equal to the length of the vessel, measured at half the midship depth, from the afterpart of the stem to the forepart of the stern post.

B is equal to the sum of five widths taken from the innerside of the planking on one side to the rib on the other side, at equal distances of one-sixth of the above length, divided by 6.

D is the midship depth taken from the upper surface of the limber strake (the bottom plank next the keelson or the centre bottom plank when there is no keelson) to the undersurface of the deck planking in decked vessels or to the top of the upper strake or gunwale in open vessels.

The net or registered tonnage will be for—

Steamers the gross tonnage less one-third, and for
Other vessels the gross tonnage less 15 per cent.

IX.—Vessels adapted to carry passengers, i.e., having a covered space for their protection, may be registered as passenger vessels, and will then be licensed to carry one passenger for every five square feet of deck surface to be measured as follows:—Length from stem to stern at the deck level; breadth, the sum of five widths taken at equal distances of one-sixth the length and divided by 6, then length $\times$ breadth divided by 5 will give the number of passengers a vessel will be licensed to carry, including 40 lbs. of luggage for each passenger. When passenger vessels carry cargo as well as passengers, the quantity of cargo allowable will be the registered tonnage less 400 lbs. for each passenger on board.

X.—Rafts will be permitted to navigate the several sections of the Buckingham Canal on payment when entering each such section of the toll prescribed in Schedule B annexed; no raft exceeding $90' \times 13' \times 2'$ will be allowed on the canal.

XI.—If a vessel after the issue of a license be enlarged, it shall not again use the canal until it has been remeasured and relicensed. The new license will be granted on surrender of the old license and on payment of the prescribed fee per ton on the difference between the old and new tonnage.

XII.—No person who has taken out a license for the navigation of any section of the canal shall have claim to compensation on account of any impediment to navigation that may occur from any cause whatever.

XIII.—The Executive Engineer in charge of the canal for the time being is authorised to enforce these rules, to collect tolls and license fees, to remove obstructions to navigation, and to direct prosecutions under the provisions of Sections 7, 8, 9, 10, 12, and 25 of Act No. 1 of 1870.

BYE-LAWS.

I.—No vessel shall moor on the towing path side of the canal when there is only one towing path, nor on the windward side when there are two towing paths, except when actually loading or unloading, or with the special permission of the Canal Officers.

II.—No cargo shall be loaded or unloaded, and no passengers shall be shipped or landed at any lock or masonry work other than the quays or wharfs specially provided for the purpose.

III.—No vessel shall be repaired or fitted on the canal without the written permission of the Executive Engineer or other officer authorised to give such permission on the Executive Engineer's behalf.

IV.—No vessel shall be moored in a lock channel defined as such by notice boards erected for the purpose by the Canal Officers.

V.—Vessels when moored shall have their masts down; they shall be made fast stem and stern to the banks in single tier and there must be a person always in charge of each vessel; vessels when moored must, between sunset and sunrise, show a clear bright light, not less than 4 feet above the water level and visible all round the vessel.

VI.—When vessels, other than steamers, going under sail, in opposite directions, meet the vessel going with the wind shall give way, while the vessel going against the wind shall hold on its course.

VII.—Vessels not under sail shall give way to vessels under sail, and steamers shall in all cases give way to other vessels.

VIII.—When vessels not under sail including steamers meet, those going north should keep to the east, and those going south should keep to the west.

IX.—When a vessel passes another vessel going in the same direction, it should keep to the leeward of vessels under sail and on the opposite side of the towing line of vessels not under sail.

X.—Vessels when not moored must between sunset and sunrise carry lights as follows:—

Steamers, three lights—

1st.—A clear white light not less than 9 feet above water and in the centre line of the vessel.

2nd.—A bull's eye bright red light on the port (left) side.

3rd.—A bull's eye bright green light on the starboard (right) side.

The bull's eye lights to be not less than 8 inches diameter and not less than 4 feet above water.

Vessels other than steamers must carry a clear white light at the fore end not less than 4 feet above water.

Passenger boats must in addition to the above lights carry a light in each cabin or compartment for passengers.

XI.—The maximum speed of steamers will be limited to 10 miles an hour by day and to 5 miles an hour by night, reduced to 4 miles an hour when within half a mile of a lock, or vessel ahead coming in an opposite direction. The steam whistle shall be blown when speed is reduced on the above mentioned occasions and when nearing a vessel going ahead in the same direction, or when approaching any sharp bend in the canal. Steamers passing through portions of the canal under repair or through portions of the canal that cannot stand a high speed shall reduce speed at those places to the limit fixed by the Canal Officers on notice boards erected for this purpose.

XII.—Every vessel shall have its license always on board, and it shall be produced for examination by the Executive Engineer or by any officer authorised by the Executive Engineer to demand an inspection of it.

XIII.—Every vessel plying for hire is liable to be inspected at any time or place by the Executive Engineer or by officers authorised by him to inspect vessels, and the Executive Engineer may withdraw the license of any vessel found to be from any cause unfit for use, and to withhold the license until the vessel is made serviceable.

XIV.—The Executive Engineer may suspend the license of any vessel for any period not exceeding three months for any infringement of these rules or bye-laws.

XV.—The penalty for infringement of the latter part of Rule V will be a double charge for the new license, in addition to any suspension of license which may be ordered.

THE BUCKINGHAM CANAL, MADRAS.

SCHEDULE A.

LICENSE FEES.

Description of Vessel.	Rate.
For every ship, steamer, boat, barge or vessel of any description propelled in any manner and used for any purpose except fishing or pleasure ...	Rs. 2-0-0 Per ton of registered tonnage per annum.
For every fishing or pleasure boat ...	Rs. 0-4-0 Do. Fractions of tons will be counted as one ton, and the minimum charge for any vessel will be one rupee.

Licenses will be issued on payment of the above fees, for the use of any distinct line of navigation included in the Buckingham Canal.

A license will not be granted to the same vessel for the use of more than one line of navigation on the canal.

Vessels licensed in any month of one year must pay the annual fee for the whole of that year.

Licensed vessels will have to pay no other dues of any sort for the use throughout the year of the section of the canal for which the license is granted.

THE BUCKINGHAM CANAL, MADRAS.

SCHEDULE B.

SCHEDULE OF TOLLS.

Tolls.

Description of Vessel.	Rate.
For every ship, steamer, barge boat, or vessel of any description and propelled in any manner entering any of the distinct lines of navigation or sections of the canal other than the section in which it is licensed and which it can use free of tolls ...	Rs. 0-4-0 Per ton of registered tonnage.
For every raft of floating timber, bamboos, or other floating substance ...	Rs. 0-1-0 Per square yard.

THE BUCKINGHAM CANAL, MADRAS.

FORM C.

License No. _____ of 1879.
 This vessel is licensed to use the _____ Section _____ of the Buckingham Canal during the calendar year 1879 free of further charge.
 Registered No. _____
 Name of owner. _____
 Residence of owner. _____
 Class of vessel (a). _____
 Extreme length. _____
 Do. breadth. _____
 Do. depth. _____
 Draught of water. _____
 Licensed to carry _____ tons cargo.
 Do. do. _____ passengers.
 Fee paid. _____
 License issued by _____ day of _____ 1879.

on the

Executive Engineer.

(a) Here enter steamer, budgerow, cargo boat, passenger boat, fishing boat or pleasure boat as the case may be.

THE BUCKINGHAM CANAL, MADRAS.

FORM D.

APPLICATION FOR LICENSE.

I or we the undersigned (1) _____ in the _____
 residing at (2) _____
 district of (3) _____
 hereby apply for license to place (4) _____
 on the (5) _____
 section of the Buckingham Canal during the year 1879.

Date

Signature.

- (1) Here enter name or names of owners.
- (2) Place of residence.
- (3) Name of district in which residing.
- (4) Description of boat and purpose for which it is to be used such as passenger boat, cargo boat, budgerow, &c.
- (5) Section of the canal for which a license is required, i.e., the
 A or Sadras section,
 B or Madras section,
 C or Pulicat section,
 D or Kistnapatam section,
 E or Ramapatam section,
 F or Kottapatam section.

No. 38-A. Proceedings, Revenue Department, dated 5th July 1879, No. 2,411.

No. 39. ORDER THEREON, 8th July 1879, No. 1,801 A-W.

HIS GRACE the Governor in Council is pleased to approve of the above rules and bye-laws for the regulation of the navigation on the Buckingham Canal, and directs that under the provisions of Section 23 of Act I of 1870 (The Canals and Ferries

Act) they be published in the *Fort St. George Gazette* and in the Gazettes of the Chingleput, Nellore, Kistna, and Godavari Districts for a period of six weeks from this date.

2. The attention of the Revenue Board and of the Collectors of Nellore and Chingleput Districts will be drawn to the rules in view to their suggesting any points for consideration during the six weeks of preliminary publication.

3. The Collector of Chingleput will transfer from this date the Toll and License Establishment now employed under his orders on the canal to the establishment of the Executive Engineer of the canal, who will submit at once a statement of the further establishment required for carrying out these rules, and who will arrange to have the necessary number of schedules and forms printed and ready for use when required.

The Chief Engineer for Irrigation will report how the inconvenience caused by the operation of Rule XIV of the Godavari and Kistna rules can be best removed, and he will submit as soon as possible proposals for such other alterations in those rules as are necessary for giving to the boats on the Buckingham Canal the same facilities to navigate the canals of the Godavari and Kistna as are given in these rules to the vessels of the Godavari and Kistna Canals to navigate the Buckingham Canal.

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintendent of the Government Press.

- „ Chief Engineer for Irrigation.
- „ Superintending Engineers, First, Second, and Third Circles.
- „ Revenue Department.
- „ Collector of Chingleput.
- „ do. of Madras.
- „ do. of Nellore.
- „ do. of Kistna.
- „ do. of Godavari.
- „ Commissioner of Salt Revenue.

Buildings & Road
Civil Works

Obt. of 1879 Madras.
PUBLIC WORKS.

THE SUPERINTENDENT,
GOVERNMENT PRESS.

cc. cc. cc.

Dated July 1878.

By

By

G.O. No. 100, dated 14th March 1878, A.S. 1,001 A.W.

JULY

No. 38-39.

Buckingham Canal.—Approves of the proposed rules and bye-laws for the regulation of the navigation on the

No. 695.

PROCEEDINGS OF THE BOARD OF REVENUE, dated 14th March 1878.

Read the following papers:—

Proceedings of the Madras Government, dated 21st February 1878, No. 284, Revenue Department:—

ABSTRACT.—*Sadras and Buckingham Canal*.—Considering that the time has arrived for a complete change in the system of tolling hitherto in force and for the introduction of a plan similar to that sanctioned in 1872 provisionally; and requesting the Board of Revenue to report on the subject.

From R. W. BARLOW, Esq., Collector of the Chingleput District, to C. A. GALTON, Esq., Acting Secretary to the Board of Revenue, dated Sydapet, 5th March 1878, No. 98.

With reference to paragraph 15 of the Board's Proceedings, dated 24th January 1878, No. 216, I have the honor to report that at the time the Budget of the Cochrane's and Sadras Canal Fund for 1878-79 was prepared, I had no information before me either as to what portions of the East Coast Canal in the District of Nellore, recently completed from Famine Funds, would be opened for traffic during next year, or as to what number of boats might arrive from those parts at Madras and pay tolls. I therefore restricted the estimate to the average collections of ordinary years; if, however, the Board are in a position to estimate the additional revenue that might be derived from the extension of the canal northwards, I would suggest that the necessary alteration may be made in the Budget.

From the same Officer, dated Sydapet, 7th March 1878, No. 100.

ADVERTING to the Board's Proceedings, No. 400, dated 14th ultimo, and in reply to a demi-official from the Secretary, dated 5th instant, I have the honor to forward a set of draft rules for the whole system of the East Coast Canals.

2. As I have been directed in the demi-official to prepare the draft to suit the introduction of Act I of 1870 and the license system throughout, I have adopted the rules approved of by Government in G.O., No. 1,400, dated 10th October 1872, the only addition being one to regulate the speed at which steam launches are to run. I should have preferred to add a rule regarding the overcrowding of boats necessary, in my opinion, for the comfort, though perhaps not for the safety, of the passengers; but have omitted it as Government in the order above quoted laid down that such interference is not necessary.

3. In conclusion, I have to inform the Board that the Salt Boat Contractor cannot claim any compensation for change of system, as there is an express condition in his contract barring such claim, though the Board will doubtless award what they may consider equitable.

Enclosure No. 1.—Draft Rules.

From Colonel E. A. FOORD, R.E., Chief Engineer, Public Works Department, to C. A. GALTON, Esq., Acting Secretary to the Board of Revenue, dated Fort St. George, 9th March 1878, No. 1,226.

I HAVE the honor to forward herewith as requested by you personally a statement of the establishment proposed to be entertained for the supervision and

maintenance of the Buckingham Canal, which will be divided into the following executive charges:—

Head-Quarters.	
Buckingham Canal Division	Madras.
No. 1 Sub-division for Sub-divisional Officer	Pulicat or Coromandel.
Do. for Overseers	Madras and Dugurazpatam.
No. 2 Sub-division for Sub-divisional Officer	Ramapatam.
Do. for Overseers	Eskapilly and Pakala.

The Divisional charge will include 250 miles of Canal, each Sub-divisional charge 125 miles, and each Overseer's charge 62½ miles.

This establishment does not include the subordinate agency which may be required for the collection of revenue.

Maintenance such as clearing, &c., 230 Rupees per mile for 250 miles.

ENCLOSURE No. 1.

ESTABLISHMENT proposed for the Buckingham Canal.

Establishment—		Cost.
		RS.
1 Executive Engineer, 1st grade, at Rupees 950		950
1 Supervisor, do. at " 200		200
1 Do. 2nd do. at " 150		150
2 Overseers, 1st do. at " 100		200
2 Do. 2nd do. at " 80		160
1 Do. 3rd do. at " 60		60
Total per mensem ...		1,720

Total per annum Rupees $1,720 \times 12 = 20,640$

Establishment for one Executive Engineer—

1 Accountant, at Rupees 60	60
1 Draftsman and Estimator, at Rupees 40	40
1 Assistant Accountant and Writer, at Rupees 30	30
1 Do. do. at " 20	20
3 Lascars, at Rupees 7 each	21
Total per mensem	171

Total per annum Rupees $171 \times 12 = 2,052$

Establishment for two Supervisors—

1 Writer and Accountant, at Rupees 25	25
2 Lascars, at Rupees 7 each	14
	392
Total per mensem	78

Total per annum Rupees $78 \times 12 = 936$

Establishment for five Overseers—

1	Gumastah, at Rupees 15...	15
2	Lascars, at Rupees 6 each	12
		27
		5
	Total per mensem ...	135

Total per annum Rupees $135 \times 12 = 1,620$

Grand Total per annum ... 25,248

MEMORANDUM.

The license fee on the Southern Canal is Rupees 2 per ton per annum.

2. Boats on the Northern Canal are only charged for passing the Shadayem-cooppum Lock as they come into Madras. No charge is made for boats leaving. The charge is 4 Annas per ton for all cargo boats. Passenger boats pay 4 Annas per trip per boat and only as they come in.

Exceptions.—Budgets pay 8 Annas for inward trip. The boats of the officers of the Public Works Department on inspection and of the Police Inspector of the Northern salt-pans pay nothing.

3. Lattice bridge will do for the new toll on the Southern Canal, as I think it is a sufficient distance from Madras without being too far.

4. A table is enclosed showing financial results. The change will not be great on the Northern Canal. Assuming the aggregate tonnage of the serviceable boats to be 10,000* tons, these figures show the increase in Rupees 10,000. The change on the Southern Canal, where no tolls have been hitherto levied, will be considerable, amounting roughly to Rupees 5,190 of increase against the aggregate previous collections Rupees 1,400 per year; but it is a question whether the change may not cause a falling off in the traffic, and therefore in the estimated receipts.

5. Government do pay tolls on salt boats on the Northern Canal, but nothing towards licenses on the Southern.

6. The Boat Contractor on the Northern Canal can claim no compensation, as there is an express provision in his contract to the contrary; but if the Board should award any, the amount will be trifling, say, if the salt boats are employed for three months in the year, the amount of compensation to be paid would be one-fourth of the fees for their aggregate tonnage.

(Signed) R. W. BARLOW,
Collector.

11th March 1878.

Passenger Boats				Cargo Boats				Total of Columns 4 and 8			
Year	Number	Rate per Boat	Amount	Year	Tonnage	Rate per Ton	Amount				
1	2	5	4	6	7	8	9				
<i>Northern Canal.</i>											
1875	2,417	0 4 0	96 8	1875	202,638 1/2	0 4 0	81,055 3/4	RS. A. P.	51,113 13 0	RS. A. P.	51,113 13 0
1876	2,161	0 4 0	86 4	1876	157,315	0 4 0	62,926 0		39,869 0 0		39,869 0 0
1877	1,825	0 4 0	73 0	1877	90,615 1/2	0 4 0	36,246 1/4		23,110 1 0		23,110 1 0
Total for three years	6,403	0 4 0	252 12 0	Total for three years	449,968 1/2	0 4 0	180,227 3/4		1,14,092 14 0		1,14,092 14 0
Average for one year	2,134	0 4 0	84 4 0	Average for one year	149,989 1/2	0 4 0	60,075 7/8		38,030 15 4		38,030 15 4
<i>Southern Canal.</i>											
1875	2,155	0 4 0	86 2 0	1875	26,398	0 4 0	10,559 1/4		7,138 4 0		7,138 4 0
1876	2,074	0 4 0	82 9 6	1876	20,805	0 4 0	8,322 0		5,719 12 0		5,719 12 0
1877	1,703	0 4 0	68 1 2	1877	17,558	0 4 0	7,023 1/4		4,816 8 0		4,816 8 0
Total for three years	5,932	0 4 0	237 3 2	Total for three years	64,761	0 4 0	25,914 3/4		17,674 8 0		17,674 8 0
Average for one year	1,977	0 4 0	79 1 12	Average for one year	21,587	0 4 0	8,638 1/4		5,891 8 0		5,891 8 0
<i>Total Estimated Revenue</i>											
Add License Fee at 1 Rupee per Ton per annum				Add License Fee at 1 Rupee per Ton per annum				Add License Fee at 1 Rupee per Ton per annum			
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was under discussion before, is highly desirable. The rate might be Rupees 2 per ton on all boats registered as over 30 tons. On the Northern Canal the license fees will be so much clear gain, as no reduction of the number of boats is likely to result from the imposition of the charge. The present tonnage of boats plying on the Northern Canal is reported by the Collector of Chingleput to be 13,460 tons. The license fees on the Southern Canal aggregate Rupees 1,400; if the rate is reduced to one Rupee per ton there will be a loss of Rupees 700. The Board however propose to levy tolls on this canal also at some suitable site at a sufficient distance from the town to prevent evasion by unloading outside. The lattice bridge appears a suitable site, and the Collector approves the selection. The tolls on the Northern Canal should continue to be levied at existing rates, and the same rates may be tried on the Southern Canal; but as under the proposed arrangement boats will be able to make only four trips per annum for the charge formerly levied, it may be necessary to lower the tolls on the south. As boats passing outwards are not charged through traffic will not be twice tolled.

4. The financial effect of the Board's proposal appears from a statement furnished by the Collector of Chingleput showing the traffic on both sections during the past three years. The number of boats registered as over 30 tons was not, however, called for through an oversight; hence the license fee has been calculated at a uniform rate of one Rupee. The average of the receipts from tolls on the Northern Canal is Rupees 38,031, and a license fee at one Rupee per ton will give an additional income of Rupees 13,460. The traffic on the Southern Canal would have yielded at the same rates of toll Rupees 5,891 on an average per annum. With a license fee of one Rupee per ton the receipts would have been about Rupees 6,591 instead of Rupees 1,400. The total receipts on traffic equivalent to the average of the past three years would be about Rupees 58,000 instead of Rupees 39,400. The Budget Estimate for the ensuing year is Rupees 40,050 which, as explained by the Collector of Chingleput in his letter of the 5th March, is based on the average collections in his district. The Board can frame no estimate of the receipts likely to be derived from license fees upon the boats plying between the Kistna District and Pulicat lake, and time does not admit of a reference to Nellore; it may eventually be possible to levy moderate tolls on this section also, but the annual fee must suffice until the traffic has been fairly established. There will however be the license fees leviable on any accession to the number of boats that the opening of this section may give rise to; and there can be little reasonable doubt but that the junction of the canals and the extension of the line already effected will greatly increase the amount of traffic plying.

5. Turning to outlay the statement appended to the Board's review* of the Budget Estimates of the Cochrane's and Sadras Canal Fund for the ensuing year shows the maintenance allowance proposed and cost of establishment, both petty establishment under the Public Works Department and staff for the collection of revenue; the former item is Rupees 33,500, the latter Rupees 4,690 for Chingleput and Rupees 4,610 for Nellore. Cost of supervision is entered at Rupees 2,440, exclusive of cost of petty establishment. The Chief Engineer states that the establishment to be entertained for the supervision and maintenance of the Buckingham Canal will cost Rupees 25,248 per annum, exclusive of the subordinate agency required for the collection of revenue; the only item which may be struck out of the Budget is the entry of Rupees 5,930 for cost of petty establishment which appears to have been provided for by the Chief Engineer; on the other hand the levy of tolls on the Southern Canal may necessitate a slight increase of the establishment there. The cost of maintenance is put down by the Chief Engineer at Rupees 230 per mile for 250 miles or Rupees 57,500 in lieu of Rupees 33,500; this will swallow up nearly all the receipts; the allowance is now only Rupees 100 per mile south of Pulicat, and Rupees 150 has been entered in the Budget for 1878-79 for the section north of

Pulicat. The total expenditure according to the information furnished by the Chief Engineer will be as follows:—

	RS.
Maintenance	57,500
Public Works Department Establishment	25,248
Establishment for collection of Revenue and Contingencies	3,366
Total	86,114

No information as to the probable cost of necessary improvement has been furnished. It is clear that the eventual increase may be expected; the receipts will not, at present at any rate, cover the whole cost of the expensive establishment proposed and maintenance allowance at so high a rate as Rupees 230 per mile; the Board think that the debit for Public Works Department supervision should be limited to 25 per cent. of the outlay, following the usual course where Local and Special Funds are concerned, and that the maintenance allowance must be reduced if equilibrium is to be maintained. If the collections do not fall short of the sum estimated on the traffic of the past three years, viz., Rupees 58,000 (and the contrary may be expected), they will suffice to meet maintenance at Rupees 150 per mile, 25 per cent. for Public Works Department supervision and charges for collection, a margin being left

for unforeseen expenses or miscalculation of receipts.

6. One other point requires notice. A contract has been entered into for the conveyance of salt to Homes' Gardens and the Madras Coteurs from the pans, and this contract does not expire until 31st March 1880. The tolls on the Northern Canal are paid by Government, but no reduction of the license fee on the Southern Canal is allowed on this account. There will be no difficulty in arranging terms with the Contractor by remitting a portion of the license fee to be newly imposed with reference to the tonnage and period of employment.

(True Copies and Extract.)

To the Secretary to Government, Revenue Department,
with draft rules to be returned.
Copy to the Collector of Chingleput, with copy of Government Order.
" " of Nellore, with do.
" " Chief Engineer for Irrigation, with do.

Exd. A. Grubert and W. J. Lewis.

Rules for the regulation of the
Navigation of the Buckingham canal
Notes.

The outline draft of the above rules ^{now} lately submitted is framed on the rules published in the Fort St. George Gazette, dated the 3rd December 1878 which have been sanctioned for the Godavary and the Krishna canals.

2. These rules appear to be defective or capable of improvement in the following respects.

1st. They do not appear to be based on Act I of 1870 (the canals and Harbours Act) and several of their provisions more especially Bye Laws 15 and 19 cannot it is thought be legally carried out.

2^d. The fees charged are altogether incommensurate with the advantages gained by the use of the canals and out of all proportion small in comparison with the expenditure incurred in forming or in fitting the canals for navigation or in providing for even

1878.
1878.
Board of Revenue,
MADRAS.

PROCEEDINGS, 14TH MARCH 1878, No. 695.

Copy to M. S. J. S.

u. Eccl.

Rectified

MARCH.

No. 695.

East Coast Canal. — Submitting report called for on the question of applying Act I of 1870 to the whole line of the — from the Krishna to the South Arcot Districts, and of introducing a uniform system for the collection of dues thereon.

3. The varying classification of vessels and fees seems to be unnecessarily complicated and the rates appear to be in some respects inequitable.

3. In regard to the 1st mentioned defect, instances have occurred in which the servants of the P.W. Department have been prosecuted and punished for forcibly removing carts found obstructing traffic on public roads; and it is to be feared that similar serious results would follow, the seizure, the removal, and the sale, of derelict vessels on the canals; on the sole authority of the rules in question. It is possibly intended that these rules should be enforced under the authority of Act I of 1870, but this is not mentioned, and the Act is not once referred to anywhere in the rules in support of their provisions.

4. In reference to the 2^d defect, The cost of carriage by the canal from Madras to Nellore and Ongole is at the present

Govt. of Madras
P.W.D.

1st July 1879. No. W

Navigation

Read the following papers,
Memorandum by M. O. Humphreys on the proposed rules for the Navigation ^{Regulation} of the Navigation of the Bombay Canal.
Here enter Memo.
Rules
Bye Laws
Forms

Order

His Grace the Governor in Council is pleased to approve of the above Rules & Bye Laws for the regulation of the Navigation on the Bombay Canal, and directs that under the provisions of Sec 23 of Act I of 1870 (The Canals and Ferries Act) they be published in the 3^d of the Gazette and in the Gazette of the Chinsapat, Nellore, Kistnot and Godavary Districts. for a period of 6 weeks from this date after which they will be finally passed.

The Collection of Chinsapat will transfer from this Will and Licence Establishment now employed to the Establishment of the Engineers of the Canal. Who will submit at once a statement of the further Establishment required for carrying out these Rules - and who will arrange to have the necessary number of Schedules and

Forms printed and ready for use when required.

To The Chief Engineer for Irrigation with
~~the~~ report how the inconvenience
caused by the operation of Rule XIV
of the Godavery & Krishna Rules
can be best removed. and he
will submit as soon as possible,
proposals for such other alterations
in these Rules - as are necessary for
giving to the vessels of the Panchaganga
Canal the same facilities to
navigate the Canals of the Godavery
and Krishna. That are given in
these Rules to the vessels of the
Godavery & Krishna Canals. to
navigate the Panchaganga Canal,

To The C.E. for S.

To The Secy. 1st, 2^d & 3^d Divs.

To The Rev. Secy.

To The Collector of Chingleput Madras Province
Krishna & Godavery,

To The Commr. of Salt Revenue,

Explanation of alterations in
draft Rules for the navigation
of the Panchaganga Canal.

Rules I, II & III are altered in accordance
with His Grace the Durbar's instructions
an exception is added in Rule III by
Capt. Mullins to exempt vessels licensed
in the Godavery & Krishna - from taking
out licenses in the Panchaganga Canal.
The Godavery Rules require to be altered
in a similar manner to exempt the
Panchaganga Canal vessels from being
licensed in the Godavery and Krishna
Rule IV is slightly altered, the authority
given to the Executive Engineer under
sect 7 of the Canals Act, being provided
for in Rule VIII.

Rule V. The word "letter" to distinguish
section is inserted by His Grace's desire.

Rule VI is slightly altered. "Calendar"
is substituted for "Official" year, and
the rule is shortened.

Rule VII. 13 feet is substituted for 15'
as the maximum width of vessels
and 6 1/2' from the deep load line is
substituted for 9' from the keel
as the maximum height.

(The right bank
of the Godavery is
in view to the
early construction
of a lock. made
the limit of the
Sardar or A.
Sardar's right
of the latter bank)

Rule VIII. The measurement of breadth of vessels is altered to skin to rib, instead of from skin to skin as in original draft.

The ribs of native vessels are longer thick and far apart, and to take the rib as the point of measurement will reduce the measured capacity of the vessel considerably. The registered tonnage of steamers is unaltered but expressed differently. The registered tonnage of other vessels is $\frac{15}{100}$ less than the gross tonnage instead of $\frac{1}{8}$ less as in original draft.

Rule IX is slightly altered and shortened in expression, it is the same in effect as the original.

Rule X is new and introduced to provide specially for rafts.

Rules XI and XII are new. They are introduced from the Godavary rules V + XII, the addition of these rules is an improvement.

Rule XIII is the same as rule X of original draft with a slight addition.

Bye Laws

B.L. ^{1, 2 + 3} ~~1, 2 + 3~~ are extended to 5: 6. The same correspond with the B.L. of the Godavary. His Grace's instructions have been attended to in these laws.

B.L. 4, 5, & 6 of original draft become 6, 7 & 8 of revised draft. These laws were fully discussed by Col. Mullins and Mr. Oshaugmurray in view to have only one rule of road, as His Grace desires. But it was found impossible to meet all cases by only one rule. B.L. 9 has been added by Mr. Oshaugmurray to provide for vessels going in the same direction. B.L. 7, 8 & 10 of original draft are provided for in B.L. 10 of revised draft. His Grace's instructions in regard to lights have been carried out.

B.L. 9 of original draft becomes with slight alteration B.L. 11 of new draft. B.L. 11 & 12 of original draft become 12 & 13 of revised draft. Unaltered. Mr. Oshaugmurray wishes B.L. 13 of original draft to become B.L. 14 of new draft. But Col. Mullins recommends B.L. 15 of the Godavary Laws to be substituted for it, and he recommends also the addition

of the Codrington B. Laws 16 & 17.

The Buckingham Canal is only one channel and not in different divisions or ranges like the Canals of the Codrington and Kistna. and it may not be advisable to give the assistants or sub-divisions of the Canal power to suspend licenses. Part of Code B.L. 15. seems also unnecessary and inapplicable to the Buckingham Canal.

In regard to Code B.L. 16, it may create confusion in the Buckingham Canal, which passes two miles from one survey $\frac{1}{2}$ mile. And Code B.L. 17 is already fully provided for in the Rules and in the Act under which the Rules are to be enforced. This matter is submitted to His Grace's decision.

Forms, & Schedules.

His Grace's instructions in regard to these have been attended to. Col. Mullins includes pleasure boats under the rates provided for fishing boats, and it seems desirable to do so. Col. Mullins thinks the scale of fees too high and it is perhaps advisable to reduce the license fee to 1 R. a day for boats other than fishing or pleasure

Buckingham
25/1/24

Buckingham Palace

Explanation
of alterations
in Rules

In Regd 8.7.79 No. 1801. A. 2.

not to print 9/7

23

Hubb W. Audleston

For order

GOVERNMENT OF MADRAS,

Public Works Department,

Stonehouse, Ootacamund,

12 July 1879

My dear Master

I received the accompanying
note and files of papers yesterday
from Mr. O'Shaughnessy who
in compliance with an order
in Mr. Supt. d. 7. May
came up here with the object
of (1) framing complete
Estimates for the Buckingham
Canal (2) proposing rules

Built-up

Explanation
of alterations

In regulating the navigation
on the Canal

These latter have I under-
stand been framed in
immediate communication
with His Grace the Governor
and the question now arises
as to how they can be given
legal effect

As it appears that the
correspondence on the subject
has hitherto gone on in

Hubb W. Huntington

For order

your department perhaps
you will either take charge
of the draft rules or
obtain an order enabling
me to do the needful

Yours Truly

A. S. Sautter

perhaps
1/6
2/2

Beeth-
Explanation
of alterations

For order

Polliceman
30th June 1829

My dear Col. Lambey,

I send herewith as
provisional the Rules for
the regulation of the
Navigation on the Beeth
Canal - prepared
in communication with
Col. Mullins as ordered
in your memo 1694
dated the 21st May. and
approved and passed

to regulate the
navigation in the
Pineham Canal

File only reached
Office today with
result that they
not be brought into
effect as intended
12th September
I should now wish
instructions as to
to proceed with
reference to them

it is very public?

J. D.

7/7/79

Alt

put up

1/6
2/7

Beeth-freem
Explanation
of alterations

By His Grace the Governor
The correspondence on the
subject of these Rules has
been carried on hitherto
with the Chief Secretary.
The rules ought I think
to be properly disposed of
now in the press. They
must be published for
months before they are
finally passed and for
2 weeks after they are
passed, and as they are
to come into force from
the 1st September it will
be necessary to have them

published in the Gazette
of the 8th July at latest

I have to suggest that
the Memorandum proposing
the Rules with the Rules
and forms are, as in
the case of the Governor
& District Rules ~~now~~
printed, and a Departmental
order issued on them, and
the Rules by laws & forms
only be sent for the public
time in the Gazette.

I enclose draft of an
order which will with such
modifications as you may
direct meet I think -

Ministry public:

J.D.

For order

to regulate the
system in the
Birmingham Canal

File only reached
Office today with
result that they
sh- be brought into
as intended
1st September
I should now wish
instructions as to
to proceed with
mural to them

Alt

7/7/79

perhaps

11/10/79

Bull-frog
 In place of
 of alteration

all the points that require
 to be now discussed, and
 after you have disposed
 of them. I should if there
 is no objection like to
 see Mr. Pomeroy about
 the form in which the
 papers should be sent
 to the Press.

For by the way
 I have just received
 a copy of the
 Report of the
 Committee on the
 subject of the
 canal.

The Rules should be
 published at once
 & the attention of the
 Rev. Mr. H. D. Wilson
 & Mr. G. L. S. to
 draw them in
 view of their suggesting
 any point for consid.
 during the 6 weeks
 of public hearing?

J. D.

23
 Hull W. Audletton
 For order

Rules to regulate the
navigation in the
Birmingham Canal

This file only reached
 my office today with
 the result that they
 cannot be brought into
 force as intended
 on 1st September

I should now wish
 to instruct as to
 how to proceed with
 reference to them

Altt

7/7/79

11/1/79

PROCEEDINGS of the MADRAS GOVERNMENT.

READ ~~the following letter~~ Pro-

ceedings of the Board of Revenue, dated 14th March 1879/4th 1895.

Order thereon, 5th July 1879, No. 2411.

Ordered that the above Proceedings and the following file of papers relative to the regulation of the Navigation of the Buckingham Canal be transferred to the Public Works Department in view to the Canals and Ferries Act being put in force in respect of that work.

(True Extract)

J. H. Paul
Secy. to Govt.

To The Public Works Department with

1. Revised rules for regulation of the Navigation of the Buckingham Canal.
2. Bye laws.
3. Schedules and forms (A to D.)
4. Memo. by Mr. O'Shaughnessy on the proposed Navigation rules for the Buckingham Canal.
5. Memo. of explanations of alterations in rules.
6. Draft G.O.
7. G.O. from Mr. O'Shaughnessy to Chief Engineer, P.W.D.
8. G.O. from Chief Engineer P.W.D. to Chief Secy to Govt.

Current No. _____
Letter Number _____
dated the _____
from the Supg. Engineer of _____

To Sub Assistant.

The rules, by laws, & forms, as to the printed in the ~~for~~ proceedings as well as in the gazettes of next Tuesday, and the five Tuesdays following.

In the pro. They should appear under the signature of Mr. R. S. Secy. Supr.

Buckley has Canal; in the Gazette under that of Col. Sawyer, as Secy. to Govt., Mr. R. S. name not appearing.

There see that the rules are published in the Sat. M. S. Gazette of Tuesday next without

13 27
elfth of what it is by the
cellent road to those towns,
ed on the journey by canal
third of the time occupied
of carriage by the canals
and the Krishna is probably
of carriage on the bad
istricts, and it is probable
he produce of those districts
moved if it had to be
alone, In these respects
to canals to the public in
very great, while the profits
t owners are enormous. &
le, An ordinary cargo
tons, can be purchased for
orked by 2 men and a boy
Rs a month or 180 Rs a year,
Godavari scales of fees as
it pays 2 Rs per ton or 60
for the use of the canals, It
200 miles a month or 2400

Other Dept. Dept.

Nos.	}	187	No.

Govt. of 1873 Madras.

20/804 A 7199
11/7/79

L. Shet 16 July

Fail. otherwise they can't
be introduced from the
15th September next.

After appearing in six
Gazettes if any of the
Gazette, the rules will
be passed, and have
then to be published

~~in the Gazette~~ ^{see the}
~~the Gazette~~ ^{see the}
Act quoted in the
G.O. ~~dated 1st September~~

If the date 1st September
occurs any where but
in the one place that
I see, where it has
been corrected, it shall
be altered into 15th
September.

There are too many
copies in the m.f.
copies: some of
them might be
struck out on the
proof.

The order should be
got out of course as
possible, and then they
can shift the type of the
rules to the Gazette part of the
rule.

V.L. Sheet 16 July

time only one twelfth of what it is by the
comparatively excellent road to those towns,
and the time occupied on the journey by canal
is only about one third of the time occupied
by road. The cost of carriage by the canals
of the Godavary and the Krishna is probably
not $\frac{1}{20}$ th of the cost of carriage on the bad
roads of those Districts, and it is probable
that much of the produce of those Districts
would never be moved if it had to be
carried by road alone. In these respects
the value of the canals to the public in
general and especially
to the producers is very great, while the profits
of carrier or boat owners are enormous.

For example, An ordinary cargo
boat to carry 30 tons, can be purchased for
500 Rs, it is worked by 2 men and a boy
at a cost of 15 Rs a month or 180 Rs a year,
and taking the Godavary scales of fees as
the standard, it pays 2 Rs per ton or 60
Rs per annum for the use of the canal. It
travels easily 200 miles a month or 2400

miles appear and its hire according to the rates now prevailing is about 3 pie per ton per mile.

The annual outlay for such a boat is—

Interest on original cost of 500 Rs.
at 5 Per Cent. } 25-0-0

Depreciation and repairs at 15 Per Cent. 75-0-0

Working expenses 180-0-0

Canal dues 60-0-0

Total annual outlay 340-0-0

and Calculating the earning at the rate of 3 pie per ton per mile.

The income is $2400 \times 30 \times 3 \text{ pie} = 1125-0-0$

which gives a clear gain of Rs. 785 0 0

or $1\frac{1}{2}$ times the original cost of the vessel to the owner.

b. On the other hand the return to Government is extremely small. There are 750 miles of navigable canals in the Godavary and Krishna Districts and the navigation fees collected amount to about 50000 Rupees per annum or between 60 and 70 Rs per mile, an amount which must be quite insufficient for the upkeep of the

establishment and the works, much less to yield any return for the original cost of making the canals navigable.

7. The 3 defect, that is to say, the various classification of vessels and fees, seems likely to create unnecessary trouble and confusion, to the ^{Establishment} navigation, as well as to the owners of vessels. It is moreover inequitable in its application, and gives rise to a practice of circumvention on the part of boat owners which it seems desirable to avoid. For instance, a passenger boat is supposed to pay a fee of 6 annas for every square foot of deck surface, the average depth of such boats is about 3 feet and $16\frac{2}{3}$ square feet is equal to a ton or 50 ft. of cargo measurement. The fee of 6 annas a square foot for passenger vessels is therefore equal to $6\frac{1}{4}$ Rs a ton, and if the same vessel was classed as a cargo boat it would have to pay only 2 Rs a ton in the Godavary and 1 Rs a ton in the Krishna District. As a matter of fact the rule is to a great extent inoperative by having

passenger boats registered as cargo boats, and there is nothing in the rules to prevent cargo boats carrying passengers which they really do.

8. The alternative fee provided for in Rule XIV seems to be even more objectionable than the high rate charged for passenger boats. It demands a fixed toll without reference to the size or circumstances of the vessel or the length of the canal to be used. For instance an unlicensed 5 ton boat has to pay 6 Rs for using the canal from Dowlaishuram to Cocanada a distance of about 28 miles or at the rate of about 8 pie per ton per mile, a 60 ton boat can perform the same journey for 6 Rs also or at the rate of $\frac{2}{3}$ of a pie per ton per mile. The Commamoor Canal over 50 miles long can be used by the same boats at about half the cost per ton per mile they would have to pay respectively on the Cocanada canal.

9. An attempt has been made in drafting rules for the Buckingham Canal to avoid the above mentioned apparent defects in the rules for the Godavari and the Krishna canals.

JP 15
The Buckingham Canal rules are based entirely on Act I of 1870 and the repetition of what is fully provided for in the act is avoided in the rules. The fees proposed to be levied are comparatively extremely low, but they are sufficient to provide for the upkeep of the work and to yield some return on its first cost which is all that is required.

The fees provided for are the same on all vessels using the canal except fishing and measure boats from which for obvious reasons and for registration purposes only, but a very small fee is demanded. The fees are proportional to the size of the vessel and to the extent to which in the case of each vessel, the canal is used.

10. Owing to the limitation and exemption provided for in section 4 of the act it has been necessary to treat each of the old and new sections of the canal as separate lines of navigation. If section 4 of the Act was amended by providing for Tolls and licenses instead of Tolls or licenses and if the last paragraph was expunged, the drawing up

of navigation rules for canals generally would
be much simplified ^{and the division of the} ~~and the division of the~~

11. In fixing the scale of fees and tolls provided for in these rules, 3 things have been considered.

2nd, The extent of the traffic and its capability to produce the amount required.

12. The Buckingham Canal has (as
will) cost, one mile with another 15,000 Pounds
per mile and its upkeep including

annum. The Annual Revenue. In each mile
of the Canal should therefore be
The interest on first cost of

4. The cost per mile per annum.

Or a Total of Rs. — 1050-0-

14. It is useless however to speculate on what the actual traffic is at present, and for the purpose in hand the official returns must be accepted.

These returns give the following results
for the year ending the 31st December last.

Shipping tonnage on the canal
import and exports } 15,000 tons

Inward and outward traffic
from Madras } 268,902 tons

Ton mileage ————— 9,162,295

Passengers carried ————— 140,011

Fees and Tolls collected Rs 52,282-1-0

15. On the Sadras section where boats
are licensed and no tolls collected.

The traffic amounted to 71,286 tons

The ton mileage ————— 1,223,923 miles

The average distance each
ton of the traffic was carried } 17 $\frac{1}{6}$ miles

The fees collected was Rs 878-0-0

which is equal to Rs 21-6-8 for each
mile of the 41 miles of canal open or $\frac{1}{7}$ of
a pie per ton per mile carried.

16. On the Northern section 196 miles
in length where one toll is collected at
4 annas a ton and where boats are not
licensed.

The traffic amounted to 205,616 tons

The ton mileage to ————— 7,938,432

The average distance each ton
of cargo travelled } 38 $\frac{1}{2}$ miles

Tolls collected ————— Rs 51,404-1-0

which is equal to ————— 262-4-3

per mile of canal open or ————— 0-0- $\frac{1}{6}$

nearly per ton per mile of traffic.

17. The quantity of salt carried on the
Sadras section was 31,880 tons and on the

Pulicat section 95,709 tons equal in each
case to nearly half the entire traffic.

The average distance salt was carried
on the Pulicat section is 12 miles, the

ton mileage is therefore equal to $95,709 \times 12$
= 1,148,508. The fees collected from this

traffic amounted to Rs 23,927-4-0 or 4 pie
per ton per mile, while the remainder of

the traffic on this section of the canal
amounting to 109,907 tons was carried

by 89,924 miles or an average distance of
61 $\frac{3}{4}$ miles per ton, the fees charged being

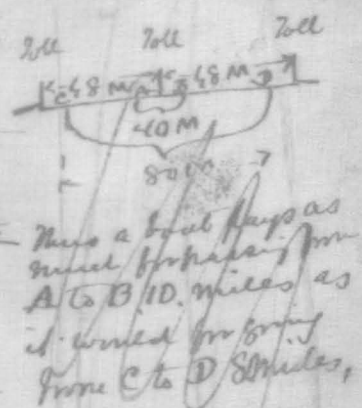
27,476-13-0 or about $\frac{3}{4}$ of a pie per ton
per mile. This shows that the canal

revenue has been greatly dependent on
the salt traffic, and that the fees

paid by Government per ton per mile

on this account is 5 times greater than what is paid by the public for the similar use of the canal.

18. It would be inconvenient to divide the canal into sections of 12 or 15 miles to suit the salt traffic and to equalise the incidence of the fees on this and other traffic ^{on such a short distance,} ~~and limits~~ is considered. The most convenient limit for the length of a section of the canal ^{is considered to be 48 miles} and salt like other traffic must pay more or less in proportion to the actual distance it travels within and beyond these limits. The Division of the canal into sections of this limit will ~~be~~ equalise the charges on all traffic as nearly as such equalisation can practically be carried out, this limit of about 48 miles has therefore been adopted in the rules and it is proposed to erect toll bars as near to these limits as local circumstances will admit.



19. The rules provide for a license or registration fee of 2 Rs per ton all round, on all vessels of all descriptions using a distinct section of the canal, except fishing & pleasure boats which will be registered for a fee of

4 annas at Ton. The rules provide also for the collection of tolls at the rate of 4 annas a Ton or 1 Pie per ton per mile for the use of any section of the canal other than the section in which the vessel is registered, which it is allowed to use free of tolls.

20. The length of canal now open is in round numbers 245 miles, and calculating on the present return of traffic, the registration fees and tolls will yield a Revenue of Rs 516-10-8 per mile as follows.

Registration fees on 15,000 Tons at 2 Rs	30,000
Do on Fishing ^{& pleasure} boats say 1,000 Tons at 4 annas	250
Tolls on traffic carried 48 miles and less 200,000 Tons at 4 annas	50,000
Do—Do carried more than 48 miles and less than 96 miles 50,000 Tons at 8 annas	25,000
Do—Do from 96 to 144 miles 10,000 Tons at 12 annas	7,500
Do—Do from 144 to 192 miles 5,000 Tons at 1 R	5,000
Do above 192 miles that is to say entering the canal at its north end	487 1/2
3,902 at 1 1/4 Rs	

Rafts say ————— 500
 Rest house fees canal produce &c. — 872½
 Total ————— 124,000 Rs.

or Rs 516-10-8 per mile of canal open.

21. This is only about half what is required to pay interest on first cost and to maintain the canal in working order, but it is more than sufficient for the latter purpose which is one great point that will be gained by the introduction of the new rules. The calculation does not moreover include intermediate traffic that is to say traffic that does not leave or enter Headwaters, which is not now included in the returns and upon which an additional revenue of 25,000 Rs per annum at least may be expected. It does not include ^{intermediate} traffic that is probably omitted from the present returns and it takes no account of the daily increase in the traffic from the mouth end of the canal, when all these are accounted for, there can be no doubt the traffic on the canal is quite able to pay its way in a liberal manner.

22. In regard to the ability of boat owners to pay the fees and tolls provided

AP 19 33
 for in the rules it has been shown that the owner of a 30 Ton vessel clears the large sum of Rs 785 per annum after paying all current demands, and the payment of tolls at the rate of 1 Pie a Ton a mile or 375 Rs per annum when the vessel is in tolerably full work will still leave the owner ^{a very large} ~~an enormous~~ margin of profit, but even if this was not the case and considering that the present cost of carriage by the canal is only from 1½th to 1/20 of the cost of carriage by road the present charges for carrying traffic might be reasonably increased if necessary to meet the additional fees for which the rules provide.

The Rules provide for

23. On further consideration of the draft rules it appears necessary to alter the first condition of Rule 3 by adding "or for the navigation of the Godavary and Krishna canals, according to the rules sanctioned for those Districts" This will enable the ^{licensed to use the Canals of} boats of the Godavary and Krishna Districts ^{being allowed} to use the Buckingham Canal, without undergoing the expense and trouble of taking out a fresh licence, and the payment of the tolls is all that ^{will} ~~need~~ be required.

be demanded of them. The boats of the Buckingham canal should ~~in the same way~~ be allowed to use the canals of the Godavary and Krishna in a similar manner without taking out a license or licenses in those districts. ^{and} ~~Anything~~ that can be done in this direction will ~~be~~ ^{be of no use} so long as rule XIV of the Godavary and Krishna rules is allowed to stand as it is. This rule is apparently intended to force the owners of vessels to take out licenses, ~~and~~ ^{and} this could be done by simply making that all vessels should take out licenses ~~and~~ Rule XIV would ~~not~~ ^{then} be necessary for the purpose for which it is apparently intended.

24. It has been already shewn (Para 8 above) how inequitably this rule bears on the boats of the Godavary and Krishna Districts. It acts with still greater harshness on the small boats of the Southern Districts and it is causing much obstruction to traffic at the junction of the Commamoor and Buckingham canals. For instance, a 6 ton boat with goods or passengers lay for 8 days at Santaravoor only 8 miles from the junction of the 2 canals has to pay 6 Rs or about 12 annas per ton per mile for the use of

SP 20. 34
this short length of the Commamoor canal or take out a license for navigating the Krishna Canal, or not use the canal at all. The latter alternative is generally adopted and the goods or passengers have to be landed and kept on the bank until a boat belonging to the upper canals can be brought to take them to their destination. The result is that owners of goods or passengers to or from the Northern Districts will, not if they can at all help it, employ the Madras boats, the boats of the Northern Districts are not always available and goods and passengers are often kept waiting for days and weeks for them while there are hundreds of Madras boats idle and ready for the work. The obstruction to traffic and the hardships caused by this rule should be removed by having it cancelled as soon as possible and a practicable and reasonable system of Tolls established instead.

25. It is some times argued that canal Revenue should be collected in the shape of license fees alone, but a license fee that would

yield anything approaching adequate revenue would appear at first sight a formidable amount, as for instance in the example given in para 5 above, the proportional fee would amount for a 30 Ton boat to Rs 435 per annum, enough to frighten the most ardent speculator away from boat building or from investing money in any way connected with canal navigation; and it might happen from some cause or other that while one vessel was lying idle the greater part of the year, another would be at constant work, in the first case the fee would be a heavy burden for which no return was received, in the latter case it would be no burden at all, on the constant earnings of the vessel, a license fee should therefore be as small as possible in order to bear lightly on those who had no work, and in this view it might be advisable to reduce the fees provided in the Buckingham Canal rules from 2 to 1 Rs per ton. The amount thus given up would be comparatively small and the Canal can afford to lose it.

26. The objection to Tolls is, the difficulty

AP 21 35
and expense of collecting them, these are evils that cannot be avoided, and experience shew that with ordinary caution and check they are not so great as might be supposed or as some people think. Tolls must be the backbone of canal Revenue, this is clearly shewn by the experience of the Northern and Southern Sections of the Buckingham Canal where in the one case with a very imperfect system of Tolls the Revenue amounts to the comparatively decent sum of Rs 262-4-3 per mile while in the other case where the license system is in force and the traffic nearly as great, the Revenue amounts to only 26-26-8 per mile. ^{and} the Revenue in the Godavari and the Krishna though better than on the Krishna Canal amounts under the license system to only between 60 and 70 Rs per mile. There is the further advantage in regard to tolls, and that is, that they bear only on those who are really using the canals, and whose earnings can well afford to pay them.

With these remarks the Rules are recommended for adoption and early sanction,

W. H. M. S. S. S.
Executive Engineer

Obtained
20th June 1829

The Buckingham Canal
-Mauvassum- on
Imposed Navigation
Rules of —

1874

Note

This boundary will be
the required in the
city to be sent to
the Government in the
the channel in connection with the

422³⁰
The following Revised Rules for the
regulation of the Navigation of the
Buckingham Canal are, under the
provisions of Section 23 of Act 1 of 1870,
herely published for general information.

I The Buckingham Canal includes the
following lines of navigation, extending
from the Palar river in the District
of Chingleput to the junction of the tidal
and fresh water canals in the Kistnah
District near Poddah Goujam, together
passing over a continuous distance of
about 245 miles. Namely.

1st The Sarras Canal - extending from
the right bank of the Palar river to the
right bank of the Adyar river. distance
about 43 miles.

2nd The Madras Canal. extending from
the

the right bank of the Adyar river to the Ladiancooppam Lock, distance about 12 miles.

3rd The Pulicat Canal - extending from the Ladiancooppam Lock, to near ^{Raidunavoo} ~~Royal Duravoo~~ - distance about 48 miles

4th The Kistrapatam Canal - extending from near ^{Raidunavoo} ~~Royal Duravoo~~ to near Kodoor distance about 48 miles

5th The Pannapatam Canal - extending from near Kodoor to Pannapatam distance about 48 miles

6th The Kottapatam Canal - extending from Pannapatam to the junction with the Commamoor fresh water Canal in the Kistrah District distance about 46 miles.

II These lines of navigation include also

23 3
also all navigable estuaries Backwaters
Rivers and channels whether salt or fresh, connected with each such line, they shall be each and severally, distinct lines of navigation as defined in section one of Act 1 of 1870 (the Canals and Ferries act) the provisions of which shall apply to each of these distinct lines of navigation separately, and they shall be denominated sections of the Buckingham Canal as follows,

1st ——— A or the Sadras Section

2nd ——— B or the Madras Section

3rd ——— C or the Pulicat Section

4th ——— D or the Kistrapatam Section

5th ——— E or the Pannapatam Section

6th ——— F or the Kottapatam Section

15th
III From and after the 15th day of September 1879, no vessel shall be allowed on, or to

to use any of the above mentioned
distinct lines of navigation without
1st. The payment of an annual license
fee at the rates specified in the Schedule
A annexed, for the use of any one of
the above mentioned distinct lines of
navigation

Exception.— Vessels possessing licenses
for the navigation of the Canals of the
Godavari or Krishna Districts will not
be required to pay a license fee for the
use of any section of the Buckingham
Canal.

2nd. The payment of a Toll at the rates
specified in the Schedule B annexed
for passing from any one to any other of
the above mentioned distinct lines of
navigation for which the owner does
not hold a license.

IV The Executive Engineer of the Canal
~~is authorised to carry out the provisions~~
~~of Section 7 of the Act, and he will~~
issue licenses (in the form C annexed)
personally or by agents authorised by him
in writing for the purpose, at such times
and places as he may notify in the
Fort St. George Gazette and in the
Official Gazette of the District in which
the line of navigation, for which licenses
are to be issued, is situated. The vessels
to be licensed must be brought at the
time specified in the notifications
to the places where licenses are to be
issued, to be measured and registered
and to have the necessary distinguishing
marks put on them.

V These marks will show by letter
the

the section of the Canal to which the vessel belongs and which it is licensed to manigate. ^{They will show}

^{and} the registered number of the vessel, ^{and} the Tonnage, or the number of passengers the vessel is licensed to carry. They shall be ^{put on} ~~put on~~ under the

direction of the Executive Engineer, at the cost of the owner of the vessel who will be held responsible that they

are not defaced or obliterated and that they are renewed from time to time as required.

are not defaced or obliterated and that they are renewed from time to time as required.

are not defaced or obliterated and that they are renewed from time to time as required.

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are not defaced or obliterated and that they are renewed from time to time as required.

Executive Engineer of the Canal at his office in Madras and by the Superintendents of Sections of the Canal at their offices at Cavelong, Madras, Pulicat, Dugerajapatam, Iskally, and Kottapattam.

VII

The maximum dimensions of vessels brought on the Canal hereafter will be limited to 90' in length 13 feet Beam and 2 1/2 feet draft, vessels of greater length and Beam that may be now on the Canal will be allowed to remain upon it at the owner's risk until they are worn out or renewed, but the draft of water will be limited in all cases to 2 1/2 feet and no vessel shall hereafter be laden beyond this depth, which will be marked by a painted band or water line round the outside

outside of the hull. The height of fixed fittings such as the roofs of boats, Mast Partners, Funnel Sockets shall be limited to $6\frac{1}{2}$ feet above the deep load line. The height of piled Cargo such as firewood, cotton, leaves &c. will be limited to the same dimensions and in a similar manner.

VIII The gross Tonnage of all vessels will be obtained by the following rule $\frac{L \times B \times D}{50}$

L being equal to the length of the vessel, measured at half the midship depth, from the after part of the stern to the fore part of the stern post.

B is equal to the sum of 5 widths taken from the inner side of the planking on one side to the rib on the other side, at equal distances of $\frac{1}{6}$ of the above length, divided by 6

D. is the midship depth taken from the upper surface of the limber strake (The bottom Plank next the keelson or the centre bottom Plank when there is no keelson) to the undersurface of the deck planking in decked vessels or to the top of the upper strake or Gunwale in open vessels.

The net or registered tonnage will ^{be} for Steamers the gross tonnage less one third, and for Other vessels the gross tonnage less 15 per Cent.

IX Vessels adapted to carry passengers, i.e. having a covered space for their protection, may be registered as passenger vessels and will then be licensed to carry 1 passenger for every 5 Square feet of deck surface to be measured as follows. Length from Stern to Stern at the deck level

level.

Breadth. The sum of 5 widths taken at equal distances of one sixth the length and divided by six, then Length + Breadth divided by 5 will give the number of passengers a vessel will be licensed to carry, including 40 lbs of luggage for each ^{passenger}. When passenger vessels carry cargo as well as passengers, the quantity of Cargo allowable will be the registered tonnage less 4,000 lbs for each passenger on board.

X Rafts will be permitted to
navigate the several Sections of the
Buckingham Canal on payment
when entering each such section, of the
toll prescribed in Schedule B—
unaxxed, no raft exceeding 90' x 13' x 2'
will be allowed on the Canal.

XI If

~~51~~

If a vessel after the issue of a license be enlarged, it shall not ^{be} again use the canal until it has been re-measured and re-licensed. The new license will be granted on surrender of the old license and on payment of the prescribed fee per ton on the difference between the old and new tonnage.

XII

No person who has taken out a license for the navigation of any section of the Canal, shall have claim to compensation on account of any impediment to navigation that may occur from any cause whatever.

XIII

The Executive Engineer in charge of
the Canal for the time being, is authorised
to enforce these rules, to collect tolls and
to demand

it means to demand
the money -

Mr. Krause

^{to} Licenses, ^{to} remove obstructions to navigation,
and to direct prosecutions under the
provisions of sections 7, 8, 9, 10, 12 & 25 of
Act No. 1 of 1870.

Bye Laws

I No vessel shall moor on the
towing path side of the Canal when
there is only one towing path, nor on the
windward side when there are two
towing paths, except when actually
loading or unloading or with the
special permission of the Canal Officer.

II No cargo shall be loaded or
unloaded and no passengers shall be
shipped or landed at any Lock or
masonry work other than the quays
or wharfs specially provided for the
purpose.

III No vessel shall be repaired or
fitted on the Canal without the
written permission of the Executive
Engineer.

Engineer or other Officer authorised to
give such permission on the Executive
Engineers' behalf.

IV No vessel shall be moored in
a lock channel defined as such
by notice boards erected for the
purpose by the Canal Officers.

V Vessels when moored shall have
their masts down, they shall be
made fast stem and stern to the
banks in single tow and there must
be a person always in charge of each
vessel, vessels when moored must,
between sunset and sunrise, show
a clear bright light, not less than
14 feet above the water level and
visible all round the vessel.

VI When vessels, other than steamers,
going under sail, in opposite directions,
meet

43
Fair Play
Rules

When seen

cancel 11/27/6

No 1.

29
44
meet, the vessel going with the wind shall give way, while the vessel going against the wind shall hold on its course. —

VII Vessels not under sail shall give way to vessels under sail, and Steamers shall in all cases give way to other vessels.

VIII When vessels not under sail including Steamers meet, those going north, should keep to the east and those going south should keep to the west.

IX When a vessel passes another vessel going in the same direction it should keep to the Leeward of vessels under sail and on the opposite side of the towing line of vessels not under sail. —

X Vessels when not moored must be between

between sunset and sunrise carry lights as follows.

Steamers. 3 lights

1st. A clear white light not less than 9 feet above water and in the centre line of the vessel.

2nd. A Bull's eye bright red light on the Port (left) side.

3rd. A Bull's eye bright green light on the starboard (right) side.

The Bull's eye lights to be not less than 8 inches diameter and not less than 14 feet above water.

Vessels other than Steamers must carry a clear white light at the fore end not less than 14 feet above water.

Passenger boats must in addition to the above lights carry a light in each cabin or compartment for passengers.

XI The maximum speed of Steamers

will

will be limited to 10 miles an hour by day and to 5 miles an hour by night reduced to 4 miles an hour when within half a mile of a Lock, or vessel ahead coming in an opposite direction. The steam whistle shall be blown when speed is reduced on the above mentioned occasions and when nearing a vessel

going ahead in the same direction, or when approaching any sharp bend in the canal. Steamers passing through portions of the canal under repair or through portions of the canal that cannot stand a high speed, shall reduce speed at those places to the limit fixed by the Canal officers on notice boards erected for this purpose.

XII

Every vessel shall have its license always on board and it shall be produced for examination by the Executive Engineer or

or by any officer authorised by the Executive Engineer to demand an inspection of it.

XIII. Every vessel plying for hire is liable to be inspected at any time or place by the Executive Engineer or by Officers authorised by him to inspect vessels, and the Executive Engineer may withdraw the license of any vessel found to be from any cause unfit for use and to withhold the license until the vessel is made serviceable.

XIV. The Executive Engineer may suspend the license of any vessel for any period not exceeding 3 months for any infringement of these rules or by laws.

[Signature]

*This Grace
appears of
Col. Mullins
proposes to
add. Rules
on opposite side
This Rule must
be cancelled
otherwise his
Grace's Signa-
-ture will be*

*proposed
additions
by Col.
Mullins*

I do not like this rule

XIV

The Executive Engineer in charge of the Canal shall have power to suspend the license of any vessel on account of the infringement of any of the rules or bye-laws by the crew, for periods not exceeding those noted below

For a first offence	15 days
"Second"	30 "
"Third"	60 "

and for a 4th offence the license will be liable to be cancelled. Similarly unlicensed vessels will be liable to a summary fine not exceeding the amount of a toll ticket, or to exclusion from the canals for periods equal to those for which, if licensed, their licenses would be liable to suspension or to both.

XVI

Superintending Engineers will exercise the

the same powers as Executive Engineer
under these bye-laws.

~~XVII~~ The penalty for infringement of
the latter part of Rule V, will be a
double charge for the new license, in
addition to any suspension of license
which may be ordered.

Bye Laws
Fair Copy

The Buckingham Canal Madras
Schedule A
License Fees

Description of Vessel	Rs.	Ann.	Rate
For every ship steamer, Boat Barge or vessel of any description propelled in any manner and used for any purpose except fishing or pleasure.	2	..	Per Ton of registered Tonnage per annum
For every fishing or pleasure boat	..	4	Rs. — Fractions of tons will be counted as one ton, & the minimum charge for any vessel will be 18 Rs.

Licenses will be issued on payment of the above fees, for the use of any distinct line of navigation included in the Buckingham Canal.
A license will not be granted to the same vessel for the use of more than one line of navigation on the Canal.
Vessels licensed in any month of one year must pay the annual fee for the whole of that year.
Licensed vessels will have to pay no other dues of any sort for the use throughout the year of the section of the canal for which the license is granted.

AP 33. 49
The Buckingham Canal Madras

Schedule B

Schedule of Tolls

Tolls

Description of Vessel	Rate	
	Rs	A P
For every ship steamer Barge boat or vessel of any description and propelled in any manner entering any of the distinct lines of navigation or sections of the canal other than the section in which it is licensed and which it can use free of Tolls	4	Per Ton of registered Tonnage
For every raft of floating timber Bamboos or other floating substance	1	Per Sq yard

The Buckingham Canal Madras
Form C

License N^o of 1879

*This vessel is licensed to use the section
of the Buckingham Canal during the calendar
year 1879 free of further charge.*

Registered N^o

Name of owner

Residence of owner

Class of vessel (a)

Extreme Length

No Breadth

No Depth

Draught of water

Licensed to carry Tons cargo

No Passengers

Fee paid

License issued by

On the day of 1879

Executive Engineer

*(a) Here enter Steamer, Budgerow, Cargo boat
Passenger boat Fishing boat or Pleasure boat as the
case maybe.*

HP 35
The Buckingham Canal Madras
Form D

Application for License

I or we the undersigned⁽¹⁾

Residing at⁽²⁾

in the

District of⁽³⁾

hereby apply for license to place⁽⁴⁾
on the⁽⁵⁾

section of the Buckingham Canal during the year 1879

Date

Signature

(1) here enter name or names of owners

(2) place of residence

(3) name of District in which residing

(4) description of boat and purpose for which it is to be
used such as Passenger boat Cargo boat Badgerow &c

(5) section of the canal for which a license is required (see)

the A or Sadoras section	D or Kashiapatam section
B or Madras section	E or Namapatam section
C or Pulicat section	F or Kollapatam section

Schedules

Forms

Jan 1897

No 3

Engineer's Station

		Present No.	Refused No.
Eng. Eng.	1 st grade	6.	7
"	2 nd	9	9
"	3 rd	9	9
"	4 th	11	11
		<u>35</u>	<u>36</u>

Supervisors.

1 st grade	16.	17
2 nd "	26	27
	<u>42</u>	<u>44</u>

Persons.	1 st grade	40	42
	2 nd "	60	62
	3 rd "	87	88
		<u>187</u>	<u>192</u>

Ly
to

Statement showing total receipts and expenditure under the Lochran and Sadras Canal Fund as shown in the Books of the Board of Revenue. The expenditure is made up of outlay incurred in the Civil and P.W. Department.

Particulars	1874-75	1875-76	1876-77	1877-78
<u>Receipts</u>				
Tolls and Licence	33,784	53,449	36,323	41,900
Miscellaneous	61	249	39	.
Total	33,845	53,698	36,362	41,900
<u>Expenditure</u>				
Total Outlay incurred in the Civil and P.W. Dept.	25,142	51,386	33,880	39,430
Balance	8,703	2,312	2,482	2,470

£. & O. £.

52.

54
I. H.

Herewith the nos in
each grade req^d for the
add^d Estab^{ts} now proposed.

I fancy the Canal
Rev^d is available for
anything sort liked. It is
levied under no Act; and
binds fort^s to expend it in
any particular way. It is
now expended on the
maintenance of the Canal & on
the Estab^{ts}, and would, I
conclude, continue to be
available for this purpose.

Sept
9/2

Works to be executed out of the Cochranes and Sadras Canal Fund during 1878-79.

Cost of maintaining Navigable Canals in the
Chingleput District — Rs 8000

Do. Do. in the Nellore District — " 25,500

Cost of P. W. Dept. Supervision, at 25 per cent on expenditure,
in the Chingleput District — Rs 2000

Do. Do. in the Nellore District — " 6370 8370

Deduct cost of Petty Establishment — 5930 " 2440

Establishment and contingencies - Chingleput — 4690

Do. Do. Nellore — 4610 " 9300

Total Rupees — 45,240

* Cochranes Canal Establishment

Superintendent	Rs 1200
Writer	360
Shroff	120
Four Peons at 7 Rs each	336
Masuljee	60
Total	2076

Contingencies

Cochranes Canal	Rs 80
Shadungenkuppam Lock	40
Sadras Canal	30
Total	150

Sadras Canal Establt.

1 Kanakapillai	144
1 Assistant Kanakapillai	108
1 Lascar	72
Total	324

Public Works Dept. Petty Establt.

Chingleput

2 Superintendents at 55 Rs each — 1320

Nellore

4 Superintendents at 75 Rs each — 3000
4 Writers at 15 Rs each — 720
4 Lascars at 6 Rs each — 288

Total 5928

Grand Total 9294

or in round figures 9300

Shadungenkuppam Lock Establt.

1 Kanakapillai	240
1 Assistant Kanakapillai	144
1 Lascar	96
4 Lascars at 7 Rs each	336
Total	816

2076	3600
324	720
816	288
150	4608
1320	4686
4686	9294 or 9300

GOVT.
OF MADRAS.

187 .

P. W.
DEPT.

SECRETARY.

Fort St. George,

187 .

OFFICE NOTE.

To C

If Mr. O'Shaughnessy
were appointed Superintendent
under the Act his salary
being paid out of Canal
Revenue, would he and
the whole establishment
come under the 80 di-
recting the usual deductions
from salary for pension.

OF

187

Gov.

W. H.
O. S.
2. 3. 70

Superintendent of what?

What Act? please send

Gov. W. H.
J. C. S.
5. 2. 8

W. H.
J. C. S.
4. 3

40 each should have
accompanied their Affairs
but they have not been
put up -

Wk
5.3.70

To Mr.

I am of opinion that the
case comes under Sec 31 of
the C. P. Code.

The Supt's Service would
qualify (at the discretion of
Govt) & hence no deduction
of salary would be regd. at
the conclusion of the Supt's Service,
his pension would be charged
as provided in Sec. 32.

Just for info: I may mention
that such matters are not disposed
of by the Madras G.O.S. but by the orders
of the Govt of India.

Rep.
6/12

Copy of the letter from the Executive Engineer
Kottapattam Division to the District Engineer

Nellore dated 11th October 1877 to 1891

Sir,

I have the honor to bring before
you that I have given leave to Mr. [Name]
to use the canal from the Rompavoo to
Kottapattam for the transport of grain
and hope that my action will be
approved of.

13 Pits on the Patapand section are
not finished, but I have spent there
last week to secure their early excavations.
The Kullamaly creek goes round these
pits and navigation is therefore
possible up to the Kottapattam and
Sugole road.

I have
(Signed) Delgroussille
Executive Engineer

N. 2508 (True Copy)

Submitted to the Chief Engineer for
the information of Government.

The District Engineer has approved
of Merchants and others being allowed
to use the canal.

District Engineer's Office
Allston
13 October 1877

W. H. M. Dwyer
District Engineer

W. H. M.

H of the Canal in
 General in multiple
 of its being shortly
 cut through its whole
 length - No subject
 in progress
 1/10

From
 The District Engineer
 Below
 To The Chief Engineer
 P.W. Department
 Madras
 No 2508

Dated 13th October 1877
 Draft, — do —
 Received

Circulated for
 information
 C.E. No 34578/24 Oct 15/10
 Buckingham Canal
 from Ramputt to
 Kottapattam —
 Inform that — is
 opened for navigation
 Approved - Mr. L. S. S.
 report on arrangements
 proposed for various tolls

No 34578/24 Oct 1877

Memorandum.

The undersigned has the honor
 to request that the Collector of
 Chingleput will be so good as to afford
 him information as to the mode in
 which tolls are levied on the boats
 north and south of Madras, or as to the
 registration, if any, of boats.

2 Mr. Barlow's opinion as to
 whether any change in the present system
 of levying is desirable, is also requested

Sd/- A. Hood Col RE
 Chief Secy: P.W.D.

To The Colly of Chingleput.

No 812

Chindepul District Collector's Office,
Saidapet, 31 October 1877

From,

Mr. M. Barlow Esquire,

Collector of the Chindepul District.

To

Colonel E. A. Foote Esq.,

Chief Engineer, Public Works Department.

Sir

In reply to your memorandum No 3457 of the 24th Instant, I have the honor to state that all boats plying on the Cochrane's and Sadras Canals in this District, are duly registered and numbered. On the Cochrane's Canal, tolls are levied at the rate of 4 annas a Ton on all cargo boats, and 4 annas for each passenger boat, only a fourth of the above rates being collected on boats plying between the Shadiencuppam Lock and the basin.

2. On the Sadras Canal license fees

are levied on the tonnage of boats at the uniform rate of 20 Rs per ton per annum.

3. In G.O. dated 10th October 1872 No 1400 B.D., it was resolved to apply the provisions of Act I of 1870 to the Cochrane's Canal, and to levy license fees on the boats instead of tolls; but the proposal was abandoned in G.O. dated 27th February 1873, No 225 B.D.

4. The present system appear to work well, and the only change that I would advocate as regards the Northern Canal, if further funds are required as the canal is extended, would be to levy a second toll at Dugarazapaham or at such other point in the Nellore District as may be considered desirable.

I have the honor to be

Sir
Yours most obedt servt

M. S. Srinivasulu

Collector

No. 817.

Chingleput District, Collector's Office,
Saidapet, 2 November 1877.

FROM

D. W. Barlow Esquire

COLLECTOR OF THE

Chingleput District.

TO

Colonel E. A. Ford R.E.

Chief Engineer Public Works Dept.

SIR,

Madras.

In continuation of my No 812, dated
31st ultimo, I have the honor to observe
that I ought to have added therein, that
though I do not advocate the altering of
the levy of tolls, and issue of licenses, as at present
existing on the Northern and Southern canals,
still, I consider it imperative in view to the
efficient regulation of traffic - that Act I of
1870 (Madras) should be brought into
operation, and I have already nearly
completed a revised set of rules, which, I
propose to submit shortly for the approval

From
The Collector of
Chingleput
To
The Chief Engineer
P. W. Department
Saidapet
Dated 3/11/77
Recd 3/11/77
No 812
Stating that a 18th law
relating to the Canals
and Madras Canals are
being registered and now
being and proposing to be
revised till at Bangalore
patent of public works are being

of Government, with the above recommenda-
tion.

I have the honor to be

Sir

Your most obed^t & dev^t

M. Marlan

Collector

Date _____

Novemb 1879

No. 817

ENCLOSURE

[illegible]

THE
Chief Quarters
Medford

To

THE COLLECTOR.

OF CHINESE.

From

No 109.

PHD

Memorandum.

The undersigned has the honor
to enquire when the revised rules for
traffic on the Northern & Southern
Canals, promised in the Collector's
letter No 817. dated 3^d Novr 1877, may
be expected

(Signed) E. A. Ford Col. R. I.
Secy to Govt. P. W. D.

8th Jan'y 1878

To The Collector of Chingput

No. 18.

CHINGLEPUT DISTRICT, COLLECTOR'S OFFICE,
ow Circuit Kuddapalem
SADDAPET, 17th January 1878

From

B. M. Barlow Esquire

COLLECTOR OF THE

Chingleput District.

To

Colonel E. A. Ford R.E.

Secretary to Government P. M. D.
Madras.

Sir,

In reply to your memo No 109 dated
8th Inst ant, I have the honor to inform
you, that the draft rules for traffic on
the Northern and Southern Canals, shall
be in your hands before the close of
the current month.

I have the honor to be

Sir

Your most obed^t serv^t

B. M. Barlow
Collector

G.O. 1801A W-8-7-79

16-2-78

No. 46.

CHINGLEPUT DISTRICT, COLLECTOR'S OFFICE,
Or Cutch Puleah
S. February 1878.

From

Mr. Barlow Esq.,
COLLECTOR OF THE

Chingleput District.

To

Colonel E. A. Ford B. E.

Secretary to Government P. W. Department
Madras.

Sir,

In continuation of my No 18, dated
17th ultimo, I have the honor to observe
that, when writing my No 817, dated 3rd Novem-
ber 1877, I had overlooked the Proceedings
of the Board of Revenue, approved of by
Government in their Order O. D., dated
12th February 1876, No 197, on a letter submitted
by the late Asy Collector Mr. Melville -
during my absence in Europe, negating
the introduction of Act I of 1870, and
pointing out how rules could be enforced
without applying the same.

From

THE COLLECTOR OF THE

Chingleput District.

To

THE SECRETARY

TO GOVERNMENT.

Madras.

Dated

17th January 1878.

Received

ENCLOSURES.

No. 18.

Informing that
the rules for trans-
ferring the Cawato
will be sent to
the Collector
of the current
months -

GO. 1801AN-87-79

Cutch Puleah
19-1-78

2. I have now written to the Board asking for instructions as to whether, in consideration of the new junction Canal, and the extension of Cochrane's Canal northwards to the Krishna and Godavari systems, they will support my proposal to introduce the Act, and whether, in drafting the rules, the Toll system is to continue in force on Cochrane's Canal, or whether an uniform system of licensing is to be adopted throughout.

I have the honour to be
Sir
Your most obedient servant

M. M. M. M.
Collector

E. J. C. C.

July 16. 4. July 1871
 G.O. No. 1271 No 213.
 G.O. No. 1272 No 1150
 G.O. No. 1273 No 499
 " " 1274 No 691
 " " 1275 No 25-100
 G.O. No. 1276 No 1021
 " " 1277 No 186 of 21st March 74
 G.O. No. 1278 No 1488
 " " 1279 No 189 of 17 June 1875
 G.O. No. 1280 No 1897
 " " 1281 No 1649 R.D.
 " " 1282 No 197 R.D.
 G.O. No. 1283 No 478
 " " 1284 No 342
 " " 1285 No 262 S.
 " " 1286 No 662.

G.O. No. 1801 A.W. 8-7-79

The following is a list of the
 G.O. Nos. 1271 to 1286
 which have been received
 from the Secretary to
 Government, Madras.
 The list is given for
 the purpose of
 enabling the Board to
 see that the same
 are properly
 filed in the
 files of the
 Department.
 The list is given
 for the purpose
 of enabling the
 Board to see
 that the same
 are properly
 filed in the
 files of the
 Department.

Submitting enclosed
 for the Secretary to
 Government, Madras
 I of 1870 to be
 Canal.

From
 THE COLLECTOR OF THE
 Chingleput District.
 To
 THE SECRETARY
 TO GOVERNMENT, Madras.
 Dated 5th July 1878.
 Received
 ENCLOSURES.
 No. 46

GOVERNMENT OF MADRAS. REVENUE DEPARTMENT.

21st February 1878, No. 284.

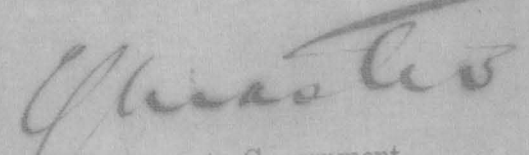
No. 268. Proceedings of the Madras Government, dated 21st February 1878, No. 284.

Irrigation, No. 6.

ADVERTING to the concluding sentence in paragraph 5, G.O., dated 2nd February 1878, No. 165, His Grace the Governor in Council considers that, as the Madras Junction Canal will shortly be opened and communication established between the South Arcot District and the northern extremity of the Buckingham Canal, the time has arrived for a complete change in the system of tolling hitherto in force and for the introduction of a plan similar to that sanctioned provisionally in 1872. The circumstances of the case have materially altered, and the system upheld in subsequent orders must, the Government think, now give place to a better organised arrangement, the direction being transferred to the Superintendent whose appointment to the charge of the whole line of Coast Canal is now under contemplation in the Public Works Department.

- The first charge on the Canal revenues will be the payment of the staff for maintenance of the Canal and collection of receipts, &c.
- The next, the cost of materials and work of maintenance.
- The third, of necessary improvements.
- The Board will report how this can be best effected and the system (probably partly toll and partly license) which they recommend with the rates of license and toll.
- It is the wish of Government that the new system should come into force from the commencement of the next official year. No time, therefore, should be lost in settling, in communication with the Department of Public Works, what the establishment and rates should be.
- The introduction of Act I of 1870 will give facilities for carrying out the wishes of Government.

(True Extract.)


 Secretary to Government.

To the Board of Revenue.
 " the Public Works Department.

Exd. F. R. Bantleman.
 20 Spare Copies.

extd.

No. 400. Rev: Sept

Proceedings of the Board of Revenue, dated 14th February 1878.

Read letter from the Collector of Chingleput, dated 5th February 1878, No. 41, requesting certain information, regarding application of Act I of 1870 to East Coast Canal.

The Board do not see that there is now any more reason to introduce Act I of 1870, or to change the system of tolls and licenses, than when the matter was last before them, and they consider that it would be premature to submit any draft rules to meet the altered state of things referred to by the Collector, until there has been an opportunity of forming an opinion of the extent.

Q. W. 1872 Feb 22

GO 1801 AW-87-79

GOvt. of 1878 1301

REVENUE.

THE BOARD OF REVENUE.

Secy, Secy, Secy

Dated February 21st.

Recd.

Encl.

G.O. 21st February 1878, No. 284

FEBRUARY.

No. 268.

Subject and Instructions Canal.—Considering that the time has arrived for a complete change in the system of tolling bridges in force and for the introduction of a plan similar to that sanctioned in 1872 provisionally; and requesting the Board of Revenue to report on the subject.

This will be
disputed
drafted
Q. W. 1872 Feb 22
the draft
multiplication
to have a
R. P. 1872

extent to which the traffic and
revenue is likely to be affected
by the change.

The information desired by
the Chief Engineer should have
been called for through the
Board.

(True extract)

(S^d) J. Sturrock
as. Sub. Secy.

(True copy)

Moore
Collector.

AM

No. 85

CHINGLEPUT DISTRICT, COLLECTOR'S OFFICE,
On Circuit Coromandel,
SUNDAY, 22 Feb. - 1878.

From

P. N. Barton Esq^r,

COLLECTOR OF THE

Chingleput District.

To

Col. E. A. Foord R. E.,
Secretary to Government P. N. Dept.,
MADRAS.

Sir,

Adverting to my letter of the
5th Inst ant, No. 46, I have the honor
to forward a Copy of Board's
Proceedings, No. 400, dated 14th
I den, from which it will be
observed that they do not ap-
prove of my drafting a set of
rules, applicable to the introduc-
tion of Act. I of 1870 to the Ca-
nals. I shall therefore now
submit to the Board the rules,
proposed by Mr. Melville, for
the better management of the
navigation in the Canals, revising
the

In a letter from the
Collector of Chingleput
No 85 dated 22
Feb. 1878. To the
Chief Secy. to Govt
P. N. Dept.

the same with reference to para
2 of the Board's Proceedings, re-
corded with G. O., dated 12th
February, 1876, No 197, and for-
ward a copy of the same to
you when printed.

I have the honor to be,

Sir,

Your most obed^t serv^t,

M. W. Barton

Collector.

MW

I assume however that
Caval. Div. will be applicable
& this charge sup. kept.
but as the latter will be
I don't find it

R.A.P.

休

The Canal passes through,
separate Districts, viz. Krishna,
Bellary, Presidency and
Chingleput, intersecting a
certain proportionate

proportionale

THE COLLECTOR OF THE

CHINGLAPUR DISTRICT

TO GOVERNMENT,
Mad.

Madras.

1878.

No. 85.

Forwarding a copy
of Res. B?? Pro. No. 100
of 14: February 1878
stating that there is
no necessity for
changing a set of
rules applicable
to the introduction
of coal of 1870 to
the Canal.

proportionate number of Public Works Executive Charges, the Officers holding which have many other works attending over large areas to attend to. It is obvious that under these circumstances the maintenance of the Canal and the development of its navigation cannot receive that share of attention which the importance of these objects demands. The only way in which the desired ends can be attained is by constituting the Canal, throughout its length, a separate charge under a responsible Executive Engineer with a competent subordinate staff.

2. The Executive Engineer in charge would be responsible for the efficient maintenance of the Canal, the regulation

regulation of the navigation and all constructive work, and would have charge of all the tools and plant which may be employed either for maintenance or navigation.

3. The scale of establishment represented by the Chief Engineer to be necessary is as follows:-

1. Executive Engineer
1. Sub Engineer
2. Supervisors
5. Overseers
with the requisite office establishment.

4. But it is not practicable to detach from the ordinary establishment of the Dept this special staff. The sanction of the Government of India will therefore be requested to an increase of establishment to the extent shown above.

It is of importance that no time should be lost in introducing the arrangements approved in these orders. They will accordingly be carried out at once in anticipation of the sanction of the Government of India to the additional establishment required.

5. Mr. O'Changhnessy will be nominated Executive Engineer in charge of the Canal, and will take over the works as soon as he is relieved of his District Charge, and when the special staff of subordinates shall have joined.

6. The Executive Engineer in charge of the Canal will correspond directly with the Chief Engineer.

7. The scale of office establishment will be

as follows:-

For 1 Executive Engineer.-

1 Accountant	Rs 60
1 Draftsman & Stationer	40
1 Asst Accountant & Writer	30
1 do do	20
3 Lascars at 7 Rs each	21
	<u>171</u>

For 1 Sub Engineer.-

1 Writer & Accountant	Rs 25
2 Lascars at 7 Rs each	14
	<u>39</u>

For 2 Supervisors

1 Writer & Accountant	Rs 25
2 Lascars at 7 Rs each	14
	<u>39</u>
	<u>2</u>
	<u>78</u>

There are containing 2
in the (Cottam & Ladus
Cottam - now when will
be sent) -

For 5 Overseers.-

1 Gunastab	Rs 15
2 Lascars at 6 Rs each	12
	<u>27</u>
	<u>135</u>

These may be entertained as early as may be necessary.

(H.R. No 4)

Dr. Krishna
" Wellore
" Presidency
" Chingleput
Dr. P. W. Acet
Sind Dept
Res. Dept

The Secretary to the
Government of India
P. W. Dept

Sir

In forwarding the accompanying copy of Proceedings to dates constituting the Buckingham Canal an independent Executive Charge under a separate staff of Officers, I am to request the early sanction of the Government of India to the scale of establishment, Executive and Office, which will be necessary for the efficient supervision of the Division which has been created.

In the tabular statement which accompanies the additional appointments to the Executive Staff are shown as being of the highest grades; but the Officers who may hold these ap-

pointments will ^{not} necessarily be of those grades. These Officers will be appointed by selection without reference to grades. The amount for which sanction is requested is therefore the maximum which will not probably be expended.

W.H.
10.1.78.
927
15/1/78

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the
Read the following :-

From the District Engineer 3 H.R. No 2508 of 13 Oct/77
 " Collector, Chingleput Dt. 812 7 31 - do
 " Do - Do - 817 7 3? Nov 1877
 " Do - Do - 18 7 17 Jan 1878
 " Do - Do - 46 7 5 Feb 1878
 Pro. in the Rev. Dept. 7 1878/

The Buckingham
 Canal having now been
 completed for a distance
 of 250 miles between Chinnai
 Ganjam in the Krishna
 District and the Palas in
 the Chingleput District
 opening inland water com-
 munication from Cocanada
 through Madras and to the
 Palas river (being 444 miles)
 it becomes necessary to

 See remarks
 I don't feel sure that these
 proposals are right. I think
 under the Act we must supply the
 income of the work. So that the
 actual cost of interest &c. be
 so debited - & not deduct
 25% on the day and the 25%

Am Mr. Henderson
 His Grace the Governor

G.O. 1801 A.H. 8-7-79

To C

For remarks as to
 suggested application
 of Canal Revenue -
 Vide Hon Mr Henderson's
 note within and note
 of existing establishment
 and salary.

W.H.
 D.W.
 23.1.78.

re 11

Vide revised draft
 16.2.78

Consider the arrangements
which will be required for
the efficient supervision
of the maintenance and
navigation of this important
link of 250 miles of
Canal. The Canal passes
through ^{portions of} four separate
Districts, viz., Mithna,
Nellore, Presidency and
Chingleput, intersecting
a proportionate number
of Public Works Executive
charges the Officers holding
which have many other
works extending over large
areas to attend to. It is
obvious that under these
circumstances the main-
tenance of the Canal and
the development of its
navigation cannot receive
that share of attention
which the importance of

these objects demands. The
only way in which the
desired end can be attained
is by constituting the Canal
throughout its length, a
separate charge under a
responsible Executive En-
gineer with a competent
subordinate staff.

The Executive Engineer
in charge ^{will} be respon-
sible for the efficient
maintenance of the Canal,
the regulation of the Navi-
gation ^{the direction of} and all constructive
works and ^{will} have charge
of all the tools and plant
which may be employed
either for maintenance
or navigation.

The scale of establish-
ment represented by the
Chief Engineer to be necessary
is as follows:-

- 1 Executive Engineer for the Division.
- 2 Supervisors for Sub Divisions.
- 5 Overseers - 2 to each sub division and one for extra or special work.

with the requisite office establishments.

The Head Quarters will be fixed as shown below.

Division

Madras.

No 1 sub division, for } Pulicat or Coromandel
Sub divisional Officers }

No. for Overseers - Madras and Nagarajpatnam.

No 2 Sub division for } Ramapattanam.
Sub divisional Officers }

No. for Overseers - Kappillay and Pakala.

The Divisional charge will include 250 miles of canal, each sub divisional charge 125 miles, and each Overseer's charge 62 1/2 miles.

Sub division for
Dudum - Sadam - Reten
it is in Madras
charge apparently.

But it is not practicable to detach from the ordinary establishment of the Department this special staff. The sanction of the Government of India will therefore be requested for an increase of establishment to the extent shown above.

I am strongly opposed to any increase of establishment. It is of importance that no time should be lost in introducing the arrangements approved in these orders. They will accordingly be carried out at once in anticipation of the sanction of the Government of India to the additional establishment required. I have been the means of throwing a part of the extra cost on a special source of income & the transfer of the effect without delay in the manner proposed, with such economies.

Mr. O'Shaughnessy
will be nominated Execu-
tive Engineer in charge of
the Canal and will take
over the works as soon as
he is relieved of his dis-
trict charge, and when
the special staff of
subordinates shall have
joined.

The Executive Engineer
in charge of the Canal
will correspond directly
with the Chief Engineer.

The scale of office
establishment will be
as follows:-

For 1 Executive Engineer
1 Accountant ————— Rs. 60
1 Draftsman and Estimator — 40
1 Asst. Accountant & Writer — 30
1 ————— do ————— 20
3 Lascars at Rs. 7 each 21

Rs. 171 x 12 = 2052

as a consideration may
suffice.

But that if I am in
the minority in this matter
the papers may be re-
culated & the result
one & record my dissent
in due form & perfect
elaboration — W.L.
1872

With the above reservation
viz. that the Estab. is formed
from existing Estab. & has
all income appears as
an office — this is all
— I am most anxious
to see the arrangement
carried out at once — I
old ask the Controller
of the Estab. — W.L.

For 2 Supervisors.

1 Writer & Accountant — Rs. 25
2 Lascars at Rs. 7 each — 14
Rs. 39

936 = 12 x Rs. 78

For 5 Operatives

1 Gymnastah ————— Rs. 15
2 Lascars @ Rs. 7 each — 12
27

1620 = 12 x Rs. 135

There may be en-
tertained as early as may
be necessary.

As observed in the
orders of the Revenue
Dept. No. — 3 —
recorded at the head of these
Proceedings, the circum-
stances of the Canal have
materially altered since
1872 when proposals for
a change in the system
of licensing hitherto in
force were negatived.

Office
2052
936
1620
4608

It is now time that the requisite steps were taken for placing on a proper footing not only the management of the navigation of the Canal but also the financial arrangements of the undertaking.

At present the Revenue of the Sadras and Cochrane's Canals forms a special fund called the Cochrane and Sadras Canal fund. From this fund are met charges for the maintenance of the Canal and for the establishment required for collecting the tolls.

The Revenue of the Canal is derived from

- (a) Licences issued to Boats
- (b) Tolls levied on unlicensed boats
- (c) Miscellaneous Sources.

The following statement shows the Revenue and expenditure on the Canal for the last four years:-

Particulars	1874-75	1875-76	1876-77	1877-78.
<u>Receipts</u>				
Tolls and Licence	53784	53449	36,323	41,900
Miscellaneous	61	249	39	"
Total	33845	53698	36,362	41,900
Average 41,457.				
<u>Expenditure</u>				
Total outlay incurred in the Civil and Public Works Dept	25142	51386	33800	39,430
Balance	8,703	2312	2482	2470
Average 3,992				

The following is the estimated outlay from Canal Funds during 1878-79 with details of the Reestablishments employed on Revenue Accounts:-

Cost of maintaining Navigable Canals in the
Chingleput District } Rs. 8000
Do. Do. in the Nellore District } 25,500

Cost of P.W. Supersession at 25 per cent on expenditure
in the Chingleput District Rs. 2000
Do. Do. in the Nellore District 6370 8370
Deduct cost of Petty Reestablishment 5930

Reestablishment and contingencies Chingleput 4690
Do. Do. Nellore 4610
Total Rs. 9,300

* Cochrane's Canal Reestablishment
Superintendent Rs. 1200
Writer 360
Shroff 120
Four Peons at Rs 75 each 300
Masaljee 60
Total 2076

Sadras Canal Reestablishment
1 Kanakapillai 144
1 Aech do 108
1 Lascar 72
Total 324

Shadayenkuppuru Lock Reestablishment
1 Kanakapillai 240
1 Aech do 144
1 Lascar 72
4 Lascars at Rs 7 each 336
Total 816

Contingencies Rs. 80
Cochrane's Canal 40
Shadayenkuppuru Lock 30
Sadras Canal 30
Total 150

P.W. & Petty Reestablishment
Chingleput
2 Superintendents at Rs 50 each 100

Nellore
4 Superintendents at Rs 50 each 200
4 Writers at Rs 15 each 720
4 Lascars at Rs 6 each 240
Total 5920
Grand Total 9296

I think the Canal Funds
are drafts on the
Sd. Govt. as a Special
Fund -

From these statements it would appear that the average receipts have been Rs 41451 against an average expenditure of Rs 37459. For the length already opened the finances of the Canal may therefore be considered in a healthy condition; and as the extensions which are now nearly completed may be expected still further to develop the traffic, the prospects in the future are reassuring.

It is highly desirable however that a proper record of the finances of the Canal should be maintained and the Examiners, P.W. Accounts, with, in communication with the Executive Engineer arrange for this being done. A Capital and

Revenue Account should be started and submitted to Government half yearly, accompanied by a Review showing in a simple form the increase and decrease of both Revenue and Expenditure under certain prescribed heads to be approved by Government.

In the Southern Section of the Canal only, for a length of 40 miles, are the provisions of the Canal and Ferries Act No 2 of 1870 in force. It is desirable for the better regulation of the traffic that the Act should be applied throughout the entire length, and that the scale of fees should be uniform

It would appear from the letters of the Collector of Chingleput recorded above that he has ready the draft of a set of rules which he proposes to introduce. These rules should be submitted for the approval of Government without delay, through the Board of Revenue, who will report as to their general applicability.

They should follow as closely as possible the rules printed with the orders in the Revenue Department, No 1400 dated 10th Oct/72

The Executive Engineer in charge of the Canal will be appointed Supervisor under Section 9 of the Act.

H.E. No. 7

W. 270.

Rev. To
The Secy to the
Govt of India
Mr D

My Sir,

In forwarding the
accompanying copy of
Proc. No. 7
Constituting the Birmingham
Canal an independent
Executive charge under a
separate staff of officers
I am to request the early
sanction of the Govern-
ment of India to the
scale of establishment,
Executive and Office,
which will be necessary
for the efficient super-
vision of the Division
which has been created.

In the tabular state-
ment which accompanies
the additional appoint-
ments to the Executive

84
Staff are the fewest that
can be provided having
in view the length of
Canal to be supervised.
The grades have been
fixed with reference to
the prescribed proportions.
It is not practicable to
settle at present the or-
ganization of the Revenue
establishments. A fur-
ther communication
will be addressed to the
Govt of India on this
subject. W. P. 9/11

1878.

{ P. W.
} DEPT

Madras, 4TH, FEBRUARY

187 8

OFFICE NOTE.

To

GET 1801AW. 8-7-79

KEEP WITH

Genl. No.

dated

187

EXPENDITURE FOR ONE OF THESE YEARS

I.E. FOR 1876-77.

4. FROM THESE STATEMENTS IT WILL BE SEEN THAT THE AVERAGE RECEIPTS HAVE BEEN RS.41,451, AGAINST AN AVERAGE EXPENDITURE OF RS.37,459 - FOR THE LENGTH ALREADY OPENED, THEREFORE, THE FINANCES OF THE CANAL MAY BE CONSIDERED IN A HEALTHY CONDITION. I AM NOT HOWEVER IN A POSITION TO SAY WITH REGARD TO THE ADDITIONAL LENGTH NOW OPENED WHAT PROSPECTS THERE ARE OF THE REVENUE CONTINUING TO MEET THE EXPENDITURE.

5. FOR SUPERVISING CHARGES, IT WILL BE SEEN THAT THE EXPENDITURE IN 1876-77 WAS RS.6,119, OR FOR A LENGTH OF 93 MILES, RS.66 PER MILE. THIS FOR 250 MILES WOULD AMOUNT TO RS.16,500 PER ANNUM, AS COMPARED WITH THE PROPOSED ESTABLISHMENT OF RS.32,076. *5119 = 2676*

6. THE MAINTENANCE PROPER OF THE CANAL APPEARS TO HAVE BEEN ABOUT RS.42,306 OR SAY RS.132 PER MILE; WITH A FURTHER EXPENDITURE OF RS.12,171 FOR DEEPENING THE CANAL. I

Supervising charges for 250 miles = 2676
Proposed charges for 250 miles = 32076
For State paper & other expenses 2000
For 250 miles = 2000
For 250 miles = 2000
For 250 miles = 2000

DO NOT KNOW WHETHER THIS LATTER CHARGE REPRESENTS THE CLEARING OUT OF SILT, AND THEREFORE A PROPER MAINTENANCE CHARGE, OR WHETHER IT REPRESENTS EXPENDITURE INCURRED ON IMPROVING THE ORIGINAL DESIGN OF THE CANAL, EXPENDITURE ON WHICH WOULD BE MORE PROPERLY CHARGEABLE TO CAPITAL.

7. ON THE FORMER ASSUMPTION THE MAINTENANCE CHARGES WOULD BE INCREASED BY RS.131 PER MILE, OR TO AN AGGREGATE OF RS.262 PER MILE PER ANNUM.

8. THE CHARGE FOR COLLECTION IN THE YEAR UNDER REVIEW APPEARS TO HAVE BEEN RS.3,386 AGAINST A REVENUE DERIVED FROM TOLLS AND LICENSES OF RS.36,323. I HAVE NO MEANS OF DISTINGUISHING BETWEEN REVENUE DERIVED FROM LICENSES, AND THAT DERIVED FROM TOLLS, AND THEREFORE I CANNOT SAY WHAT PERCENTAGE THE COST OF COLLECTION BEARS TO THE REVENUE FROM TOLLS.

9. THERE ARE TWO ISSUES IN CONNECTION WITH THE CANAL NOT DEALT WITH IN THESE PAPERS :-

IN THE FIRST PLACE, IT SEEMS

TO ME VERY ADVISABLE TO PLACE THE COLLECTION OF THE REVENUE UNDER THE SAME GENERAL MANAGEMENT AS THAT PROPOSED FOR THE CANAL IN OTHER RESPECTS. THE CANAL, AS A WHOLE, WILL NEVER PROPERLY DEVELOP UNTIL ALL MATTERS CONNECTED WITH BOTH THE RECEIPTS AND EXPENDITURE, IN OTHER WORDS, UNTIL THE WHOLE MANAGEMENT OF THE 'NOW BUCKINGHAM CANAL FUND' IS UNDER ONE AND THE SAME MANAGEMENT, LIKE THOSE OF A RAILWAY OR ANY OTHER SELF-SUPPORTING COMMERCIAL UNDERTAKING.

10. SECONDLY, THE DIFFICULTY I HAVE HAD IN COLLECTING FROM VARIOUS SOURCES, THE BARE INFORMATION I NOW SUBMIT, WITH REGARD TO THE ACCURACY OF WHICH I CANNOT SAY I EVEN NOW FEEL ALTOGETHER CERTAIN, SHOWS ME THE DESIRABILITY OF STARTING SOME REGULAR CAPITAL AND REVENUE ACCOUNTS FOR THIS CANAL, TO BE SUBMITTED TO GOVERNMENT HALF YEARLY, ACCOMPANIED BY A REVIEW, SHOWING IN A SIMPLE FORM THE INCREASE AND DECREASE OF BOTH REVENUE AND EXPENDITURE UNDER CERTAIN

47
PRESCRIBED HEADS. SHOULD GOVERNMENT APPROVE, I WILL IN COMMUNICATION WITH MR. O'SHAUGHNESSY, COMMIT A FORM OF ACCOUNT PROPOSED.

11. IN CONCLUSION, I WISH TO SAY A FEW WORDS ON THE MANNER IN WHICH IT IS PROPOSED TO SEND ON THIS APPLICATION TO THE GOVERNMENT OF INDIA FOR SANCTION.

12. THERE IS IN THE PAPERS HARDLY A WORD, PERHAPS NOT EVEN ONE, WHICH WOULD GIVE THE GOVT. OF INDIA THE IDEA THAT THIS CANAL EITHER WAS, OR WAS VERY NEARLY, A SELF-SUPPORTING INSTITUTION. ON THE FACE OF IT THE APPLICATION APPEARS SIMPLY AS AN APPLICATION, WITHOUT ANY DRAWBACK, FOR INCREASED EXPENDITURE ON P.W. ESTABLISHMENTS- THE MADRAS GOVERNMENT HAVING ON SEVERAL PREVIOUS OCCASIONS STATED THAT THE P.W. ESTABLISHMENT CHARGES IN THIS PRESIDENCY WERE ALREADY EXCESSIVE, AND THAT IT CONTEMPLATED THEIR REDUCTION.

13. I THINK THEREFORE THAT IN SENDING FORWARD THIS APPLICATION,

ALL THE FACTS IN CONNECTION WITH
THE REVENUE OF THE CANAL AND WITH
ITS PRESENT FINANCIAL POSITION,
SHOULD BE FULLY STATED; AND THAT
A CASE SHOULD BE MADE OUT SHEWING
THAT THE ANTICIPATED INCREASE OF
REVENUE FROM THE ADDITIONAL LENGTH
OF OPEN MILEAGE MIGHT REASONABLY
BE EXPECTED TO COVER THE IN-
CREASED COST OF THE PROPOSED
ESTABLISHMENT.

12. IN THE NEXT PLACE; THE IN-
CREASE IN THE ENGINEER AND UPPER
SUBORDINATE ESTABLISHMENT IS AP-
PLIED FOR AS ADDITIONAL TO THE
GENERAL PROVINCIAL SCALE. IT IS
WELL KNOWN THAT THROUGHOUT INDIA
THERE HAS TO BE IN EVERY PROVINCIAL
SCALE OF P.W. ESTABLISHMENTS, A
CERTAIN PROPORTION OF NUMBERS IN
THE SEVERAL GRADES. THE ORDERS
ON THIS SUBJECT OBTAIN EQUALLY IN
MADRAS AS IN THE REST OF INDIA,

(SEE P.W. CODE SEC. II. PARAS 25-46)

AND CONSEQUENTLY TO SEND UP AN
APPLICATION LIKE THE PRESENT, IN
WHICH THESE PRESCRIBED PROPORTIONS

ARE NOT ADHERED TO IS SIMPLY TO

INVITE THE RETURN OF THE APPLI-

CATION BY THE GOVERNMENT

FOR REVISION IN ACCORDANCE WITH
RULES.
14. THE PROPOSED ESTABLISHMENT
OF CLERKS AND ACCOUNTANTS SHOULD BE
GRADED AS PRESCRIBED IN THE P.W.
CODE (CHAP. I. SEC. I. PARAS 10, A. AND
12.

Def
52 C.

P.S. THERE SEEMS TO BE HERE
A CERTAIN WASTE OF POWER IN FINALLY
DISPOSING OF THESE ESTABLISHMENT
CASES WITHOUT REFERENCE IN ORDINARY
COURSE TO THE FINANCIAL BRANCH OF
THE DEPARTMENT.

THIS COURSE EITHER PRESUPPOSES
ON THE PART OF THE CHIEF ENGINEER
AND SECRETARY AN INTIMATE KNOWLEDGE
OF SEVERAL MOST ELABORATE AND CON-
STANTLY ALTERING CODES OF FINANCIAL
RULES, WHICH, IF THE KNOWLEDGE BE
ALWAYS KEPT UP TO DATE, MUST GREATLY
INCREASE THE SECRETARY'S WORK, OR
IT ENTAILS AS IN THE PRESENT CASE
THESE RULES BRING LOST SIGHT OF,
WITH THE CERTAIN EFFECT OF RAISING

MOST UNNECESSARILY A CERTAIN
AMOUNT OF FICTION, ON THE PART OF
THE GOVT. OF INDIA.

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B

Details of Expenditure incurred in the P. W. and Revenue
Department making up the total amount of Rs 33,880 expended in
1876-77.

Amount
of outlay
in 1876-77.

Particulars

Public Works Department
Chingleput District

1 Maintenance of Northern Canal from Coim near Madras to Pulicat	3907
2 " " of Southern Canal from the Adyar to the Palur River	3083
3 Deepening the S. Canal from Adyar to Sadras	7220
4 Repairing the Lock huts at Shadyancoopum	91
5 " Government Bridgeway	118

Nellore District

6 Maintenance of Northern Canal from Pulicat to Sugarcapattam	5105
7 " " of " " from Sugarcapattam to Kanapur	
8 " " of " " from Kanapur to Kondalany near Kutchipattam	4951
9 Deepening the East Coast Canal from the 47 th to 61 st mile stone	
Cost of P. W. Dept. Supervision at 25 per cent on the expenditure	3605
" " " in Chingleput District	2514
" " " in Nellore District	
Total	30594

Revenue Department

Toll Establishment at the Cochrane's Basin	1998
" " at the Sadras Canal	335
Establishment on Shadyancoopum Lock	831
Contingent Charges of the Cochrane's Canal Toll Office	54
" " " Sadras Canal	32
" " of the Shadyancoopum Lock	36
Grand Total	3386

E and O. E.

Grand Total

33,880

52

GOVT.
OF MADRAS.

1878.

P. W.
DEPT.

SECRETARY.

Fort St. George,

8th Feby 1878.

OFFICE NOTE.

To

C.

Doubtless time and labor would have been saved had you been consulted in the first instance. The Chief Engineer has reconsidered the question of strength of proposed battalions and believes that noted below will suffice.

OF

187

- 1. 10. Engrs for the Division.
- 2. Supervisors for 2 Sub Divisions.
- 5 Overseers for Overseers charges
- 2 to each Sub Division and 1 extra for special work.
- the Head Quarters of the Division
- Madras
- 1. Sub Div. Head Quarters.
- Subect or Coimbatore
- 2. Sub. Div. Head Quarters
- Ramapatnam.
- 1. Sub Div. Head Quarters
- for Overseers - Madras
- and Dargazipatnam.
- 2. Sub. Head Quarters.
- East Kapulley & Pakhal.

The Divisional charge
will be 250 miles of canal
Sub Divisions 125 miles each.
Overseer charges. $62\frac{1}{2}$ miles
each.

Will you please have a new
Tabular Statement prepared,
meeting the requirements of India
in regard to the necessary pro-
portion of numbers in Grades W & V.

The Chief Engineer concurs in
the views noted in Para 9 of
C's office Note which it is
believed also meet with the
approval of the Rev. Dept. in
which Dept an order in the
subject is understood to be
about to issue.

(Sd) W. F.

Forward the file &
sent.

Please note if the Canal
Revenue will be available to
meet current expenditure both
in establishment and maintenance.

29/10

East Coast Canal

Madras 7th June 1878

My dear Col. Ford -

If the Canal cannot
be made a charge equal
to that of a District - I
am in further consider-
ation willing to take
it even as an Executive
Duty. I enclose a memo
of the Establishment
that will I think

important navigation
approaching
the -

portion in Kallar

canal has

except a
between 156

mile which

private note

with be finished

at the end of

the

open with the

Signature Colonel Ford

The Chief Engineer recom-
mends that the following

The Divisional charge
will be 250 miles of canal
Sub Divisions 125 miles each.
Overseer charges. 62 1/2 miles
each.

Will you please have
Tabular Statement
meeting the requirements
in regard to the neces-
sary portion of numbers in
The Chief Engineer
the views noted in
C's office Note which
believed also meet
approval of the Rev. D.
which Dept. an order on
subject is understood to
about to issue.

be necessary.
and this Establishment
or something similar
will be required
even if the work is
attached in pieces to
the maps themselves
which it passes.
I suppose as a matter
of course that I should
be directly under
your own orders. without

Submit the file
sent.

Please note if the Canal
Revenue will be available
meet current expenditure both
in Estab. and Maintenance.

29/10

East Coast Canal

the intervention of any
of the Super or Dist.
Engineers themselves
which the whole
changes the Canal
passes.

Yrs sincerely

R. Humphreys.

P.D. I could not get away
this evening as I intended
I shall leave tomorrow
evening. I want to go

signature Colonel under

particular navigation
approaching
tion -
portion in Hellas
canal has
it except a
between 156
4 mile which
private note
with unfinished
all end of
open with the

The Chief Engineer recom-
mends that the following

The Divisional charge will be 250 miles of canal sub divisions 125 miles each. Oversee charges. 62 1/2 miles each.

Will you please have Tabular Statement meeting the requirements in regard to the recapitulation of numbers in

The Chief Engineer of the views noted in C's office Note which believed also meet approval of the Rev. which Dept. in order subject is understood about to issue.

(P.) I want the file sent.

Please note if the Canal Revenue will be available to meet current expenditure both in establishment and maintenance.

in the morning to the workshop. to see if I can get the levels required by Mr. Armstrong.

I am told there is a vacancy in the sub Engineer grade by the death of Mr. Selton I beg to remind you that the 1st vacancy in that grade has been promised by memorial by Genl. Walker I forget which, to Mr. J. H. Stephens, supervisor

sub grade in the Canal

29/10

I entirely agree with the proposal. The only or cause. like & share through-effort & need not responsible

29/10 M

I entirely agree in the proposal & place the whole line of the navigation under

East Coast Canal

This important navigation is now approaching completion of the portion in India

all the canal has been cut except a length between 156 and 164 mile which in a private note I find with unfinished navigable end of November.

The progress with the

The Chief Engineer recommends that the following

The Divisional charge
will be 250 miles of canal
Sub Divisions 125 miles each.

Proper canalisation
of the Pulicat Lake
is good - North
of the Chingleput
Boundary -

between the former
River & Command

known but little
has been yet done
towards cleansing
or deepening the
Canal

one Engineer of great
feeling expressed that
it is not only the
best most economical
way of developing it to
the utmost advantage
but the only way
that is at all likely
to succeed.

I anticipate the
best results from
the arrangement.

His Excellency must
not be absolutely deterred
from those of the
River & the Canal
must, but I think
extreme economies
should be expected in
them now, & directing
it as far as possible
to the River, & no
doubt the best

From Madras (from
river) to the entrance
of the Commerson
Canal in Kistna
will be 205 miles

It is accordingly
a present engineering
arrangement - under

3 D.L. ? Nelson
Chingleput -
Pondicherry

and under a
Representative Layer
Members of Range Officers
Each of whom will
have many other

The Chief Engineer recom-
mends that the following

The Divisional charge
will be 250 miles of canal
Sub Divisions 125 miles each.

works extending over
a large area -

Will it not be desirable to separate the canal into a

Separate charge
under one head
Engineer with
competent subordinates
Staff -

Will Engineer be
responsible for
the maintenance in
thorough order of the

And I consider to treat
as a special charge -
What grade of Engineer
required?

entire Canal. The
regulation of the
navigation - & all
constructive works
which may be required.
Thereon -

Such an arrangement
would place the
whole plant under
one maintenance
under one chief to
utilize to the best
advantage -
If such an

The Chief Engineer recommends that the following

The Divisional charge
will be 250 miles of canal
Sub Divisions 125 miles each.

arrangement be
approved - it should
take effect promptly
so that all arrangements

in the through
navigation be at
once made - in
readiness for the opening

of the Mississippi
canal in this view
the matter is of the
of the C. & O. at once

in order that necessary
report in the Staff

I concur.

must current expenditure both
in establishment and maintenance.

Keeping -

It seems probable
that it would be
advantageous in some
respects to place
the whole Canal
line from Cincinnati
Canal to ~~Indianapolis~~
Mercanum in one
hand - for the
charge from Columbus
to Mercanum does
not seem to need
a separate office
and I think the

we constitute the
Whole & C Canal from
Columbus one canal

The Chief Engineer recom-
mends that the following

The Divisional charge
will be 250 miles of canal
Sub Divisions 125 miles each.
Overseer charges Rs 1 a m.

While the
Navigation would
be but main canal
& developed water
way management.

Bd 28/10

Revenue will be available to
meet current expenditure both
on establishment and maintenance.

FOR ORDERS.

With reference to His Grace's
order of the 28th of the 10th order to
superintend the main-
tenance and navigation
of the Buckingham Canal
now completed for a dis-
tance of nearly 300 miles
between Chinna Janam
in the Krishna District
and Tadra in the Chin-
gapat District, it will be
necessary to place it un-
der a separate and in-
dependent establishment.
The Chief Engineer recom-
mends that the following

See over

R.A.

scale, which he considers
the lowest that can be
allowed, should be allotted

- 1 Executive Engineer & Mde.
- 1 Sub Engineer
- 2 Supervisors
- 5 Overseers.

It is impracticable
to provide this estab-
lishment from the
regular sanctioned scale
of the Public Works
Department. It is
therefore proposed that
an application setting
forth the facts of the
case in detail be
made to the Government
of India with a view
to sanction being obtained
for an increase to the

It seems to me that
in all cases ^{has been} the same
for establishment of (Custodian
Sadr Canal which will be
absorbed - that it is not
necessary to increase the
number of post. Supervisors
& overseers. But to transfer
to this special duty some
& to employ temporary
officers for ^{other} special work
who will thus be no
permanent charge.
All salaries are not
estimated for but will be
needed - & the actual

income of Sadr Canal
should be shown - & the

estimate in case of
other portions of Canal -
it will be found that the
financial difficulty will
not be so great I think

it seems to me that the
rank & charge drawn
equal pay with that of a
District Engineer - the
charge will be large &
responsible in ^{regarding}
much travelling - &
very constant supervision

But 17/11

above extent, with the
 requisite Office Estab-
lishments.

E. A. M. Caldwell
Chief Engr. P. W. D.
D. 1. 78

Comal 8/1
FOR ORDERS.

Change of order

Head Quarters
Kishinapatnam
Madras

Head Quarters - From Sadras
To Kishinapatnam

Head Quarters Command
of Pulicat

Head Quarters Sadras
Sadras to Pulicat

Head Quarters Madras

Head Quarters Division
Pulicat Kishinapatnam

Head Quarters Division
Kishinapatnam to
Chinnai

Head Quarters Ramapatnam

Head Quarters Division

Kishinapatnam to Ramapatnam

Head Quarters Kishinapatnam

Head Quarters Division

From Ramapatnam to
Kishinapatnam

Head Quarters Pulicat

Change of order

Expenses 4000
Total 400
5200

The quarters should be
is one for this order to be
and need not be taken
from paper for order -
The change would be
and the order will be
be taken for after the
order has been received
and the canal taken
change of - W

GO 1801 A-57-79

GOVT.
OF MADRAS.

1878.

P. W.
DEPT.

SECRETARY.

Fort St. George, 31st January 1878.

OFFICE NOTE.

To

C.

Please return draft
order and file sent to you
on the 23rd instant on the
subject of the Buckingham
Canal Establishment &c.

W.H.

By M.

31.1.

To Mr.

Herewith, with a note.

I have had much difficulty
in obtaining any information
at all in regard to the Canal.

5/2.

Notes of Establishment req?
on the E.C. Canal - from the
Kistna frontier to - Ladang that
length 245 miles.

1. Executive &c. - Superintendent.

3. Sub-Office.

4. 8. Musans &c.

- with the usual Office Establishment.

The sub-Office would be

1. Ladang to P. P. P. - 65 miles

4. 2. Musans &c.

2. P. P. P. to P. P. P. - 95 do

4. 2. Musans &c.

3. P. P. P. to Kistna frontier 82

4. 2. Musans &c.

W.H.

2/1/78

Tabular Statement Showing Financial Results of Proposal Contained in Letter No. dated

Number and date of Order.

Order to which the pro-
position refers.

Nature of change

Proposition

Proposed of Proposition

Local Government's
Recommendation

Orders of the Govt of India

Pr. Dept.

Remarks Remarks Remarks

Present scale

Proposed scale

Permanent Increase per month Decrease per month

Temporary

Increase per month

Decrease per month

Period

Period

6 Rs. Ings 1st grade at Rs. 950
9 do 2nd do do 800
9 do 3rd do do 650
11 do 4th do do 550
15 Asst Ings 1st do do 450
22 do 2nd do do 350
7 do 3rd do do 250
4 Sub Ings 1st do do 400
3 do 2nd do do 300
7 do 3rd do do 250
16 Supervisors 1st do do 200
26 do 2nd do do 150
40 Overseers 1st do do 100
60 do 2nd do do 80
87 do 3rd do do 60

5700
7200
5850
6050
6750
7700
1750
1600
900
1750
3200
3900
4000
4800
5220

7 Rs. Ings 1st grade at Rs. 950
9 do 2nd do do 800
9 do 3rd do do 650
11 do 4th do do 550
15 Asst Ings 1st do do 450
22 do 2nd do do 350
7 do 3rd do do 250
15 Sub Ings 1st do do 400
3 do 2nd do do 300
7 do 3rd do do 250
10 Supervisors 1st do do 200
26 do 2nd do do 150
45 Overseers 1st do do 100
60 do 2nd do do 80
87 do 3rd do do 60

6650 950
7200
5850
6050
6750
7700
1750
2000 400
900
1750
3600 400
3900
4500 500
4800
5220

Rehabilitation for 160 Ings
1 Accountant ... 60
1 Asst. Secy. & Writer ... 40
1 Draftsman & Receiver ... 50
3 Lascars @ 7 Rs each 21

171 171

Rehab. for Sub Ings
1 Writer & Accountant 25
2 Lascars @ 7 Rs each 14

39 39

Rehab. for 2 Supervisors
1 Writer & Accountant 25
2 Lascars @ 7 Rs each 14

Rehab. for 5 Overseers
1 Writer 15
2 Lascars 12

27 x 5 = 135 135

66370

69043 2673

Notes. Buckingham Canal.

Rev. G.O. 213 dated 1st Feb 1871
 do. 1400 " 10th Oct 1872
 do. 225 " 27th Feb 1873
 do. 1649 " 16th Nov 1875
 do. 197 " 12th Feb 1876

Act I of 1870 not in force on the Northern Canal. Is in operation on the Sadras Canal. 40 miles in length.

Proposed draft rules for Licensing boats on the Northern Canal under the

Act are recorded with Revenue

G.O. 1400 dated 10th Oct 1872.

Vide also Rev. G.O. 1649 dated

16th Nov 1875 and 197 dated 12th

February 1876.

Under orders in the Revenue

Department No. of

Recapitulate the provisions of the Rev. order laying down the necessity for adoption of licensing system.

the direction of the Canal administration has been transferred to the Public Works Dept. It will therefore rest with this Dept. to take the requisite steps for placing the management of the navigation of the Canal as well as the financial arrangements of the undertaking on a proper footing.

In Novr 1875 the Board of Revenue objected to the application of Act X of 1870 which was proposed with a view of legalizing the expenditure of the surplus funds accrued in other Districts on the works for the extension of Cochrane's Canal northwards. As the Canal has now been extended and forms one continuous line of communication, with the Act in force in the sections forming

G.O. 197-12 July 76. Lr. Siff

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the Northern and Southern extremities, it seems necessary with the view to uniformity and for the better regulation of the traffic that the Act should also be applied on the Central section and the conditions and scale of fees assimilated throughout.

The Collector should be called on to submit through the Board without delay the proposed draft rules referred to in his letter No 817 of 5th Novr 1877, 18 of 17th January and 26 of 5th February 1878. He should be told that the scale of license fees and the conditions generally should be the same throughout the Canal.

The preliminary general arrangements for Canal management should meanwhile

be laid down in G.O. and the
Collector told to frame his
draft rules in consonance thereto.

For statement of Collections
and details of establishment
on the Northern and Southern
Canals see Rev. G.O. 213 dated
1st February 1871.

On Northern Canal Top
Boats are rated as 1 ton boats.

Toll is 4 annas a ton.

Boats should be classified
and charged somewhat as follows

Steam Boats (either tugs or Passenger Boats) Rs 20 per annum.		
Budgerows	_____	10 — " —
Top Boats - Passenger	_____	5 — " —
Cargo boats below 30 tons - per ton	_____	3 — " —
— " — above 30 tons — " —	_____	4 — " —

Measurement and
Registration of boats should
be properly regulated.

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Form of Licenses laid
down - and License fees on
Southern Canal raised to some
such standard as that already
proposed for the Northern Canal.

At present Boats using
the Canal north of Madras
pay toll at the Shadangancoo
Lock only - and may ply con-
tinually between Ennore and
Doozagarapattam without charge.

"Supervisor" - appointment
of — vide para 5 of Rev.
G.O. 213 of 1st Feb 1871 - Executive
Engineer in charge of Canal
should be Supervisor.

The Salt Boat contract
has to be considered in the
introduction of Licensing Rules.
It is also matter for

consideration whether the existing toll system can with advantage be altered in favor of the Licensing system. Arguments in favor of present system are

- (a) It works well
- (b) The people are accustomed to it.
- (c) Its incidence varies according to earnings - and the luck of each boat in obtaining cargo - and therefore making many trips - whereas the licence amounts have to be paid in lump sums, without reference to traffic.

(d) Boat owners as a class are very poor - tolls being paid by Shippers. With the Licensing system the charge would fall wholly on the boat owners - in the first instance at least

(e) Even should still larger returns be required from the Canal, there could be more

conveniently raised by increasing the toll on cargo boats from 4 to 5 annas per ton, and the rate for passenger boats from 4 to 5 annas per boat, than by a system of licensing.

On the whole it was considered that the toll system is probably as remunerative, while it is certainly fairer and more suitable to the class of persons concerned than the proposed licence system.

Receipts & expenditure	
Works Estab ^t 1 Executive Eng ^r at Rs 950 x 12	11,400
2 Supervisors at 400 x 12	4,800
5 Overseers at 400 x 12	4,800
Offices	4,608
Revenue Establishments	9,300
	34,908
	55,000
Maintenance 250 miles at Rs 220	89,908
	41,451
Receipts	47,457
Balance required to be made up	R.S.

Notes. N.

G.O. 1801 A.W-8. July 1877

No. 1801 A.W. Public Works Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 8th July 1877
Read the following:—

Board's Pro: No. 695 d/ 14th March/78
Memo. by the Dy: Mgr. } N.R. No. 8
Buckingham Canal
Sec. Dept. Pro: No. 2411 d/ 5th June/77

- Have printed the following rules:—
- (1) Board's Pro: No. 695 d/ 14th March/78
 - (2) Memo. by Dy: Mgr. (No. 4)
 - (3) Rules (No. 1)
 - (4) Bye Laws (No. 2)
 - (5) Schedule of Rates (No. 3)
 - (6) Sec. Dept. Pro: No. 2411 d/ 5th June/77
- These rules are printed in full.

This frame the Government in Council is pleased to approve of the above Rules and Bye Laws for the regulation of the Navigation on the Buckingham Canal, and directs that under the provisions of Section 23 of Act I of 1870 (The Canals and Ferries Act) they be published in the Fort St. George Gazette and in the gazettes of the Districts of Madras, Kistna and Godavari Districts for a period of six weeks.

from this date. ~~(after which they will be finally passed)~~

The attention of the Revenue Board and of the Collectors of Nellore and Chingleput Districts will be drawn to the rules in view to their suggesting any points for consideration during the six weeks of preliminary publication.

The Collector of Chingleput will transfer from this date the Toll and License establishment now employed under his orders on the canal to the establishment of the Executive Engineer of the Canal, who will

submit at once a statement of the further establishment required for carrying out these Rules, and who will arrange to have the necessary number of schedules and forms printed and ready for use when required.

The Chief Engineer for Irrigation will report how the inconvenience caused by the operation of Rule XIV of the Fodavari and Krishna Rules can be best removed, and he will submit as soon as possible proposals for such other alterations in those rules as are necessary for giving to the boats

on the Buckingham
Canal the same facilities
to navigate the canals
of the Godavari and
Kistna ~~that~~^{as} are given
in these Rules to the
vessels of the Godavari
and Kistna canals
to navigate the Bucking-
ham Canal.

~~MS~~

8/7/79

Sept 4th 1879
Charges for navigation of
Subsidiary - 1st, 2nd & 3rd miles
Per. Sept. 5
Collectors of Chingleput &
Madras
Kollur
Kistna
Godavari
Commissioner of Salt Revenue
11/7/79

A. L. Sheel: 15 July


Govt. of Madras.

PUBLIC WORKS.

To

Dated

Issued

Recd.

Encl.

11-12-79
G. O. 8 July 1879, No. 1807 A W.

NO. 38-39

Buckingham Canal
Approval of the proposed
Rules & Bye Laws for the
regulation of the navigation
in the —