M.R.O. 1—10,006—28-2-50.

(1) Number of pages _____

(2) Date of repair _____

(3) Initials of the Referencer _____

MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No. / B.P. No.	3459-60	Press / Mis.	
Dated	16 - 12 - 1876	—195—.	

Not to be folded or roughly handled

No. 424. Read the following endorsement of the Chief Secretary to Government, dated Fort St. George, 30th October 1876, No. 1,683:—

From Colonel H. K. BURNE, C.B., Secretary to the Government of India, Marine Department, to the Hon. W. HUDLESTON, Chief Secretary to the Government of Fort St. George, dated Simla, 21st October 1876, No. 62 S.

Ships.

WITH reference to the correspondence that has lately taken place between the Chief Engineer for Irrigation and the Superintendent of the Indian Government dockyard at Kidderpore, Calcutta, respecting certain small steamers required for the Godavery and Kistna Deltas, I am directed to inform you that the papers have been duly submitted for the consideration of the Government of India, as under recent orders the dockyard is unable to undertake work for other Governments or departments, without the permission of the Government in this department, so that all plans or proposals may have the benefit of the professional opinion of the Consulting Naval Officer.

2. In regard to the smaller vessel or steam launch required, I am to forward a plan* of a boat which it is believed will fully meet the requirements; her length over all is 60 feet, beam 9 feet, and depth 4 feet, her speed will be about $10\frac{1}{2}$ miles per hour, draught of water 2 feet $7\frac{1}{2}$ inches (about), and her cost will not exceed Rupees 6,600.

* Enclosure No. 1, to be returned.

3. It is however proposed to build this launch of steel and $\frac{1}{8}$th inch iron plates combined, which, it will be noticed, is slighter than is considered necessary by the Executive Engineer of Irrigation, who proposes the use of plates of unusual and apparently excessive thickness; vessels of larger dimensions, and doing now heavy work, have been built in Kidderpore yard of only $\frac{1}{8}$th inch iron and have been found satisfactory. As, however, there may be special local reasons for requiring a heavy scantling, before commencing the launch it is desirable to have a further report on this point; but I am to add that if the boat be built of the thicker material, she will be heavy and consequently less buoyant and less easy to manage, her speed will be also decreased and her cost greater. Although it appears to the Government of India that the lighter material would be suitable, still it must be for those under whom she will be employed, and conversant with the duty she will have to perform, to consider whether she will be strong enough and fit for the work.

4. The bunker capacity will be 5 tons of 45 cubic feet, but an additional $2\frac{1}{2}$ tons could be stowed in the space provided for the purpose above the boiler, and on occasions fuel could also be carried in the stern sheets.

5. The slight alterations in the bulk heading are considered desirable, as improving the accommodation without interfering with efficiency.

6. The boiler will be cylindrical, adapted for burning wood, and drive two single engines. I am however to observe that such engines cannot be suddenly reversed when the boat is going at a high speed, more care has therefore to be exercised in handling the launch. Single engines are very simple and would appear sufficient; should it however be considered desirable, for local reasons, to have double engines, they can be supplied and their cost would be about Rupees 400 more.

7. I am therefore to request that, under the orders of His Grace the Governor in Council, the above points may be carefully considered and the result communicated to this department, when orders will at once be issued for the launch to be commenced and completed in sixteen weeks from the date of such order.

8. As the Irrigation Department is desirous of supplying the woodwork fittings, a plan will be forwarded showing the dimensions and scantlings which it is suggested should be used; the gunwale and head rails requiring to be fitted to the side in a peculiar manner will be done in the dockyard, and after due trial the launch can, during the north-east monsoon, be taken to her destination on the Godavery. It appears however doubtful to the Government of India whether it would not be quite as cheap and ensure greater efficiency, if the boat were entirely completed in regard to woodwork, &c., by the Dockyard authorities at Kidderpore before being despatched.

9. In regard to the larger steamer required not to exceed 101 feet in length, 13½ beam, and 3 feet draught, it appears to the Government of India that one of the famine steamers would answer the requirements. I am accordingly to forward a plan* of one of these steamers for consideration, and if thought suitable one could probably be made available; their present draught is about 1 foot 1 inch forward and 3 feet 2 inches aft, so a mean of under 3 feet could be secured.

* Enclosure No. 2.

10. I am to add that in the plan forwarded the internal arrangements are adapted for using the steamer as a gunboat, but of course cabins could be fitted as required, provided the compartments are not interfered with.

11. In conclusion I am to remark, for the consideration of His Grace the Governor in Council, that large dockyards are maintained at Bombay and Calcutta, and that if before sending to England or otherwise purchasing steamers, launches, dredges or any other marine articles, a reference were made to the Government of India in this department, every endeavour would be made to meet the requirements from the above yards or other available sources, by which it is believed a large saving would be effected and an equally good article obtained, and it would probably expedite matters if requirements were brought direct to the notice of this department, by whom the necessary orders would be issued to the officials best able to meet them.

TRANSFERRED to the Public Works Department.

(Signed) W. HUDLESTON,
Chief Secretary.

No. 424-A. Telegram from the Secretary to the Government of India, Military Department, Calcutta, to the Chief Secretary to the Government of Madras, dated 5th December 1876.

GOVERNOR's message of 4th to President in Council. What is wanted, a canal boat or one for coast navigation; the requirements of the two being different. Would

Proceedings of the Madras Government, Public Works Department,
16th December 1876. *No.* 3,459.

one of those described in my number 62-S of 21st October last answer for service required.

No. 425. ORDER THEREON, 16th December 1876, No. 3,459.

ACCOUNT, No. 23-C.

ORDERED that the following reply be sent.

(Here enter No. 3,460, dated 16th December 1876.)

(True Extract.)

Major-General, R.E.,
Secretary to Government.

To the Chief Engineer for Irrigation.
,, District Engineer, Godavery, with copy of letter to the Government of India, and of design of Steam Launch.

Exd. S. T. Austin.
Spare Copies

PUBLIC WORKS DEPARTMENT,
FORT ST. GEORGE, 16*th December* 1876.

No. 426.

No. 3,460.

FROM

MAJOR-GENERAL G. W. WALKER, R.E.,

Secretary to the Government of Madras,

Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,

Marine Department.

ACCOUNT, No. 23-D.

SIR,—In reply to your letter (Ships) No. 62 S, of the 21st ultimo, I am directed to say that the design for the hull of the steam launch is considered suitable. I am also to reply to the several details referred to in your letter as follows:—

Plates.—The thicknesses of plates mentioned in the letter as per margin were considered requisite, because it is difficult to prevent the vessels employed in the Godavery coming in contact with stones lying on the banks of the river, and holes are liable to be punched if the bottom and bilge plates are thin. With regard to your remarks, however, and to the proposed use of steel, I am to say that probably the following thicknesses in iron or their equivalent in steel will suffice:—

From Chief Engineer for Irrigation, No. 47 M, dated 11th July 1876, to Superintendent Government Dockyard, Kidderpore.

Bottom plates $\frac{3}{8}$ inch
Bilge do. $\frac{1}{4}$ do.
Side do. $\frac{1}{8}$ do.
} thicknesses for iron.

Bulk-heads.—The position of the bulk-head forward of the machinery compartment will do. The bath-room should be 5 feet in length and the saloon $10\frac{2}{3}$ feet. No forward cock-pit will be required, but a flush deck forward of the front of the saloon.

Woodwork fittings.—These can, as recommended in your letter, be completed at the dockyard. The fixed seats in the saloon should be 15 inches below the top of the gunwale, the floor of the saloon 18 inches below the seats, and the clear headway under the roof should be 7 feet measured from the floor.

Bath-room fittings.—On one side there should be a water-closet, and on the other a bath extending the full length of the bath-room.

Boiler and Engines.—The details of these will be left entirely to the Marine Department of the Government of India. As stated by the Chief Engineer for Irrigation, it is of much more importance to obtain perfectly efficient engines of suitable power than to secure a slight reduction of first cost.

Gangways.—These will be outside the launch instead of within the gunwale, as shown in the design, and will be carried on brackets. The cabin will therefore be flush with the gunwale.

2. The design received with your letter is returned; and I am to request that orders for the construction of the steam launch and for its transmission to Cocanada as soon as it may be ready may be given. It is observed that the time required for building the launch is sixteen weeks.

3. With regard to the larger steamer, the limiting dimensions of which are—

Length 101 feet
Breadth 13½ do.
Draught 3 do.

I am to say that the breadth thus fixed is the extreme admissible, that 13 feet would be better, and that the design of the London Famine Relief Steamer, transmitted with your letter under reply, is not considered suitable. I am to ask therefore that a special design, based upon the specification given in Proceedings of the Madras Government, of the 18th August 1873; may, together with an estimate, be prepared.

4. I am to observe, with reference to paragraph 11 of your letter, that it is the desire of this Government in the Public Works Department to obtain such steamers, launches, dredges, &c., as may be required from the dockyard of the Government of India, if the requirements of this department can be met there within a reasonable time; but I am to point out that the Chief Engineer for Irrigation first applied to the Master Attendant at Calcutta on the 1st April 1875 for designs and estimates for the two classes of steamers required, and it has taken more than a year and a half to obtain them for one, the smaller description of, steamer. It is as essential to obtain appliances at the time they are needed as to get them at a moderate cost.

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

Major-General, R.E.,
Secretary to Government.

Ex. S. T. Austin.
Spare Copies

Explanatory Memorandum.

The draft letter has been amended as regards the woodwork fittings with regard to thickness of plates then named in this office letter No 47 dated 11 July 876 were stated at the special request of the Local Officers who have found their plates very liable to injury

In connection with the representation made with the letter from the Secretary to the Government of India Irrig.n Department, the dimensions were reduced

	From	To
Bottom plating	¼	3/16
Bilge "	3/8	¼
Side "	3/16	⅛

and the latter thicknesses will be further reduced by the use of steel —

The Chief Engineer for Irrigation has been no experience in iron boat building — He knows however that the steamers sent from England

9

and employed in the Godavery have suffered from their plates being too thin and their frames too weak and he thinks that for that it will hardly be prudent to risk failure of usefulness by setting aside to a still greater extent the opinions of the local officers.

The reasons why the design of the 7 annie steamers is considered unsuitable to the Godavery are

1st. That vessels of 14 feet is greater draught than is desirable

2nd. The depth 5.9" is much greater than is necessary

3rd. The arrangements throughout differ materially from those specified.

Ly: 13/12/76

MARINE

Ships

No. 625

97 8 1

Government of India.

MARINE DEPARTMENT.

I am directed that the above number and date of this communication may be quoted in any subsequent correspondence on this subject.

Simla, the 21st October 1876

To

The Chief Secretary to the Government of Fort St George,

Sir,

With reference to the correspondence that has lately taken place between the Chief Engineer for Irrigation and the Superintendent of the Indian Government Dockyard at Kidderpore Calcutta, respecting certain small Steamers required for the Godavery and Kistna Deltas, I am directed to inform you that the papers have been duly submitted for the consideration of the Government of India, as under recent orders the Dockyard is unable to undertake work for other Governments or Departments without the permission of the Government in this Department, so that all plans or proposals may have the benefit of the professional opinion of the Consulting Naval Officer.

2 In regard to the smaller vessel or Steam Launch required, I am to forward a plan of a boat which it is believed will fully meet the requirements; her length over all is 60 feet, beam

Enclosure No 1 to be returned

9

9 feet and depth 4 feet, her speed will be about 10½ miles per hour, draught of water 2'-7½ (about) and her cost will not exceed Rupees 6,250.

3 It is however proposed to build this Launch of steel and ⅛ inch iron plates combined, which, it will be noticed, is lighter than is considered necessary by the Executive Engineer of Irrigation, who proposes the use of plates of unusual and apparently excessive thickness; Vessels of larger dimensions and doing more heavy work, have been built in Kidderpore Yard of only ⅛ inch iron and have been found satisfactory. As however there may be special local reasons for requiring a heavy scantling, before commencing the Launch it is desirable to have a further report on this point, but I am to add that if the boat be built of the thicker material, she will be heavy and consequently less buoyant and less easy to manage, her speed will be also decreased and her cost greater. Although it appears to the Government of India that the lighter material would be suitable, still it must be for those under whom she will be employed and conversant with the duty she will have to perform, to consider whether she will be strong enough and fit for the work.

4 The bunker capacity will be 5 tons of 45 cubic feet, but an additional 2½ tons could be stowed in the space provided for the purpose above the boiler, and on occasions fuel could also be carried in the stern sheets.

5 The slight alterations in the bulkheading are considered desirable as improving the accommodation without interfering with efficiency.

6 The boiler will be cylindrical, adapted for burning wood, and drive two single Engines. I am however to observe that such Engines cannot be suddenly reversed when the boat is going at a high speed, more care has therefore to be exercised in handling the Launch. Single Engines are very simple and would appear sufficient; should it however be considered desirable, for local reasons, to have double Engines, they can be supplied and their cost would be about Rupees 400 more.

7 I am therefore to request that under the orders of His Grace the Governor in Council, the above points may be carefully considered and the result communicated to this Department, when orders will at once be issued for the Launch to be commenced and completed in 16 weeks from the date of such order.

8 As the Irrigation Department is desirous of supplying the wood work fittings, a plan will be forwarded, shewing the dimensions and

Scantlings

Scantlings which it is suggested should be used; the Gunwale and head rails requiring to be fitted to the side in a peculiar manner, will be done in the Dockyard and after due trial the Launch can, during the North East Monsoon be taken to her destination on the Godavery. It appears however doubtful to the Government of India whether it would not be quite as cheap and ensure greater efficiency, if the boat were entirely completed in regard to wood work &c, by the Dockyard Authorities at Kidderpore, before being despatched.

9 In regard to the larger Steamer required not to exceed 101 feet in length, 13½ beam, and 3 feet draught, it appears to the Government of India that one of the Famine Steamers would answer the requirements, I am accordingly to forward a plan† of one of these Steamers for consideration, and if thought suitable, one could probably be made available; — their present draught is about 1'-1" forward and 3'-2" aft, so a mean of under 3 feet could be secured.

†Enclosure No 2

10 I am to add that in the plan forwarded the internal arrangements are adapted for using the Steamer as a gun boat, but of course cabins could be fitted as required, provided the compartments are not interfered with.

11 In conclusion, I am to remark, for the consideration of His Grace the Governor in Council, that large Dockyards are maintained at Bombay and Calcutta, and that if before sending to England or otherwise purchasing Steamers, Launches, Barges or any other Marine articles, a reference were made to the Government of India in this Department, every endeavour would be made to meet the requirements from the above yards or other available sources, by which it is believed a large saving would be effected and an equally good [illegible] obtained, and it would probably expedite matters if requirements were brought direct to the notice of this Department, by whom the necessary orders would be issued to the officials best able to meet them.

I have the honour to be,

Sir,

Your most obedt Servant,

H. Le Poer Colvin

Secy to the Govt of India

GE 18-8-73 No 2050.

7863

No 1683

Rec'd 21 Aug 76

Revenue Dept

Marine Branch

Submitting Estimate for Steam Launch for Public Works Department

No 1683 dated 30th October 1876

Forwarded

Public Works Department

No 3459.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 16 May 76

Read the following:—

From

The Marine Engr to Govt No 1683 dated 30th Oct 1876

Telegram from the Govt of India — dated 11 Dec —

Reduce estimate for Launch for Public Works Department

To

The Marine Engr No 3460 dated 15 May 76.

No 3460

Copy to the Secretary to the Govt of India — Marine Dept

Dis

Requesting to know whether (Ships No 62 dated 21st) he obtain sanction to the design for the hull of the steam launch recommended suitable. Also to apply to the General Orders published in the Gazette.

Order — Ordered accordingly

To Engr for Rights
" Secy Telegram
Copy of letter to Govt of India
" design of steam launch.

Dispd - 9-1-77

No 424

Transpt Elect Dept

C. Hutchinson
Clerk

Marine Engr
30 October 1876

To
The Public Works Dept
Madras

Marine Engr
30-12-76

of plates mentioned in
the letter referred to
were considered requisite
because it is difficult to
prevent the vessels em-
=ployed in the [illegible]
running in contact with
stones lying on the banks
of the river and holes are
liable to be punched in the
bottom and bilge plates
are thin — with regard
to your remarks however
and from the proposed use
of steel [illegible] that
probably the following
thicknesses in iron or their
equivalent in steel will
suffice.

Bottom plates	$\frac{3}{16}$ inch	Thicknesses for Iron
Bilge plates	$\frac{1}{4}$ do	
Side — do —	$\frac{1}{8}$ do	

Bulkheads. The position
of the bulk head forward
of the Machinery Com-
=partment will do. The

From Chief [illegible]
[illegible] M [illegible]
To [illegible] Dockyard
[illegible]

177 6

bath room should be
5 feet in length and the
saloon 10 $\frac{2}{3}$ feet. No forward
deck pit will be required,
but a flush deck forward
of the front of the saloon.
Head room fittings. ~~The~~
~~[illegible]~~
~~[illegible]~~
~~[illegible]~~
The fixed desks in the saloon
should ~~will~~ be 15 inches below the
top of the [illegible], the floor
of the saloon 18 inches below
the seats, and the clear
head way under the roof
should be 7 feet measured from the floor.
Bath room fittings.
~~[illegible]~~
~~[illegible]~~
~~[illegible]~~
~~[illegible]~~
~~[illegible]~~
~~[illegible]~~ — On one
side there should be a

These are, as recommended in your letter, be completed at the Dockyard

The Public [illegible] Works [illegible]

7-12-96

de=den-Clerk-Sandon-the
other a letter appending the
full benefit of the Notification.

Deputy Engineer - The
details of steam vessels be
left entirely to the Examin=
ing Department of the Commis=
=sioners of Pilots - to decided
by the Chief Engineer for re=
=gistration if engaged
in coasting voyages to ob-
=tain proper certificate by
Engineer of suitable power
than to become a check
to deviation of proper rout.

Channels - These must
be decided the Launch
instead of putting the
Vessels as Steamers into
dock, and will then be
examined - The Cabin
will therefore be fitted
with the Vessels.

2. The design received

This letter
with the Plans

7-12-26

with reference to your letter is returned and I am to request that orders for the construction of the Steam Launch and for its transmission to Canada as soon as it may be ready may be given - It is observed that the time required for building the Launch is 6 weeks.

3. With regard to the larger Steamer the limiting dimensions of which are

Length - 101 feet
Breadth - 13½ do
Draught - 3 do

I am to say that the breadth thus fixed is the greatest admissible, that 13 feet would be better and that the design of the London Marine Relief Steamer transmitted with your letter appears generally to be considered suitable. I am to ask

therefore that a special
design based upon the
specification given in
Proceedings of the Madras
Government of the 18th
August 1875 may together
with an estimate be pre-
pared.

4. Can be observed with
reference to para 11 of
your letter that it is the
desire of the Government
in the Public Works Dept.
to obtain such steaming
launches dredges &c. &c.
may be required from the
Dock Yard of that Govt.
of India, if the Superin-
tendent of this Department
can be spared these within
a reasonable time, but I am
to point out that the
Chief Engineer for Irrigation
first applied to the Master
Attendant at Calcutta

on the 1st April 1875
for designs and estimates
for the two classes of
steamer required, and
it has taken more than
1½ years to obtain them
for one - the smaller
description of steamer.
If is as essential to obtain
appliances at the time
they are needed as to get
them at a moderate cost.

Cmr. 29/11

M.S. dispatch with
Two Sketches -
18-12-76

853 9117

Govt. of {1876} Madras

PUBLIC WORKS.

To The Chief Engr & Sec Govt

Dated

Issued

Recd. Encl. 1

G. O. 15th Sept 1876, No. 845
846

Nos. 2415 6

Transmit Enquiries for
Tolavanipuram Estate
Purchase and Return of
the Forest of Lands in Tegi etc
certain Information viz
certain Petition

Transmits certain Papers
Plan in connection with
Clement Reginald Smith
Tolavanipuram Estate

Engr in Chief

No 424/26

Engr 7-12-76