

DETAIL SPECIFICATIONS

45 FT. GASPEIAN FISHING LAUNCH

H.I. CHAPELLE, MARINE ARCHITECT

AMENDED, JUNE 1958, BY JEAN FRECHET

DEPARTMENT OF FISHERIES, QUEBEC

(See Index at the end)

- A -

GENERAL REQUIREMENTS

1 - General Protection of Material:

The launch shall be built under cover and with proper protection to machinery, materials and equipment delivered to the builder prior to installation or use. During construction, the boat shall be kept reasonably clean and free of chips, shavings and dirt and shall be thoroughly cleaned prior to delivery.

2 - Standard of Material:

Materials shall be to the usual standards of fishing boat construction and lumber shall be free of loose knots or shakes, rents or mildew. No part of any stick showing evidence of rot or mildew shall be employed in the construction. All iron or steel fastenings, fittings, plate or chafing irons shall be hot dipped galvanized or properly treated with galvanicon. Materials, fittings and equipment are to comply with the Canadian Board of Steamship Inspection requirements and be to the satisfaction of the Department of Fisheries representatives.

3 - Quality of Workmanship:

Workmanship shall be equal to good commercial boat construction standards with the hull fair in lines, sheer and all seams. All fastenings shall be adequate and there shall be stopwaters in all keel and deadwood seams crossing the rabbets. All parts of the boat; hull, deck, structures, joinerwork, rigging, sparring and fitting shall be substantial and suitable for open water use. Hull and deck structures are to be watertight and all caulking and paying to be workmanlike and proper. All holes bored for fastenings shall be smaller than the fastening diameter to be driven and of proper depth. All works to be smoothed and free of tool marks where exposed to view.

4 - Moulding and Lofting:

The lines are to be lofted as shown in the lines to inside of plank and the whole properly faired. Moulds and templates are to be made from the loft drawing in a proper manner and a mould is to be made and set up for a minimum of fourteen stations with stem and stern posts on the keel. The builder shall follow the lines in all respects without departure except where necessary in fairing without change in dimensions.

5 - Unity in Plans, Specifications and Contract:

All work shall conform to the plans: lines and offsets, prepared by H.I. Chapelle, Marine Architect, Mahone Bay, N.S., profile, construction layout and cross sections, prepared by Davie Brothers & Sons Ltd., Levis, P.Q. ; spars and rigging plan, prepared by P. Guay, Department of Fisheries, Gaspé and to the specifications by H.I. Chapelle as amended by Jean Fréchet, Department of Fisheries, Québec in June 1958. The plans specifications and contract are to be considered as mutually explanatory and to supplement one another; anything shown in one shall be of the same force and effect as if shown in another or all. (See Note A).

6 - Patterns and Templates:

All patterns and templates will be preserved by the builder and delivered to the Department of Fisheries of the Province of Quebec or disposed of as that Department directs.

7 - Trials:

Trials of the boat upon completion are to be carried out by the builder under direction of the Department of Fisheries representatives and shall consist of the following.

Docks trial in which all machinery shall be operated at full power without heating bearings for such length of time as is necessary to allow proper adjustments to be made and the machinery shown to be in proper operating condition. Standardisation trials shall be two complete runs over a measured mile course at each of three engine speeds, 1/2, 3/4 and full power. Records shall be kept of engine and propeller revolutions per minute at each level of power with timed speed. Final acceptance trial shall consist of a continuous full power run for one hour during which all machinery and equipment shall be operated and checked so that all are shown to be in a satisfactory operating condition. Trials shall be run with all equipment and crew aboard and with tanks filled and the hull ballasted to the trim shown in the Lines Plan as nearly as is practical. A 150 nautical miles trial run shall be done at cruising speed and under normal operations or closely similar conditions in the presence of one representative of the shipbuilder, one of the main engine manufacturer, one of the Department of Fisheries and, if possible, the future fisherman owner. A complete log book shall be kept by each party and copies with appropriate comments shall be sent to all parties represented aboard.

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DETAIL HULL SPECIFICATIONS

1 - Keel, Deadwood, Stem and Stern Posts, Shaft Log, etc.

All posts shall be of oak only. Other pieces like keel, deadwood shaft log may be built with yellow birch or maple. Keel to side $4\frac{3}{4}$ " finished and to mould 10" of the approximate lengths indicated in the construction drawing. Shoe is to side $4\frac{3}{4}$ " and mould 4" in approximate lengths as shown. Deadwood is to side as keel except at shaft log and sternpost and above where siding shall be 7". Sternpost to swell at shaft line and to be faired at aperture as indicated in plans. Posts to side $4\frac{3}{4}$ " otherwise and all to mould as shown in construction drawing with locks and tenons as shown there. Component parts to be bolted about as shown with $\frac{5}{8}$ " diameter drifts and through-bolts of galvanized steel rod. Stem post to knee and knee to keel, through-bolts nutted over washers or clench rings. Face of stem reduced to $1\frac{1}{4}$ " siding and protected by $1\frac{1}{2}$ " half-oval galvanized steel fastened with round anchorfast nails with heads countersunk ($3\frac{1}{2}$ " long). Half-oval shall extend from a stem cap (galv. steel with holes for stays) to station 2 on shoe. Heel band same and extending from station 12 to heel of rudder. Keel scarphs shall be through-bolted and nutted over washers. Stern deadwood bolts, drifts and through-bolts nutted over washers, the drifts with clench rings under heads and upsets. Tenon pins of $\frac{3}{4}$ " diameter galvanized steel rod and drive fit. Shaft log may be bored and shall be fitted with bronze sleeve having a $\frac{5}{16}$ " wall and side diameter shall be $\frac{3}{8}$ " greater than shaft diameter. Shoe anchorfast nailed to keel with $\frac{3}{8}$ " x 5" hot dipped anchorfast nails. Gripe to be fastened with $\frac{1}{2}$ " wrought iron plate and $\frac{1}{2}$ " diameter galvanized bolts upset at ends and countersunk driven through stem and keel ends and knee. Fishtail plates at sternpost shall be the same. All tenons at least $3\frac{1}{2}$ " deep. Keel, post knees and deadwood to have Cuprinol as wood preservative and painted on or covered with white lead before assembly after moulding is completed. Posts and keel shall be suitably rabbeted. Deadwood and stem knee to be smooth and without pockets or rents in sides. All stopwaters of $\frac{3}{4}$ " diameter white pine or cedar. Two shall be used inside bearding at every seam crossing rabbets.

2 - Frames and Floors:

Frames shall be of oak steambent; to side $2\frac{3}{4}$ " and mould $1\text{-}\frac{3}{8}$ " (bent on the flat) and spaced 9" on centers. Frames at ends allowed to take cant in bending. Frames to butt against keel and be secured with a boatnail. Floors to be on top of frames and well fitted; to be oak or yellow birch, to side $1\frac{3}{4}$ " and mould not less than 8" at keel centerline. Floors to be drifted to keel and deadwood with two $\frac{5}{8}$ " galvanized drift bolts having clench rings under heads and to penetrate the keel and deadwood at least 7". Frames to be secured to floors by two through-bolts of $\frac{5}{16}$ " diameter galvanized rods upset or galvanized carriage bolts of equal diameter nutted and countersunk on each side and by one or more

2 - Frames and Floors: (Suite)

galvanized boatnails of not less than $4\frac{1}{2}$ " length as work permits.

Before Station 2 and behind Station 9 there shall be a floor on every frame but elsewhere, floors shall be on every other frame. The floors under the engine beds shall consist of long and short floors alternately; with not less than four long floors made up of two long futtocks siding $1\frac{1}{2}$ " and moulding 8" at keel centerline and 3" out, boards of not less than 26" length each. These shall be bolted to the standard short floor after side, with three $5/16$ " diameter galvanized carriage bolts per futtock as shown in detail on construction drawing. Long futtocks to be fitted and bevelled to bear on planking alongside bent frame and the futtocks to be nailed to frames with 4" galvanized boat nails (three per futtock). Planking in wake of long futtocks will be nailed to both adjoining frame and to the futtocks. Futtocks to be of oak or yellow birch.

3 - Ceiling:

Hull is to be completely ceiled only in fish hold with $3/4$ " x 4" spruce plank fastened with 2" hot-dipped galvanized boat nails. In forecastle and engine room, ceiling will be placed only to the height of the bilge stringers but no ceiling is to be placed after station 12 .

4 - Bilge Stringers:

To be of three strakes each, of $1\frac{1}{2}$ " x $4\frac{1}{2}$ " spruce (B.C. spruce recommended) running full length of the hull and fastened to every frame with a clench nail per strake properly clenched inboard. Stringers to be scarphed and edg bolted at scarphs with $5/16$ " galvanized rod.

5 - Hogging Stringers:

Boat is to be fitted with sprung hogging stringers, one to a side, as shown in construction drawing. These are to be of $1\frac{1}{2}$ " x 6" spruce. The center of these stringers shall be placed so tops come within $\frac{1}{2}$ " of bottom of clamps and secured; the ends then forced down after stringer has been steamed to meet with top or outer strake of bilge stringer, forward and aft. Ends shall come as shown. Hogging stringers shall be secured to every frame with two clench nails clenched inboard. The ends shall be secured by nailing and by fish-plates of galvanized steel $3/8$ " thick and 4" wide fastened with $\frac{1}{4}$ " diameter bolts nutted inboard. Fishtail plates shall be bent to allow them to fit flat against stringers. Care shall be taken to draw hogging stringers home against frames and bilge stringers in fastening. Stringers must be under tension when secured.

6 - Clamps:

Main deck clamps to be $1\frac{3}{4}$ " x 6" spruce, and secured to every frame by one carriage bolt nutted inside. Clamps to be scarphed and scarphs

6 - Clamps: (Suite)

edgebolted with 5/16" diameter galvanized rod.

Raised deck clamp to be 1 $\frac{3}{4}$ " x 6" spruce secured as main deck clamps.

7 - Shelves:

Main deck clamp to be supplemented by spruce shelves 3" x 3" fastened to each frame with 1/4" diameter carriage bolt and to deck beam with 1/4" diameter spikes. Butts to be secured with four 1/4" diameter carriage bolts each side and located between frames. Ends to be blocked to posts with deck blocking.

8 - Breasthooks:

Launch is to have breasthooks fore and aft; these to be of 2" spruce knees bolted to clamps and posts with 5/16" diameter through-bolts nutted and drifts. Arms to overlap nearest frame enough to allow fastening through all.

9 - Hanging Knees:

Spruce hanging knees siding 1 $\frac{3}{4}$ " shall be placed at ends under second beam after station 2 and under the first beam before station 12. Bolts to be 5/16" galvanized rod through-bolts and drifts.

10 - Planking:

Planking to be caravel and to finish 1 $\frac{1}{4}$ " thick. To be of white pine or spruce with oak or yellow birch sheerstrake and garboard strake. To be fastened with 3" hot-dipped galvanized boat nails clenched inboard with heads set and puttied (plastic wood) except in sheer strake and garboard strake which will require counter boring and plugging. Butts to be fitted with oak butt-blocks fitted between frames and overlapping strake above and below $\frac{3}{4}$ ". Fastenings at butts to be two $\frac{1}{2}$ " diameter galvanized carriage bolts per strake. Butts to shift at least four frame spaces in adjoining strakes with long strakes in the topsides and all lined off to give hood-ends sufficient to allow two fastenings each at posts. Strakes not to exceed 7" width in topside and to be fastened to each frame with not less than two nails.

Where floors and futtocks bear, planking is to be nailed to both floor and adjoining frame.

Inside the nsils of the planking are to have the head sunk toward keel.

11 - Engine Beds:

To fit engine and to be of oak, drifted to floor timbers

11 - Engine Beds: (Suite)

with 3/8" diameter galvanized rod and through-bolted where practical with 3/8" rod nutted.

12 - SOLE:

In cabin and pilot house, to be 1 1/4" x 4" spruce nailed to floors with 3" galvanized boatnails. Fishhold to have concrete sole 3" above floors with gurry through and wood cover with 1" round holes all along. Sump to be close to aft bulkhead.

13 - Mast Steps:

Fore mast step is to be oak 4" x 10" bolted with 5/8" galvanized rod drifts and through-bolts nutted over washers. Two edge bolts of 5/8" rod with ends upset over clench rings.

Aft or mizzen mast is to step on deck in a steel bowl. Proper reinforcement is to be made under deck in accordance with plans.

14 - Deck Beams:

Spruce to side 2 1/2" and mould 3 1/2" at centerline and 3" at ends spaced as shown in construction drawing. Crown of main deck 3" in 11' 10 3/4" beam.

Ends drifted to shelves and clamps with 1/4" diameter carriage bolt galvanized. Raised deck beams same as main deck beams.

15 - Tie Rods:

1/2" diameter galvanized rod to be used as tie-rods where shown in construction drawing with ends upset over clench rings, outboard ends to shelf, clamp and frame. Cross tie-rods 3/4" diameter galvanized steel with adjusting link to tighten.

16 - Carlins:

Trunk carlins to be 3 1/4" x 4" yellow birch or oak on the flat ends halved into beams and beam ends halved into carlins with dump of spike fastening 3" long. Hatch carlins 3" x 3 1/4" oak.

17 - Watertight Bulkheads:

Watertight bulkheads shall be fitted as shown on construction plan and are to be made of two skins of 1 1/4" x 6" diagonal sheathing of spruce with doubled canvas in wet paint between. The bulkheads are to be stiffened with 2" x 2" spruce stiffeners standing vertically, outside the

17 - Watertight Bulkheads: (Suite)

fish hold and spaced not over 18" centers. Bulkheads to have edges fitted to plank and bearers where necessary at stringers, clamps, etc... to produce a watertight seam.

18 - Joiner Bulkhead:

A joiner bulkhead is to be fitted behind first frame after Station 1 as shown, of $\frac{1}{2}$ " marine plywood having 2" x $1\frac{1}{2}$ " stiffeners spaced about 18" apart and capped with $1\frac{1}{2}$ " x $2\frac{1}{2}$ " oak cap, 6" below the deck beam lower side. This bulkhead to be divided at an horizontal line 10" above the top of the built-in berths and fastened with countersunk screws to the stiffeners and frames.

19 - Decking:

Main deck to be white pine or spruce $1\frac{1}{2}$ " x 4" laid straight and parallel to fore and aft line with ends nibbed into covering board as shown in the deck plan drawing. Fastenings to be 3" galvanized boatnails with heads counterbored and plugged. Decking rift sawn and clear stock. Planksheer or covering board of oak or yellow birch to finish 6" wide and scarphed $1\frac{1}{2}$ " thick throughout, fastened to beams and edge of sheerstrake with 4" boatnails with heads counterbored and plugged.

Gurdy bed to be oak 3" x 9". Bolted to deck beams with $\frac{3}{8}$ " diameter galvanized through-bolts nutted and $\frac{1}{2}$ " steel plate shall be fitted under deck beams in lieu of washers under nuts and these plates will be 5" wide and long enough to cover three deck beam spacer each and the bolts shall pass through these with their nuts on the underside of the plates. Washers shall be placed under gurdy bed bolts nuts. All these beds shall be bolted to every deck beam under each.

Raised deck same as main deck.

20 - Bulwarks:

Bulwark stanchions to be oak 2" x 2" at deck and $1\frac{1}{2}$ " x 2" at cap, spaced about 18" on centers. Heels to be reduced at top of clamp to pass between it and sheerstrake and heels to extend to bottom of clamp. Steel round spikes driven through clamp from inside through stanchion heel into sheerstrake, one fastening in each stanchion. Plank to be two strakes of $\frac{7}{8}$ " hard-wood with $1\frac{1}{2}$ " scupper strake along planksheer as shown in lines plan. Rail cap to be oak, scarphed and edgebolted, $1\frac{3}{4}$ " x 5" finished except in wake of long-line rollers where it is widened to $7\frac{1}{4}$ " as shown in deck plan drawing. Hortised over stanchions and bolted by driving a $\frac{1}{4}$ " diameter round galvanized spike, 4" long, diagonally through cap into stanchion head. Rail cap to form knee at raised deck break and a breasthook at stempost head as shown in deck plan drawing.

Topgallant bulwark to be hard-wood $1\frac{1}{2}$ " x 7" and to run from after end of raised deck to Station 14 ending in a round shape fastened with $\frac{1}{2}$ " diameter galvanized carriage bolts to main rail.

21 - Guards:

To be of oak, tapered toward ends. 2" x 2 $\frac{1}{4}$ " on edge tapered to 1 $\frac{3}{4}$ " x 1 $\frac{3}{4}$ " and faced with 1 $\frac{1}{4}$ " half-oval galvanized steel. Guards through-bolted at alternate frames with $\frac{1}{2}$ " diameter galvanized carriage bolts and spiked between. Facing steel spiked to guards with 2" round galvanized hatch nails with heads countersunk, spaced not more than 6" on centers.

22 - Chock Rails:

As shown in plans, oak siding 1 $\frac{3}{4}$ " forward and 1 $\frac{1}{2}$ " aft, edgebolted to planksheer at beams forward with 5/16" galvanized drifts. There shall be two rail-stanchions on each side forward and aft of 1" diameter galvanized steel rod and standing 30" high above the raised deck forward and 11" high above the topgallant-bulwark planking aft. The fore stanchion to be welded to a steel base galvanized of not less than 8" x 4" x $\frac{1}{4}$ " through-bolted through deck with 6 machine bolts 5/16" diameter galvanized. A bracket of $\frac{1}{4}$ " x 1 $\frac{1}{2}$ " galvanized steel plate is to be welded to end of plate and stanchion with 45 degrees angle with steel plate and toward center-line. Stanchion is to stand 3" inside chock rail on deck and to have a ten degree cant toward center-line. Stanchion wire rope to be flexible 7/16" diameter spliced and served with the thimble and turnbuckle.

Aft stanchions to be welded to a steel fork $\frac{1}{4}$ " x 1 $\frac{1}{2}$ " bolted through guard with two galvanized machine bolts 5/16" diameter.

23- Breakwater:

To be oak 1 $\frac{1}{4}$ " plank fitted on raised deck as shown in plans and to raise 7" above raised deck tapered to the height of the chock railing with 20 degrees cant toward stem.

24 - Sidesheating:

In the wake of the side roller on the starboard side the topside will be fitted with galvanized steel sheating 8' x 5' in one piece gauge No 14 or 0.0747 thick spiked to planking with 1 $\frac{1}{4}$ " hatch nails and between wood and sheating will be a sheet of tarred felt set in asphalt paint. The sheating will be well rounded along rail and guards.

25 - Trunk:

There shall be one trunk only over the engine room. To have white pine or cedar sides 2" x 10" and edgebolted with 3/8" galvanized rod with ends upset over clenched rings and edgebolts spaced not more than 15" apart. Edgebolting to be carried through deck and carlin as shown in plans. Roof beams 1 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ " crowned as shown, spruce. Roof white pine or spruce 7/8" x 4" canvassed with No. 10 canvas set in wet paint or white lead. To have proper hinged hatch cover with stoppers. Hinges to be bronze and

aft end fitted with "Master Bolt Padlock". The roof shall have a frame fixed to the roof beam ends so that the trunk roof may be unshipped to hoist out the engine for maintenance. The trunk shall have two 6" fixed ports a side. The roof to be secured with substantial hooks and eyes. The joint, in the roof to have a groove under it in the roof beam to drain the joint.

26 - Pilot House:

There shall be a pilot house built at the after end of the raised deck as shown in the plans. This shall have a sunk sole as shown and shall have 2" x 2" studs, spruce, spaced as work requires, 3" x 3" rabbeted spruce sills and 2" x 3" spruce headers with at least five 3/8" diameter galvanized steel tie rods between header and deck carlin, one on each side, two on forward face, and one alongside the door on after face. Outside sheathing to be 3/4" marine plywood. Ceiling to be 3/8" marine plywood. Roof beams to side 1 1/2" and mould 2 1/2", crown as shown in plans. Roof to be 3/4" x 4" white pine or spruce canvassed with No. 10 canvas set in wet paint or white lead. Sole beams to be 1 1/2" x 2" spruce. Windows shall be fixed except for one side sash on each side which shall have a jump sash, the lower half raising inside the upper half. The frame to be made watertight with the use of copper sheets. Suitable compass shall be installed. Window glasses to be 3/16" plate on the sides and aft and 5/16" plate in the front. The pilot house will have, all told, nine rectangular windows (three in front, four aft, one being in the door, one with jump sash on each side aft) and two irregular windows in the fore sides.

Pilot house door to lock from inside with barrel bolt Leckie fig. 522 or equal.

27 - Fish Hatch:

A fish hatch shall be fitted as shown, the coamings to be of one course of 2 1/4" x 6" white pine and one course of 2" x 6" white pine edge bolted with 3/8" diameter galvanized rod, ends upset. To have four atwartship covers of 1 1/4" white pine or double marine plywood sheets of 1/2" and all necessary fittings and waterproof canvas to allow battening down. Care must be taken not to fit angular tarpaulin cleats. Headledges and hatch carlings to be fitted with 3/4" galvanized half-oval steel on top and inside edges, top and bottom.

28 - Rudder:

To be hung outboard as shown in plans and to be of oak of the scantlings shown in the construction plan drifted and throughbolted as shown with 1/2" diameter galvanized steel rod; through-bolts with ends upset on clench rings. Rudder blade to be smooth and properly tapered with after edge well rounded and the fore edge faired with the prick post. Rudder to be hung by a rod in strap rudder braces, a fitted welded stay shall prevent the movements of the rod in the straps. Straps to be galvanized mild steel

28 - Rudder: (Suite)

5/8" x 2 1/2" bar shaped as shown and secured with through-bolts riveted heads, countersunk. Pivot rod galvanized steel 1 1/4" diameter. Head bent to rest on prick post head and secured there with a proper staple or strap secured with round head screws.

29 - Rudder Yokes:

To be made of welded steel and galvanized after machining. To be of 1/2" steel plate as shown in detail on construction plan drawing and throughbolted to rudder head.

30 - Steering Gear:

To be sprocket and bronze chain type with a wooden steering wheel 24" diameter over spokes in pilot house and a 14" diameter wheel at longlining standing place as shown in plans. Double chain sprockets in wheel box. Longliner steering gear to be connected with wheel box sprocket with suitable bronze chain and the wheel box gear with rudder yoke by suitable bronze chain and 1/2" diameter very flexible wire rope, as shown in diagram on deck layout drawing. All sheaves to be 4 1/2" diameter equal to Leckie fig. 131 and fig. 132 (cat. 24). Steering gear in pilot house to be bulkhead bronze chain type fitted with two sprockets, with 3 to 1 reduction gear. Deck steering wheel to have a 2 to 1 reduction. Tiller rope to be driven through 4" diameter blocks and tiller rope guides Leckie figure 385 and tightened with locking turnbuckle.

31 - Deck Fittings:

All cleats to be of galvanized steel and placed where shown in deck plan drawing over an oak base. There shall be one 5" cowl ventilator on the forecabin of the "Lunenburg" Type or two 3" ventilators of the "Dorade" type. Water deck iron for stove similar to Leckie's figure 743 or equal, pipe galvanized and Liverpool smoke head Leckie figure 742 or equal. Fresh water filler plate similar to Leckie figure 428 of 2" diameter. Raised deck to be fitted with two 6" diameter clear glass deck lights similar to Leckie figure 423, set in white lead.

Engine room trunk to be fitted with one mushroom ventilator and another one to be fitted at Station 14, both at fore and aft line and similar to Leckie figure 393 or equal.

32 - Ventilation: (See article 31)

Forward engine space ventilator to have a tube carried to bilge. A gooseneck ventilator to be fitted on fresh water tank with 2" pipe. A gooseneck ventilator to be fitted on each fuel tank at level of engine trunk and all to be metal screened at opening. Screen must be welded.

JOINER WORK SPECIFICATIONS

1 - Forecastle:

To be fitted with two built-in berths and two pipe berths with canvas, one "Atlantic fisherman" No. 12 stove with electric fuel burner of 12 volts. Built-in berths to have no front planking but a plank fixed at floor high enough to hold stores placed under berths. Pipe berths arranged so they can be stowed on edge when not required. Three food lockers to be fitted on aft starboard side, to have doors and shelves. A vertical plank $3/8"$ x $1\frac{1}{2}"$ to be fitted $2\frac{1}{2}"$ above each shelf to hold stores. Each door to have three 1" diameter holes at top and bottom as ventilators. Doors to be fitted with good quality latches. Hard-wood ladder at companionway as shown in arrangement plan. Table of maple with substantial hinges on leaves and well secured to forecastle sole with solid hooks. Dishes and utensils locker divided for each size and with door to be fitted on port side. A 30 imperial gallons fresh water tank with filler and vent and a cock on pilot house bulkhead. Light plywood bulkhead to be fitted behind tank.

2 - Pilot House: (See B-26)

To be fitted in front of fore watertight bulkhead and over aft part of forecastle with door on aft side and top fitted with rails as shown on plans. Electric windshield wiper to be installed on window in front of wheel. A plank to be fitted over front and side windows as sun and rain screens. Pyrene fire extinguisher to be mounted on bulkhead close to hand of the man at the wheel.

There shall be a small sliding door on the port side bulkhead to allow the heat of the stove to come into the pilot house.

There shall be a helmsmen's folding seat made of wood and fitted on the pilot house aft bulkhead.

3 - Fish Hold:

Fitted with four pens on each side and four pens in the center. All pen boards to be of same length. Only the division between side pens to be fixed. All joinery to be spruce.

Edge of deck and side planking to be arranged as to prevent fish to fall between planking and double planking.

4 - Engine Room:

As shown in arrangement plan to contain engine whose coupling face will be $11\frac{1}{2}"$ forward of Station 12. Engine to be diesel with suitable reduction gear and of a horsepower ranging from 35 to 50 continuous

4 - Engine Room: (Suite)

rating and of a weight, installed not exceeding 2,600 pounds. Engine to be fitted with front extension shaft and to have a 500 watts generator. Front extension shaft to drive a double V-belt with links pulley for the gurdy and another single V-belt for bilge pump. The shaft to be on the portside edge with ball bearings and universal joints.

Batteries to be 12 volts and 250 ampere-hours and to be placed against forward bulkhead of engine room and to starboard. Vertical steel laddered to hook against engine room coaming. Fire extinguisher mounted on trunk sides near companionway. Wet type exhaust pipe to be properly lagged. One 90 imperial gallons fuel tank to be secured in the center of the after peak or two 45 imperial gallons fuel tanks fitted on each side of engine room. Rags and tools lockers to be fitted.

5 - General:

All joinery hardware to be galvanized steel and builder to install galvanized steel bolt type "Master" padlock on pilot house door and engine room companionway.

Electric lights and connections to be of the following quantity and type and placed as follows:

QUANTITY	TYPE	LOCATION
1	Watertight protected glow lamp	Forward engine trunk.
1	Watertight socket	Engine trunk close to companionway.
2	Watertight protected glow lamps	Over center pens of fish hold.
1	Watertight flood light	On top of pilot house, port side.
1	Watertight socket	4' high, center, aft side of pilot house.
1	Dome light. Leckie gif. 620 or equal. (Screw type)	Center, under roof of pilot house.
1	Compass light Leckie fig. 780 B or equal.	Over compass in pilot house.
1	Dome light Leckie fig. 620 or equal. (Screw type).	Over center of table, under deck in crew's quarter.

All the above mentioned lamps to be of 12 volts, 25 watts except flood light. To be 100 watts and compass light to be bayonet type Mazda lamp No. 68 direct current 12 volts, 4 candle power G-6 bulb or equal.

5 - General: (Suite)

There shall be one cabin control type half-mile ray searchlight Leckie figure 672 or equal No. 15 gray lustre 12 volts on top of pilot house, port side.

Running lights to be as follows:

- | | | |
|---|---|---|
| 2 | Class 3 side lights, Leckie fig. 583 or equal, combined oil and electric. | Secured to shrouds at 4' height, wooden holder with screen. |
| 1 | Class 3 bow light, Leckie fig. 581 or equal, combined oil and electric. | Fastened to front top mast. |
| 1 | Class 3 stern light, combined oil and electric. | Fastened 1' over prick post. |

The best quality of 14 - 2 and 12 - 2 neoprene rubber electric cord shall be used and there must be 5 different circuits on an automatic cutt-off panel and with necessary fuses.

List of circuits:

- 1 - Running lights
- 2 - Forecastle and Pilot House lights and electric fittings.
- 3 - Fish Hold.
- 4 - Engine room.
- 5 - Deck lights and sockets.

All lights except those in pilot house and forecastle to be water proof bronze fittings, Russell and Strolls or equal.

- D -

PUMPS, TANKS AND DRAINAGE

1 - Fuel Tanks:

Two fuel tanks will be furnished and installed as shown in the plans, under supervision of Board of Steamship Inspector and to his satisfaction and that of Department of Fisheries inspector. Tanks to be of 3/16" mild steel shell plate properly welded and fitted with outlet (side of tank above bottom) drain, vent, filler and sounding port as well as with suitable manhole for cleaning and baffles. Tank to have soft wood foundation and to be secured with steel strapping bolted and with wooden stays and blocking as work requires. Capacity to be over 90 imperial gallons.

2 - Fresh Water Tank:

To be located in the forepeak and to be 3/16" mild steel shell plate tinned on the inside, fitted with filler vent, outlet and drain and with baffles, as shown in detail drawing. Capacity about 45 imperial gallons. To be connected to a faucet under pilot house, close to stove.

3 - General:

All tanks to be connected to filler plate with pipe nipples and steam hose secured with adequate hose clamps. Vents to be carried to positions shown in plan with pipe and fittings. All to be installed in a workmanlike manner with piping well secured against vibration.

4 - Pumps:

There shall be one clutch driven centrifugal bronze power bilge pump fitted on engine. It shall be connected with a pipe manifold having stamped valves in each of the following lines: engine room bilge.

Fish hold bilge

Forecastle bilge

Sea water intake

Deck outlet for washing and fire.

Engine cooling inlet (emergency use only).

All bilge inlets to be fitted with proper strainers. Sea-water inlet to be fitted with check valve close to through-hull connection and to have a strainer on the hull. Deck outlet to be fitted on the engine trunk and to have 25 feet rubber hose with nozzle.

An additional hand semi-rotary wing pump Leckie figure 477 No. 5 or equal shall be fitted on the engine trunk to join the pipe manifold. A check valve to be fitted on the pipe between the manifold and pump.

- E -

PAINTING

Inside of hull to have one coat of cuprinol Leckie fig. 951 wood preservative. Bilges below sole are not to be painted with anything other than the approved wood preservative. Exterior of hull and exposed interior to have one coat of primer and two coats of finish paint except exterior below the water line that shall receive two coats of non-fouling copper paint "International Union Jack" figure 958 of Leckie or any other copper paint approved by Department of Fisheries Inspector. Top side and interior will have semi-gloss finish paint of the following colors:

Painting: (Suite)

Dead Work: White
Deck: Buff
Top of wheel house and engine room: Green
Engine room, pilot house and fore-
castle, interior sides: Light green

The interior roofing of engine room, pilot house and fore-
castle to be gloss white enamels.

Masts bottom part up to height of shrouds: Buff.

Top of masts: Gloss white enamel.

Name of boat and register tonnage to be carved and painted
black on main beam. Name of boat to be painted on bows and after quarter
in square letters. Port of registry to be painted under name on after quarter.

All work to be neat and workmanlike to satisfaction of
Department of Fisheries inspector.

- F -

FISHING GEAR

1 - Gurdy:

A gurdy of the mechanical type built by Steel and Engine
Products, Liverpool, N.S., or equal shall be furnished and installed ready
to operate. Gurdy to drive off the front extension shaft from main engine
with double linked V-belt. Counter shaft and bearings with necessary
universal joints to run close to port side edge, under deck. Gurdy to be
bedded on heavy thwart plank that shall rest on bearers and be of oak
2½" x 14" securely bolted and with base of gurdy bolted to it. Gurdy to be
in direct line with top of roller. A warping end to be fitted over gurdy
head for grapnel and anchor lifting.

2 - Side Roller, Wheel and Gurdy Clutch:

A side roller of the same make as the gurdy is to be fitted
on the Starboard side as shown in the plans and is to be removable. A
steering wheel extension is to be fitted behind the rollers and at a
reasonable distance to allow plenty of space between the roller and the wheel
for the hooking operations on the longline. A main engine clutch extension to
be fitted as close as work allows to the steering wheel extension.

SPARS, RIGGING, SAILS, ETC.

1 - General:

The boat to be fully rigged as a ketch with three working sails as shown in the sail drawing: a jib, a mainsail and a mizzen sail. Masts, booms and gaffs to be black spruce clear from large or loose knots, shakes, checks or rot and as clear as possible. Spars are to be tapered as usual and to be made of the lengths and diameters shown in the plans in all respects. All metal work shall be galvanized steel. Blocks are to be secured to spars by rope grommets cleated in place and the blocks fitted to these with galvanized thimbles. Grommets or strops to be coated with stockholm tar or other approved preservative. Booms and gaffs to be painted with a gray primer and center part to receive two coats of semi-gloss buff paint, the last two or three feet at the tips being covered with two coats of gloss white enamel. The masts are to be painted in the same way, the stick below boom saddle being painted with gloss white enamel.

2 - Chain Plates:

Galvanized steel chain plates are to be fitted. These to be $\frac{1}{2}$ " x $1\frac{3}{4}$ " galvanized steel wrought with a smooth eye in the heads and about 30" long. Bored and countersunk to take three fastenings each; two $\frac{1}{2}$ " diameter through bolts set up inside of frames and one boat nail near rail cap. Eight are required. Bobstay fitting to be on stempost as shown in plan.

3 - Standing Rigging:

To consist of two shrouds a side for each mast, each pair in one length seized around mast head and with thimble spliced in lower ends. Lanyards to pass through thimbles and eye in chain plate head. Fore stay to pass through thimble and eye and fastened to stemhead cap. Stays to be spliced at mast heads. All standing rigging to be $\frac{3}{8}$ " diameter flexible wire rope. All splices are to be served, parcelled and painted white to make them watertight. Shrouds are to be fitted with galvanized forged steel pipe turnbuckles with checknuts, jaw and jaw, Leckie fig. 55 or equal.

4 - Running Rigging:

To be manila of the sizes shown in the sail plan. To consist of jib halyards and two sheets, jib downhauler. Mainsail throat and peak halyard and double sheets, mizzen sail throat and peak halyards, mizzen sail sheet.

Blocks to be wooden shell, bushed iron strapped commercial grade of the length and fitting specified in the block list on the sail plan. Blocks to hang a few inches from masts on special steel halyard triangles. Lacing to be cotton line.

5 - Sails:

Sails to be cotton sail cloth of the weight and size shown in sail plan. The jib buff to have extra heavy roping to allow it to be set flying. Sail cloth to be mildew proofed prior to sails being cut. Builder to furnish one jib, one loosefooted main sail, one laced foot mizzen sail, complete with hardware, roping, reef points, etc., ready for service.

- II -

EQUIPMENT

1 - Complete List:

The builder shall supply and install properly the following equipment:

- 1 - 6" Cast bronze bell with bracket similar to Leckie figure 724.
- 1 - Pair of galvanized side lights with oil fonts and 25 Watt electric light, class three, similar to Leckie figure 583 fitted with proper wooden screens to fit fore rigging.
- 1 - Bow light galvanized with oil font and electric 25 watt bulb, class three, similar to Leckie figure 58.
- 1 - Stern light, oil and electric, galvanized.
- 2 - 30" styrofoam lifebuoy, Leckie figure 871 or equal, one fitted with 15 fathoms of line, one fitted with life buoy light similar to Leckie figure 864 with 10 feet lanyard on the ring fitted to the light, the cap ring to be fastened to the boat with 7 feet lanyard.
- 2 - Pyrene fire extinguishers, one for wheelhouse, one for engine room.
- 1 - Foam type extinguisher Leckie figure 761 or equal, in crew's quarter.
- 1 - Hand air fog horn trumpet and air piston cylinder hand compressed.
- 1 - Heaving line 5/16" diameter, 10 fathoms.
- 2 - Deck lines, 1" diameter manila rope, 10 fathoms each.
- 2 - Springs, 1" diameter manila rope, 8 fathoms each.
- 1 - Anchor line: 150 fathoms, 1 1/4" diameter manila rope or 1/2" diameter nylon rope.
- 1 - Boom seat for mizzen sail boom.
- 1 - Danies 30 clutch driven M.P. pump or equal 3/4" discharge 1" intake with 4" pulley to be fitted on main engine extension shaft.
- 1 - Radar reflector to be fitted on top of main mast.

1 - Complete List:

- 4 - Adult approved life jackets similar to Leckie figure 1096 .
- 1 - 100 lbs. kedge anchor galvanized drop forged steel.
- 1 - 12 feet ash handle steel boathook .
- 1 - Fire axe with copper holding fixtures.
- 3 - Second hand car tires as fenders with 6' lines $\frac{1}{2}$ " diameter manila rope.
- 2 - Fire pails or buckets.
- 1 - Galvanized iron pail.
- 6 - Red distress rockets.
- 3 - Canvas or wooden black ball shapes 24" diameter as distress or fishing day signal.
- 1 - Heavy duty rubber trouble lamp with 35 foot extension cord.
- 1 - Liquid compass in hard-wood box with 6" compass card diameter with 0 to 360 degrees circle as well as usual points.
Leckie figure 772 or equal.
- 6 - 12" long ship cleats fitted at four quarters of the launch deck and on fore and aft centerline, see plans.
Leckie figure 246 or equal.
- 2 - 10" bow chocks galvanized steel Leckie fig. 256 or equal.
- 2 - 10" stern chocks galvanized steel Leckie fig. 256 or equal.
- 1 - Grease gun.
- 1 - Can of water proof grease
- 2 - 5 imperial gallons cans of lubricating oil in accordance with engine manufacturer recommendation.
- 1 - Complete crank case pump Leckie figure 457 or equal.
- 1 - Hand made folding lavatory with 15" basin to be fitted on wall of pilot housing in forecastle.
- 2 - Jib cleats galvanized steel
- 2 - Main sail cleats galvanized steel
- 1 - Calibrated dip stick for fuel oil volume calculation
- 1 - Densimeter for wet batteries.
- 1 - Sounding lead 7 pounds with 15 fathoms $\frac{1}{4}$ " diameter line properly marked as usual.
- 1 - Portable toilet bowl.

1 - Complete List:

- 2 - Red globe oil lanterns.
- 1 - Clear globe oil lantern.
- 1 - Electric windshield wiper American Bush or equal for front central window.
- 1 - Wooden ladder for fish hold.
- 1 - Mirror for crews quarter.

- I -

MACHINERY

1 - Main Engine:

To be mounted on angle iron capped beds, properly aligned and installed ready for use. Propeller shaft in a single length of 2" diameter bronze or as required by engine power. To have stern bearing of cutless rubber and inboard stuffing box to suit, similar to Lunenburg Foundry, figure 88 page 39, secured with bronze hangar bolts and all to approval of Board of Steamship Inspection. Three blade propeller bronze, Kennedy or equal, according to a written recommendation by the engine Manufacturer asked by builder. In an expansion tank is required for fresh water cooling, it shall be placed at after end of engine space.

2 - Exhaust:

To be of the wet type, extra strong iron pipe flanged, fitted with wet muffler and flexible section and supported in hangers and a thru-hull connection to be fitted under clamp at Station 14. Dry part of exhaust pipe, close to engine to be suitably lagged with asbestos and cloth. Size of pipe and muffler to suit engine.

3 - Fuel Piping:

To be as engine manufacturer directs, equipped with steel bowl 10" deep with drain to serve as water trap and with necessary filters, loops, valves to be placed within easy access for inspection, maintenance and repair.

4 - Cooling System:

To be in accordance with a written engine manufacturer recommendation asked for by builder. There shall be a check valve and a single Groco filter on the cooling water inlet. To be otherwise complete with all fittings.

5 - Controls:

There shall be an instrument panel in the pilot house with the following instruments:

- a) Engine clutch extension.
- b) Throttle
- c) Cooling water temperature gauge.
- d) Lubricating oil pressure gauge.
- e) Starting button.
- f) Ampere meter gauge.

There shall be, on the deck about four feet aft of the side roller a steering wheel extension and a clutch extension.

There is to be an hour meter and tachometer on the engine.

- J -

GEAR

1 - General:

Mattresses, blankets, linen, pillows, cooking utensils, table ware, dishes, spare tools (other than those furnished by engine manufacturer) clock, barometer, navigation equipment, fuel (other than the part of the full tanks used during the trials), fishing gear (other than gurdy and side roller), general stores and supplies are not to be furnished by the builder or stowed by him.

- K -

BOAT DELIVERY

1 - General:

Boat is to be delivered afloat in operating conditions satisfactory to Department of Fisheries inspector and clean, neat and of good appearance throughout. All rigging is to be rove off and belayed, sails bent and equipment supplied by builder or furnished by him properly stowed and secured aboard. Boat to be measured by official measuring surveyor before delivery and a Board of Steamship inspection certificate and registry certificate obtained by builder shall be handed to owner upon delivery. The boat shall be clear of all debt or encumbrance and a certificate to that effect is to be given by builder to owner.. (See Note B).

BOAT CHARACTERISTICS

Length overall (or between perpendiculars)	45' 4 $\frac{1}{4}$ "
Beam moulded	11' 8 $\frac{1}{2}$ "
Beam extreme	11' 10 $\frac{1}{4}$ "
Least depth moulded	5' 4 $\frac{1}{2}$ "
Draught	4' 3"

I N D E X

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Annex

Note A

Note B

ANNEX:

NOTE A: Whenever there is any contradiction between plans and specifications amended June 1958, specifications are to be considered as the will of the Department of Fisheries. Amended specifications are to be considered in the same way in case of errors or omissions in the plans. In any case of doubt or dilemma, the Department of Fisheries Inspector is to be consulted. A written notice is to be sent to interested parties for any change or alteration in the specifications or plans.

NOTE B: This boat is to be considered as a sail boat. Therefore, at the present moment, there is no normal Canadian Board of Steamship inspection although the inspector will perform inspection at regular periods. He will only see if the boat is being built in accordance with the approved plans and that she is equipped with the minimum requirements as to fire fighting and life saving equipment. An official certificate will not necessarily be delivered to builder or owner but a letter concerning seaworthiness, fire fighting and life saving equipment will be sent to the Federal Department of Fisheries for subsidy purposes.