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Specifications: *RESPONSE FR-7.2*

1.0 GENERAL

Built for: Providence Fire Department

Built by: Winninghoff Boats, Inc.

Delivery: May, 1992

Hull Type: Modified Vee (50 deg. deadrise fwd., 12 aft)
Hull Length Overall: 23' 6"
Beam Overall: 8' 0"
Draft (hull): 1' 3"
Freeboard Fwd.: 3' 6"
Norm. Oper. Displ.: 3,700 lbs.
Power: Single Outboard; OMC 150 HP

Reference Drawing: [Winninghoff # 882D](#)

Design and outfitting were developed in conjunction with Bob Waters and Vinnie DeLisi of the Providence Fire Department. The specifications were developed originally for twin outboards as per the Port Lavaca boat, but budget constraints necessitated changing to single. The mission is to provide fire fighting capability and to enhance rescue capability in the upper Narragansett Bay and various rivers that are within the City of Providence.

The hull is a stretched version of the successful Winninghoff 6.2m Cape Ann Sea Skiff. The outboards mounted on a hull extension that is formed by extending the topside and bottom plating.

2.0 CONSTRUCTION

The boat shall be of all welded aluminum construction featuring both trans-verse and longitudinal framing. There shall be a watertight bulkhead between the stem and the cabin/cockpit. The fuel tank bay bulkheads shall be watertight below the waterline. Other frames may be frames or bulkheads. Scantlings shall be as per the following table:

<u>Item</u>	<u>Dimension</u>	<u>Alloy</u>
Keelson	.375" Plate	5086 H116
Transverse Frames	4" x 1.7" x .190 Tee	5086 H32
Bulkheads	.160" plate	5086 H32
Bulkhead Stiffeners	1.5" x 1.25" x .190" Tee	6061 T6
Longitudinals- Bot. & Deck	1.5" x 1.5" x .25" Tee	6061 T6
Longitudinals- Topsides	1.5" x 1.50" x .190" Agl.	6061 T6
Bottom Plating	.190" Plate	5086 H32
Chine Bar	.250" Plate	5086 H32
Topside Plating	.160" Plate	5086 H32
Transom	.250" Plate	5086 H32
Working Deck	.190" Plate	5052 H32
Side Decks	.160" Plate	5086 H32
Console	.190" Plate	5052 H32
Fuel Tank	.160" Plate	5052 H32
Pipe & Tubing	Primarily Schedule 40	6063 T6

Note: Beds, knees and other heavy duty reinforcements shall be provided in areas of high stress such as engines and fire system plumbing.

Welding- MIG and TIG processes using 5356 filler wire. All underwater seams shall be continuously welded inside and outside. All frames and stiffeners shall be stitch welded both sides.

3.0 FUEL & PROPULSION

3.1 FUEL

Fuel capacity shall total 80 gallons in single aluminum tank constructed and tested as per USCG and ABYC standards. Tank shall be installed in watertight compartment and shall be located at the vessel's normal operating LCG.

Fuel feed plumbing shall include a filter manifold with valves to enable each engine to draw full or zero flow. There shall be primer bulbs in each line enabling the priming of all engines. All hoses shall be appropriately sized so that all engines can operate at full rpm without suffering flow restriction., and all hoses shall be USCG approved. The tank shall be fitted with a fuel level sending unit wired to gauge at console.

3.2 PROPULSION

The vessel shall be outfitted with a single 150 hp, 25" shaft, OMC outboard. Outboard accessories shall include the following:

- (1) Aluminum Propeller
- (1) Speedometer
- (1) Tachometer
- (1) Water Temperature gauge
- (1) Trim gauge
- (1) Battery meter
- (1) Hour meter
- (1) Fuel gauge
- (1) Single Lever Binnacle Control w/ Trim Switch
- (1) Key Switch
- (1) Lanyard Stop Switch

Engine wiring, controls and plumbing shall be routed from the transom to the engines in three 2" Commercial gray hoses. Hoses shall attach to welded aluminum grommets at the transom.

3.3 STEERING SYSTEM

The steering system shall be Teleflex Cable. The helm shall be fitted with a 15" Stainless Steel, destroyer type steering wheel.

4.0 SUPERSTRUCTURE

There shall be a center console located approximately seven feet aft of the collision bulkhead. Center Console shall be of all welded aluminum construction with integral handrails on all sides. Features shall include windshield (.25" clear polycarbonate), electronics compartment and at least one weather tight stowage compartment.

5.0 AUXILIARY SYSTEMS & EQUIPMENT

5.1 BILGE PUMPS

The boat shall be outfitted with two electric bilge pumps of at least 1,000 gph. Pumps shall be wired to float switches with float assembly enclosed and protected from debris. Manual/Automatic operation shall be control-able from main circuit breaker panel. Forward pumps shall be located at after portion of forward bilge, and aft pump shall be located just forward of the transom. The watertight bulkheads shall be fitted with drain plugs in order to enable draining to appropriate bilge pump.

5.2 FIRE FIGHTING SYSTEM

The fire fighting system shall be a Hale HP500 (formerly American Godiva GP-1600) fire pump producing in excess of 500 gpm at 100 psi. The pump engine shall be incorporated into the vessel's main fuel and battery systems. Engine controls shall be located at engine with standard gauge and control panel.

Suction: Suction plumbing shall be 4". Thru hull shall be welded aluminum 4" schedule 40 pipe with a flat bar grate fit flush with the hull. Suction plumbing shall include a shut-off valve and clean out for easy access to the fire pump screen. There shall be a short length of hose in the suction line in order to isolate pump and engine vibration from the hull.

Discharge:

The pump shall be fitted with two 2.5" discharge outlets with valves. One of these shall feed the 3" main leading to the console mounted monitor. The other shall be located faced forward for hose or wye connection. The 3" main shall include a short section of flexible discharge hose to isolate vibration.

An Elkhart Stingray #8393 (Bronze) monitor shall be mounted on the forward panel of the center console.

6.0 ELECTRICAL SYSTEM

6.1 BATTERY SYSTEM

The vessel shall be outfitted with two batteries each of which shall be at least 85 Amp-Hour marine type batteries. There shall be a four position Battery Selector Switch to control flow of current to and from the fire pump and outboard engine and to the accessory system.

6.2 ACCESSORY SYSTEM

The vessel shall be outfitted with a 17 position circuit breaker panel which will provide for individually protected and labeled circuits for the circuits listed below. Wiring and installation shall be such that an individual breaker can be replaced without interruption of any other circuits. All breakers shall be fed independently from the hot buss which is controlled by the battery switch. The sole exception is the bilge pump circuit breakers which are wired directly to Battery 1 or 2 in order to enable operation with the battery switch in the "Off" position.

Emergency - Strobe
- Siren
- Aux.
Radios - VHF
- Fire
- Aux.

Navigation - Depth
- Radar
- Loran
- Aux.
Lights - Deck
- Spot

- Bilge Pumps - Fwd. (Man/Auto) - Dock
 - Aft. (Man/Auto) - Dash
 - Nav. (Run/Anchor)

6.3 ACCESSORIES

Vessel shall be outfitted with the following electrical accessories.

- Strobe Lights: Federal MiniJet Light Bar
 Siren: Federal PA300 w/ CP00s Speaker
 Compass: Ritchie SS1000 w/ light
 Navigation Lights: Port; Starboard; Pole/Anchor
 Spot Light: (2) Guest 220; Portable
 VHF Radio: CFE

7.1 OUTFITTING EQUIPMENT & HARDWARE

The vessel shall be outfitted with the following:

- Safety Rails: - Bow Rail. Fabricated with 1" Schedule 40 Aluminum pipe. Welded to deck at sheerline. Rail shall extend approximately 18" above deck from the bow, seven feet aft. Rail shall be port and starboard with an 18" opening at the bow centerline.
- Hand Rails. There shall be handrails on all sides of the Center Console. Rails shall be at least .75" sch. 40 aluminum pipe, welded to console.
- Hull & Deck Equip.: - Leaning Post. Leaning post shall be welded aluminum and shall be integral with Signal Arch. This fabrication shall provide approximately 8 cubic feet of weathertight stowage under. Stowage accessed by two 10" x 20" hatches.
- Signal Arch, Hinged. Arch shall provide at least 26 linear inches of top mounting surface. Top of arch shall be at least 6'8" above cockpit sole. Construction shall be all welded aluminum.
- 8" Aluminum Cleats. (6) Welded to deck.
- Bow Eye Aluminum Fabrication welded to Stem.
- Sheerline Rub Rail. PVC running full length each side and thru bolted on approximately 8" ctrs.
- Rubber Scupper Flaps. Fitted at transom port & starboard for self bailing cockpit.

- Radar Arch, Hinged. Vessel shall be fit with a radar arch extending full width between the side panels just aft of helm. Arch shall be at least 6'6" above deck and shall provide at least 50" of top mounting surface. Arch shall be primarily 1.5" sch. 40 aluminum pipe.
- Rescue:
- Dive Door. Vessel Topsides shall include a 36" dive door on the starboard side. Door shall hinge downward to form integral boarding ladder. Dive Door shall be located to starboard, aft of tow post assembly.
 - Rescue Rails. Dive Door shall be fitted with 10' rescue rails running fore & aft approximately 6" above the waterline. Rails shall be 1" sch. 40 aluminum pipe welded to hull.
 - Tow Post. Constructed of welded aluminum pipe and designed to withstand bollard pull of the specified engines. Tow post is integral to the Leaning Post/Signal Arch structure.
- Stowage & Access:
- Anchor Locker. Forward collision bulkhead shall form an anchor locker with a 10" x 20" hatch.
 - Console Stowage. Center Console shall be fitted with two 10" x 24" weathertight hatches accessing stowage and wiring within.
- Stowage & Access - cont.
- Transom Stowage. Transom shall be fit with two 10" x 20" weathertight hatches, port and starboard, and one 8" x 12' weathertight hatch on centerline. Port hatch shall access batteries and battery switch. Center hatch shall access VRO tanks. Starboard hatch shall access wire and cable runs and miscellaneous stowage.
 - Six & Ten inch deck plates. Deck plates shall be secured by dog handle. Appropriate sized plates shall be provided at all areas requiring access to include: Fuel tank fittings, Bilge Pumps and fittings, Wiring and plumbing connections.

7.2 CENTER CONSOLE JOINER WORK

Console outfitting shall include the following:

- Electronics Cabinet: - Console shall feature electronics cabinet complete with sliding polycarbonate doors.
- Dash: - Custom dash arrangement to accommodate engine gauges and controls, breaker panels and electronic accessories.
- Windshield: - There shall be a .25" Lexan Windshield molded to fit console and thru bolted with rubber washers.

8.0 PAINT & FINISH

All exterior topsides surfaces shall be painted with International Interthane paint systems (two part polyurethane). The decks shall have a non-skid finish and the bottom shall be painted with an EPA approved, aluminum compatible anti-fouling paint. Colors and lettering shall be to suit customer specifications.

9.0 FINAL OUTFITTING & SEA TRIALS

The boat will be provided with the following accessories:

- (1) Canvas cover for fire pump.
- (1) Canvas cover for center console.
- (1) 200' of Tow Line
- (4) Type I Life Jackets
- (2) Stearns Adult Universal Suits
- (1) 13# Danforth Anchor with Ground Tackle & 150' of Anchor Rope.

The boat will be provided with one copy of manufacturer and component manufacturer manuals.

The vessel will be provided with half fuel and personnel for acceptance trials at Rowley, MA. and then delivered to Providence. Factory inspection trips are encouraged.