Melanesia Boat Project

Architectural Plans & Specifications
October 2020

www.melanesiaboatproject.org
james.nie@tyndalebt.org
360-977-0317

The Melanesia Boat Project: MSV-1

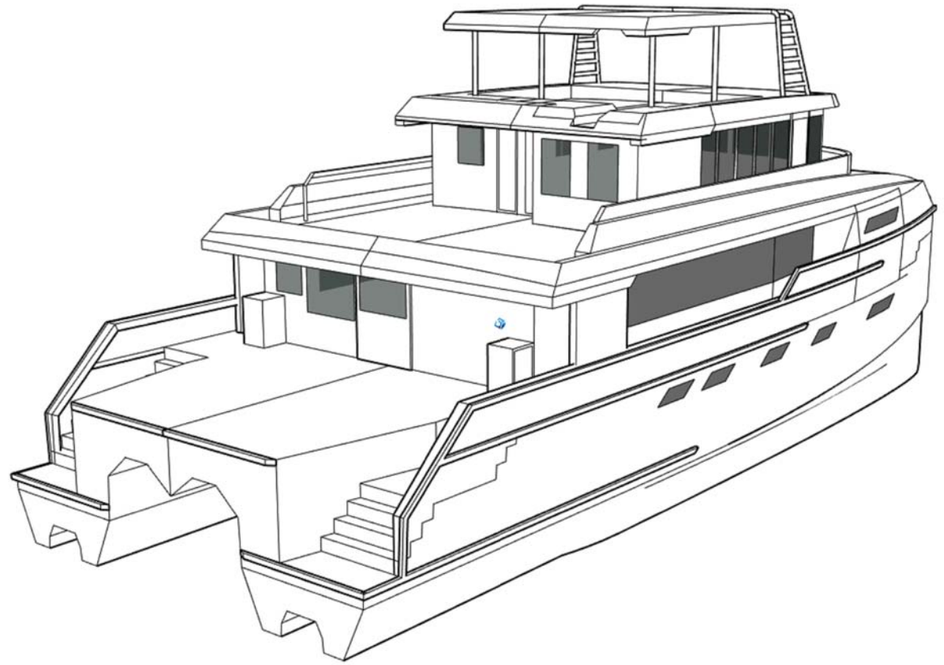
Manna = What is it?

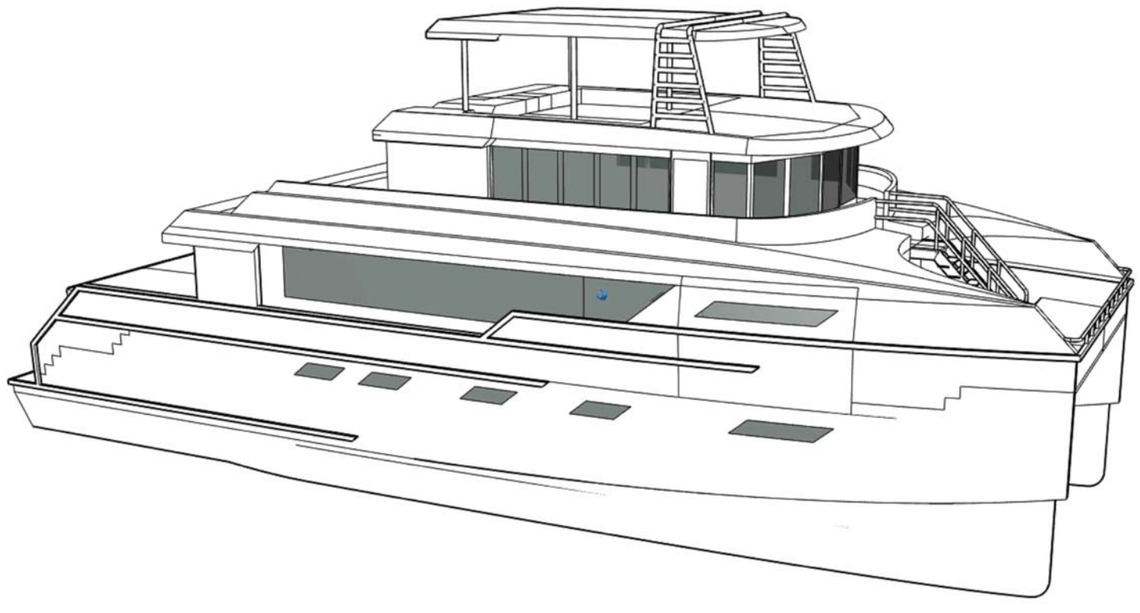
Mission Support Vessel #1 = *God's nourishment for the people*

✓Humanitarian Aid
✓Personnel Transport
✓Potable Water Maker
✓Disaster Relief
✓Cargo Provisioning
✓Search and Rescue

✓Ambulance / Triage
✓Medical/Dental Clinics
✓Prosthetic Workshop
✓Optometry Clinic
✓Education Resource
✓Wellness Asset

✓Bible Translation
✓Media Recording Studio
✓Scripture Engagement
✓Internships
✓Training Facility
✓Personnel Quarters





ISSUE	DESCRIPTION	DRAWN	DATE
1	FOR REVIEW	SJ	2020-02-20

BUILDER TO CHECK DIMENSIONS AND CONTENT ON DRAWING AND ADVISE DESIGNER OF ANY DISCREPANCIES BEFORE COMMENCEMENT OF CONSTRUCTION

jutson marine design

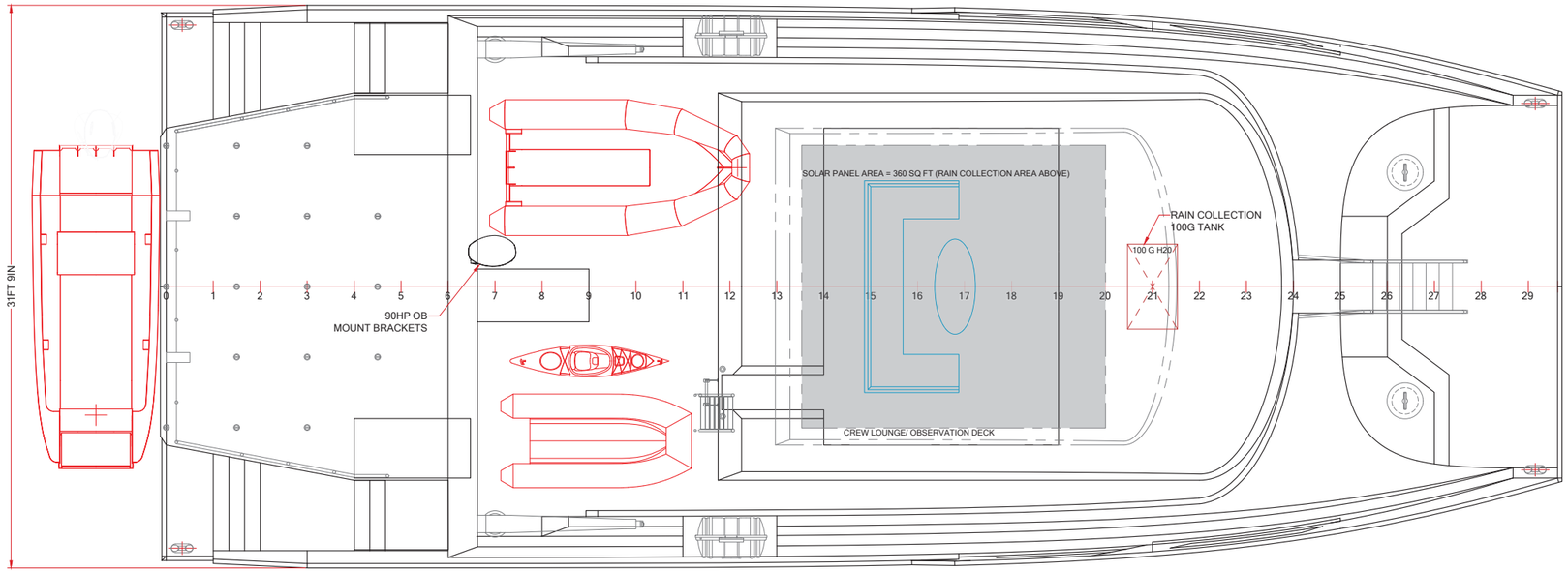
TITLE: MISSION SUPPORT VESSEL
GENERAL ARRANGEMENT

PROJECT: TYNDALE BIBLE TRANSLATORS

SCALE	1:50 @ ANSI D	DRG No	117-04	SHEET	5 OF 5

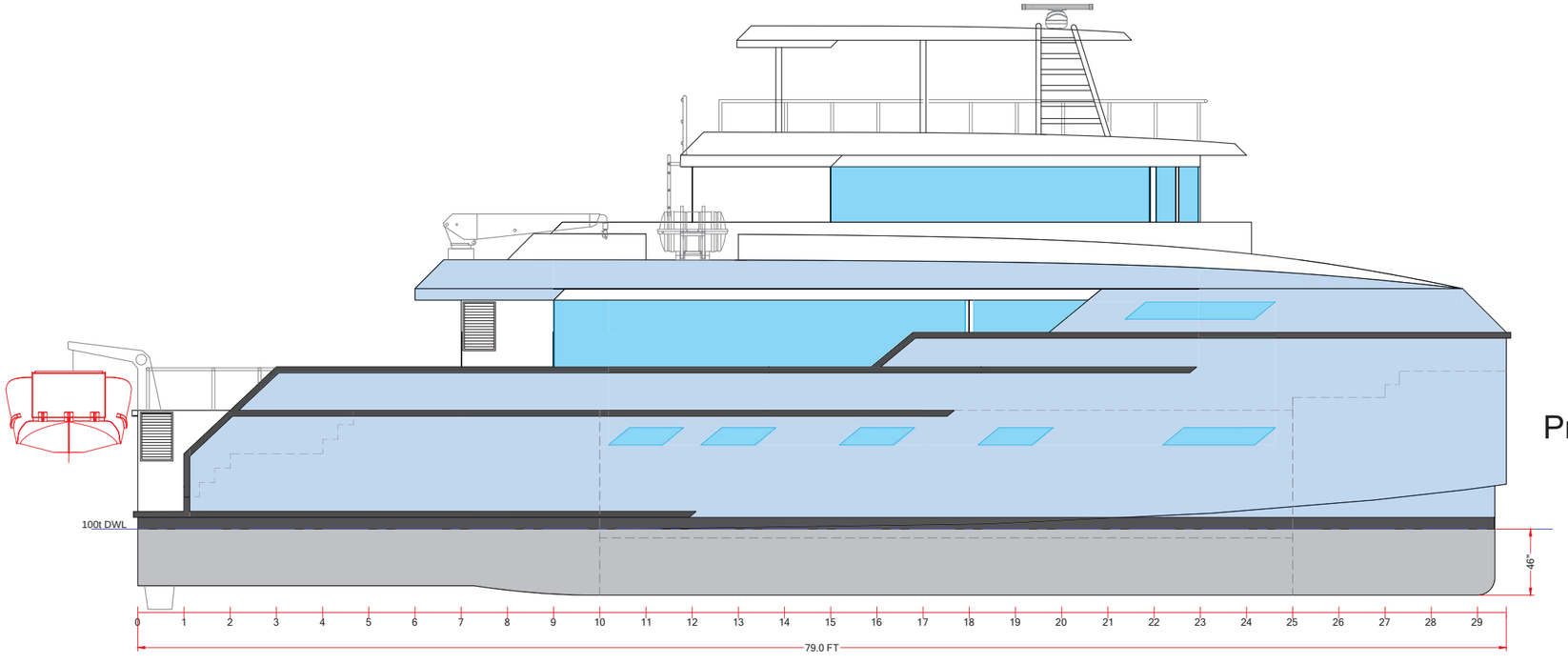
THE COPYRIGHT AND SUBJECT MATTER OF THIS DRAWING IS THE SOLE PROPERTY OF JUTSON MARINE DESIGN. REPRODUCTION IN ANY FORM, EITHER FULL OR PART IS PROHIBITED WITHOUT EXPRESS WRITTEN CONSENT.

275 WEST 18th AVE~VANCOUVER~V5Y2A8~CANADA
TEL: +16047602549 scott@jutson.ca



Aerial View

TYNDALE BIBLE TRANSLATORS MISSION SUPPORT VESSEL	
LOA	79 FT
BEAM	31.9 FT
DRAFT	3.83 FT
FULL LOAD DSPL	100 T
POWER	2 X 800HP
18 KTS @ WOT 14 KTS @ 1900 RPM, 11.5L/NM 10 KTS @ 1400 RPM, 7.0 L/NM	
FUEL CAPACITY	12T
RANGE AT 10 KTS	1500 NM



Profile View

ISSUE	DESCRIPTION	DRAWN	DATE
1	FOR REVIEW	SJ	2020-02-20

BUILDER TO CHECK DIMENSIONS AND CONTENT ON DRAWING AND ADVISE DESIGNER OF ANY DISCREPANCIES BEFORE COMMENCEMENT OF CONSTRUCTION.

jutson marine design

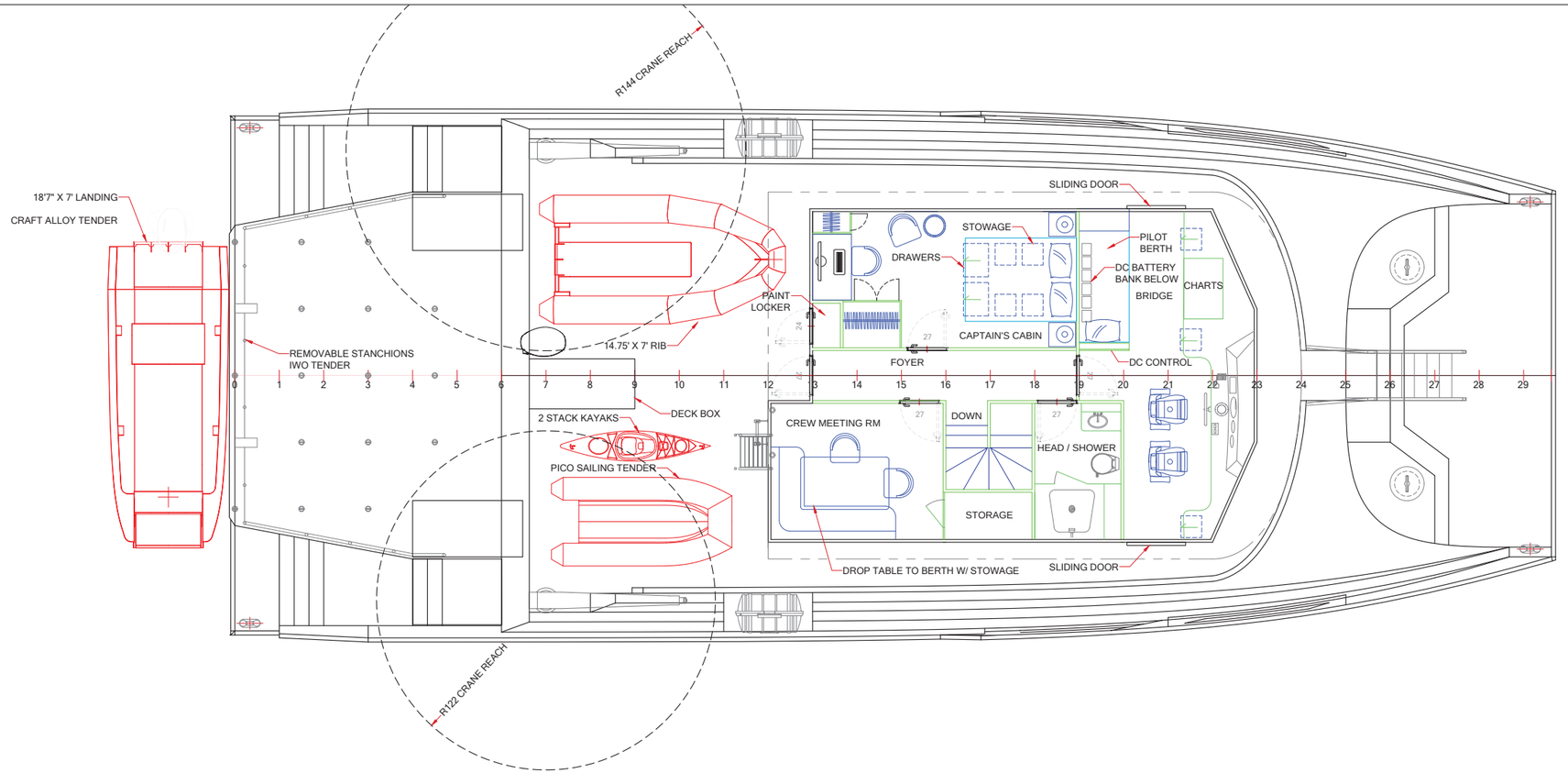
TITLE: MISSION SUPPORT VESSEL
GENERAL ARRANGEMENT

PROJECT: TYNDALE BIBLE TRANSLATORS

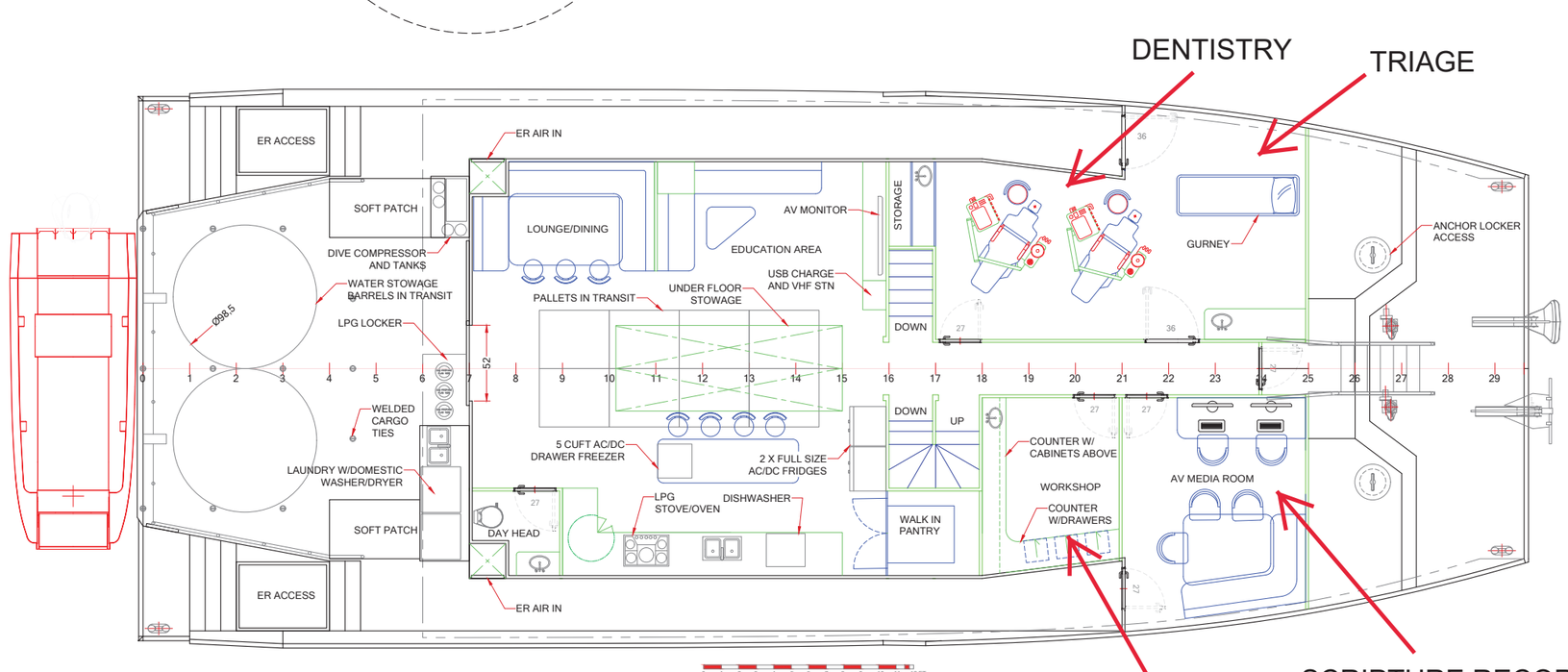
SCALE 1:50 @ ANSI D | DRG No 117-04 | SHEET 1 OF 5

THE COPYRIGHT AND SUBJECT MATTER OF THIS DRAWING IS THE SOLE PROPERTY OF JUTSON MARINE DESIGN. REPRODUCTION IN ANY FORM, EITHER FULL OR PART IS PROHIBITED WITHOUT EXPRESS WRITTEN CONSENT.

275 WEST 18th AVE~VANCOUVER~V5Y2A8~CANADA
TEL. +16047602549 scott@jutson.ca



Bridge Deck & Captains Quarters



Main Deck & Medical/Dental Clinics

ISSUE	DESCRIPTION	DRAWN	DATE
1	FOR REVIEW	SJ	2020-02-20

BUILDER TO CHECK DIMENSIONS AND CONTENT ON DRAWING AND ADVISE DESIGNER OF ANY DISCREPANCIES BEFORE COMMENCEMENT OF CONSTRUCTION

jutson marine design

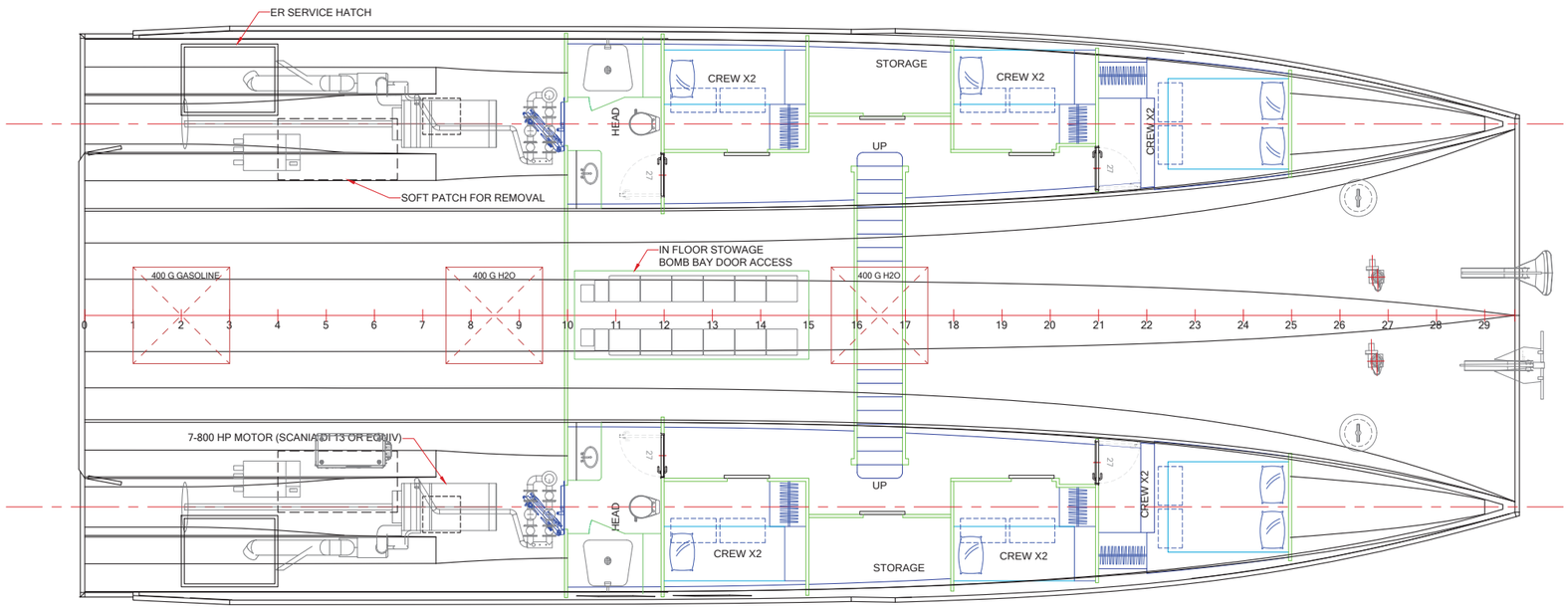
TITLE: MISSION SUPPORT VESSEL
GENERAL ARRANGEMENT

PROJECT: TYNDALE BIBLE TRANSLATORS

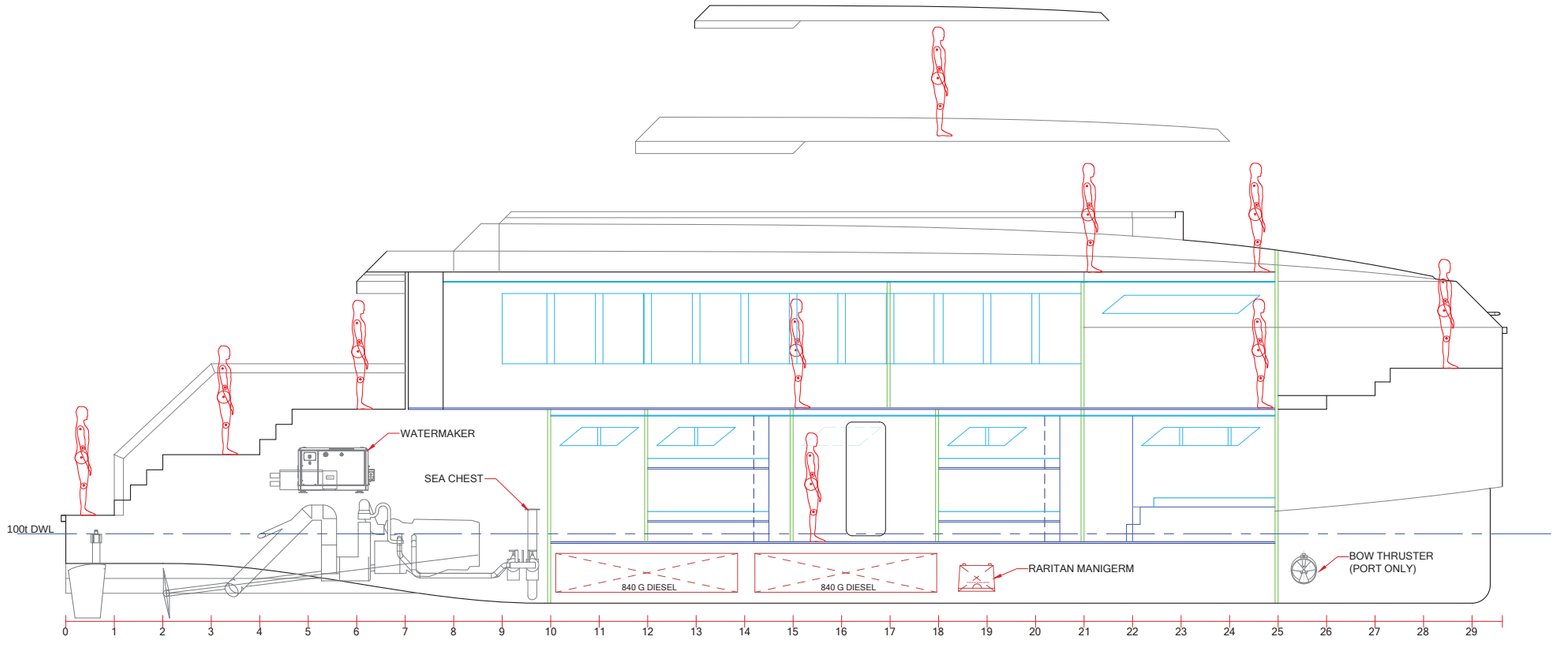
SCALE 1:50 @ ANSI D | DRG No 117-04 | SHEET 2 OF 5

THE COPYRIGHT AND SUBJECT MATTER OF THIS DRAWING IS THE SOLE PROPERTY OF JUTSON MARINE DESIGN. REPRODUCTION IN ANY FORM, EITHER FULL OR PART IS PROHIBITED WITHOUT EXPRESS WRITTEN CONSENT.

275 WEST 18th AVE~VANCOUVER~V5Y2A8~CANADA
TEL: +16047602549 scott@jutson.ca



Crew Quarters



Elevations

ISSUE	DESCRIPTION	DRAWN	DATE
1	FOR REVIEW	SJ	2020-02-20

BUILDER TO CHECK DIMENSIONS AND CONTENT ON DRAWING AND ADVISE DESIGNER OF ANY DISCREPANCIES BEFORE COMMENCEMENT OF CONSTRUCTION

jutson marine design

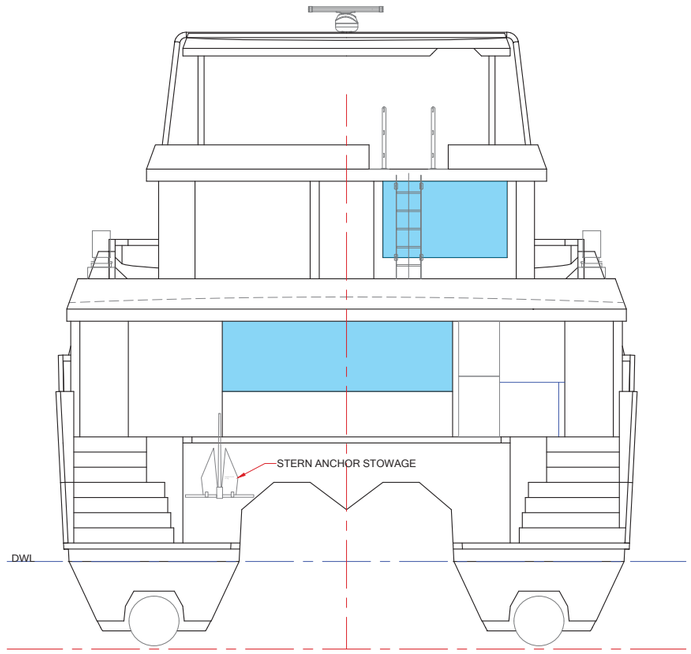
TITLE: MISSION SUPPORT VESSEL
GENERAL ARRANGEMENT

PROJECT: TYNDALE BIBLE TRANSLATORS

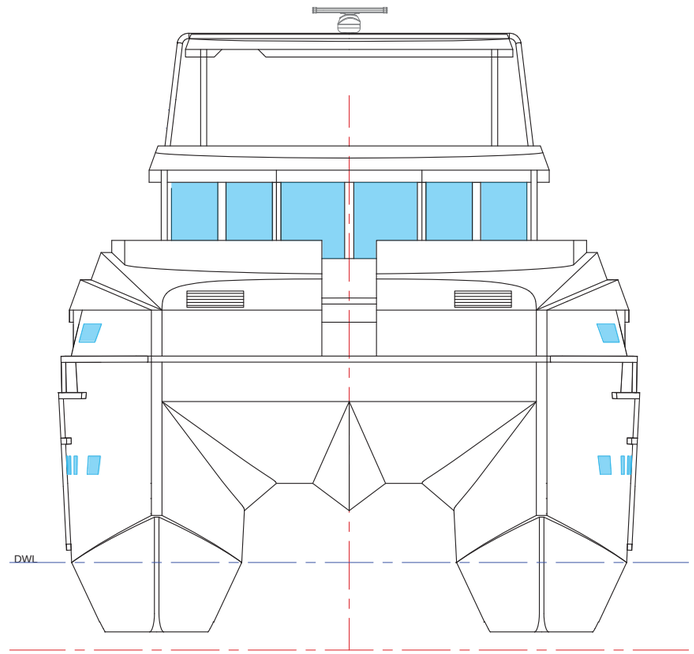
SCALE	1:50 @ ANSI D	DRG No	117-04	SHEET	3 OF 5

THE COPYRIGHT AND SUBJECT MATTER OF THIS DRAWING IS THE SOLE PROPERTY OF JUTSON MARINE DESIGN. REPRODUCTION IN ANY FORM, EITHER FULL OR PART IS PROHIBITED WITHOUT EXPRESS WRITTEN CONSENT.

275 WEST 18th AVE~VANCOUVER~V5Y2A8~CANADA
TEL: +16047602549 scott@jutson.ca



Stern View



Bow View

ISSUE	DESCRIPTION	DRAWN	DATE
1	FOR REVIEW	SJ	2020-02-20

BUILDER TO CHECK DIMENSIONS AND CONTENT ON DRAWING AND ADVISE DESIGNER OF ANY DISCREPANCIES BEFORE COMMENCEMENT OF CONSTRUCTION

jutson marine design

TITLE: MISSION SUPPORT VESSEL
GENERAL ARRANGEMENT

PROJECT: TYNDALE BIBLE TRANSLATORS

SCALE 1:50 @ ANSI D | DRG No 117-04 | SHEET 4 OF 5

THE COPYRIGHT AND SUBJECT MATTER OF THIS DRAWING IS THE SOLE PROPERTY OF JUTSON MARINE DESIGN. REPRODUCTION IN ANY FORM, EITHER FULL OR PART IS PROHIBITED WITHOUT EXPRESS WRITTEN CONSENT.

275 WEST 18th AVE~VANCOUVER~V5Y2A8~CANADA
TEL: +16047602549 scott@jutson.ca

MSV-1 Mission Support Vessel Specifications

General Vessel Characteristics:

79 ft LOA, 32 ft beam
Cruise speed 10-12 knots
Efficiency speed 7-8 knots
Sprint speed 20 knots
Range at efficiency speed, 1500-1800 nautical miles
Helm: Single helm position
Long term accommodations below main deck – 12 to 14 berths below/double for married couples
Long term accommodations on bridge deck - Captain's quarters berth for married couples
Galley to accommodate long term live aboard for crew (4) plus 12 personnel 4 – 6 weeks
Engines: 2x main 700-800 hp turbo charged
GenSet: Northern Lights (KW TBD)

Electrical:

Overall simplified and distributed power system throughout vessel to support needs of onboard clinics and galley operations during full operations capacity. Detail TBD with marine electrician. 120v/240v option input (TBD), use small converters for output is an option such as Krieger Step up Step down converter. Lightning Protection System: TBD
Northern Lights Genset: TBD
Solar/Wind: 800 AMP hour 12v/24v lithium Ion house bank with solar panels atop bridge, BlueSky Duo charge control system, battery monitor system, further details TBD. Location: Captain's Quarters.
Lighting/Charging stations: 12v/24v throughout
SCUBA Station: Bauer Jr2-E1, Electric Motor (Supplied by client) direct connect to genset
Galley: Standard household propane Range, Microwave/Dishwasher 240v, 12v/24v Refrigeration, 12v/24v Freezer drawers
Triage Clinic: Basic 240v and 12v/24v

Electrical Continued:

Dentist Clinic: Basic 240v, 12v/24v, clean compressed air
Workshop: Basic 240v, 12v/24v, and clean compressed air
Education Resource Ctr: Basic 240v, 12v/24v
Desk/Salon/Secondary Nav Station: Basic 240v, 12v/24v (laptop charging station), NEMA GPS position display, anchor drag alarm, VHF Radio, HF Radio
Lounge Area: Basic 240v, 12v/24v
Berth Quarters: 12v/24v
Aft Deck: Work level 240v/20A
Upper Deck: Work level 240v/20A
Bridge: Basic 240v, 12v/24v
Heads: Basic 240v
Desk/Salon: Basic 240v, 12v/24v (laptop charging station), GPS repeater

HVAC:

Zoned system for efficiency management; natural vessel airflow during times of trade-wind conditions or idle operational periods.

Bridge:

Single helm station with GARMIN 6800 series navigation system and autopilot (TBD) NEMA 2000 compliant, consisting of (2x) 17” multi-function displays, depth/ water-speed/temp, wind-angle/direction/speed, forward sonar, radar, bridge GPS repeater, Laptop station, chart table, crew bunk, passenger seating, internal gangway to main-deck.

Engine Controls:

Typical gauges to also include fuel vacuum gauge per engine supply, fuel consumption meter per engine, engine room fire alarm.

Fresh Water Supply:

Customer provided desalination system which requires 120v/30A/60hz or 240v/20A/60hz, wall space for membranes 48” x 16”, Electric motor foot print, 20” x 12”, lift pump 12v /24 v. Production estimate 65 (x2) = 130 gph.
Onboard potable water storage capacity TBD.

Cargo:

Cargo duty as it relates to vessel performance:
Personnel belongings, light construction supplies and material, disaster relief supplies, village provisions, etc. stationed in the salon for interior cargo stowage on 48” x 42” stackable HD plastic pallets/w aluminum cage sides, whereby the pallets are placed side by side amidships, up to 8 (ie 2 rows of 4 pallets/row) Exterior Aft deck to have cargo tie-down, flush mount deck fittings for typical construction materials. Upper deck crane needs to lift pallets from dock side to aft deck. The aft deck is to be a suitable open configuration for setting light duty equipment and materials, such as large/empty rain collection tanks up to 12’ wide. Also rigged to enable a canopy for sun/rain cover.

Heads:

As simple as possible with household size toilets: Tankage affluent management and treatment TBD. Split water heating system for showers and clinics.

Tenders:

Tender A - described as a landing craft 16-18 ft LOA, aluminum, built in fuel tank, aft jockey helm with 60 hp Yamaha Enduro outboard, electric start, bilge pump, depth sounder, GPS. Est. weight 1800 lbs (boat, fuel, engine).
Tender B – described as a RIB with 15-16 ft LOA, aluminum hull, built in fuel tank, jockey helm with 60 hp Yamaha Enduro outboard, electric start, bilge pump, depth sounder, GPS and over engine tow bar. Est weight 1400 lbs. (boat, fuel, engine).
Fuel storage tank for tenders, with pump (maybe above deck for safety): 200 gallons??? (TBD)

Anchoring:

Windlass functionality, forward deck operation with foot controls. No remote bridge operation required. Type/manufacturer TBD
Primary Anchor forward anchor roller: Mounted center, anchor type Delta (Size TBD), anchor locker-400' full chain rode with appropriate anchor swivel, chain storage in a compartment which can hold the full length in a submersed liquid for anti-corrosion. Wash-down pump for chain as it is retrieved. Each bow should have a chock for deployment of an anchor bridle/snubber to minimize chafing and the bows.
Secondary Anchor Forward: Offset mounted anchor. Type TBD (maybe Mantus Type), on 30' chain and 400' rode, in a deck locker with drain.
Stern anchor: Fortress FX 85 or 125(?), 15' chain, with 300' floating rode, in below deck storage locker (Deck Hawse Pipe). There needs to be a stern winch for tensioning and line recovery. The anchor needs a cradle or rail mount whereby a tender can come along side and the anchor lowered or lifted from the tender to the cradle. The stern deck needs a port and starboard chock for line control.
Anchoring Comments: The anchoring systems must be configured for storm conditions as would be experienced in tropical depressions and cyclones. Also, the anchoring situations are unique, including the depth and multi-anchor deployments.

Other considerations:

- Drive shaft/propeller/rudder skeg for protection from shallow water operations.
- 2x life rafts for 15-16 people in each raft
- Stowage of PFDs (32) such as overhead nets
- In-floor compartment stowage for provisions on the main deck
- Main salon floor flush mount tie-down tracks for light duty cargo pallets
- Fresh air flow while at anchor and not running air conditioning units

Clinic rooms to be outfitted by client:

Audio Visual, Workshop, Triage/patient care, Dentistry, Education Resource area

NOTES: