AGREEMENT TO DESIGN AND BUILD AN OCEAN MONITORING VESSEL

This AGREEMENT TO DESIGN AND BUILD AN OCEAN MONITORING VESSEL, (hereinafter referred to as “Agreement”), is effective on July 24, 2024 and is made and entered into by and between the ORANGE COUNTY SANITATION DISTRICT, (hereinafter referred to as "OC SAN"), and ALL AMERICAN MARINE, INC. (hereinafter referred to as "BUILDER"). OC SAN and BUILDER are referred to herein collectively as the "Parties" or individually as a "Party."

WITNESSETH:

WHEREAS, OC SAN desires to engage BUILDER to design and build an ocean monitoring vessel (“Vessel”) as described in Exhibit “A”, Scope of Work and amended in Attachment “A1”, BUILDER Technical Specifications, attached hereto and incorporated herein by this reference (“Services”); and

WHEREAS, BUILDER is qualified to provide the necessary services by virtue of experience, training, and expertise and has agreed to provide the necessary design and construction services; and

WHEREAS, OC SAN has adopted procedures for the selection of firms to provide professional design and construction services and has proceeded in accordance with said procedures to select BUILDER to perform the Services; and

WHEREAS, at its regular meeting on July 24, 2024, the Board of Directors, by Minute Order, accepted the recommendation of the Operations Committee to approve this Agreement.

NOW, THEREFORE, in consideration of the promises and mutual benefits, which will result to the Parties in carrying out the terms of this Agreement, it is mutually agreed as follows:

1. SCOPE OF WORK

A. BUILDER agrees to furnish the design, construction, testing, and all other necessary services to accomplish the project elements outlined in the Scope of Work (“SOW”) to deliver a complete, fully functional Vessel consistent with all applicable requirements, including, but not limited to, those specified in the SOW.

B. BUILDER shall be responsible for the professional quality, technical accuracy, completeness, and coordination of the Services furnished by BUILDER under this Agreement, including the work performed by its subconsultants (“Subconsultants”) and subcontractors (“Subcontractors”). Where approval by OC SAN is indicated, it is understood to be conceptual approval only and does not relieve BUILDER of responsibility for complying with all applicable laws, rules, regulations, codes, industry standards, and liability for damages caused by errors, omissions, noncompliance with industry standards, and/or negligence on the part of BUILDER or its Subconsultants or Subcontractors.

C. BUILDER is responsible for the quality of work prepared under this Agreement and shall ensure that all work is performed to applicable industry standards for clarity, uniformity,

accuracy, and completeness, and in a reasonable, professional, and workmanlike manner. BUILDER shall timely respond to all of OC SAN's questions, comments, suggestions, corrections, and recommendations. All comments from OC SAN, or its agent, shall be incorporated into the work prior to the next submittal deadline or addressed, in writing, as to why the comments have not been incorporated. BUILDER shall ensure that each submittal is 100% accurate for the level of work submitted (i.e., correct references, terms, capitalization, or equal status, spelling, punctuation, etc.)

In the event that the Services are not performed as required by the SOW and do not conform to the requirements of this Agreement or the applicable industry standards, BUILDER shall, without additional compensation, promptly correct or revise any errors or deficiencies in its designs, drawings, specifications, or other Services within the timeframe reasonably specified by the Project Manager. In the event of BUILDER's failure to promptly correct such errors or deficiencies in a timely manner, OC SAN may charge to BUILDER all costs and expenses associated with any such corrections or revisions.

Any changes to these specifications by BUILDER are subject to review and approval of OC SAN.

Electronic files shall be subject to an acceptance period of 30 calendar days during which OC SAN shall perform appropriate reviews. BUILDER shall correct any discrepancies or errors detected and reported within the acceptance period at no additional cost to OC SAN.

D. All professional services performed by BUILDER, including, but not limited to, all drafts, data, correspondence, proposals, reports, and estimates compiled or composed by BUILDER, pursuant to this Agreement, are for the sole use of OC SAN, its agents, and employees. Any drawings or designs developed for the construction of the Vessel are for the benefit of OC SAN, but remain the sole property of Teknicraft Design, Ltd. (hereinafter referred to as "NAVAL ARCHITECT"). Upon BUILDER's receipt of payment in full hereunder, electronic copies of the drawings shall be placed in a third-party escrow account, to be accessed by OC SAN in the unlikely event that both NAVAL ARCHITECT and BUILDER cease operations. Neither the documents nor their contents shall be released to any third party without the prior written consent of BUILDER. This provision does not apply to information that (a) was publicly known, or otherwise known to BUILDER, at the time that it was disclosed to BUILDER by OC SAN, or (b) subsequently becomes publicly known to BUILDER other than through disclosure by OC SAN.

E. BUILDER shall be responsible for all construction means, methods, techniques, sequences, and procedures; and for coordinating all portions of the construction, commissioning, and delivery of the Vessel.

2. TERM

A. Subject to all Scope Changes under Section 14, as well as the terms and conditions set forth in this Section 2, BUILDER shall diligently complete the Services within one thousand one hundred thirty-four (1,134) calendar days from the effective date of the Notice to Proceed issued by OC SAN and shall therefore deliver a complete, fully-functional Vessel no later than September 1, 2027 (the "Delivery Date") or an earlier Delivery Date as agreed upon the Parties.

B. It is understood and agreed that the Delivery Date of the Vessel is predicated upon prompt delivery of all component parts, and with respect to the engine, gear, propeller, and equipment that have been specified by OC SAN, and it is understood and agreed that if delivery of the component parts causes delay beyond the BUILDER's control and the BUILDER's schedule of construction is consequently upset or delayed, thereby, then the Delivery Date of the Vessel shall be reasonably extended and no penalty will be incurred by the BUILDER (and the construction schedule shall be appropriately revised as agreed to by the Parties).

C. In order to assure timely delivery of the Vessel by the BUILDER under this Agreement, it is imperative for OC SAN decision-making, where required, regarding certain elements of design, construction, and/or material selection also be made in a timely manner. Likewise, any materials or property designated in the Plans and Specifications, ("Specification Book"), contained in Attachment "A1", Sections 5510, 5515 and 5520 as being supplied by OC SAN must be provided to the BUILDER in a timely manner and in suitable condition.

D. Within thirty (30) days of execution of this Agreement the BUILDER shall supply OC SAN a schedule ("Decision/Supply Schedule") delineating deadline dates for providing to the BUILDER any specified OC SAN-supplied materials and property to be included in or on the Vessel. The Decision/Supply Schedule shall also include deadline dates for written conveyance to the BUILDER by OC SAN of decisions required of OC SAN for designated elements of design, construction, or material selection. If the latest possible delivery date, (prior to assessment of any potential late delivery penalties), of the Vessel has been extended by reason of activation of any other section of this Agreement, then such dates included in the Decision/Supply Schedule for OC SAN shall also be extended by an equal number of days unless the BUILDER and OC SAN mutually agree otherwise.

E. If OC SAN fails to supply designated items, materials, or decisions by the scheduled deadline dates enumerated in the Decision/Supply Schedule, the contractually-specified delivery date of the Vessel shall automatically be extended by the lesser of twenty-five (25) days or the number of days elapsed from the deadline date for each deadline failure (and the Construction Schedule shall be appropriately revised as agreed to by the Parties). If, for the same failure, OC SAN has not provided the required items, materials, or written decisions within twenty-five (25) days of the deadline date, then the BUILDER reserves the right to supply the designated item or material, with charge to OC SAN, or to make the required decision on OC SAN's behalf. If this provision is enacted, the BUILDER shall supply OC SAN with written notice of any action.

F. If any delays in this Section are caused by failure of any suppliers of machinery, fittings, materials or equipment, or fuel, light, power, strikes, lockouts, destruction of work, Acts of God, delays from governmental agency actions, fire, explosion, tempest, weather, earthquake, accident, directly or indirectly affecting BUILDER or OC SAN and not caused directly or indirectly by BUILDER or OC SAN, or other cause beyond the control of BUILDER or OC SAN, then such failure shall not constitute default or breach of contract on the part of the BUILDER or OC SAN, and no penalties or damage shall be payable by either Party to the other in respect thereof, and the time for either Party to complete any actions set forth in this Section shall be extended from time-to-time, and

as often as such events occur by a period of time equal to the time lost (and the Construction Schedule shall be appropriately revised as agreed to by the Parties).

3. TIME IS OF THE ESSENCE

Time is of the essence on this Agreement. BUILDER shall prepare and obtain approval of all shop drawings, details, and samples and do all other things necessary and incidental to the prosecution of BUILDER's work in conformance with an approved construction progress schedule.

4. COMPENSATION

A. Subject to any Scope Changes under Section 14, as compensation for the Services provided under this Agreement, OC SAN shall pay BUILDER a total amount not to exceed Nine Million Two Hundred Six Thousand One Hundred Forty-Nine Dollars ($9,206,149) (the "Purchase Price" or "total compensation").

B. Total compensation is inclusive of all costs for performance of the Services, including, but not limited to, design, construction, installation, commissioning, testing, labor, materials, equipment, tools, construction equipment and machinery, transportation, taxes, permit fees, and any and all other costs and fees required to be paid by BUILDER for the proper design, construction, and completion of the Vessel.

C. Total compensation also includes all royalties and license fees for patented designs, processes, and products in connection with construction of the Vessel. BUILDER shall coordinate the assignment and/or transfer of such licenses to OC SAN as may be necessary for OC SAN to operate the Vessel.

5. REALLOCATION OF TOTAL COMPENSATION

OC SAN, by its Director of Environmental Services, shall have the right to approve a reallocation of the incremental amounts constituting the total compensation, provided that the total compensation is not increased.

6. PAYMENT

OC SAN shall pay to the BUILDER the Purchase Price, plus any applicable state sales tax, in United States Dollars, which shall be payable to the BUILDER via check, bank wire, or other form mutually acceptable to the Parties, in the following manner:

i. 17.5% of the Purchase Price. Non-refundable payment due upon the execution of this Agreement for initial design, commitment to purchase equipment, materials, hybrid propulsion system deposit, and mobilization costs;

ii. 15% of the Purchase Price. Complete erection of first hull frame;

iii. 15% of the Purchase Price. Weldout of hull completed – evidenced by rollover of the welded hull into an upright position;

iv. 10% of the Purchase Price. Arrival of hybrid propulsion system at BUILDER's site;

v. 10% of the Purchase Price. Completion of deck and attaching cabin to hull;

vi. 10% of the Purchase Price. Commencement of outfitting, and interior finishes – as witnessed by photographic evidence or inspections by OC SAN's appointed representative;

vii. 7.5% of the Purchase Price upon launch;

viii. 7.5% of the Purchase Price plus the value of any change orders approved by OC SAN but not yet invoiced by the BUILDER, due within thirty (30) business days after OC SAN's receipt of an invoice therefor and written certification from the BUILDER that construction of the Vessel has been completed, the Vessel has completed a satisfactory sea trial, and the Vessel has been inspected and accepted by OC SAN in Bellingham, WA (subject only to "punch list" items as set forth in Section 15.E and Warranty) ("Operational Acceptance");

ix. 7.5% of the Purchase Price- due promptly upon OC SAN's receipt of an invoice for the delivery of the Vessel by the BUILDER to OC SAN at the Port of Los Angeles (California), receipt of all drawings, manuals, technical documentation, and regulatory documentation agreed to in the Technical Specifications, and basic training of OC SAN's crew ("Final Acceptance").

A. OC SAN understands and acknowledges that the foregoing progress payments are not equal progress payments but, rather, are designed to correspond to the BUILDER's segmented costs for constructing the Vessel.

B. Washington State law requires the imposition of Washington State sales tax on any charges made in Washington State to OC SAN by the BUILDER, inclusive of the Purchase Price, listed in this Agreement except where OC SAN provides proof or documentation as to exemption from Washington State sales tax. If exempt, OC SAN agrees to provide the BUILDER with proof or documentation as to exemption along with a valid Washington State tax exemption certificate, if applicable, prior to delivery of the Vessel. If said proof, documentation, exemption certificate, or other claim as to exemption by OC SAN is later found to be invalid by Washington State, then OC SAN expressly agrees and covenants to indemnify and hold the BUILDER harmless from any and all tax liability, including penalties and interest, which may arise from OC SAN's failed exempt status in regards to said taxes.

C. BUILDER's invoices must include, as a minimum: 1) current billing period invoicing, 2) current billing period "total percent invoiced to date", 3) future activities, 4) previous billing period "total invoiced to date", 5) potential items that are not included in the SOW, 6) concerns and possible delays, 7) percentage of completion to date, and 8) budget status and amount remaining.

D. BUILDER's invoices shall be based upon the schedule in this Agreement and shall be accompanied by reasonable supporting documentation and evidence of milestone achievement, which at a minimum, shall include a narrative of the work completed as supported by photographic evidence or inspections by OC SAN's appointed representative.

E. If OC SAN determines that the work under this Agreement, or any specified task hereunder, is incomplete and that the amount of payment is in excess of:

1) The amount reasonably considered by OC SAN's Director of Environmental Services to be adequate for the protection of OC SAN; or

2) The percentage of the work accomplished for each task.

OC SAN may, at the discretion of the Director of Environmental Services, retain an amount equal to that which ensures that the total amount paid to that date does not exceed the percentage of the completed work for each task or the project in its entirety.

F. Upon satisfactory completion by BUILDER of the work called for under this Agreement, and upon Final Acceptance of the Vessel by OC SAN, the BUILDER will be paid the unpaid balance of any money due for such work pursuant to the schedule in this Agreement.

G. Upon satisfactory completion of the work performed hereunder and in exchange for payment in full to BUILDER hereunder (or at prior settlement upon termination of this Agreement, and as a condition thereto), BUILDER shall execute and deliver to OC SAN a release of all claims against OC SAN arising under or by virtue of this Agreement other than such claims, if any, as may be specifically exempted by BUILDER from the operation of the release in stated amounts to be set forth therein.

H. Pursuant to the California False Claims Act (California Government Code sections 12650-12655), any BUILDER that knowingly submits a false claim to OC SAN for compensation under the terms of this Agreement may be held liable for treble damages and up to a ten thousand dollars ($10,000) civil penalty for each false claim submitted. This section shall also be binding on all Subconsultants and Subcontractors.

BUILDER, Subconsultant, or Subcontractor shall be deemed to have submitted a false claim when BUILDER, Subconsultant, or Subcontractor: 1) knowingly presents or causes to be presented to an officer or employee of OC SAN a false claim or request for payment or approval; 2) knowingly makes, uses, or causes to be made or used a false record or statement to get a false claim paid or approved by OC SAN; 3) conspires to defraud OC SAN by getting a false claim allowed or paid by OC SAN; 4) knowingly makes, uses, or causes to be made or used a false record or statement to conceal, avoid, or decrease an obligation to OC SAN; or 5) is a beneficiary of an inadvertent submission of a false claim to OC SAN, and fails to disclose the false claim to OC SAN within a reasonable time after discovery of the false claim.

7. BONDS

Before entering upon the performance of this Agreement, BUILDER shall furnish bonds approved by OC SAN's General Counsel – one in the amount of one hundred percent (100%) of the total Agreement amount, to guarantee the faithful performance of the work, and the other in the amount of one hundred percent (100%) of the total Agreement amount, to guarantee payment of all claims for labor and materials furnished. If changes to the Agreement occur via approved change orders, BUILDER shall assure that the amounts of the bonds are adjusted to maintain 100% of the Agreement amount. This Agreement shall

not become effective until such bonds are supplied to and accepted by OC SAN. Bonds must be issued by a Surety authorized by the State Insurance Commissioner to do business in California. The Performance and Payment Bonds shall remain in full force and effect for up to 24 months from the date of this Agreement to cover the construction of the Vessel and an additional 12 months to cover the basic warranty period. (If the construction of the Vessel requires more than 24 months from the date of this Agreement and OC SAN wishes the bonds to remain in place for the full duration of the warranty period, as specified in the section herein entitled "Warranty," an additional one (1) year of bonding may be purchased for 1.725% of the total contract value. The additional bonding cannot be pro-rated but must be purchased for full year terms). All bonds required to be submitted relating to this Agreement must comply with California Code of Civil Procedure section 995.630. Each bond shall be executed in the name of the surety insurer under penalty of perjury, or the fact of execution of each bond shall be duly acknowledged before an officer authorized to take and certify acknowledgments, and either one of the following conditions shall be satisfied:

1. A copy of the transcript or record of the unrevoked appointment, power of attorney, by-laws, or other instrument, duly certified by the proper authority and attested by the seal of the insurer entitling or authorizing the person who executed the bond to do so for and on behalf of the insurer, is on file in the Office of the County Clerk of the County of Orange; or

2. A copy of a valid power of attorney is attached to the bond.

The Bonds will become effective at the start of construction of the Vessel as defined by Section 6 – Payment, Milestone No. 2 (erection of the first aluminum hull frame on the BUILDER's construction jig) and will remain in full force and effect until the contract is complete.

8. INSURANCE

A. General

Insurance shall be issued and underwritten by insurance companies acceptable to OC SAN.

Insurers must have an "A-" Policyholder's Rating, or better, and Financial Rating of at least Class VIII, or better, in accordance with the most current A.M. Best's Guide Rating. However, OC SAN will accept State Compensation Insurance Fund, for the required policy of Workers' Compensation Insurance subject to OC SAN's option to require a change in insurer in the event the State Fund financial rating is decreased below "B". Further, OC SAN will require BUILDER to substitute any insurer whose rating drops below the levels herein specified. Said substitution shall occur within twenty (20) days of written notice to BUILDER by OC SAN or its agent.

Coverage shall be in effect prior to the commencement of any work under this Agreement.

B. General Liability

BUILDER shall maintain during the life of this Agreement, including the period of warranty, commercial general liability insurance written on an occurrence basis providing the following minimum limits of liability coverage: Five Million Dollars ($5,000,000) per occurrence with Ten Million Dollars ($10,000,000) aggregate. If aggregate limits apply separately to this contract (as evidenced by submission of ISO form CG 25 03 or 25 04), then the aggregate limit may be equivalent to the per occurrence limit. Said insurance shall include coverage for the following hazards: premises-operations, blanket contractual liability (for this Agreement), products liability/completed operations (including any product manufactured or assembled), broad form property damage, blanket contractual liability, independent contractors' liability, personal and advertising injury, mobile equipment, owners and contractors protective liability, and cross liability and severability of interest clauses. A statement on an insurance certificate will not be accepted in lieu of the actual additional insured endorsement(s). If requested by OC SAN and applicable, XCU coverage (Explosion, Collapse and Underground) and Riggers/On Hook Liability must be included in the general liability policy and coverage must be reflected on the submitted certificate of insurance. Where permitted by law, BUILDER hereby waives all rights of recovery by subrogation because of deductible clauses, inadequacy of limits of any insurance policy, limitations or exclusions of coverage, or any other reason against OC SAN, its or their officers, agents, or employees, and any other consultant, contractor, or subcontractor performing work or rendering services on behalf of OC SAN in connection with the planning, development, and construction of the project. In all its insurance coverages related to the work, BUILDER shall include clauses providing that each insurer shall waive all of its rights of recovery by subrogation against OC SAN, its or their officers, agents, or employees, or any other consultant, contractor, or subcontractor performing work or rendering services at the project. Where permitted by law, BUILDER shall require similar written express waivers and insurance clauses from each of its Subconsultants of every tier. A waiver of subrogation shall be effective as to any individual or entity, even if such individual or entity (a) would otherwise have a duty of indemnification, contractual or otherwise, (b) did not pay the insurance premium, directly or indirectly, and (c) whether or not such individual or entity has an insurable interest in the property damaged.

C. Umbrella Excess Liability

The minimum limits of general liability and automobile liability insurance required, as set forth herein, shall be provided for through either a single policy of primary insurance or a combination of policies of primary and umbrella excess coverage. Umbrella excess liability coverage shall be issued with limits of liability which, when combined with the primary insurance, will equal the minimum limits for general liability and automobile liability.

D. Automobile/Vehicle Liability Insurance

BUILDER shall maintain a policy of automobile liability insurance on a comprehensive form covering all owned, non-owned, and hired automobiles, trucks, and other vehicles providing the following minimum limit of liability coverage: combined single limit of One Million Dollars ($1,000,000). A statement on an insurance certificate will not be accepted in lieu of the actual additional insured endorsement.

E. Workers' Compensation Insurance

BUILDER shall provide such workers' compensation insurance as required by United States Longshore and Harbor Workers Compensation Act ("USLH") in the amount of the statutory limit, including employer's liability insurance with a minimum limit of One Million Dollars ($1,000,000) per occurrence. Such USLH insurance shall be endorsed to provide for a waiver of subrogation in favor of OC SAN. A statement on an insurance certificate will not be accepted in lieu of the actual endorsements unless the insurance carrier is State of California Insurance Fund and the identifier "SCIF" and endorsement numbers 2570 and 2065 are referenced on the certificate of insurance. If an exposure to Jones Act liability may exist, the insurance required herein shall include coverage for Jones Act claims.

F. Hull Builders Risk

BUILDER shall maintain a Hull Builders Risk policy appropriate for the project in an amount equal to or greater than the completed value of the Vessel.

G. Errors and Omissions/Professional Liability

BUILDER shall require any and all Naval Architects used for services related to this Agreement, whether Teknicraft Design, Ltd., or other provider, to provide and maintain through BUILDER, in full force and effect, throughout the term of this Agreement, standard industry form professional negligence errors and omissions insurance coverage in an amount of not less than Five Million NZD (5,000,000 NZD) with limits in accordance with the provisions of this paragraph. If the policy of insurance is written on a "claims made" basis, said policy shall be continued in full force and effect at all times during the term of this Agreement.

In the event of termination of said policy during this period, BUILDER shall require the NAVAL ARCHITECT to obtain continuing insurance coverage for the prior acts or omissions of NAVAL ARCHITECT during the course of performing services under the term of this Agreement. Said coverage shall be evidenced by either a new policy evidencing no gap in coverage or by separate extended "tail" coverage with the present or new carrier.

In the event the present policy of insurance is written on an "occurrence" basis, said policy shall be continued in full force and effect during the term of this Agreement or until completion of the services provided for in this Agreement, whichever is later. In the event of termination of said policy during this period, new coverage shall be obtained for the required period to insure for the prior acts of BUILDER during the course of performing services under the term of this Agreement.

BUILDER shall require NAVAL ARCHITECT to provide to OC SAN a certificate of insurance in a form acceptable to OC SAN indicating Policy numbers, terms, limits, and the deductible or self-retention amounts and the expiration date of said policy and to provide renewal certificates not less than ten (10) days prior to the expiration of each policy term.

H. Proof of Coverage

BUILDER shall furnish OC SAN with original certificates and amendatory endorsements effecting coverage. Said policies and endorsements shall conform to the requirements herein stated. All certificates and endorsements are to be received and approved by OC SAN before work commences. OC SAN reserves the right to require, at any time, complete, certified copies of all required insurance policies, including endorsements, effecting the coverage required. The following are approved forms that must be submitted as proof of coverage:

• Certificate of Insurance	ACORD Form 25 or other equivalent certificate of insurance form
• Additional Insurance (General Liability)	The combination of (ISO Forms) CG 20 10 and CG 20 37 All other additional insured endorsements must be submitted for approval by OC SAN, and OC SAN may reject alternatives that provide different or less coverage to OC SAN.
• Additional Insured Automobile Liability)	Submit endorsement provided by carrier for OC SAN approval.
• Waiver of Subrogation	Submit workers' compensation waiver of subrogation endorsement provided by carrier for OC SAN approval.
• Cancellation Notice	No endorsement is required. However, BUILDER is responsible for notifying OC SAN of any pending or actual insurance policy cancellation, as described in Article J. Cancellation and Policy Change Notice, below.

I. Cancellation and Policy Change Notice

BUILDER is required to notify OC SAN in writing of any insurance cancellation notice it receives or other knowledge of pending or actual insurance policy cancellation within two (2) working days of receipt of such notice or acquisition of such knowledge. Additionally, BUILDER is required to notify OC SAN in writing of any change in the terms of insurance, including reduction in coverage or increase in deductible/SIR, within two (2) working days of receipt of such notice or knowledge of same.

Said notices shall be mailed to OC SAN at:

ORANGE COUNTY SANITATION DISTRICT
18480 Bandilier Circle
Fountain Valley, CA 92708
Attention: Contracts, Purchasing & Materials Management Division

J. Primary Insurance

The general and automobile liability policies shall contain a Primary and "Non Contributory" clause. Any other insurance maintained by OC SAN shall be excess and not contributing with the insurance provided by BUILDER.

K. Separation of Insured

The general and automobile liability policies shall contain a "Separation of Insureds" clause.

L. Non-Limiting (if applicable)

Nothing in this document shall be construed as limiting in any way, nor shall it limit the indemnification provision contained in this Agreement, or the extent to which BUILDER may be held responsible for payment of damages to persons or property.

M. Deductibles and Self-Insured Retentions

Any deductible and/or self-insured retention must be declared to OC SAN on the certificate of insurance. All deductibles and/or self-insured retentions require approval by OC SAN. At the option of OC SAN, either: the insurer shall reduce or eliminate such deductible or self-insured retention as respects OC SAN; or BUILDER shall provide a financial guarantee satisfactory to OC SAN guaranteeing payment of losses and related investigations, claim administration and defense expenses.

N. Defense Costs

The general and automobile liability policies shall have a provision that defense costs for all insureds and additional insureds are paid in addition to and do not deplete any policy limits.

O. Subconsultants and Subcontractors

BUILDER shall be responsible to establish insurance requirements for any Subconsultant or Subcontractor hired by BUILDER. The insurance shall be in amounts and types reasonably sufficient to deal with the risk of loss involving the Subconsultant's or Subcontractor's operations and work.

P. Limits Are Minimums

If BUILDER maintains higher limits than any minimums shown above, then OC SAN requires and shall be entitled to coverage for the higher limits maintained by BUILDER.

9. LICENSES, PERMITS, ORDINANCES, AND REGULATIONS

BUILDER represents and warrants to OC SAN that it has obtained all licenses, permits, qualifications, and approvals of whatever nature that are legally required to provide the Services. Any and all fees required by Federal, State, County, City, and/or municipal laws, codes, and/or tariffs that pertain to the work performed under this Agreement will be paid by BUILDER.

10. COMPLIANCE

A. Labor

BUILDER certifies by the execution of this Agreement that it pays employees not less than the minimum wage as defined by law and that it does not discriminate in its employment with regard to race, color, religion, sex, or national origin; that it is in compliance with all Federal, State, and local directives and executive orders regarding non-discrimination in employment; and that it agrees to demonstrate positively and aggressively the principle of equal opportunity in employment.

B. Environmental Compliance

BUILDER shall, at its own cost and expense, comply with all Federal, State, and local environmental laws, regulations, and policies which apply to BUILDER, its Subconsultants, Subcontractors, and the Services, including, but not limited to, all applicable Federal, State, and local air pollution control laws and regulations.

C. Iran Contracting Act

BUILDER, its Subconsultants, and Subcontractors shall comply with the Iran Contracting Act of 2010 (California Public Contract Code sections 2200-2208).

11. PROJECT TEAM, SUBCONSULTANTS, AND SUBCONTRACTORS

A. BUILDER shall provide to OC SAN, prior to execution of this Agreement, the names and full description of Major Suppliers and BUILDER's project team members anticipated to perform any work under this Agreement ("Key Personnel"). Major Suppliers shall be defined as any of the BUILDER's third-party vendors or suppliers that individually provide $100,000 or more of the BUILDER's cost of materials, supplies, or services required to construct and deliver the Vessel. BUILDER shall include a description of the scope of work to be performed by each Major Supplier and each of BUILDER's key project team members.

B. Key Personnel shall be available for the term of the Agreement. No person or entity designated as key under this Agreement shall be removed or replaced without prior written consent of OC SAN. If OC SAN requests BUILDER to remove a person or entity designated as key under this Agreement from the project, BUILDER agrees to do so immediately regardless of the reason, or the lack of reason, for OC SAN's request. BUILDER shall assign only competent personnel to perform Services under this Agreement.

12. ENGINEERING REGISTRATION

BUILDER's personnel and Subconsultants are comprised of staff of qualified and competent engineers, specialists, and draftsmen in each department. The firm itself is not a registered engineer but represents and agrees that whenever, in the performance of this Agreement, the services of an engineer are required, such services hereunder will be performed under the direct supervision of a qualified engineer, naval architect or other professionally qualified personnel.

13. INSPECTIONS

A. OC SAN and its representatives shall have the right, at any time during BUILDER's normal business hours, to inspect the Vessel, all materials, components, fittings, machinery, and equipment intended for incorporation in or installation on the Vessel, and to review the progress being made in the construction of the Vessel.

B. OC SAN's failure to reject workmanship or BUILDER-furnished materials, components, fittings, machinery, and equipment incorporated or installed upon, or intended for incorporation in or installation on the Vessel shall not affect BUILDER's warranty obligations herein.

14. SCOPE CHANGES

In the event of a change in the SOW or other terms in the Agreement, as requested by OC SAN that is acceptable to BUILDER, the Parties hereto shall execute an Amendment to this Agreement setting forth with particularity all terms of the new agreement, including, but not limited to, any change to the Purchase Price. This Amendment shall be made in accordance with the procedures and policies for an Engineering Change Proposal (ECP) as set forth in the RFP response document section 1.1.7. BUILDER hereby agrees to use any and all procedures, programs, and systems required by OC SAN to process and execute such Amendment(s), including, but not limited to, computer programs and systems.

A. The Purchase Price is a fixed price based on the attached plans and specifications. The Purchase Price shall only vary in the event (1) OC SAN and the BUILDER agree in a writing signed by authorized representatives of both Parties, hereto, to a change in the model of equipment, or to such other variations made by OC SAN in accordance with this Section; (2) if an increase in the cost of materials occurs after the execution of this Agreement and is beyond BUILDER's control as described in Section 2.F. of this Agreement, the actual increase cost of the materials shall be borne by OC SAN and added to the Purchase Price, subject to BUILDER providing written notice and verification of the cost increase by means of supplying OC SAN with copies of pertinent invoices as comparative to the cost of item included at the time of entering this Agreement; or (3) if materials have been identified, either as selected by OC SAN or the BUILDER, as coming from a source outside of the U.S.A., whereby the landed cost of the items to the BUILDER may vary from the cost initially set in the BUILDER's Material List by reason of currency exchange fluctuation, then such exchange differential shall be borne by OC SAN and adjusted to the Purchase Price. The BUILDER will make a reasonable effort to avoid increases in the cost of materials by attempting to obtain materials at such times and locations, and from such suppliers to avoid increases.

B. If OC SAN requests modifications to the plans and specifications to the Vessel based on information or input from a third-party individual or entity other than the BUILDER or NAVAL ARCHITECT, the Parties must secure the written consent and authorization of the third party and the NAVAL ARCHITECT to the modified plans and specifications, before BUILDER will make the modifications. The BUILDER, NAVAL ARCHITECT, and OC SAN shall cooperate to investigate whether modifications to the plans and specifications can be made which produce material cost savings, but which will not adversely affect the structural integrity or safety of the Vessel, nor violate any applicable rules or regulations of the United States Coast Guard or standard naval engineering

and architectural practices. The BUILDER, upon the written direction of OC SAN, shall implement such modifications only after OC SAN executes a defense, hold harmless and indemnification agreement in BUILDER's favor, if requested by BUILDER. Any cost savings achieved in making such modifications shall be deducted from the Purchase Price. BUILDER is under no obligation to construct the modifications hereunder, unless, and until, the requirements of the United States Coast Guard and standard naval engineering and architectural practices have been fulfilled.

C. OC SAN understands and acknowledges that BUILDER has allocated 250 hours for BUILDER and OC SAN (or OC SAN's representative) to discuss design and construction issues as part of the Purchase Price. Excluding discussions on design or construction issues initiated by the BUILDER, and also excluding discussions which result from delays, defaults, or deviations from the Agreement by the BUILDER, OC SAN agrees to pay BUILDER a fully burdened labor rate of $100.00 per hour for each additional hour that exceeds the time allocated herein, subject to pre-notification to OC SAN by BUILDER. Such time will be tracked and billed in increments of quarter hours.

D. OC SAN may require BUILDER to make any reasonable alterations or additions within the BUILDER's capability to be made to the Vessel during the course of construction of the Vessel. There may also be additional equipment and/or installation(s), change(s) and/or upgrade(s) to the Vessel requested by OC SAN after execution hereof or thereafter required by change in regulation, change in regulatory interpretation, clarification or supplementation. Any such alterations or additions shall be made only upon a document signed by both OC SAN and BUILDER which shall specify at least the work to be done. The rates for any such alterations will be determined by using a fully burdened labor rate of $100.00 per man-hour and a 20% mark-up on material/production costs. If OC SAN and BUILDER do not agree on the price for such alterations or additions, then such alterations shall be done on a time and materials, including variable production costs, basis using accurately kept records of the work and the labor and/or materials/variable production costs incorporated into or accessory to the work. The rates will be determined by using a labor rate of $100.00 per man-hour and a 20% mark-up on material/production costs. However, BUILDER will not be responsible for any changes that affect the design, if OC SAN chooses to proceed with changes after being appropriately warned by BUILDER. Any change order that will require more build-time shall give BUILDER a right to require reasonable extensions of the Delivery Date of the Vessel, and OC SAN shall agree to same. Any such extensions shall be stated in the change order signed by both OC SAN and BUILDER.

E. Payments for any additions shall be made by OC SAN at completion of the Vessel unless the amount owing exceeds $50,000.00 in which case payment will be made within thirty (30) business days of the date of any billing or progress billing for such alteration or addition, which billing shall only be issued after completion of the addition.

15. TESTS, SEA TRIALS, AND INSPECTION OF COMPLETED VESSEL

A. BUILDER shall notify OC SAN reasonably in advance of tests, trials, and inspections for Vessel acceptance. OC SAN shall respond in writing, within five (5) business days after receipt of BUILDER's notice, to acknowledge receipt of the notice and to indicate whether OC SAN will attend.

B. BUILDER shall perform sea trials on the Vessel in Bellingham Bay, WA to determine and confirm whether BUILDER constructed the Vessel in accordance with this Agreement and in preparation for Operational Acceptance by OC SAN.

C. All portions of the Vessel, including structure, fittings, machinery, equipment, and systems, shall be tested to the satisfaction of the applicable regulatory authorities, the Vessel's classification society, and the requirements in this Agreement, to demonstrate satisfactory workmanship, proper working order, alignment of moving parts, and compliance with BUILDER's obligations under this Agreement. BUILDER shall provide the facilities, Vessel crew, fuel, oils, and supplies that are necessary for the required testing and sea trials.

D. On completion of the Vessel, the BUILDER will notify OC SAN and arrange for OC SAN, or OC SAN's nominated representative, to inspect the Vessel and observe a sea trial of the Vessel with the BUILDER. The sea trial shall be conducted at a reasonable time, upon reasonable notice on BUILDER's local waters with a BUILDER supplied operational crew, and at BUILDER's sole expense. BUILDER expressly assumes any and all risk of damage or loss of any kind caused in any manner while operating the Vessel during this sea trial. OC SAN will provide a representative to ride the Vessel during the sea trial. Prior to conducting the sea trials, BUILDER shall develop, with OC SAN's agreement as to content, and provide OC SAN with a customized sea trial acceptance checklist. BUILDER will provide up to 32 hours of in-person, intensive training program in Bellingham, WA for OC SAN's captains and crewmembers during the Operational Acceptance period. Upon achieving Operational Acceptance (completion of a satisfactory sea trial, inspection, and acceptance by OC SAN) and payment of the balance owed in accordance with the payment schedule in this Agreement, the BUILDER shall deliver the Vessel to OC SAN.

E. Common with industry practice, the sea trial acceptance checklist referred to in Section 15D may have noted on it certain minor items, as agreed between the BUILDER and OC SAN, needing completion subsequent to delivery. These "punch list" items will not prevent the Vessel from achieving Operational Acceptance by OC SAN. By signing off the sea trial acceptance checklist, OC SAN is deemed to have performed Operational Acceptance of the Vessel. If OC SAN refuses, without proper cause, to accept the Vessel as part of Operational Acceptance in Bellingham, WA, then the current payment shall be due and owing, and shall be paid promptly by OC SAN. The BUILDER may recover from OC SAN a reasonable storage, wharfage or other similar fee, which shall include, but not be limited to, all labor and services costs, for the Vessel for each day (or part thereof) following OC SAN's refused delivery during which the BUILDER must care for the Vessel. The manner in which the BUILDER cares for the Vessel shall be reasonable and shall be in the BUILDER's sole discretion.

16. DELIVERY OF VESSEL

BUILDER will perform the work at its facilities in Bellingham, Washington. Upon completion of the Vessel and Operational Acceptance, and provided that the payments on account of the Purchase Price of the Vessel have been duly made in accordance with the payment schedule in this Agreement, BUILDER shall tender the Vessel to the Port of Los Angeles, California, and OC SAN shall accept delivery of the Vessel, subject to any outstanding "punch list" items and any subsequent warranty work. Unless the Parties hereto otherwise

agree in writing, Operational Acceptance shall be made at BUILDER's yard at 1010 Hilton Avenue, Bellingham, Washington. Final delivery and OC SAN's Final Acceptance shall be made at the Port of Los Angeles, California. BUILDER shall be responsible for any damage to the Vessel during transport from Bellingham, Washington to the Port of Los Angeles, California.

17. RISK OF LOSS AND LIABILITY

Until BUILDER tenders delivery of the Vessel to OC SAN, BUILDER shall bear all risk of physical damage to or destruction of the Vessel, to materials, components, fittings, machinery, and equipment that is in its possession from time to time, except to the extent such damage or destruction is caused by OC SAN's negligence. Nothing in this section shall modify or reduce BUILDER's obligation to maintain the required insurance as specified herein.

18. TITLE AND INTERESTS OF BUILDER

Title to all work in progress covered by an invoice shall pass to OC SAN upon BUILDER's receipt of payment for such invoice. Upon delivery and Final Acceptance of the Vessel and OC SAN's satisfaction of OC SAN's obligations to BUILDER, all right, title, and interest of BUILDER in the Vessel shall pass to OC SAN. Risk of any loss or damage shall pass upon Final Acceptance of the Vessel by OC SAN at the Port of Los Angeles, California.

19. WARRANTY

A. Warranty of Clear Title on Delivery

BUILDER warrants in favor of OC SAN that, on delivery and payment of all sums due from OC SAN to BUILDER under this Agreement, the Vessel shall be free and clear of all encumbrances, including, but not limited to, liens, charges on or pledge of security interests, or rights in rem in the Vessel or any constituent part or component of the Vessel.

B. Post-Delivery Warranty

1. BUILDER agrees to perform all work under this Agreement in accordance with designs, drawings, and specifications approved by OC SAN and in accordance with generally accepted industry and professional standards. BUILDER guarantees for a period one (1) year from the date of OC SAN's written acceptance of the Vessel ("Acceptance Date"), that all equipment which is manufactured, furnished, or supplied by BUILDER will be free from all defects due to faulty materials, equipment, or workmanship, and that it shall promptly make whatever adjustments or corrections which may be necessary to cure any defects, including repairs of any damage to other parts of the system resulting from such defects. OC SAN shall promptly give notice to BUILDER of observed defects. If BUILDER fails to make repairs, adjustments, corrections, or other work made necessary by such defects, OC SAN may do so and charge BUILDER the cost incurred. BUILDER's warranty shall continue as to any corrected deficiency until the later of (1) the remainder of the original one-year warranty period, or (2) one year after acceptance by OC SAN of the corrected work. The insurance except for Hull Builders Risk, Performance Bond, and Payment Bond shall remain in full force and effect for two years from the date of its inception. An additional year of bonding may be included, at an additional cost to OC

SAN, and is not included in this contracted price. BUILDER's obligations under this clause shall in no way diminish any other rights OC SAN may have against BUILDER for faulty materials, equipment, or work. There are no other warranties, express or implied, and BUILDER makes no warranty of merchantability, of fitness for a particular purpose, or otherwise. Modifications to the Vessel after delivery are not covered by BUILDER's warranty, and may void BUILDER's warranty.

2. The ABB hybrid system shall include full manufacturer's warranty commencing one (1) year from the Vessel's Final Acceptance Date.

3. Akasol (BorgWarner) warrants their battery system for one year (12 months) from installation of the batteries, standard with the cost of the system. Additional terms may be agreed upon in an extended warranty agreement between Akasol and OC SAN in a separate contract.

4. The Parties agree that notwithstanding anything herein to the contrary, the only warranties for the engine, the ABB hybrid system, and the Akasol (BorgWarner) battery system (and any other major Vessel component manufactured entirely by a third-party) shall be as set forth in the respective major component manufacturer's separate written warranty. Accordingly, the BUILDER shall pass along, for the benefit of OC SAN, all published, written manufacturer's warranty information provided directly to the BUILDER for materials, engines, fixtures and fittings incorporated into the Vessel. Where manufacturers or suppliers for materials, engines, fixtures, and fittings incorporated into the Vessel make provision in their published warranty terms for direct assignment, and upon OC SAN's request, BUILDER shall affect assignment of such warranties from the BUILDER to OC SAN.

5. OC SAN will notify the BUILDER of all defects in a prompt and timely manner, as soon as any defect is noticed, or should have been noticed.

6. BUILDER's warranty does not extend to engines, materials, appliances, and such other fixtures and fittings that are not manufactured or materially adapted by the BUILDER, and other items which are not sold by the BUILDER to OC SAN. The BUILDER will, however, negotiate any warranty issues with these suppliers at the request of OC SAN.

7. OC SAN agrees to provide reasonable evidence to the BUILDER that the items or work covered by this warranty and regarding which a warranty claim is made have been properly maintained, correctly lubricated, and prudently operated within normal conditions, and under competent supervision and within load, stress, or other capacity limits.

8. The BUILDER and OC SAN agree that OC SAN's sole and exclusive remedy against the BUILDER with respect to the liability for any alleged negligent or defective work shall be strictly limited to, at the BUILDER's sole election, repair or replacement of the alleged negligent or defective work. All warranty repairs not completed prior to delivery of the Vessel, shall be completed at a location agreeable to both the BUILDER and OC SAN. BUILDER reserves the right to perform such warranty work by its own crew, if it can be accomplished in a timely manner. Cost of the delivery of the Vessel to the agreed upon location shall be borne by OC SAN.

9. In connection with the terms of BUILDER's warranty, it is further agreed that the BUILDER will not be liable for any of the following:

    a. Any incidental, special or consequential damages of any nature whatsoever, and/or

    b. Any delay or loss of use of the Vessel, facility, or item, including without limitation, lost revenues, crew wages, salvage or towing expenses, delay or loss of use.

20. LEGAL RELATIONSHIP BETWEEN PARTIES

A. The legal relationship between the Parties hereto is that of an independent contractor and nothing herein shall be deemed to transform BUILDER, its staff, independent contractors, Subconsultants, or Subcontractors into employees of OC SAN. BUILDER's staff performing services under the Agreement shall at all times be employees, independent contractors, Subconsultants, and/or Subcontractors of BUILDER.

B. OC SAN assumes no liability for BUILDER's action and performance nor assumes responsibility for taxes, funds, payments, or other commitments, expressed or implied, by or for BUILDER. BUILDER shall monitor and control its staff and pay wages, salaries, and other amounts due directly to its staff in connection with the Agreement.

C. BUILDER shall not be entitled to any benefits accorded to those individuals listed on OC SAN's payroll as regular employees including, without limitation, worker's compensation, disability insurance, vacation, or holiday or sick pay. BUILDER shall be responsible for providing, at BUILDER's expense, disability, worker's compensation, and other insurance as well as licenses and permits usual or necessary for conducting the Services hereunder.

D. BUILDER shall be responsible for hiring, review, and termination of its staff and shall be accountable for all reports and obligations respecting them, such as social security, income tax withholding, unemployment compensation, workers' compensation, and similar matters.

E. BUILDER shall be obligated to pay any and all applicable Federal, State, and local payroll and other taxes incurred as a result of fees hereunder. BUILDER hereby indemnifies OC SAN for any claims, losses, costs, fees, liabilities, damages, or penalties suffered by OC SAN arising out of BUILDER's breach of this provision.

F. BUILDER shall not be eligible to join or participate in any benefit plans offered to those individuals listed on OC SAN's payroll as regular employees. BUILDER shall remain ineligible for such benefits or participation in such benefit plans even if a court later decides that OC SAN misclassified BUILDER for tax purposes.

21. DOCUMENT OWNERSHIP – SUBSEQUENT CHANGES TO PLANS AND SPECIFICATIONS

A. Ownership of Documents for the Services performed.

All documents in all forms (electronic, paper, etc.), including, but not limited to, plans, studies, sketches, drawings, computer printouts, disk files, and specifications prepared

in connection with or related to the SOW shall be the property of the NAVAL ARCHITECT. OC SAN's possession of these documents does not include transfer of the rights to reproduction or reuse of and all incidental rights, whether or not the work for which they were prepared has been performed.

22. OWNERSHIP OF INTELLECTUAL PROPERTY

A. OC SAN agrees that all designs, plans, reports, specifications, drawings, schematics, prototypes, models, inventions, and all other information and items made during the course of this Agreement and arising from the Services (hereinafter referred to as "New Developments") shall be and are assigned to NAVAL ARCHITECT as its sole and exclusive property.

B. BUILDER agrees to promptly disclose to OC SAN any pertinent drawings, sketches, or plans that may assist with the standard operation or maintenance of the Vessel.

C. The Parties acknowledge that the Vessel's design is owned by the NAVAL ARCHITECT and shall not be disclosed or communicated in any manner to any individual, person, corporation or other entity of any type for any reason or purpose. OC SAN covenants and agrees that it will not, and is not entitled to, take, have, reproduce or copy the plans or specifications without the express written consent of the NAVAL ARCHITECT.

D. OC SAN acknowledges that the construction of the Vessel is pursuant to a single vessel license and that the design of the Vessel is the intellectual property of the NAVAL ARCHITECT. OC SAN warrants that all specification, schedules, plans and as built drawings provided pursuant to this Agreement shall be used solely for (1) the maintenance and repair of the Vessel; and (2) information purposes with respect to compliance with regulations and requirements of the U.S. Coast Guard and other applicable agencies.

E. Notwithstanding the foregoing confidentiality provisions of this section, BUILDER reserves the right, as part of its portfolio of products advertised in its promotional materials and/or on its website, to display and link to Vessel details, information, and images contained within promotional materials provided on OC SAN's website. Additionally, BUILDER reserves the right to publish information about the Vessel, and the underlying activities in designing and constructing the Vessel, on websites, social media, in magazine articles, and in other forms of printed materials associated with the maritime industry.

23. AUDIT

A. OC SAN retains the reasonable right to access, review, examine, and audit any and all books, records, documents, and any other evidence of procedures and practices that OC SAN determines are necessary to discover and verify that BUILDER is in compliance with all requirements under this Agreement. BUILDER shall include OC SAN's right as described above in any and all of its subcontracts and shall ensure that these rights are binding upon all Subconsultants and Subcontractors.

B. OC SAN retains the right to examine BUILDER's books, records, documents, and any other evidence of procedures and practices that OC SAN determines are necessary to discover and verify all direct and indirect costs, of whatever nature, which are claimed

to have been incurred, or anticipated to be incurred, or to ensure BUILDER's compliance with all requirements under this Agreement during the term of this Agreement and for a period of three (3) years after its termination or expiration of the Agreement.

C. BUILDER shall maintain complete and accurate records in accordance with generally accepted industry standard practices and OC SAN's policy. BUILDER shall make available to OC SAN for review and audit, all project related accounting records and documents and any other financial data within 15 days after receipt of notice from OC SAN. Upon OC SAN's request, BUILDER shall submit exact duplicates of originals of all requested records to OC SAN. If an audit is performed, BUILDER shall ensure that a qualified employee of BUILDER will be available to assist OC SAN's auditor in obtaining all Project-related accounting records and documents and any other financial data.

24. CONFIDENTIALITY AND NON-DISCLOSURE

A. BUILDER acknowledges that, in performing the Services hereunder, OC SAN may have to disclose to BUILDER, orally and in writing, certain confidential information that OC SAN considers proprietary and has developed at great expense and effort. Conversely, OC SAN acknowledges that, in performing the Services hereunder, BUILDER may have to disclose to OC SAN, orally and in writing, certain confidential information that BUILDER considers proprietary and has developed at great expense and effort.

B. BUILDER and OC SAN agree to maintain in confidence and not disclose to any person, firm, or corporation, without OC SAN's or BUILDER's prior written consent, any trade secret, confidential information, knowledge, or data relating to the products, process, or operation of OC SAN or BUILDER.

C. BUILDER and OC SAN further agrees to maintain in confidence and not to disclose to any person, firm, or corporation any data, information, technology, or material developed or obtained by BUILDER or OC SAN during the term of this Agreement.

D. BUILDER and OC SAN agree as follows:

1) To use the confidential information only for the purposes described herein; to not reproduce the confidential information; to hold in confidence and protect the confidential information from dissemination to and use by anyone not a party to this Agreement; and to not use the confidential information to benefit itself or others.

2) To restrict access to the confidential information to its Subconsultant, Subcontractor, or personnel of BUILDER or OC SAN who (a) have a need to have such access and (b) have been advised of and have agreed in writing to treat such information in accordance with the terms of this Agreement.

3) To return all confidential information in BUILDER's or OC SAN's possession upon expiration or termination of this Agreement or upon BUILDER's or OC SAN's request, whichever occurs first.

4) To hold in confidence information and materials, if any, developed pursuant to the Services hereunder.

E. The provisions of this section shall survive termination or expiration of this Agreement and shall continue for so long as the material remains confidential.

25. INDEMNIFICATION

A. In no event shall BUILDER be liable for (and OC SAN agrees to indemnify and hold harmless BUILDER in respect of) property damage or personal injury (including death) arising out of use of the Vessel after delivery, unless caused by (and then only to the extent of) BUILDER's negligence or willful act. OC SAN shall also indemnify and hold BUILDER harmless from and against all damages incurred by BUILDER arising from OC SAN's breach of this Agreement.

B. To the fullest extent permitted by law, BUILDER shall indemnify, defend (at BUILDER's sole cost and expense and with legal counsel approved by OC SAN, which approval shall not be unreasonably withheld), protect, and hold harmless OC SAN and all of OC SAN's officers, directors, employees, consultants, and agents (collectively the "Indemnified Parties"), from and against any and all claims, damages, liabilities, causes of action, suits, arbitration awards, losses, judgments, fines, penalties, costs and expenses (including, without limitation, attorneys' fees, disbursements and court costs, and all other professional, expert, or BUILDER's fees and costs and OC SAN's general and administrative expenses (individually, a "Claim"; collectively, "Claims") which may arise from or are in any manner related, directly or indirectly, to any work performed, or any operations, activities, or services provided by BUILDER in carrying out its obligations under this Agreement to the extent of the negligent, recklessness, and/or willful misconduct of BUILDER, its principals, officers, agents, employees, BUILDER's suppliers, consultants, Subconsultants, Subcontractors, and/or anyone employed directly or indirectly by any of them, regardless of any contributing negligence or strict liability of an Indemnified Party. Notwithstanding the foregoing, nothing herein shall be construed to require BUILDER to indemnify the Indemnified Parties from any Claim arising solely from:

1) the active negligence or willful misconduct of the Indemnified Parties; or

2) a natural disaster or other act of God, such as an earthquake; or

3) the independent action of a third party who is neither one of the Indemnified Parties nor BUILDER, nor its principal, officer, agent, employee, nor BUILDER's supplier, consultant, Subconsultant, Subcontractor, nor anyone employed directly or indirectly by any of them.

Exceptions 1) through 2) above shall not apply and BUILDER shall, to the fullest extent permitted by law, indemnify the Indemnified Parties from Claims arising from more than one cause if any such cause taken alone would otherwise result in the obligation to indemnify hereunder.

C. BUILDER's liability for indemnification hereunder is in addition to any liability BUILDER may have to OC SAN for a breach by BUILDER of any of the provisions of this Agreement. Under no circumstances shall the insurance requirements and limits set forth in this Agreement be construed to limit BUILDER's indemnification obligation or other liability hereunder. The terms of this Agreement are contractual and the result of

negotiation between the Parties hereto. Accordingly, any rule of construction of contracts (including, without limitation, California Civil Code section 1654) that ambiguities are to be construed against the drafting Party shall not be employed in the interpretation of this Agreement.

26. DUTY TO DEFEND

The duty to defend hereunder is wholly independent of and separate from the duty to indemnify and such duty to defend shall exist regardless of any ultimate liability of BUILDER and shall be consistent with California Civil Code section 2782.8. Such defense obligation shall arise immediately upon presentation of a Claim by any person if, without regard to the merit of the Claim, such Claim could potentially result in an obligation to indemnify one or more Indemnified Parties and upon written notice of such Claim being provided to BUILDER. Payment to BUILDER by any Indemnified Party or the payment or advance of defense costs by any Indemnified Party shall not be a condition precedent to enforcing such Indemnified Party's rights to indemnification hereunder. In the event a final judgment, arbitration, award, order, settlement, or other final resolution expressly determines that the claim did not arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of BUILDER, to any extent, then OC SAN will reimburse BUILDER for the reasonable costs of defending the Indemnified Parties against such claims.

BUILDER's indemnification obligation hereunder shall survive the expiration or earlier termination of this Agreement until such time as action against the Indemnified Parties for such matter indemnified hereunder is fully and finally barred by the applicable statute of limitations.

27. NOT USED

28. TERMINATION

A. OC SAN may terminate this Agreement at any time, without cause, upon giving thirty (30) days written notice to BUILDER. In the event of such termination, BUILDER shall be entitled to compensation for work performed on a prorated basis through and including the effective date of termination.

B. BUILDER shall be permitted to terminate this Agreement upon thirty (30) days written notice only if BUILDER is not compensated for billed amounts in accordance with the provisions of this Agreement, when the same are due.

C. Notice of termination shall be mailed to OC SAN and/or BUILDER in accordance with the section herein entitled "NOTICES."

29. DISPUTE RESOLUTION

In the event of a dispute arising between the Parties regarding performance or interpretation of this Agreement, the dispute shall be resolved by binding arbitration under the auspices of the Judicial Arbitration and Mediation Service ("JAMS"), or similar organization or entity conducting alternate dispute resolution services.

30. REMEDIES

A. In addition to other remedies available in law or equity, if BUILDER fails to make delivery of the goods or Services or repudiates its obligations under this Agreement, or if OC SAN rejects the goods or Services or revokes acceptance of the goods or Services, OC SAN may (a) cancel the Agreement; (b) recover whatever amount of the Agreement's compensation amount OC SAN has paid, and/or (c) "cover" by purchasing, or contracting to purchase, substitute goods or services for those due from BUILDER. In the event OC SAN elects to "cover" as described in (c), OC SAN shall be entitled to recover from BUILDER as damages the difference between the cost of the substitute goods or services and the Agreement price.

B. If for any Claim, the court or arbitrator holds that any part of the design, article, or material incorporated in construction of the Vessel constitutes an infringement of a third party's patent or industrial design right, BUILDER shall take one or more of the following actions at no cost to OC SAN: (a) procure the right to continue the use of the design, article, or material without material interruption to OC SAN, (b) take back the infringing article or material and restore it with an equivalent non-infringing article or material, or (c) refund OC SAN an amount equal to the amount paid by OC SAN in respect of the infringing material.

C. Damages. Under no circumstances, and not withstanding any provision of this Agreement to the contrary, shall OC SAN have any claim for damages against the BUILDER for indirect or consequential losses of any kind in excess of $5,000.00.

31. SUBCONTRACTING AND ASSIGNMENT

BUILDER shall not delegate any duties nor assign any rights under this Agreement without the prior written consent of OC SAN. Any such attempted delegation or assignment shall be void.

32. NON-LIABILITY OF OC SAN OFFICERS AND EMPLOYEES

No officer or employee of OC SAN shall be personally liable to BUILDER, or any successor-in-interest, in the event of any default or breach by OC SAN or for any amount which may become due to BUILDER or to its successor, or for breach of any obligation under the terms of this Agreement.

33. THIRD PARTY RIGHTS

Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than OC SAN and BUILDER.

34. ATTORNEY'S FEES, COSTS, AND NECESSARY DISBURSEMENTS

If any action at law or in equity or if any proceeding in the form of an Alternative Dispute Resolution ("ADR") is necessary to enforce or interpret the terms of this Agreement, the prevailing Party shall be entitled to reasonable attorney's fees, costs, and necessary disbursements in addition to any other relief to which it may be entitled.

35. CLOSEOUT

A. When OC SAN determines that all work authorized under the Agreement is fully complete and that OC SAN requires no further work from BUILDER, or the Agreement is otherwise terminated or expires in accordance with the terms of the Agreement, OC SAN shall give BUILDER written notice that the Agreement will be closed out. BUILDER shall submit all outstanding billings, work submittals, deliverables, reports, or similarly related documents as required under the Agreement within thirty (30) days of receipt of notice of Agreement closeout.

B. Upon receipt of BUILDER's submittals, OC SAN shall commence a closeout audit of the Agreement and will either:

   1) Give BUILDER a final Agreement Acceptance or
   2) Advise BUILDER in writing of any outstanding item or items which must be furnished, completed, or corrected at BUILDER's cost.

C. BUILDER shall be required to provide adequate resources to fully support any administrative closeout efforts identified in the Agreement. Such support must be provided within the timeframe requested by OC SAN.

D. Notwithstanding the final Agreement Acceptance, BUILDER will not be relieved of its obligations hereunder, nor will BUILDER be relieved of its obligations to complete any portions of the work, the non-completion of which was not disclosed to OC SAN (regardless of whether such nondisclosures were fraudulent, negligent, or otherwise), and BUILDER shall remain obligated under all those provisions of the Agreement which expressly or by their nature extend beyond and survive final Agreement Acceptance.

E. Any failure by OC SAN to reject the work or to reject BUILDER's request for final Agreement Acceptance as set forth above shall not be deemed to be acceptance of the work by OC SAN for any purpose nor imply acceptance of, or agreement with, BUILDER's request for final Agreement Acceptance.

36. WAIVER

The waiver by either Party of any breach or violation of, or default under, any provision of this Agreement, shall not be deemed a continuing waiver by such party of any other provision or of any subsequent breach or violation of this Agreement or default thereunder. Any breach by BUILDER to which OC SAN does not object shall not operate as a waiver of OC SAN's rights to seek remedies available to it for any subsequent breach.

37. SEVERABILITY

If any section, subsection, or provision of this Agreement, or any agreement or instrument contemplated hereby, or the application of such section, subsection, or provision is held invalid, the remainder of this Agreement or instrument in the application of such section, subsection, or provision to persons or circumstances other than those to which it is held invalid, shall not be affected thereby, unless the effect of such invalidity shall be to substantially frustrate the expectations of the Parties.

38. SURVIVAL

The provisions of this Agreement dealing with payment, warranty, indemnity, and forum for enforcement shall survive expiration or early termination of this Agreement.

39. GOVERNING LAW

This Agreement shall be governed by and interpreted under the laws of the State of California and the Parties submit to jurisdiction in the County of Orange in California in the event any action is brought in connection with this Agreement or the performance thereof.

40. NOTICES

A. All notices hereunder and communications regarding the interpretation of the terms of this Agreement, or changes thereto, shall be effected by delivery of said notices in person or by depositing said notices in the U.S. mail, registered or certified mail, return receipt requested, postage prepaid.

Notices shall be mailed to OC SAN at:

ORANGE COUNTY SANITATION DISTRICT
18480 Bandilier Circle
Fountain Valley, CA 92708
Attention: Diane Marzano, Senior Contracts Administrator
Copy: Joshua Hatfield, Project Manager

Notices shall be mailed to BUILDER at:

ALL AMERICAN MARINE, INC.
1010 Hilton Avenue
Bellingham, WA 98225
Attention: Ron Wille, President and COO
Copy: Daniel Zech, Business Development Manager

B. All communication regarding the SOW will be addressed to the Project Manager. Direction from other OC SAN staff must be approved in writing by OC SAN's Project Manager prior to action from BUILDER.

41. AGREEMENT EXECUTION AUTHORIZATION

Both OC SAN and BUILDER covenant that each individual executing this document by and on behalf of each Party is a person duly authorized to execute agreements for that Party.

42. ENTIRE AGREEMENT

This Agreement constitutes the entire understanding and agreement between the Parties and supersedes all previous negotiations between them pertaining to the subject matter thereof.

43. AGREEMENT DOCUMENTS ORDER OF PRECEDENCE

In the event of any inconsistency or conflict between one Agreement Document and any of the other Agreement Documents, the terms or provisions in the document highest in precedence shall be controlling. The order of precedence of the Agreement Documents is as follows:

a) Amendments – the last in time being the first in precedence

b) Agreement

c) BUILDER's Material List

d) NAVAL ARCHITECT's Specification Book

e) General Arrangement Drawings

f) BUILDER's Cost Proposal

[Intentionally left blank. Signatures follow on next page.]

IN WITNESS WHEREOF, this Agreement has been executed in the name of OC SAN and BUILDER by their respective duly authorized officers as of the day and year first written above.

BUILDER: ALL AMERICAN MARINE, INC.

By _____ _____
Date

_____
Printed Name & Title

ORANGE COUNTY SANITATION DISTRICT

By _____ _____
Ryan P. Gallagher Date
Board Chairman

By _____ _____
Kelly A. Lore Date
Clerk of the Board

By _____ _____
Kevin Work Date
Purchasing & Contracts Manager

Attachments:
Attachment "A" – Scope of Work
Attachment "A1" – BUILDER Technical Specifications
Attachment "B" – Cost Proposal
Attachment "C" – Not Attached
Attachment "D" – Allowable Direct Costs
Attachment "E" – Not Attached
Attachment "F" – Not Used
Attachment "G" – Not Attached
Attachment "H" – Contractor Safety Standards
Attachment "I" – Iran Contracting Act Verification

DO:DM:ms

ATTACHMENT “A”

SCOPE OF WORK

ATTACHMENT A
SCOPE OF WORK
DESIGN & CONSTRUCTION OF OCEAN MONITORING VESSEL

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III. ADDITIONAL SUBMITTAL REQUIREMENTS

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VIII. WARRANTY PERIOD AND INSPECTION

IX. OC SAN STAFF ASSISTANCE

I. SUMMARY

The selected Boat Designer/Builder (BUILDER) shall design, construct, test, and deliver an Ocean Monitoring Vessel, described herein, complete, and fully functional.

The Orange County Sanitation District (OC SAN) requires that this vessel satisfies all applicable US Coast Guard Subchapter "T" – Small Passenger Vessels (Under 100 Gross Tons) requirements. Except as noted in this Scope of Work (SOW), the vessel must be constructed to the applicable specifications and standards such as:

- University National Oceanographic Laboratory Systems - Research Vessel Safety Standards (UNOLS-RVSS)
- American Boating and Yachting Council (ABYC)
- National Marine Manufacturers Association (NMMA)
- American Welders Society Standards
- Institute for Electrical and Electronics Engineers (IEEE) 0400 and 45-2002 Standards
- US Environmental Protection Agency (EPA)
- Applicable US Occupational Safety and Health Administration (OSHA)
- NOAA Small Boat Safety and Procedures Manual
- American Bureau of Shipping (ABS)
- American Society for Testing and Materials (ASTM)
- California Air Resource Board (CARB)

Some requirements set forth in this Scope exceed those required in the Code of Federal Regulations (CFR). BUILDER shall apply best industry practice and comply with all relevant regulations and standards. OC SAN does not require the plans or vessel to be inspected by the US Coast Guard.

The BUILDER shall provide, install, and warrant all components supplied with this vessel in accordance with the supplier's written instructions. OC SAN will provide any equipment or component for the vessel as stated within.

II. BACKGROUND AND PROJECT INFORMATION

OC SAN conducts extensive testing of final effluent samples and long-term monitoring of coastal water quality, sediment quality, invertebrate and fish communities, and fish bioaccumulation and health within 185 square miles (479 square km) of ocean.

The new vessel will be used off the Southern California coast no more than 40 miles offshore. The intent is to use an existing hull design and build the superstructure to meet OC SAN's specific needs. The vessel will be in service for a minimum of 30 years.

In-house studies developed the basic criteria for the construction of a new oceanographic vessel, as noted below. The following requirements define identified

needs and general quality standards. All vessel design and construction details are not included. The final layout, design, construction, testing, and delivery are the responsibility of the BUILDER, subject to the approval of OC SAN.

The electrical load sharing and plan for hybrid propulsion shall be addressed early in the design phase as the requirements for this system are likely to affect other components of the vessel design and operation.

III. ADDITIONAL SUBMITTAL REQUIREMENTS

In addition to the requirements noted elsewhere, the BUILDER shall submit the following information with the proposal:

1. One drawing showing the BUILDER's interpretation of this Scope of Work. The drawing shall show general vessel layout and profile.
2. Preliminary Specifications. A comprehensive listing of equipment, manufacturers' provided options, and any other information that will allow OC SAN to determine the quality of the equipment being supplied.
3. Proposed manufacturing schedule.
4. Photos and descriptions of similar vessels built by the BUILDER.
5. At least three client references for vessels of similar construction built in the last five years.

For the designed battery system, provide technical specifications and capacity calculation for intended applications; Battery Management System (BMS) functional description, system indicators, interfaces, and alarms; emergency shutdown arrangements; ventilation arrangements of the battery space.

IV. PROJECT ELEMENT 1 – GENERAL VESSEL OVERVIEW

SPECIFICATION DETAILS

1. Duties:

   The vessel is intended to operate with one Captain and one Mate along with 4-12 scientific crewmembers, working 8–12-hour days, 3-4 days a week. There are rare periods where the vessel remains on station overnight. At times, the vessel will transport groups of up to 20 persons for periods not exceeding a single, 8-hour day.

2. Characteristics:

   A. General Configuration:

   The vessel is a catamaran design with large aft work deck. The design shall maximize pilothouse visibility both forward and aft. Safety of crewmembers and equipment shall be of paramount importance. The

vessel shall be constructed utilizing a standard hull form with well-known and proven performance, sea keeping, and handling characteristics. The vessel shall have twin screws, rudders and bow thruster.

Sea conditions in the monitoring area are typically 3–4-foot swells, winds up to 10 knots, but operations do take place in seas up to 6 feet and winds up to 18 knots. Most monitoring activities require the vessel to remain on station up to one hour. The vessel is required to be as stable as possible with regard to pitch and roll.

The design should consider maximizing the aft work deck area, minimum of 300 sq ft of working space, and keeping the deck as low to the water as possible for deployment and recovery of sampling equipment while maintaining adequate space to service the engines.

The main cabin needs to include a separate laboratory and galley. The galley settee should accommodate at least six crewmembers. The laboratory space should include a 30-inch-long single basin sink, cabinets, and counter space for computers, workstations, and sample processing.

One restroom with a wash basin needs to be incorporated on the main deck. A second restroom with shower and wash basin needs to be added on either main or lower deck (if space allows). Each restroom must have an exhaust fan and a floor drain for easy cleaning.

Sleeping accommodations, work bench with vice, toolbox, storage, and possible second head shall be incorporated below deck.

BUILDER to take into consideration future full electric conversion in design.

B. Speed:

The desired cruising speed is 15 to 18 knots, at normal displacement (full fuel and water tanks, all normal equipment, and a crew of 8 aboard). The vessel must also be able to sustain a speed between 1.5 and 2 knots when sampling.

V. PROJECT ELEMENT 2 – VESSEL DETAILS

THESE SPECIFICATIONS ARE PRELIMINARY AND INTENDED FOR INITIAL COST ESTIMATING. ALL ITEMS ARE SUBJECT TO CHANGE TO SUIT THE EXACT REQUIREMENTS OF THE OWNER.

A. GENERAL

1. Dimensions and General Specifications:

Length overall.....60 feet (must not exceed 62 feet LOA)
Beam.....19-24 feet
Draft.....5 feet
Air draft w/ folding mast…≤ 19 feet
Fuel capacity.....Based on hybrid calculations.
Fresh water capacity.....300 gallons minimum
Black water capacity…..….200 gallons minimum
Engines (2) .....Size, quantity for hybrid vessel
Generator…….....Size, quantity for hybrid vessel

2. Brief Description:

Type of vessel	Catamaran, Aluminum hull and superstructure.
Construction	Aluminum, marine grade with stiffeners as required.
Propulsion	Hybrid (parallel hybrid preferred)
A-frame	Hydraulically driven pivoting A-frame on work deck with safety stops forward and aft.
Crane	Articulating

This document describes the general specifications of the vessel; however, if US Coast Guard or other requirements differ from these specifications, then such requirements shall take precedence over this specification to ensure that the vessel complies with the specified rules.

The BUILDER may wish to propose alternative materials, equipment, or methods, which would be more economical and/or practical for them to supply and fit. In such case they should discuss alternative solutions and cost estimates with the OC SAN representative for approval prior to implementation.

Equipment marked “or equal” may be substituted for equivalent quality items, subject to approval by OC SAN representative. BUILDER shall ensure that the alternative equipment incurs no sacrifice in quality, manufacturer’s warranty, or in the vessel’s performance.

OC SAN shall have the right to make changes, alterations, and additions to the specifications, but changes will be requested in writing.

3. Materials and Workmanship:

BUILDER shall supply all materials and equipment listed in these specifications. Equipment and materials supplied by the BUILDER shall be new, and of the appropriate quality suitable for marine use and the purpose intended.

BUILDER shall ensure that they comply with the requirements of US Coast Guard and are in accordance with good shipbuilding practice.

All wood shall be sound, clear, and free from moisture, knots, or checks. It shall be well seasoned and of a kind and quality suited for the work intended.

All plywood shall be of a marine type of waterproof grade, or equal.

Aluminum shall be 5052, 5086, or 6061 alloys free from defects.

Exterior stainless steel shall be type 316.

Hardware shall be stainless steel unless otherwise specified.

The workmanship, in detail finish, and in all particulars, shall be first class quality in all respects.

All construction shall be kept as light as possible, such that it does not compromise strength, integrity, or safety.

Welding must be performed by individuals holding current US Coast Guard approved certifications.

The surfaces of all plating and structural members must be free from oxides and other contaminants before tacking or production welding begins.

Hull and superstructure will be fair and free from buckles and uneven edges.

Exterior plate unfairness will not exceed one half the thickness of the plating between frames and stiffeners.

Structural member unfairness will not exceed the thickness of the member.

Alignment of stiffener ends will be within one half the thickness of the thinner member.

All weld spatter and soot must be removed, and all construction scars must be filled.

All sharp edges and corners must be dressed to prevent hazards to personnel and equipment.

Faying surfaces shall be free from gaps, hollows, or warping.

Shims, inserts, or excess filler metal shall be of shipbuilding quality and shall not be used to correct improper fit.

Piping and components will be marked or coded with the system served and flow direction.

Valves, switches, and all other controls will be labeled with system served and function.

All lubrication fluids, hydraulic oils, and greases will be of a type that mitigates harm to the environment in the event spills occur.

Piping will be supported as required. Pipe supports will either be of a type that do not allow moisture to build up on pipe surfaces beneath clamps, or pipes will be covered in protective materials where they rest in clamps.

Pipe, cable, and other penetrations through decks, bulkheads, and superstructures, will be watertight, and shall isolate heat, vibration, and noise transmission to or through the hull structure.

Major component removals shall be accomplished without structural cutting, and with the minimum takedown possible.

All components, parts, and fittings will be arranged to maximize the ease of inspection and servicing.

Vessel must be supplied with any special tools required for maintenance.

4. Inspections:

OC SAN and/or their representative shall have full access to the vessel at the production facility during the life of the contract and during working hours.

B. STRUCTURE

1. Hull:

All construction shall be kept as light as possible, consistent with strength required to account for all items within this document.

The hull and deck shall be constructed of Marine Grade Aluminum.

All decks will be designed to eliminate standing water.

Reinforcement or backing plates shall be used in highly loaded areas such as cabin top, deck fittings and hull penetrations.

A 24VDC ultrasonic anti-fouling system will be installed and controlled from the pilothouse. The system will utilize internal transducers to retard and the growth of marine organisms by the emission of ultrasonic energy. Transducers will be placed in both hulls, on the propeller shafts, and on the rudders. This system is in addition to any anti-fouling paint coatings.

2. Limbers:

All framing members, except watertight bulkheads, shall incorporate limber holes to insure free drainage to the bilge sumps.

Limber holes shall be arranged and finished off so that bilge water cannot accumulate in isolated pockets nor leak into stiffener and /or web frame interiors.

3. Finish:

Hull and all exterior aluminum shall be unpainted.

All gunwale walking flats, and deck areas shall be media blasted or non-skid pattern applied to all exterior walking surfaces.

OC SAN shall supply digital OC SAN & CARB Unique Vessel Identifier (UVI) number for the BUILDER to supply and apply on port and starboard sides of vessel. All graphics shall be approved by OC SAN personal prior to application.

Name of vessel and hailing port shall be vinyl placed on transom, vessel name to be placed on port, and starboard bow per OC SAN instructions. Vinyl lettering shall be supplied and applied by BUILDER.

All paint shall be applied following the paint manufacturer's specifications for dry mil thickness.

Bottom (from boot stripe down) shall be painted with non-biocide bottom paint specifically for aluminum that meets all federal, state, and local regulations.

Colors and feature stripes as specified by OC SAN.

Yellow caution lines shall be painted on deck around openings and A-frame operations.

C. INTERIORS

All interior bulkheads and partitions within the superstructure must be acoustically insulated to reduce sound transmissions between spaces.

1. Floors and Bulkheads:

Interior walls, bulkheads and floors shall be constructed of a honeycomb type, sound reducing panel to suit design requirements.

Floors should be vinyl marine grade flooring. Installation as per manufacturer's recommendations.

Primary structural bulkheads shall be constructed of Marine Grade Aluminum.

Handhold/grabrails placed at pilothouse overhead, all openings and stairwells.

2. Cabinets and Counter tops:

Pilothouse console, galley, head and lab cabinets, counter tops and splashes shall be covered with a laminate and wood trim w/color as specified by OC SAN.

Drawers shall roll-on stainless-steel guides with 100lb capacity and have means of positive closure in a seaway.

Ability to secure equipment/electronics/printer (server cabinet)

2 computer workstations in lab with wall mounted monitors which are able to move and tilt.

1 computer station with monitor, in pilothouse, facing operator.

Fiddles on countertops

3. Ventilation:

Galley shall be ventilated by 110-volt AC extraction fans.

Heads shall be ventilated by 12-volt DC fans.

4. Shower:

Shower stall if space allows; otherwise, a handheld shower in head. Prefer below decks.

Include towel hook or rack.

5. Smoke/Carbon Monoxide Detectors:

Smoke/Carbon Monoxide detectors shall be installed throughout the vessel and wired to alarm panel in pilothouse.

6. Window:

Defogging air ducts shall be installed into the pilothouse console to provide window defogging. Heated air will be blown up the inside face of the front windows by means of a circulating fan.

Windshield wipers shall be installed on forward facing pilothouse windows.

7. Heating:

The cabin and pilothouse shall have the ability to be heated during cold weather operations and be isolated from the elements. The heating source shall not compromise the acoustic signature of the vessel when running on electric propulsion.

8. Fire Extinguishing:

Each cabin shall be provided with a fire extinguisher located for ease of access as per US Coast Guard requirements.

Engine room shall be provided with an engineered automatic/manual fire suppression system with alarm, with automatic air dampers.

9. Interior Furnishings:

Items such as carpets, tile, window coverings, wall coverings, and ceilings, of a decorative nature are to be supplied, in accordance with BUILDER's standard practice, and installed by BUILDER. Owner will specify quality and colors.

Benches and seating to double as storage where possible.

Interior decibels levels should remain under 75 decibels while under full power.

10. Dry Lab:

Ample receptacles

Server cabinet

Drawers/Cabinets for storage with positive locking devices.

11. Storage/Workshop:

Workbench fitted with 6” stainless steel flat/V-jaw vice.

Toolbox – 8 drawer or larger

Cabinets for storage with positive locking devices.

110V receptacles

12. Bunks:

Minimum 2 bunks

Cabinets for storage

110V receptacles

D. SUPERSTRUCTURE

The superstructure shall be designed and constructed of sufficient strength to account for all items within this document.

Other foundations on the cabin top must be installed to provide a secure mounting for all equipment defined herein.

All surfaces of forepeak and superstructure shall be insulated.

1. Windows:

Premium quality aluminum framed Toughened Safety glass; thickness as determined by US Coast Guard regulation.

At least one side sliding glass window on either side of main cabin and pilothouse with insect screen and locking mechanism.

Based on design, an aft facing dry lab window will be a side sliding window with insect screen and locking mechanism.

Pilothouse windows shall be clear, window in head shall be obscure, all others shall be tinted.

Pilothouse windows shall come with snap on interior shades.

2. Hatches in Main Deck/Cockpit:

The design shall incorporate, watertight, weather deck hatches made of aluminum, for access to machinery spaces and escape from below deck spaces.

Freeman Marine Equipment, Inc. hatches, or equal, shall be the selected hatches. Mounted flush with the deck.

The hatch support gutter design must include overboard drains and prevent the accumulation of significant amounts of dirt and water.

Ladders/stairways must meet US Coast Guard requirements and be fitted with non-skid tread.

Flush fitting watertight bolt-down soft patch hatches will be fabricated in the deck for removal of equipment. The soft patch hatches will be sealed and secured with 316 stainless steel bolts and nuts from the underside of the hatch.

3. Guards:

The gunwale shall be reinforced for going alongside pilings, docks, buoys, and other vessels.

The hull shall be fitted with continuous fenders on the vertical guard strake on both sides of the hull, around the transom corners in conjunction with a replaceable Ultra High Molecular Weight Polyethylene (UHMW) rubbing strip.

4. Cabin Doors:

Sliding double door or 30” or wider single door opening to the aft deck. Depending on final vessel design, possibly, forward port and starboard cabin/pilothouse doors.

All exterior doors shall have a single keyed locking mechanism.

5. Engine Room Access Doors:

Based on vessel design, engine room primary access shall be through a watertight door in front of the engine room bulkhead and secondarily from the aft deck through a watertight hatch.

6. Railings:

Any exterior railing shall be constructed of aluminum and installed around the perimeter of all accessible decks. Rails must meet all US Coast Guard regulations.

Port and starboard breakaway section for loading and unloading of crew and equipment.

3 – chains or 316 stainless steel ropes with quick releases, in place of railings, aft of A-frame.

Staircase for loading and unloading passengers/crew.

7. Swim steps:

Shall be fitted across the transom of each hull, approximately 12 inches above the loaded waterline.

The step shall be cambered for drainage, and sufficiently strong to withstand the vessel backing up gently against a dock.

Grabrails/handholds shall be installed on swim step.

Shall be a minimum of 9’ apart as to not interfere with A-frame operations.

8. Bait tank/Pedestal Stand:

Pedestal stand should sit 16 inches above the deck and be able to support bait tank when filled with saltwater. Sides of pedestal stand should come up a minimum of 1” around the bait tank to prevent tank from moving. Open space underneath of stand will be accessible. Feet of pedestal shall line up with deck tie down fitting locations and be supplied with Stainless Steel .75” x 1.5” Unified National Course (UNC) bolts to secure to deck.

Bait tank will sit inside of pedestal stand. Approximate outside dimensions of bait tank shall be 72” L x 24” W x 20” D. Overall height of tank and pedestal stand will be 36”.

Bait tank shall have a 3” drainpipe from bottom of tank on one end, female threads flush to inside of tank to accommodate a male threaded drain riser, and a shut off valve underneath tank. Drainpipe shall drain overboard.

A continuous filtered saltwater feed plumbed in from along bulwark on either side shall connect to bait tank.

9. Flybridge

Include cover to protect operator from the elements.

Controls and electronic equipment as described in section M.

Covers for controls and electronics to protect from the elements.

E. DECK EQUIPMENT AND FITTINGS

Hydraulic pump(s) must be sized to support operation of two or more systems at full operational speed and load while vessel is at idle. (A-frame, winches, crane, bow thruster)

All rotating machinery shall have aluminum fabricated safety guards fitted to adequately protect crew from injury. The guards shall be lightweight and easily removable to facilitate inspection and servicing.

Primary hydraulic controls in pilothouse secondary controls at local station

1. A-Frame:

Shall be hydraulically operated and controlled from a local station on deck. Operate on rams sized for structure size and load capability.

Grabrails along vertical uprights.

Vertical clearance,14’ at highest point above deck. Width 8’ and able to accommodate two or more blocks to be used simultaneously. Wire from blocks must reach a minimum of five feet past transom.

SWL of 5000lbs with a safety factor of 3:1.

Electric or hydraulic controlled capstan on both port and starboard uprights, both facing inboard with local fore/ aft controls.

A-frame will be load tested to 100% of rated load throughout range of articulation, and to 150% of rated load in the static condition for five minutes. A written report will be provided.

Optional: Hydraulically operated high-speed winch with 500 feet/150 meters of 3/16” stainless steel wire mounted on atop of A-frame.

2. Deck winches:

Hydraulically operated (Tow) winch with level wind and 5,000 feet/1500 meters of 3/8” galvanized wire. Mounted atop the superstructure.

Final mounting arrangements should consider safety, ease of use, durability, and serviceability.

Hydraulically operated high speed (Live Wire) winch Markey Com 7H or equal with +/- 2300 feet/700 meters of .322” electromechanical cable (Rochester cable or equal) mounted on superstructure.

Slip ring on winch end and electrical conducting connections landed in the dry lab server. Waterproof termination able to reach 1200 meters on bitter end.

Install line speed/payout metered sheaves on A-frame for winches taking into consideration bending radius and size of each cable.

Final mounting arrangements should consider safety, ease of use, durability, and serviceability.

Wire counters for both 3/8” and .322 winches to be placed in lab, control station and pilothouse. LCI-90 display or equal.

Standard requirements of line pull and speed – University National Oceanographic Laboratory Systems (UNOLS) winch and wire pull handbook.

Marine grade custom fitted covers for each.

Winches will be load tested to 100% of rated load over first 200’ of line, and to 150% of rated load in the static condition for five minutes. A written report will be provided.

3. Deck Crane:

Hydraulically operated articulating and telescoping marine crane with powered winch able to extend beyond rail of either side of vessel.

The crane should be capable of lifting a 2,000-pound load from 15 feet and be capable of up to 360-degree rotation.

Marine grade custom fit cover.

Preferred top deck, port side placement.

4. Anchor Winch:

   Hydraulically or electronically operated, reversible, capstan type anchor winch with local controls.

   Marine grade custom fit cover

5. Anchor and Chain:

   Anchor type, length of chain, and rode shall be selected and supplied by BUILDER.

   An anchor roller will be fitted on the bow.

6. Mast:

   A fabricated aluminum mast shall be fitted above the cabin. Mast may fold to create < 19-foot air draft.

   Provisions for flags, lights and day shapes shall meet all US Coast Guard Navigation Rules and Regulations for trawling, towing, restricted in ability to maneuver (RAM), and fishing. The mast shall have:

   - Radar antenna (or mounted on cabin roof)
   - Radio antenna(s)
   - Navigation light(s) including anchor, trawling, towing, RAM, and fishing.
   - Two flag halyards
   - Wind monitor

   A ladder or suitable equivalent shall be included in the mast design to allow access to the upper mast for equipment installations and repairs.

7. Cleats, Deck tie-down fittings and Chocks:

   Cleats shall be of the type and size appropriate for mooring lines. Four minimum per side

   Final cleat arrangement of all cleats and deck fittings shall be approved by OC SAN prior to installation.

   Chocks shall be of sufficient size for ease of line handling. Edges softened to prevent line chafe.

   Deck tie-down fittings shall be installed flush with deck plating and grouped into a 24” grid pattern on both upper and lower deck. Fittings will be .75” x 1.5” Unified National Coarse (UNC) stainless steel female threaded inserts.

3/4”-UNC stainless steel threaded eye bolts will be provided for half of all sockets. Sockets and eye bolts will be rated for 500 pounds minimum safe working load in any direction.

Threaded nylon flush plugs will be provided and installed to seal all sockets when not in use.

8. Shore Connection:

50-amp, 125/250-volt shore power connections.

Supply one 50 ft. 3 wire, 125/250-volt, 50-amp shore power cable.

9. Deck Inventory:

The following items shall be supplied. installed, and/or stowing arrangements provided for:

Mooring lines, nylon braided, minimum 3/4" diameter (4 - 40 feet with an eye on one end and 2 - 30 feet with an eye on one end).

Eight PVC fenders, inflatable, of suitable size, with braided nylon lines ends whipped.

Provide storage under any exterior seating.

Flammables/paint locker – 2nd deck

Optional: Vertical, vented, hanging locker

F. MACHINERY

The entire Hybrid propulsion system shall be reviewed and agreed on in writing by their respective suppliers prior to approval by OC SAN.

All rotating machinery shall have fabricated safety guards fitted to adequately protect crew from injury. The guards shall be lightweight and easily removable to facilitate inspection and servicing.

Outlet piping led thru the hull should, as far as possible, be led to the inside of the vessel and discharged overboard into the tunnel.

1. Main Engines:

Engines will be of size suitable for diesel electric hybrid system and conform to CARB standards as set in the Final Regulation Order Commercial Harbor Craft Regulation (Reference section 8 Requirements for New and Newly Acquired Engines & section 9 Requirements for New and Newly Acquired In-Use Harbor Craft).

Shall have Non-Resettable Hour Meters (reference section 2 Installation and Use of Non-Resettable Hour Meters in Final Regulation Order Commercial Harbor Craft Regulation).

The fuel filter/strainers shall be configured to allow online change over without interruption of service and be self-venting.

Installation shall be in accordance with engine manufacturer specifications.

Shall have an exhaust system which will not vent to back deck.

Electrical connections to engines shall be flexible.

Flexible engine piping shall be double hose clamped.

2. Hybrid System:

Hybrid Electric Power Systems (HEPS) specifics will be determined by BUILDER and manufactures of electrical components and diesel engines, based on design and performance specifications.

Shall meet/or exceed current CARB air quality regulations at time of proposal.

Capable of providing a minimum of 30% of vessels power required for main propulsion and auxiliary power operation with zero tailpipe emissions when averaged over a calendar year.

Ability to meet and exceed future CARB regulations with the goal of becoming full-electric in the future.

System shall support at sea charging of the electrical system.

As part of the vessel design, the optimum battery type, weight constraints, and propulsion control system shall support a minimum of 4 hours of slow speed (e.g., 1 to 6 knots) research operations in electric propulsion mode.

3. Marine Gears:

Hydraulic reverse reduction gears with trawling valves.

4. Engine Mountings:

Main engines and/or generator set shall be installed per manufacturer's recommendations.

Engines must be mounted on vibration and sound absorbing flexible mounts approved by engine supplier.

5. Shafting:

Shafts, shaft bearings, and shaft seals shall be matched to propulsion system.

Water lubricated propeller shaft installation.

Heavy molded-in stern tubes with tube bearing, dripless stuffing box, and rubber cutlass bearings.

6. Propellers:
The propellers shall be made of a material to minimize or properly protected from galvanic corrosion right and left hand turning outboard.
Pitch of the propeller shall be designed for maximum efficiency and shall be matched to transmission gear ratio.

7. Rudders:

Shall be of a size and shape which maximizes the vessels performance.

Rudder and stock shall be made of suitable material for vessel design and performance.

Each rudder shall be fitted with a safety stop to prevent loss of rudder.

Each rudder shall include bypass valves to allow centering and securing rudders in case of steering failure.

The rudders will be aligned by measurements to be parallel with the keel. The position of the tiller arms will then be permanently marked on the inside of the transom for later reference.

8. Generator Set:

Shall be of size and type to accommodate hybrid system if needed.

Shall be mounted within sound shields on vibration isolating pads.

PTO for hydraulic pump will come off the generator or electrical side of hybrid system.

9. Cooling Water System, Engines:

Main and generator engines shall have freshwater cooling systems with heat exchangers, oil cooler, and seawater pumps.

Raw water intakes, strainers, and piping shall be configured to allow change over without interruption of service and be self-venting.

10. Bow Thruster:

The BUILDER shall provide an electrical or hydraulically powered bow thruster with controls located at all vessel control stations.

Bow thruster must be able to run simultaneously with winches.

G. ENGINE ROOM MISCELLANEOUS

1. Engine Room Air/Vents:

Air ducting will include ducts with associated sound insulation, intake boxes and two cooling fans.

Openings shall be fitted with fire dampers.

Vents must be positioned so they are protected from elements and do not interfere with personnel or cargo.

Vents must be installed as high as possible.

All vents must be fitted with positive closing devices that are normally secured in the open position.

Shall be ventilated by extraction fans fitted on rubber mountings.

Controls for fans shall be fitted in pilothouse.

2. Engine Room F.W. System:

A cold fresh water supply shall be provided with a hose, capable of reaching throughout engine room.

3. Insulation:

All exhaust piping shall include sound and high temperature insulation.

Exhaust piping trunks, and ventilation trunks must be acoustically insulated to reduce noise transmission outside the space.

Engine room insulation shall be installed prior to installing any equipment which would be mounted against or adjacent to the insulation.

Bulkheads and overhead shall be insulated to reduce decibel level on deck to 75 or less while under full power.

The hull sides in the machinery space and lazarette(s) must be insulated to reduce sound transmission into the water and into the superstructure.

H. STEERING EQUIPMENT

1. Steering System:

Hydraulic steering system to be independent of the vessels hydraulic system.

Manual helm pump with ships wheel will be fitted at helm.

Auto Pilot Control Unit, rate compass, remote control, rudder angle indicator and rudder feedback at each station.

I. TANKS & PIPING:

All tanks shall be fitted with tank level sending units with readout in pilothouse.

All metal tanks shall be isolated from their foundations with rubber mounting strips.

Tanks shall be cleaned and free of debris, filings, and waste prior to filling.

1. Fuel System:

Aluminum tanks shall have separate filling lines, and vent pipes. A crossover connection between tanks if more than one tank is used.

Each fuel line shall have a shut-off valve at the tank connection that can be shut off from outside the engine room.

Connections to engines shall be flexible unless otherwise required.

Fuel filter located outside of tank and before machinery.

Electric fuel priming and transfer pump shall supply each main engine and each generator.

2. Fuel Tanks:

Fuel tank size shall be determined, based on hybrid system and mission needs.

Tanks shall be provided with

- swashplates
- stiffeners
- fill pipes.
- ventilation pipes
- connection pipes to manifolds
- sight glass
- Drain with plug.

3. Freshwater Tank:

Tank capacity no less than 200 gallons.

Tank(s) and piping shall be made of a suitable food grade material.

Tank(s) shall be provided with

- swashplates
- stiffeners
- fill pipes.
- Drains with plugs.
- ventilation pipes
- connection pipes to water pressure system
- low level alarm
- filter

4. Holding Tank:

Type III MSD

Tank shall have

- up to 200-gallon capacity

- ventilation pipes
- float switch to indicate 75% full, plus.
- filling and discharge cam lock connections on deck
- An overboard discharge.

A sewage macerator pump shall be fitted to the tank.

5. Supply Oil Tank (Oil Change System):

Optional: lube oil tank (capacity to equal the sum of one engine's oil capacity) of ¼" 5052 aluminums shall be installed with pump and valving to add/remove oil to/from either engine.

6. Hydraulic oil

Total capacity as required for operations.

Tank to be fitted with an oil cooler.

Valves and controls per design

J. PLUMBING

Outlet piping led thru the hull should as far as possible be led to the inside of the vessel and discharge overboard into the tunnel.

All pumps shall be self-priming.

1. Bilge Pumping System:

Electric pumps fitted with automatic float switches shall be located in each bilge sump, with on/off indicator lights in pilothouse with check valves in each discharge line.

An emergency pump shall draw from each bilge sump through suction lines through a manifold in an easily accessible location and shall discharge overboard.

2. Saltwater Pumps

A saltwater wash down system (pressure activated pump) with ¾" hose bibs located on the fore deck (at anchor) and two aft (port and starboard).
A saltwater connection shall be plumbed to wet lab sink.

A second saltwater system (continuous flow) shall serve the bait tank, flow rate of 100 GPM and be electrically switched from the deck. Shall have an inline sediment filter in a convenient location between spicket and tank.

Connect pumps with a manifold system to ensure redundancy.

A separate science seawater diaphragm pump system (continuous flow) shall serve the main aft deck area and be electrically switched from the deck.

Optional: Thermosalinagraph with external digital ocean temperature, Fluorometer, Serial connection to the dry lab workspace.

Dedicated fire pump

3. Fresh Water System:

120V pump with accumulator pressure tank.

For domestic hot water supply, one (capacity to be determined) combination 220 volt electric / heat exchanger water heater.

Hot and cold supply shall be plumbed to the galley, head(s) and wet lab.

Carbon water filter shall be installed inline to galley sink.

A cold-water connection shall be located in engine rooms, fore and aft deck.

4. Sewage System:

Toilet(s) shall be fitted per BUILDER's plans. They will be connected to the saltwater system and shall discharge into the holding tank.

The holding tank shall be emptied by a 1 ½" macerator pump and shall incorporate a float switch connected to an alarm light that lights when the tank reaches 75% capacity.

Holding tank shall have ability to be pumped out dockside and overboard.

Holding tank air vent shall be fitted with a holding tank filter which shall be installed in an accessible/serviceable location.

K. ELECTRICAL

1. General:

A battery management and monitoring system at the helm.

Shore power connections shall be able to charge the onboard batteries in less than 12 hours (i.e., overnight) as well as support the house loads while at the dock.

This system must also be able to be charged while at sea in a similar amount of time.

All wiring shall meet or exceed ABYC and US Coast Guard standards.

110/220-volt AC – Appliances, service outlets and primary domestic lighting, powered by batteries, generator, or inverter while underway and by shore power connection while at dockside.

All interior power receptacles shall be hospital grade.

24-volt system – Engine starting system.

12-volt system – Electronics, navigation instruments, and ship emergency lighting systems in pilothouse.

All electrical installations shall strictly conform to the manufacturer's instructions.

Cable/wire runs shall be routed through conduit, (e.g., PVC, ABS, etc.) cable trays or, where exposed, adequately secured and protected against chafe.

Sufficient space to double cables/wires shall be left in wire ways for future use.

Cables shall be clearly labeled at each end.

Conduit penetrations through watertight bulkheads shall be made watertight.

Wiring and conduits shall be kept clear of the bilge unless absolutely necessary.

All through hull fittings, engines and metal parts, tanks, zinc anodes, and electrical equipment shall be connected to an independent bonding system.

All electrical systems shall be thoroughly tested during dock trials and sea trials.

2. 110/220 Volt AC (generator):

The main AC distribution panel shall be in the engine room with a sub panel located in the pilothouse. Overload protection, and ground fault protection shall be provided.

The 110/220 system shall include a frequency meter, volt meters, and amp meters.

A load transfer switch shall be provided to prevent simultaneous connection of both shore power and generator power.

The metering listed above shall be connected to read shore power, batteries.

Generator circuits and meters shall be located at the sub panel in the pilothouse.

3. DC-AC Inverter with built-in battery charger:

Include remote control and status indicator panel. (BUILDER will survey power requirements.)

4. DC Voltage:

Each engine starting system shall be powered by a separate set of starting batteries, (base on hybrid system needs) with an automatic charger supplying both sets.

24-volt system shall be powered with one bank of deep cycle ship's service batteries.

The main 12-volt distribution panel shall be located in the pilothouse. Overload protection shall be provided on all circuits.

12-volt instrumentation shall consist of voltmeter and amp meter and shall be in the pilothouse.

5. Distribution Panels:

AC and DC distribution panels shall be arranged with photographically made signs.

Sub-panels shall be used whenever appropriate to reduce weight and complexity of wiring.

Magnetic circuit breakers shall be provided with sufficient spares for future circuit expansion with wired spares to the pilothouse for future electronics.

Each breaker shall be labeled.

6. Clean Power System:

An inverter system shall be provided which delivers uninterrupted clean 120VAC power to the lab and pilothouse to prevent power dropouts to science and

pilothouse equipment during power transfer switching from shore to generator power and in the event of the loss of either power source.

7. Zinc Anodes:

Anodes on transom shall be connected by a ground wire.

Shaft zinc collars and zinc plates shall also be provided where required.

8. Batteries:

Designer will determine all battery banks and their chemistries.

Batteries must be stored and ventilated per manufacturers specifications.

Lithium-ion batteries will follow US Coast Guard regulations & ASTM F3353-19 for safe use onboard vessels.

A house battery storage system must provide sufficient reserve power for not less than 4hrs of service.

Isolating switches shall be placed as close as practical to each battery set.

Energy Storage System (ESS) shall be selected and sized based upon capacity and performance of expected end of life performance to enable HEPS to operate at required functionality throughout its life.

A 24V house battery bank shall be installed to supply the vessel's DC systems in cases of power disruption.

Battery banks shall power the electric propulsion, scientific equipment, hydraulics and hotel loads on the vessel.

L. LIGHTING & ELECTRICAL OUTLETS

The lighting system shall be LED.

Adequate lighting and electrical outlets shall be provided throughout the vessel.

Interior lighting must be distributed to illuminate all areas including hull spaces below deck as evenly as possible.

Light switches should be in covenant locations on the bulkheads.

The pilothouse will have a combination of red and white LED lights.

LED Floodlights shall be installed providing 100 percent deck coverage.

Include a remote controlled (100,000 cp minimum) searchlight with 360° rotation.

A 12-volt DC emergency lighting system will be integrated throughout the vessel.

Lights on stairs and passages shall be switched from two positions.

Provide a weatherproof 120-volt receptacle on the outside of the aft facing bulkhead and 2nd deck control station.

Provide a weatherproof 220-receptacle in the laboratory.

Inquire for additional electrical needs.

M. INSTRUMENTS AND CONTROLS

1. Controls:

One – Helm wheel backup steering station shall be located in the pilothouse.

Throttle controls in pilothouse and additional stations shall be twin dual function levers. To allow single hand control.

Additional stations will include throttle and transmission controls, rudder angle indicator, jog lever and bow thruster controls.

Additional control stations shall include covers to protect from the elements.

The control system will allow the transfer of control from an active station to any one inactive station by switch or button at the inactive station. The system will also provide a means to prevent an inactive station from being activated if the operator at the active station so chooses.

Shade cover over all outside control stations

2. Auto Pilot:

The control unit shall have jog controls and rudder angle indicator located in the pilothouse.

3. Instrumentation at Pilothouse:

Digital electronic instrumentation to include:

- RPM

- Load
- Engine/Gear Temp
- Pressures
- Engine Hours
- Fuel Use

Battery management system monitoring display.

Aluminum Corrosion Monitor

4. Engine Room Instrumentation:

Analog gauges shall be mounted in the engine room at each engine.

Transducer well for acoustic releases

5. Pilothouse Lights/Alarms:

High bilge water in each sump
High holding tank level
Low Freshwater level
Engine room fire alarm/fixed fire discharge
Smoke/ Carbon Monoxide detector alarms
AC and DC electrical panels located in the pilothouse.
Battery management and monitoring system

6. Electronic Equipment:

Instrumentation shall be NEMA 2000 compatible.

Autopilot
One - pilothouse compass
Two - VHF radios, Flybridge, pilothouse
Three - GPS Chart plotter, Primary in pilothouse,
display in lab and flybridge.
Three - Color depth sounder, Primary in pilothouse,
display in lab and flybridge. (Furuno TZT16F or equal)
Two - Radar, 36NM, flybridge, pilothouse
Two - Loud hailers/ Intercom system, pilothouse
Flybridge. Talk back speaker in Dry lab, bunk, workshop. Waterproof talk back speakers fore and aft deck
One - Night chart light (red)
One - Weather station with displays in pilothouse, lab, flybridge.

- True wind speed and direction
- Air temperature
- Barometric pressure

One - Thermistor water temperature sensor displayed in lab and pilothouse.
One - AIS unit
One - AM-FM radio/Bluetooth player shall be installed in the pilothouse, speakers. To have independent volume controls for each deck.
Wireless Wan
NetMotion or equal
TimeZero (or equal) Navigation computer with data feed from electronics package. With wireless mouse and keyboard.
FleetBroadBand or equal, to provide continuous internet connectivity at sea.
Teledyne Motion reference unit or equal
Acoustic Doppler Current Profiler (ADCP)
Timeserver
Dedicated CCTV with camara's in engine room(s), aft deck, upper deck, on winches, and battery compartments

7. Pilothouse Control Console:

BUILDER shall supply a layout drawing of the console and the positioning of instruments, controls, electronics, etc.

Special attention shall be given to human engineering for sightlines and ease of operation.

8. Windshield wipers:

Front windows of pilothouse shall be fitted with heavy duty 12-volt DC wipers of appropriate length arms and blades.

Motors shall be controlled with two speed switches.

9. Pilothouse Miscellaneous:

Include an adjustable height, full 360-degree swing helmsman seat with arms and footrest.

A chart table and navigation area shall be provided with space for a laptop computer station.

In the design consider the following:
1. A second full height seat.
2. A small table with additional seating (which may serve as a chart table).
3. Storage cabinet with shelves and drawer for miscellaneous equipment.
4. Desk with drawers

N. DOMESTIC APPLIANCES

The following equipment shall be purchased and installed by BUILDER.
Exact catalog number, color and style shall be agreed upon between BUILDER and OC SAN.

Equipment shall have a structural connection to bulkheads to prevent movement.

1. Galley:

Refrigerator/Freezer
Range/oven
Double Sink
Microwave
Space for a water cooler

O. Safety Equipment

Safety equipment locations and installation must meet or exceed US Coast Guard requirements for vessel size and number of persons onboard.

Particular attention shall be paid to mitigating the additional safety concerns around the battery bank required for the electric propulsion.

1. Fire Extinguishers
2. Fixed extinguishing system(s) in machinery spaces
3. Fitted with manual release controls outside machinery space.
4. System shall control ventilation systems.
5. Fire Hose with nozzle
6. Life Raft
7. EPIRB
8. Life jackets
9. Person overboard – Jacob's cradle, ladder, or swim step
10. Flares – 6 rockets, 6 hand-held, 6 smoke stored in proper container.
11. Ring Life Buoys
12. First-aid kit
13. AED provided by OC SAN risk mgmt./safety.

Proper signage shall be fitted to doors, stowage areas of first aid kit, lifejackets, firefighting, and other emergency equipment.

VI. PROJECT ELEMENT 3 – TESTS AND TRIALS

1. General

All workmanship and equipment shall be thoroughly tested by the BUILDER to demonstrate conformance to these Specifications and regulatory agency requirements.

The BUILDER shall develop a schedule of tests to be performed during the construction of the vessel and shall submit a copy to OC SAN prior to commencing any tests. During the construction, the BUILDER shall be responsible for giving OC SAN notice of all tests (minimum 14 working days' notice).

Construction tests shall include, but not be limited to:

- Hull & Tank Tightness Tests.
- Piping System Pressure Tests.
- Ventilation System Tests.
- Calibration of Alarms, Controls & Indicators.
- Monitoring and Alarm Circuit Performance.
- Electronics Operation Tests.
- Electric Load Bank Tests.
- Fire Detection System Tests.

The BUILDER shall prepare test memoranda for all testing activity during construction. The memoranda shall include data pertinent to the test, nameplate data for all equipment, a description of the test, and signature blanks for the shipyard and OC SAN's Representative.

The BUILDER shall supply the operating crew, all required test equipment, and furnish all fuel and lubricating oil required for all tests and trials. The BUILDER shall also bear the expenses of shipyard personnel, water, special instruments, and miscellaneous supplies for all tests and for dock and sea trials.

2. Testing During Construction

The BUILDER shall test all portions of the vessel and work thereon, including structure, fittings, systems, equipment, and machinery, to demonstrate satisfactory workmanship, proper working order, alignment of moving parts, tightness, and compliance with the Specifications. The BUILDER shall correct any deficiencies, at no additional cost to OC SAN, which appear during testing, and re-test until proven satisfactory.

The following test pressures (psi) are given as guidance for the shipboard system piping tests:

SYSTEM	TEST PRESSURE
Fresh Water (service)	60 psi
Bilge and Fire main	85 psi
Plumbing and Interior Deck Drains	Fill to top of fixture.
Sounding Tubes, Vents, Overflows	Fill to top of pipe/vent.
Diesel Fuel Oil	100 psi
Lube Oil	30 psi
Machinery Cooling	30 psi.
High Pressure Hydraulics	3500 psi
Low Pressure Hydraulics	225 psi

3. Main Engine and Generator

Any subsequent damage that occurs to any engine, pump, or auxiliary equipment due to improper installation by the BUILDER shall be repaired or replaced at the discretion of OC SAN at no additional cost to OC SAN.

4. Dock Trials

The BUILDER shall submit a test agenda for the dock trials and include a description and schedule of the tests to be performed. The agenda shall be submitted to OC SAN for approval at least 14 working days in advance of the start of the dock trials.

Complete dockside tests of all machinery and electrical equipment and installations shall be made. These tests shall include, but not be limited to:

- Controls for the propulsion system.
- Steering gear and controls.
- Fire extinguisher release, including engine shutdown and ventilation.
- Electrical system tests, including outlets, lights, and circuit breakers.
- Computers, navigation, networking equipment.
- Galley equipment.
- Communication systems.
- Anchor winch and load tests.
- Bow thruster.
- Deck crane operation and load test.
- Shore power system.
- Wastewater systems
- A-frame operation and load test
- Tow winch operation and load test
- Live wire winch operation and load test

All systems must be tested and proven operational prior to embarking on sea trials.

5. BUILDER's Sea Trials

Upon satisfactory completion of the dock trial, the vessel shall be taken on a sea trial. The BUILDER shall load the vessel to simulate the transport of 4000 pounds (cargo) on the aft work deck, full fuel, and water tanks, and eight crewmembers. The trials shall be conducted in the open ocean (or partially protected waters) to enable a complete and unrestricted test of all propulsion and steering systems and shall be conducted during full daylight hours only. As a minimum, the trial shall consist of the following tests:

- Compass compensation.
- Engine and hybrid system parameters in each operating mode and recorded by a certified technician.
- Disconnection of Energy Storage System (ESS) to simulate loss of power, ensure propulsion and steering systems are functional.
- Radar adjustment/calibration.
- Auto helm
- Three runs over a measured mile at 80% and 100% power.
- Crash stops, full ahead to full astern.
- Steering and maneuvering ahead and astern from all stations.
- Decibel level readings taken during cruise and full power runs. On aft deck, main cabin, and pilothouse
- Correction and retesting of any failures or deficiencies prior to acceptance.
- Opacity testing as required by CARB.
- Any other test deemed necessary by OC SAN to demonstrate the satisfactory operation of the vessel's systems.

All test results recorded and provided to OC SAN.

The BUILDER shall correct deficiencies appearing during the BUILDER's Sea trials, and portions rerun until all problems are solved to the satisfaction of OC SAN. When deficiencies have been corrected, the ship shall be prepared for shipment to the greater Los Angeles Harbor area. If the vessel is built in any area other than the United States West Coast, delivery shall be as deck load on a suitable ship, barge, or truck.

6. Acceptance Sea Trials

The BUILDER shall deliver the vessel at BUILDER's expense. Delivery of the vessel may be performed by truck, barge, or motoring the vessel on its own bottom, or a combination of these methods.

Entities responsible for delivery shall be licensed, bonded, and insured for a minimum of $8,000,000. Individuals operating the vessel will be licensed by US Coast Guard.

If the vessel arrives on its own bottom, the BUILDER shall have the vessel lifted out of the water by a local commercial contractor for one hour minimum to allow OC SAN to inspect the bottom, running gear, and all submerged attachments.

If the vessel arrives by truck or barge, OC SAN shall inspect the bottom, running gear, and all submerged attachments before launching.

The BUILDER shall re-launch the vessel, and ensure that it is thoroughly cleaned, fueled, and readied for service. All equipment removed, or deactivated for the delivery, shall be put back into service and thoroughly tested. When the BUILDER is fully satisfied that the vessel is ready for delivery, it shall be taken on an acceptance sea trial. All tests and maneuvers performed during the BUILDER's trials shall be repeated to ensure the proper operation of all systems and that no damage occurred during shipment. BUILDER must demonstrate that all contractual obligations are completed. Upon satisfactory completion of the acceptance trials by OC SAN, OC SAN shall take delivery of the vessel. Delivery shall be Freight on Board (FOB) Destination, in the water to Newport Harbor, California, to a specific location that will be provided by OC SAN.

The BUILDER shall supply three copies of all test and verification data.

VII. PROJECT ELEMENT 4 – TRAINING, PLANS, INSTRUCTION BOOKS & MAINTENANCE MANUALS

A. Training

Present and explain each system and device in the vessel. Demonstrating operation of all features.

Provide training for up to six persons over two 8-hour days.

Provide written answers to questions not answered during training sessions within 48 hours.

B. Working Plans

The BUILDER shall prepare and submit to OC SAN a plan schedule showing any and all detail plans and shop sketches it will use for the vessel construction, in addition to those submitted with the proposal. The plans and sketches shall be submitted to OC SAN review and comment prior to the start of any fabrication. Work undertaken prior to approval by OC SAN shall be at the BUILDER's risk. The same is true for any plan revisions. Upon delivery of the vessel, the BUILDER shall furnish to OC SAN three copies of all drawings and sketches listed on the plan schedule. These documents shall depict the vessel as built. All plans prepared on CAD shall also be delivered to OC SAN on CD or flash drive a format compatible with AutoCAD.

C. Instruction Books, Diagrams, Documents & Maintenance Manuals

Copies of all quality assurance (QA) and quality control QC sign-off documents created during the build cycle must be provided to the owner as they are generated. These must include purchase specifications, receiving reports, close-out inspections, in-shop system tests, dock trial reports, sea trial reports, and stability booklet.

The vessel must be delivered with all manuals, brochures, installation instructions, etc. supplied with all machinery and equipment installed.

Maintenance and overhaul manuals must be provided for all serviceable equipment and/or systems. Including but not limited to main engines, generators, transmissions, hybrid systems, hydraulics. All data must be provided in paper and/or electronic copy.

The BUILDER shall ensure that all Instruction Books and Maintenance Manuals are bound, indexed, numbered, and submitted with delivery of the vessel.

Diagrams of all systems, as built, including but not limited to:

- Hydraulic lines
- Electrical
- Fresh/Salt/Black/Grey water
- Fuel

D. Tank Sounding Tables and Gauges

The BUILDER shall furnish sounding tables, showing gallons for each inch of sounding depth for each tank.

A sight glass gauge for the following tanks shall be calibrated as follow:

- Potable Water — Gallons at 1” intervals
- Diesel Fuel Oil — Gallons at 1” intervals
- Lube Oil — Gallons at 5-gallon intervals
- Hydraulic Oil — Gallons at 5-gallon intervals

VIII. WARRANTY PERIOD AND INSPECTION

BUILDER agrees to perform all work under this Scope of Work in accordance with OC SAN’s approved designs, drawings, and specifications. BUILDER guarantees for a period of at least one year from the date of OC SAN’s written acceptance of the vessel, all equipment which is manufactured, furnished, or supplied by BUILDER (except the hull) is free from all defects due to faulty materials, equipment, or workmanship, and that it shall promptly make whatever adjustments or corrections which may be necessary to

cure any defects, including repairs of any damage to other parts of the system resulting from such defects. OC SAN shall promptly give notice to BUILDER of observed defects. If BUILDER fails to make repairs, adjustments, corrections, or other work made necessary by such defects, OC SAN may do so and charge BUILDER the cost incurred.

Hybrid system shall include full manufacturer's warranty from acceptance date. An additional 5-year supplemental extended warranty will be provided by manufacturers.

The hull warranty shall be for 10 years from the date of OC SAN's written acceptance of the vessel, or as mutually agreed to by the Parties.

Hybrid batteries shall have a minimum warranty of eight (8) years commencing on the Acceptance Date or 100,000 miles, unless a higher-level warranty is available.

BUILDER will provide OC SAN with all manufacturers' warranty for components furnished or installed on vessel to the extent that they are transferable.

Manufacturers must have a warranty service provider located within California.

IX. OC SAN STAFF ASSISTANCE

An OC SAN staff member will be assigned to work with the BUILDER on the design and construction of this project. Contact information will be provided to the successful Proposer when a Contract is awarded.