

LIFE SUPPORT SYSTEMS AND EQUIPMENT FOR COASTAL ALABAMA

SEA TURTLE FACILITY

BID SPECIFICATIONS

A. Scope of Work

The successful bidder shall provide sea turtle life support system equipment per the following bid specifications to the Orange Beach Coastal Resources Department. This is for specified equipment only. Installation will be provided by the City of Orange Beach.

B. Use of Brand Names in Bids

The use of any brand name and/or product numbers is to establish industry standards and minimum specifications. Other brands may be considered for review if detailed product information and specifications outlining any and all differences are included in the bid.

C. Minimum Specifications

All items shall be new and unused. All equipment shall meet or exceed current industry standards. Item specifications listed below shall be construed as a minimum. Should manufacturers' current published data or specifications exceed these, such standards shall be considered minimum and furnished. All integral parts not specifically mentioned in the scope of these specifications that are necessary to provide a complete working unit shall be furnished.

-Design Standards

- i. **LSS:** All equipment shall conform to industry standards for life support systems (LSS) and marine environments
- ii. **UL:** All electrical components shall be UL listed and suitable for saltwater marine applications.

-Equipment Dimensions

- i. **Form Factor:** Equipment must be sized to fit within the designated CAST (Coastal Alabama Sea Turtle) facility layout without obstruction
- ii. **Tanks:** All storage and mixing tanks must meet specified volume capacities (e.g., 1100 Gallons) with structural integrity for full-load operation

-Performance Characteristics

- i. **Pump Flow Rates:** Pumps must meet or exceed specified horsepower and flow requirements for the life support cycle

- ii. **Filtration Efficiency:** Sand and carbon filters must be sized to achieve the required turnover rate for the system volume

-Operational Area

The operational area for this equipment will be at the CAST facility in Orange Beach, Alabama. The equipment will be required to operate a saltwater system subject to local humidity and temperature impacts. All components must be designed for longevity in a corrosive coastal environment.

1. Tanks:

- i. Tank Model TP1000-w2 or equivalent, 1000 gallon round tank with 2'x2' viewing window
- ii. Material: Entirely constructed of high-density polyethylene with UV resistance for marine use

2. Mixing Reservoir:

1100 Gallon capacity upright reservoir for salt water preparation

3. Sand Filters:

- i. SM750 units equipped with two (2) Multiport Valves (WMPV2) for backwash functionality
- ii. Holds 600 pounds
- iii. 96 GPM flow rate
- iv. 36 psi working pressure

4. Two Multiport Valves:

- i. WMPV2
- ii. 2 inch

5. Carbon Filter:

- i. SM7850 unit for chemical filtration, including specialized carbon media
- ii. 36 psi working pressure
- iii. Holds 600 pounds

6. Filter Baskets:

- i. MDM 241704888 baskets for pre-filtration debris removal
- ii. Clear PVC body and basket made of stainless steel or acrylonitrile butadiene styrene (ABS)
- iii. Port Dimension: 2" male thread that comes with adapters that have a slip port

7. Colossus 750 DC Plus Pumps:

- i. 100-240V power supply/50-60Hz
- ii. 116 meters of shut off head
- iii. IoT controller compatible
- iv. 128 GPM

8. PSK Pumps:

- i. 115/230VAC 60Hz. Single Phase Pumps
- ii. 30 GPM Flow Rate
- iii. 18.9 FT Head Pressure
- iv. 50.5% Peak Efficiency

9. Protein Skimmers:

- i. RK50PE 15210.1A fractionators for dissolved organic removal
- ii. Clear acrylic top with plastic HDPE body
- iii. Automatic wash down system
- iv. 40 gallons per minute at 2 minutes dwell time

10. UV Sterilizers:

- i. XFL5-80H ultraviolet sterilization units for pathogen control
- ii. Wattage: 80
- iii. Voltage: 120V
- iv. Chamber Diameter: 5 inches

11. Moving Bed Bio-Reactors:

- i. MMBR MMB12-CP for biological filtration
- ii. Tank Volume: 170 Gallons
- iii. Media Max: 12
- iv. Flowrate: 17-50

12. Ball Valves:

- i. Asahi 2" Ball Valves
- ii. Full port
- iii. 2-way
- iv. One-piece
- v. Inline
- vi. PVC

13. Carbon Media:

- i. Bituminous Activated Carbon 4x8 pellet 55 pound bag
- ii. Coal based carbon

14. Activated Media #2:

- i. Dryden Aqua Healthy Swim AFM Activated Filter Media #2
- ii. Coarse grade glass filter media
- iii. 55 pound bag
- iv. Activated recycled green & brown glass

15. Activated Media #1:

- i. Dryden Aqua Healthy Swim AFM Grade #1
- ii. 55 pound bag
- iii. Fine grade
- iv. Recycled green & brown glass

16. Delivery:

Delivery to Orange Beach Coastal Alabama Sea Turtle facility no later than 10 weeks from award.

Delivery terms shall be FOB destination, freight prepaid and allowed. Deliver to Address:

City of Orange Beach
Coastal Alabama Sea Turtle Facility
3333 Orange Beach Boulevard
Orange Beach, Alabama 36561

D. Documentation

The vendor shall provide a technical data package (printed and digital) including, but not limited to, the following technical information (all documentation must be clearly labeled and include an installed equipment/parts list):

1. Equipment Specification Sheets and Dimensional Drawings
2. Operation and Maintenance (O&M) Manuals
3. Installation and Assembly Instructions with Schematic for Proper Operation
4. Electrical Schematics for Controlled Components
5. Material Safety Data Sheets (MSDS) for Filtration Media

E. Business License Requirements

If delivering into City limits, the successful bidder will be required to have an Orange Beach Business License. Contact the Orange Beach Finance Department at 251-981-6096 for a quote or any additional information. A business license for the vendor is not required if third party shipping is used.