



AQUATICS QUARANTINE FACILITY SCOPE OF WORK

Pre-Submittal Document for the Architectural Consultants for BioPark Aquatics/Sharks Quarantine Facility

Project No: 6353.90

Brief Description:

The Biopark works with many different aquatic species of various sizes. It is essential to have appropriate facilities to care for, and occasionally to separate, these species as required by the Association of Zoos & Aquariums (AZA). The BioPark would like to construct a building of approximately 5,000 square feet for use as an aquatics/shark quarantine and holding facility. A site feasibility study will need to be completed as part of the design process.

Estimated Construction Budget: undetermined at this time

ABQ BioPark Aquatics/Shark Quarantine Facility Initial Assessment

Requested Items to be Included in Design (below is not all encompassing. Other items will be added/removed as part of programming):

1. Tanks:
 - a. One 66,000 gallon tank (60' long x 20' wide x 7' deep) with ability to split into 3 separate sections. Tank to be installed and fabricated by Waterdog Products Inc. (subcontracted).
 - i. Tank will require surrounding pressure treated lumber decking and ramp access. Deck should be open underneath to allow visibility to tank viewing windows.
 - b. One 9,400 gallon tank (20' diameter x 4' deep). **Owner provided**
 - i. Filtration will be owner provided.
 - c. One 6,000 gallon tank (16' diameter x 4' deep). **Owner provided**
 - i. Filtration will be owner provided.
 - d. One 450 gallon tank (12' diameter x 4' deep). **Owner Provided**
 - i. Filtration to be part of contract.
 - e. One Mixing Tank (20' diameter x 5' deep). Mixing tank is essential to the operation of the 66,000 gallon tank.
 - f. Coral Aquaculture Trays – **Size specifications to be provided by Owner**
 - g. Two 300 gallon tanks – **Size specifications to be confirmed by Owner**
2. Ozone Degas Pumps - **Size and spec information to be provided by Owner**
3. Two horizontal 4'x7' sand filters - **Spec information to be provided by Owner**
4. Water Quality Testing Lab – Approx. 12'x12'
5. Roof Crane



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6. Building criteria
 - a. Insulated CMU block structure is preferred.
 - b. HVAC system (refrigerated air- no swamp cooler). Single unit is acceptable. Temperature requirement is 76-78 degrees year-round.
 - c. Blower for delivering air to all systems with plumbing going around the perimeter to carry the air to the tanks. - **Spec information to be provided by Owner**
 - d. Carbon filter and perimeter plumbing to carry water filtered water to tanks.
 - e. Skylights – Inoperable is preferred.
 - f. Restroom and separate shower area
 - g. Prep Kitchen with counter space, commercial sink, commercial fridge, commercial freezer
 - h. All stainless steel or fiberglass construction materials designed to prevent rusting- This will be a highly corrosive building type due to the saltwater systems.
 - i. Floor drains throughout.
 - j. Back-up generator for Life Support Systems
 - k. 12' garage door access
 - l. Storage areas

Additional items for consideration

1. Usefulness of a commercial grade de-humidifier and/or exhaust vents.
2. What clearances are needed around these tanks?
3. Any special electrical requirements? UV lighting?
4. Elevated footprint to allow for easier site drainage?



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FG 60ft tank equipment specs

- 2 Neptune Benson Horizontal Sand Filter 500gpm 48" dia x 84"
- 2 Fybroc 1530 pumps 15hp 500gpm
- 1 RK2 300gpm protein skimmer
- 1 Fybroc 1530 300gpm 5hp
- 1 Ozone plug and play skid Ozone Water Systems
- 1 Pump 100gpm 3 hp
- 1 Degas tower 120" x 200"
- 1 heat exchanger/Chiller
- ?? Requirements for concrete flooring under tank

FG 20ft tank and equipment specs

- 20 ft diameter Red Ewald Tank (already in house)
- 2 2hp Hayward Lifestar pumps
- 2 biotowers with stand (already in house)
- 2 Hayward sand filters S360SX with multiport valve

FG 16ft tank and equipment specs

- 16 ft diameter Red Ewald Tank (already in house)
- 2 2hp Hayward Lifestar pumps (already in house)
- 2 biotowers with stand (already in house)
- 2 Hayward sand filters (already in house)

FG 12ft tank and equipment specs

- 12 ft diameter Red Ewald Tank (already in house)
- 1 1.5 hp Hayward pump (already in house)
- 1 biotower with stand (already in house)
- 1 Hayward sand filters (already in house)
- 1 Hayward pump (already in house)



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Blower

- 1 S653-C Pentair Sweetwater Regenerative Blower

Activated Carbon Filter and pump

A Culligan filter can be used like we have at the aquarium or we can use a Hayward sand filter and Hayward pump.

300 gallon tanks

- 2 300gal tanks approx. 6ft x 3ft x 30in with window
- 2 Solar component Biotower
- 2 Fluidized bed (in house construction)
- 2 Foam fractionators
- 4 Pan world pumps, 2-150ps, 2-50px

Coral Trays

- 3 buckhorn storage container 48"x44"x29"
- 3 Red Ewald aquaculture trays FRT-30 16"x36"x84" 200gal
- 1 RO unit (already in house)
- 1 Sump
- 1 Fluidized Bed filter (in house construction)
- 1 Foam fractionator
- 1 Calcium reactor
- 8 LED Viparspectra lights

Hoist with Trolley

Harrington SNERM020L-L-15, 2 TON, 15' Lift, 7ft/min 230v or Harrington NERM020C-L-15, 2 Ton, 15' lift, 7ft/min