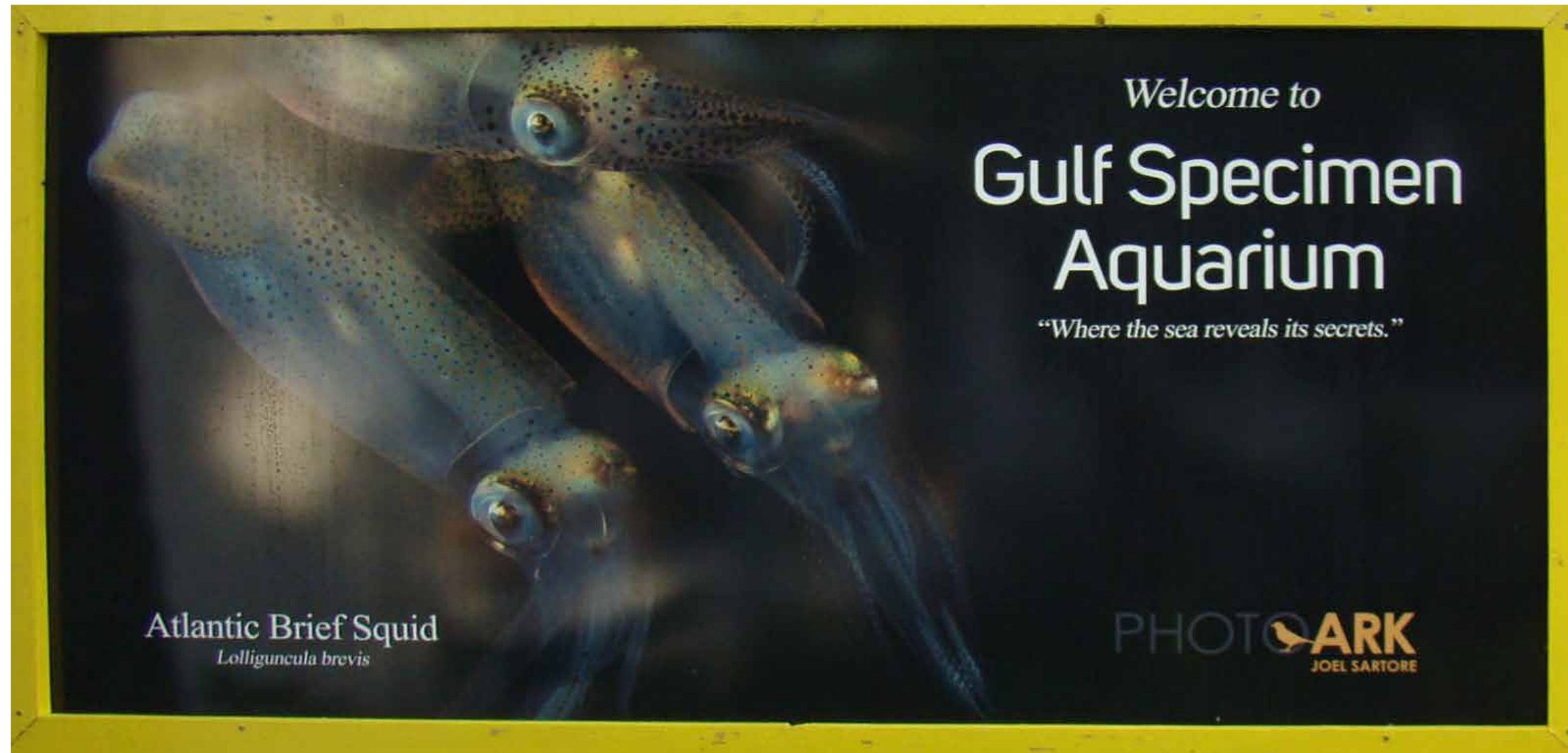


Gulf Specimen Aquarium



Masterplan

Introduction

The Gulf Specimen Marine Laboratories, Inc. was started in 1963 as a non-profit tax exempt organization engaged in marine education, research, and coastal conservation, but primarily involved with supplying living, custom collected marine species for use in university research and teaching. In the early 1990's, the lab shifted focus to become more of a public aquarium by allowing paid guests and school groups to tour the laboratory grounds and view their captive live specimens and preserved artifacts. Toward this end, the laboratory grounds have been improved with the addition of both wayfinding and informational graphics, videos, some limited guest amenities and an air conditioned gift shop. And they added “and Aquarium” to their name. This public viewing component of the Labs has also allowed for the pursuit of additional funding in the form of grants from a variety of sources.

The GSML&A leadership has determined that expanding and improving the Aquarium portion of their business is critical to their future successful growth and provides needed diversity to their income streams. This document is intended to provide ideas and possibilities for this growth as well as suggested enhancements to existing exhibits.

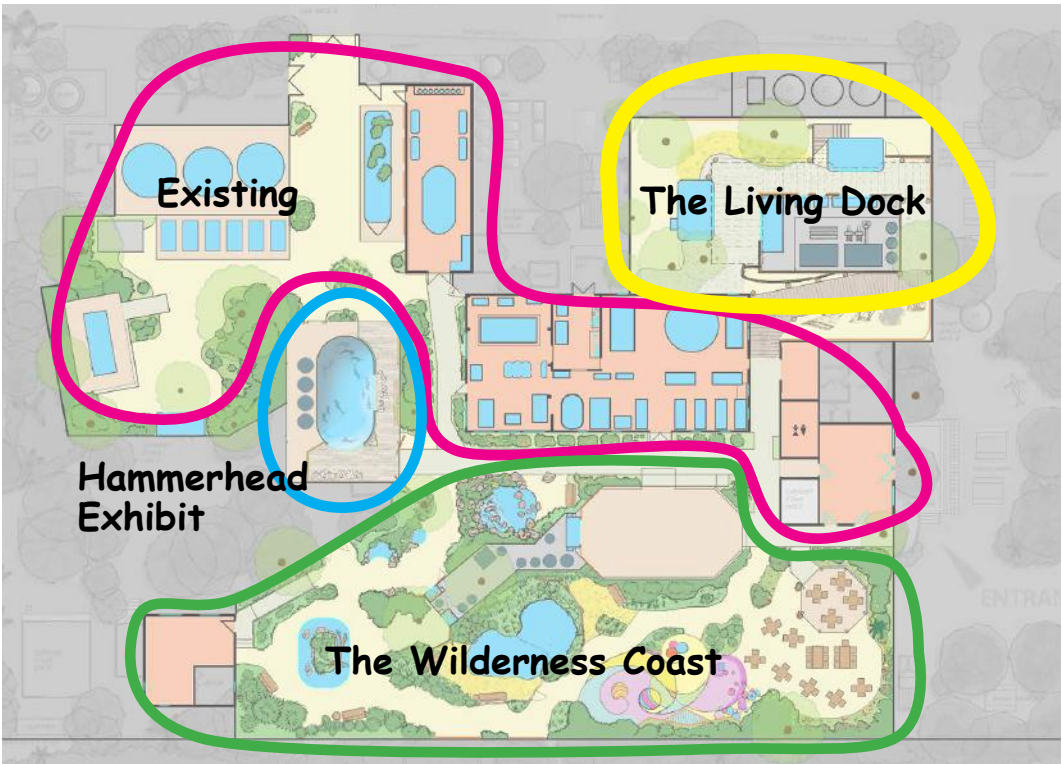
The aquarium’s focus on local species allows the opportunity to display animals out of doors. The first section shows the design of four new areas:

1. A Hammerhead shark exhibit in a 20,000 gallon tank
2. The Living Dock display with a series of smaller and larger cut-away tanks
3. The Wilderness Coast: native plants and landscaping with a wade-in ray tank, a play area and several smaller tanks.
4. The Gulf Coast Nature Trail: a discovery walk through the land adjacent to the aquarium

An integral part of the design for new and existing areas is the addition of plantings to create beautiful grounds. Planting islands and gardens with native plants will give visitors the chance to experience and enjoy the nature unique to this area. New exhibits are planned to be low-impact with construction sensitive to existing trees and their root systems.

The second part of the brochure makes suggestions for enhancing the existing aquarium and facilities while highlighting the role they have played in supplying schools and research programs with sea life for study. Visitors will have a view of a wide and changing range of sea life of the Gulf Coast and learn about collecting and shipping these animals.

These pages were prepared by Martin Schuchert (wild-design) with Joe Choromanski (Serviette LCC).



New Exhibit Areas

Hammerhead Shark Tank.....	4—7
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Gulf Coast Nature Trail.....	29—31

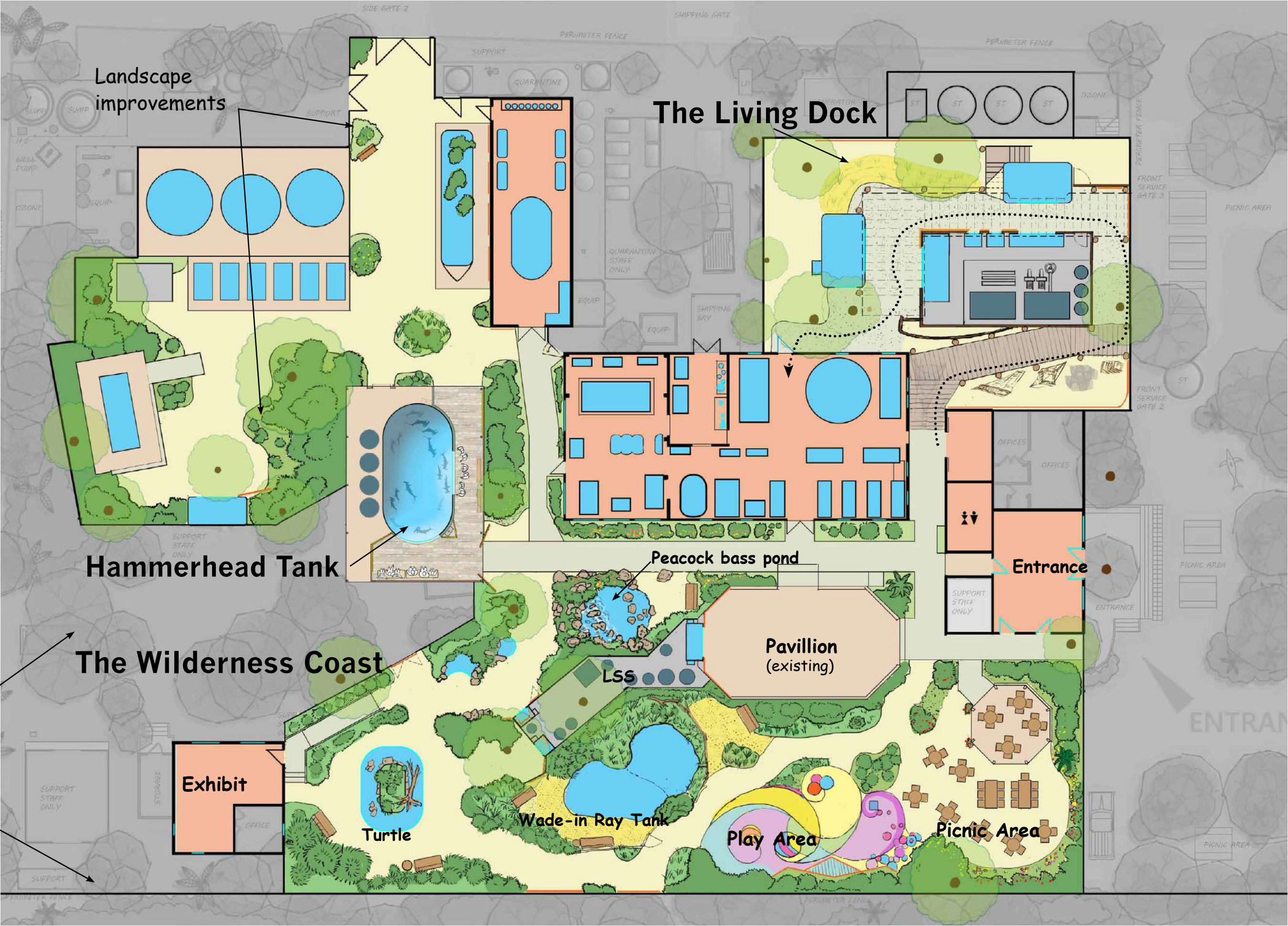
Renovation to Existing

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Plan Overview



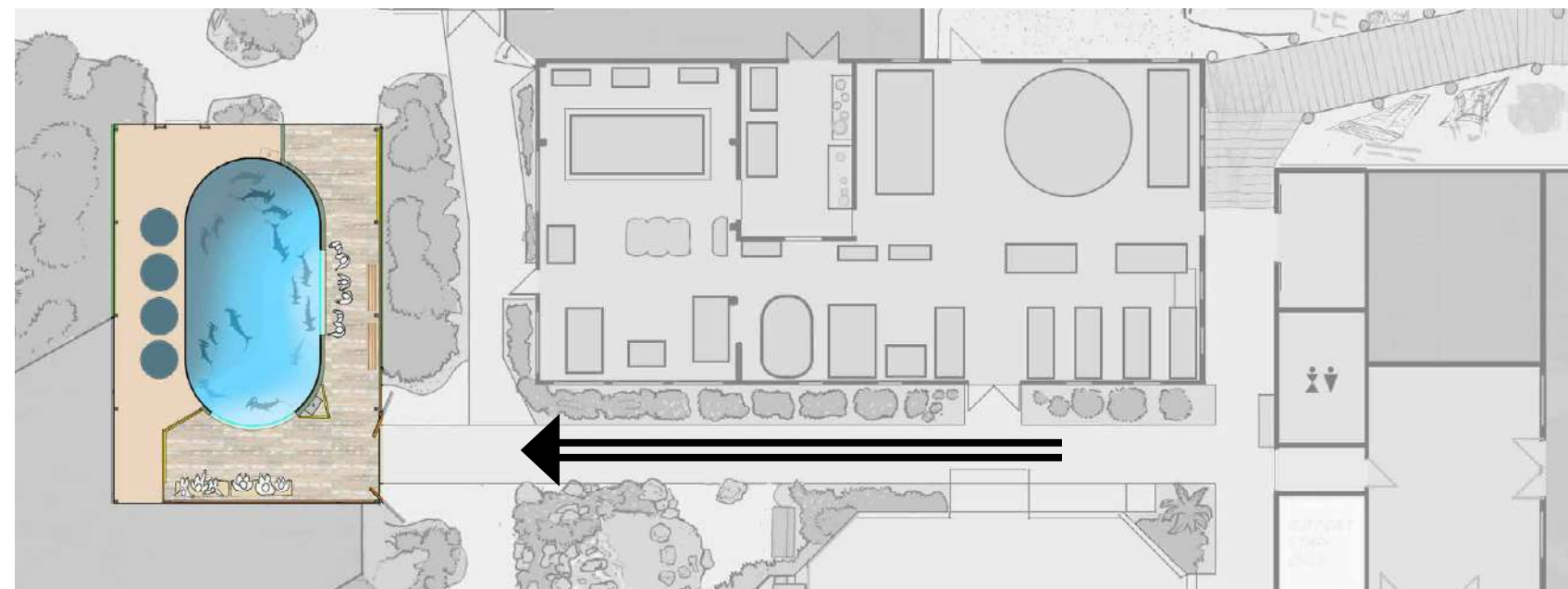


Hammerhead exhibit

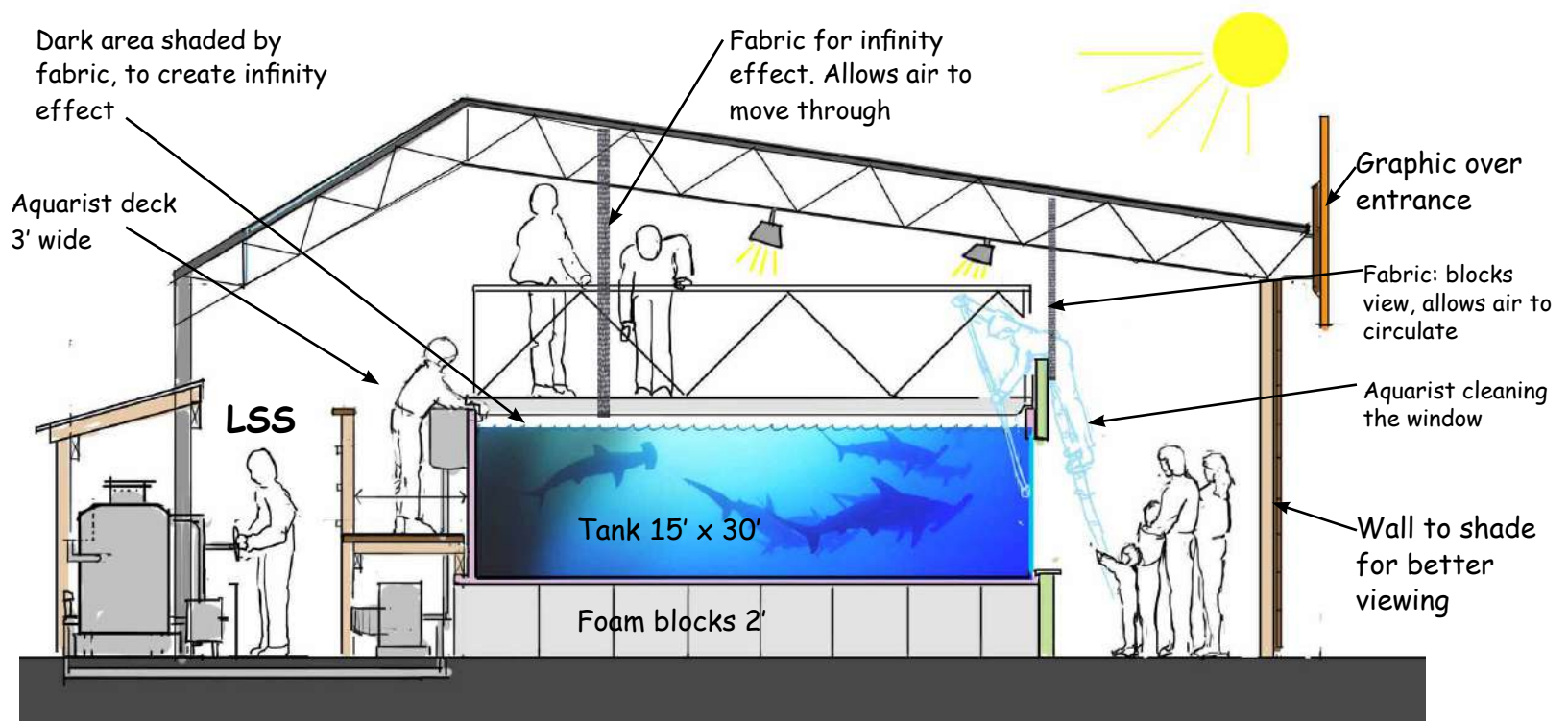
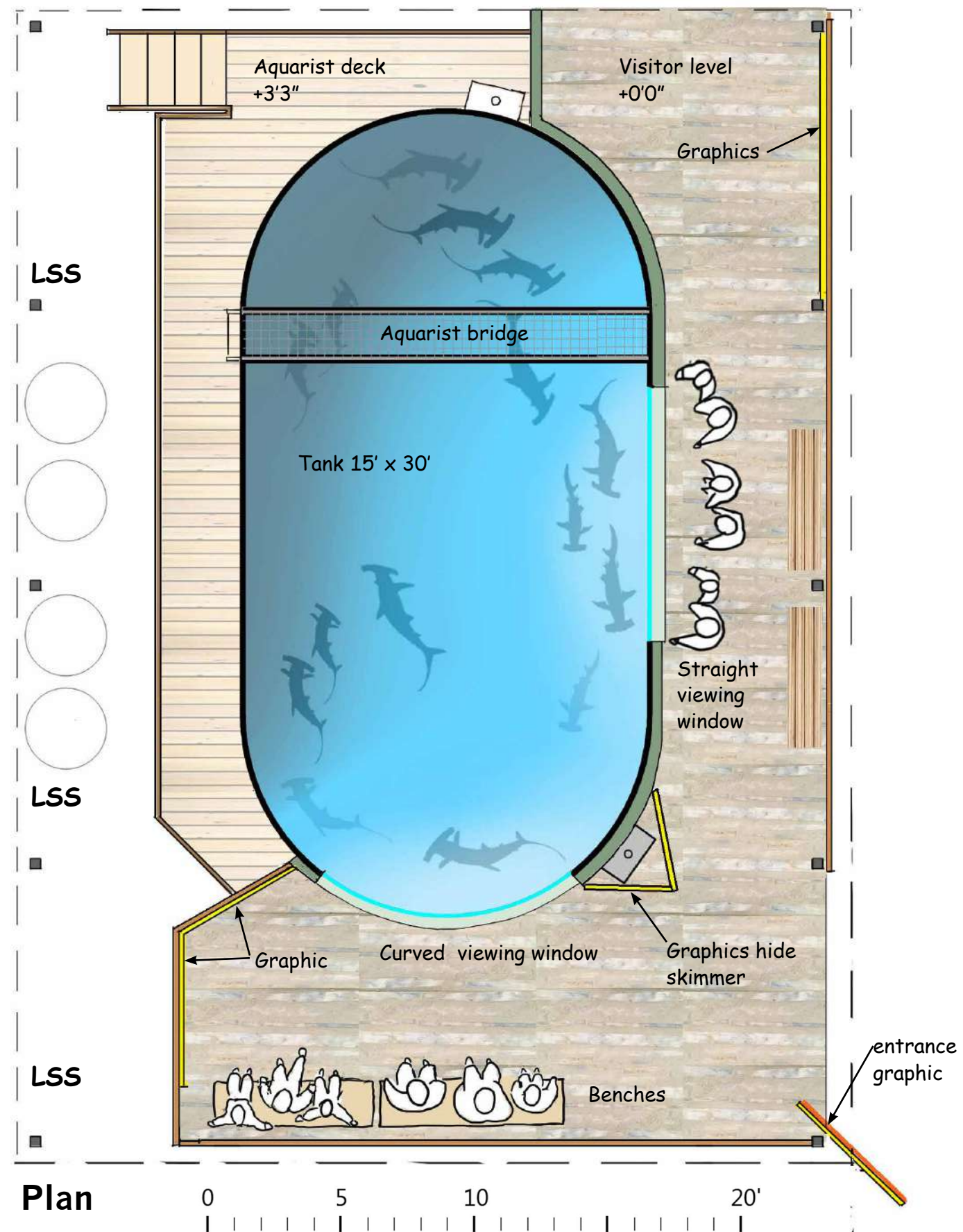
Every visitor has certain basic expectations when they visit an aquarium. Some want to see Nemo the clownfish and his friends, others want to view seahorses and sea turtles, but everyone wants to see a shark! Although GSML&A currently does have a nurse shark on display, it is in a relatively small tank that is somewhat poorly viewed from above. Since the GSML&A logo has been a hammerhead shark for so many years, appearing on each and every Styrofoam shipping cooler shipped all over the world, it seems fitting that the Aquarium have its own purpose-built hammerhead shark exhibit! The scalloped hammerhead shark (used on the logo) while native to the Gulf of Mexico, grows large and would require a larger exhibit than the campus could accommodate, but a closely related cousin, the Bonnethead shark (*Sphyrna tiburo*) is an excellent alternative.

We chose the location for this new exhibit based primarily on the best point in the visitor path but also keeping it nearer to the sources of power and make-up seawater (although this exhibit will definitely have its own dedicated recirculating Life Support System). Currently, the trailer home of the on-site staff night watchperson is located here but this is planned to be relocated soon.

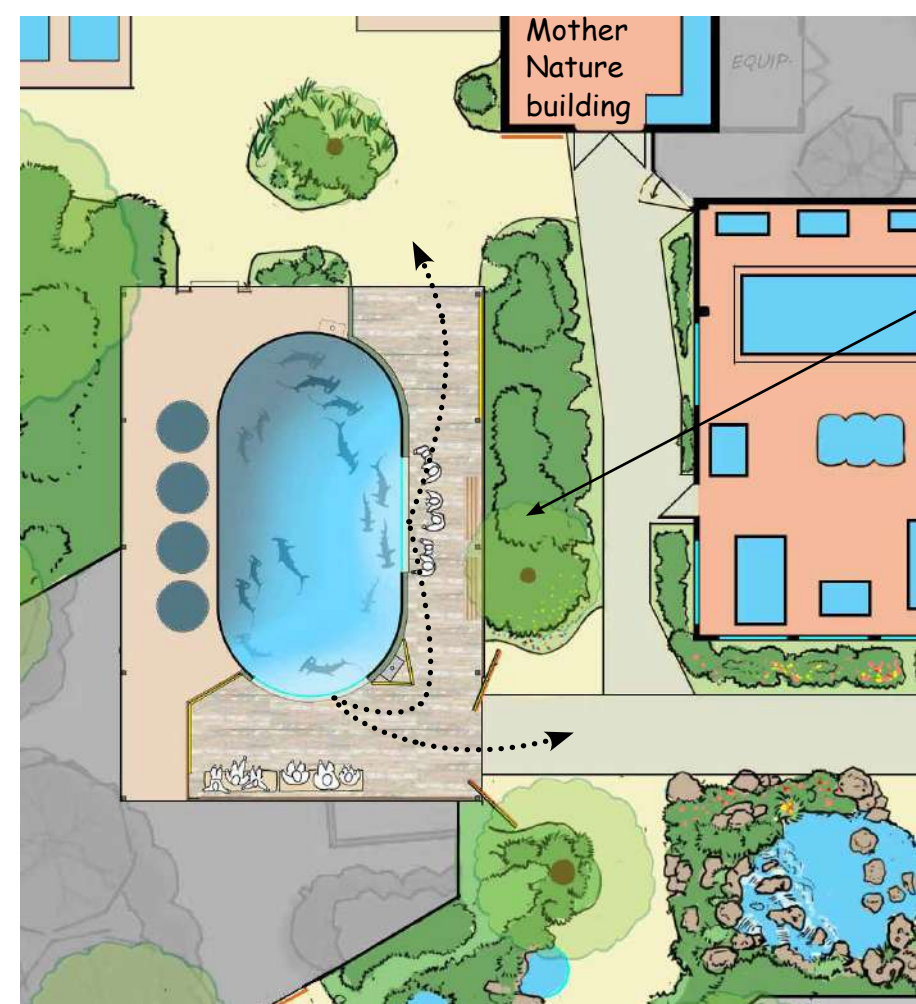
View along the path to the Hammerhead Shark Exhibit entrance



Hammerhead Plan and Section

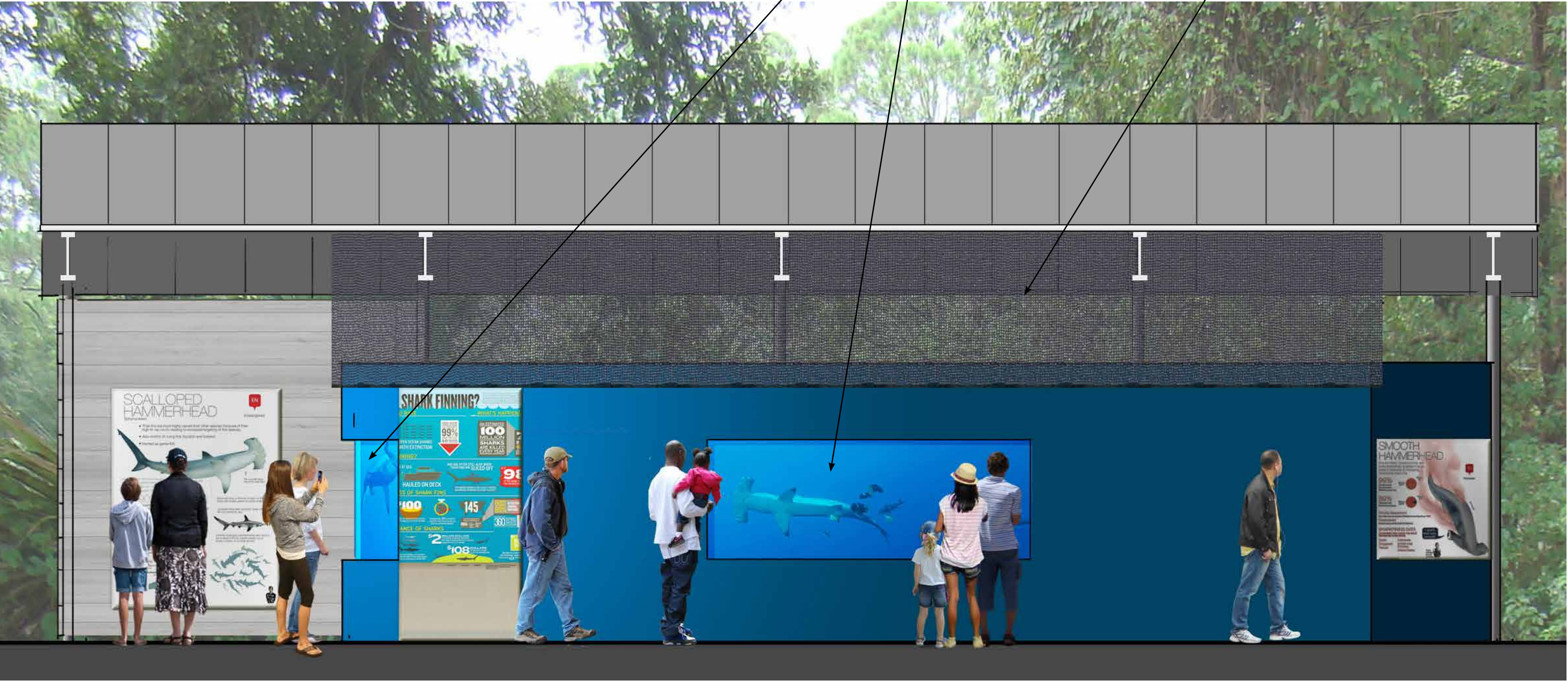
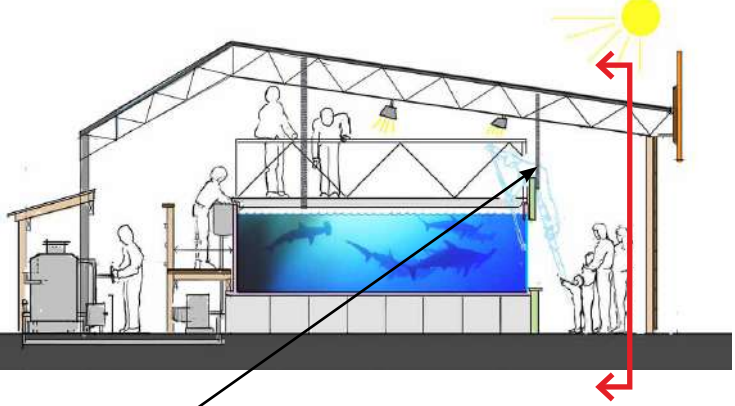
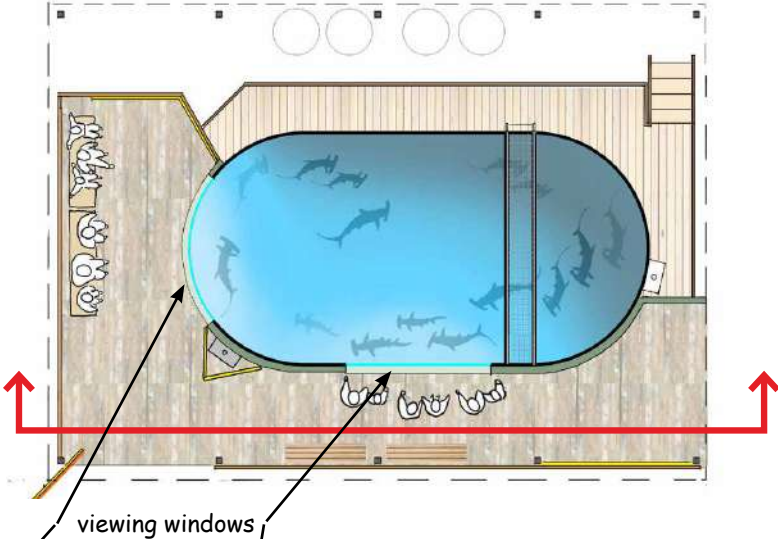


Cross Section



Overview Plan

Hammerhead Section Elevation



Hammerhead

Reference photos

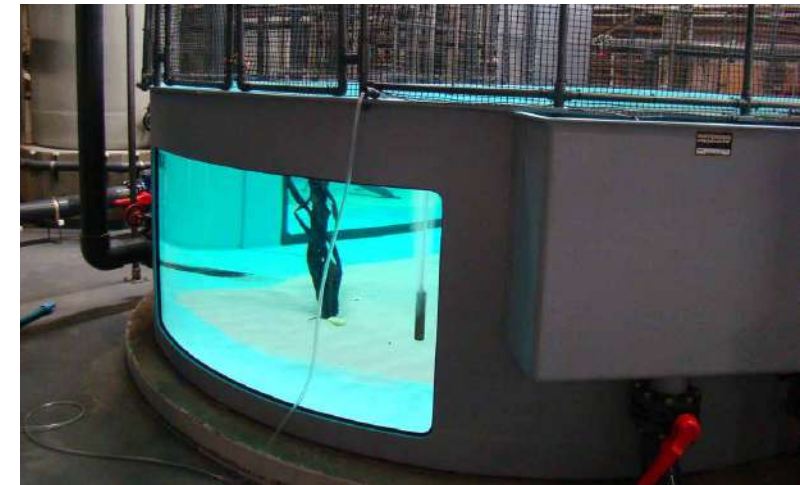
Pole structures. Photos from the internet by Panhandle construction companies.



*Substructure under tank: 2' foam blocks.
Bottom row: Aquarist deck behind tank.
Reference photos: Oklahoma Aquarium, Tulsa*



Fiberglass tank reference photos



The Living Dock

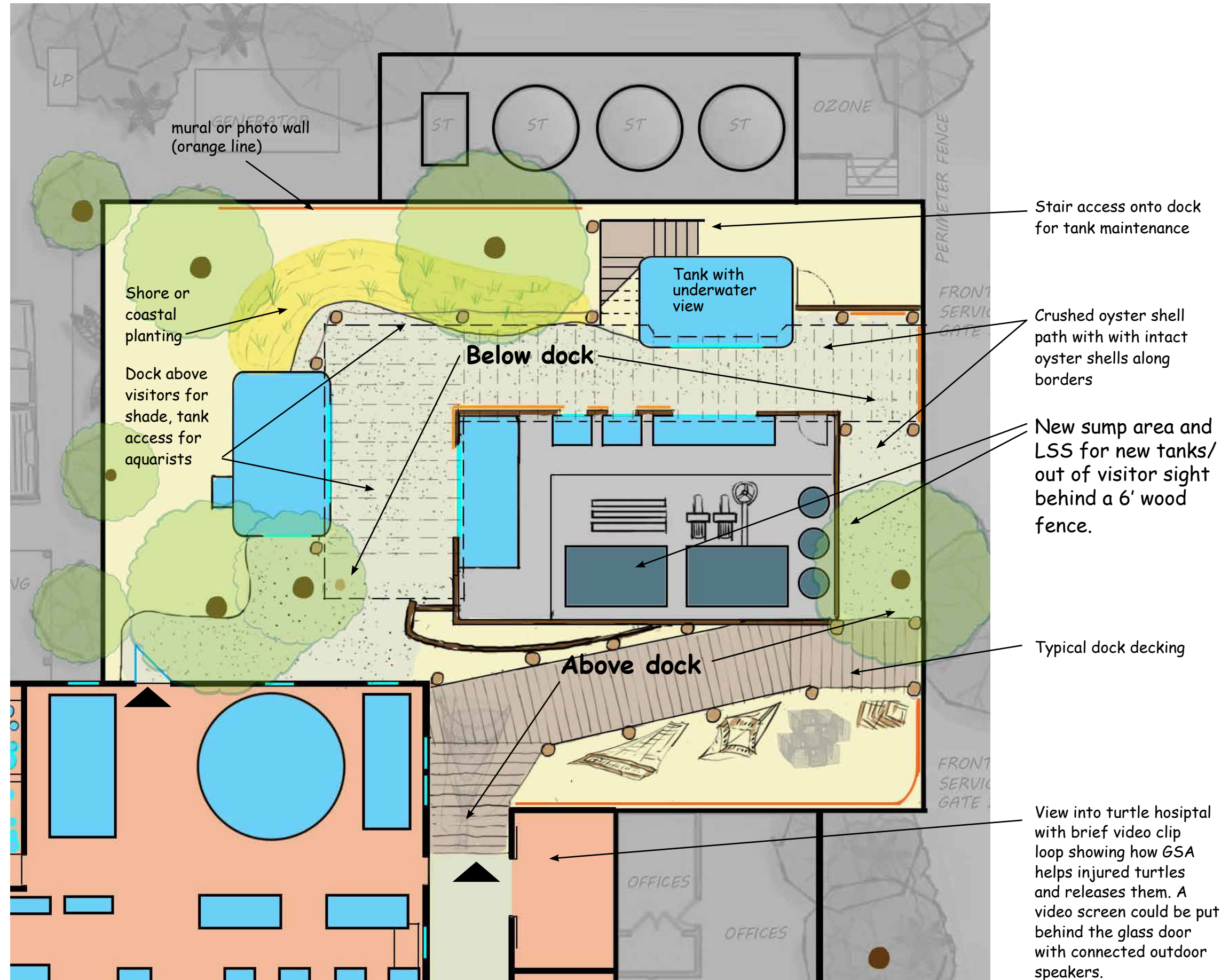
This area in the northeast corner of the campus is a prime location for redevelopment into an exhibit space while also allowing for some much needed main Life Support System (LSS) upgrades. Currently, there is an old unusable building and the existing old main LSS. By demolishing the building, this creates space to rebuild a new main LSS (with new larger/deeper return reservoirs for system stability) just north of its current location so that the new LSS can be installed while the old LSS is still operating. After the old LSS is removed, space is created for this new exhibit “gallery” path. This design also requires the removal of a small seahorse exhibit in the main building to allow for a new door/passageway which provides a circular path in the new exhibit area.

These exhibits focus on fishing in Panacea: the history, the industry and conservation.

The exhibit begins on a wooden dock decorated with commercial fishing equipment and information. The path continues on crushed oyster shell to an area under a dock where the visitor can see several tanks. The dock serves as a shade structure for the visitors, allows better tank viewing and enables the aquarist to service the tanks from above.

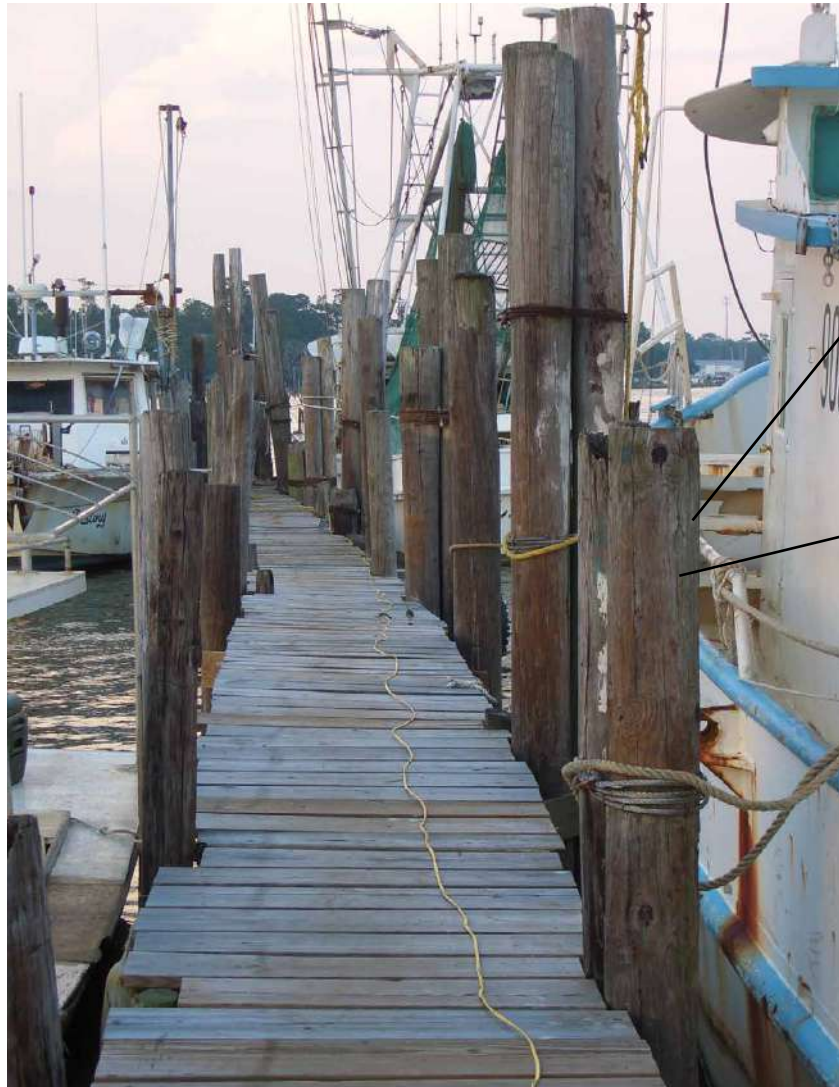
The tanks may be stocked with mixed species or with a single species. They may change according to what is available and what can safely and healthily survive the season. Some species that are currently inside in tanks with limited views (only from above) could move out here if the temperature is suitable.

Fish, Fishing and Fisheries

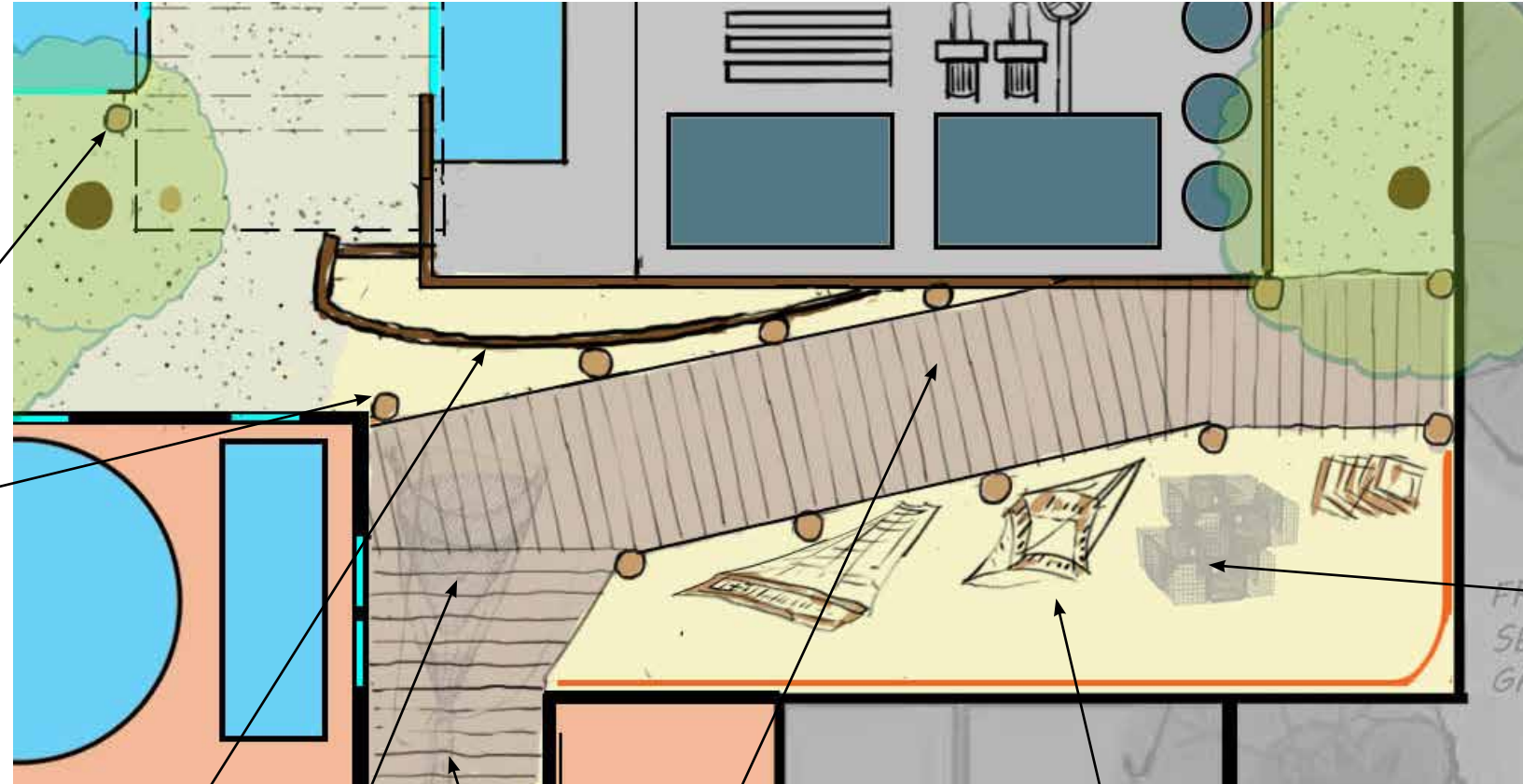


The Living Dock

Above the dock



Boardwalk path: framed by pilings riddled with wormholes, themed with fishing ropes and equipment



Below: Wood decking either level with the ground as shown below or 6" above the ground, to keep visitors on the path. Also consider a low rope railing.

Part of the hull of the ship "Panacea"; a fishing net hangs over the visitors' heads.

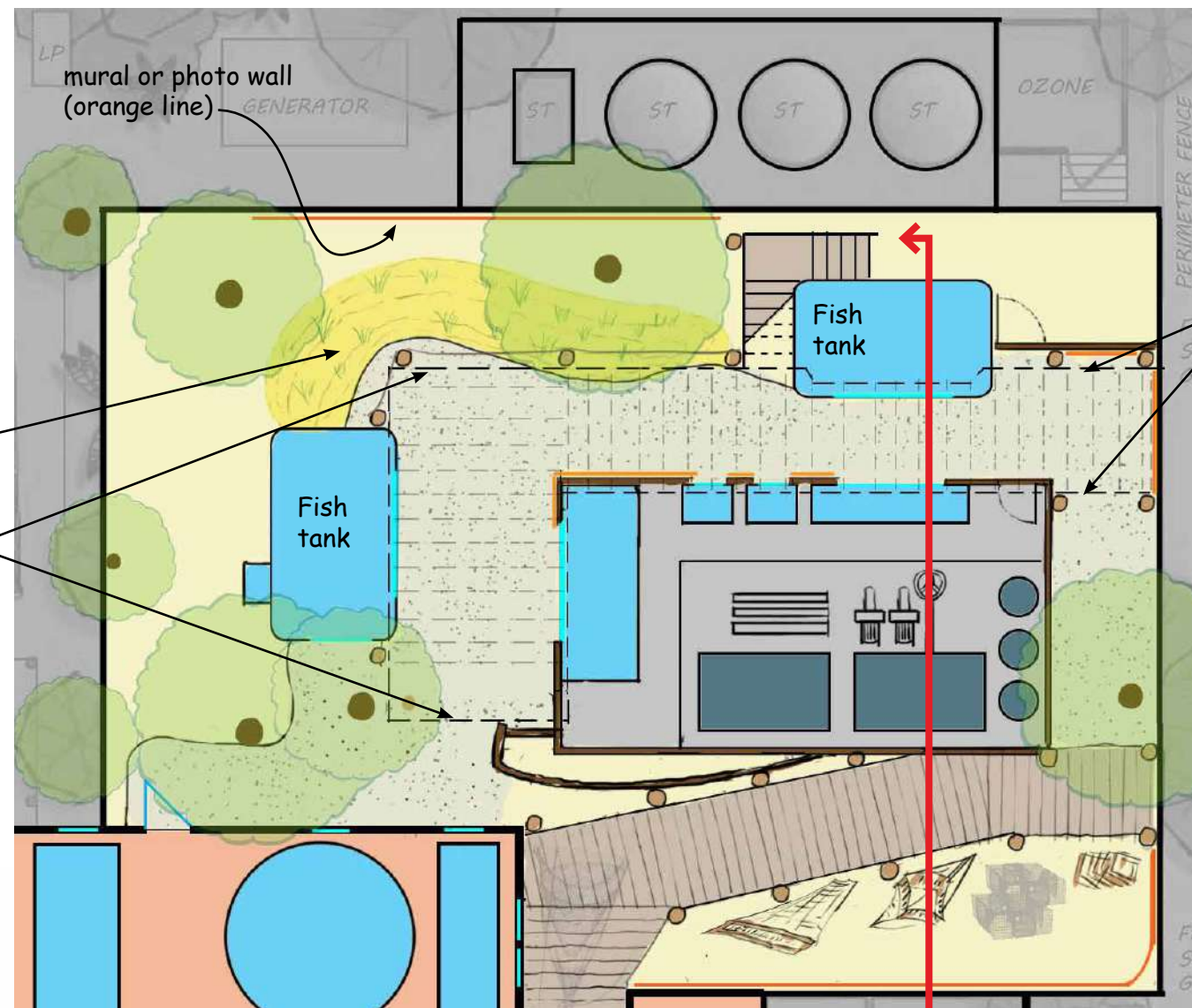


The Living Dock

Below dock



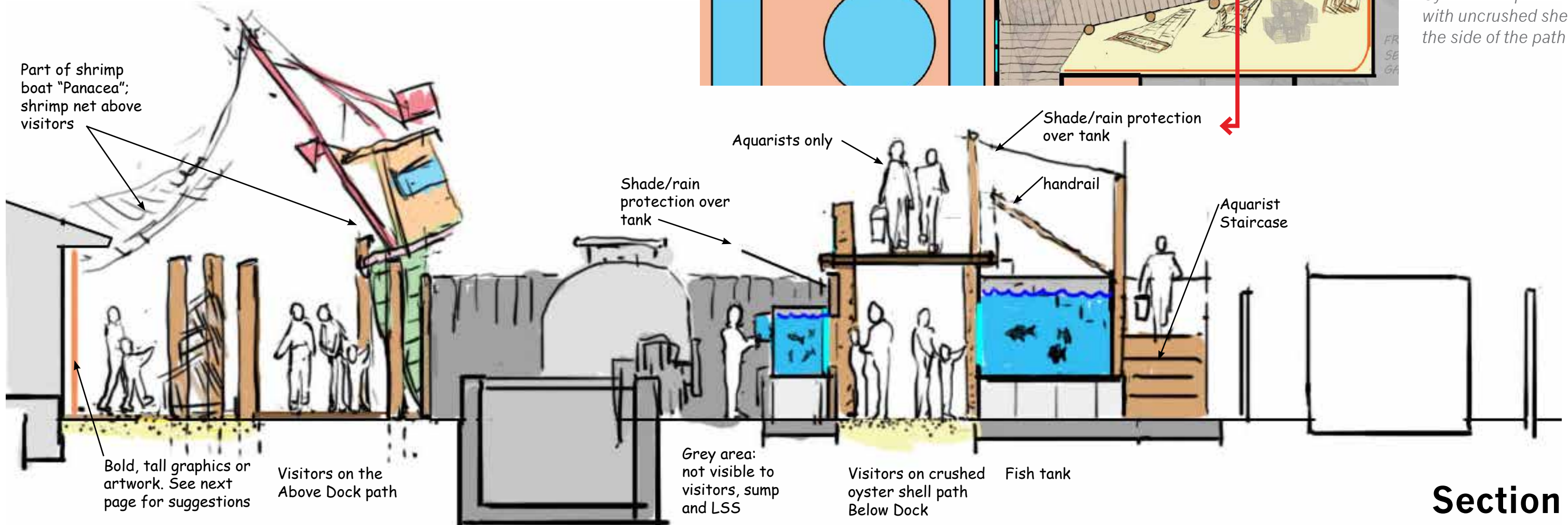
Landscaping in front of mural or photo wall: native grasses or shrubs that create a coastal feel.



Plan



Oyster shell path. Possibly with uncrushed shells along the side of the path



Section



The Living Dock Art

The Living Dock is surrounded by wooden fencing; the sump in the center is also enclosed. This wall space can be used to exhibit art, murals or photography. Some possibilities include art replicas or prints from Walter Inglis Anderson, fine art photos of commercial fishing, photos from collecting trips, or historic prints.



The Living Dock

Shrimp Tank



Reference photos: Oklahoma Aquarium, Tulsa, OK



Alternative to exhibiting fishing gear along the boardwalk of the Living Dock: an open shrimp tank.

Reference photos are from the Oklahoma Aquarium in Tulsa. (GSA tank would preferably be without feeding)

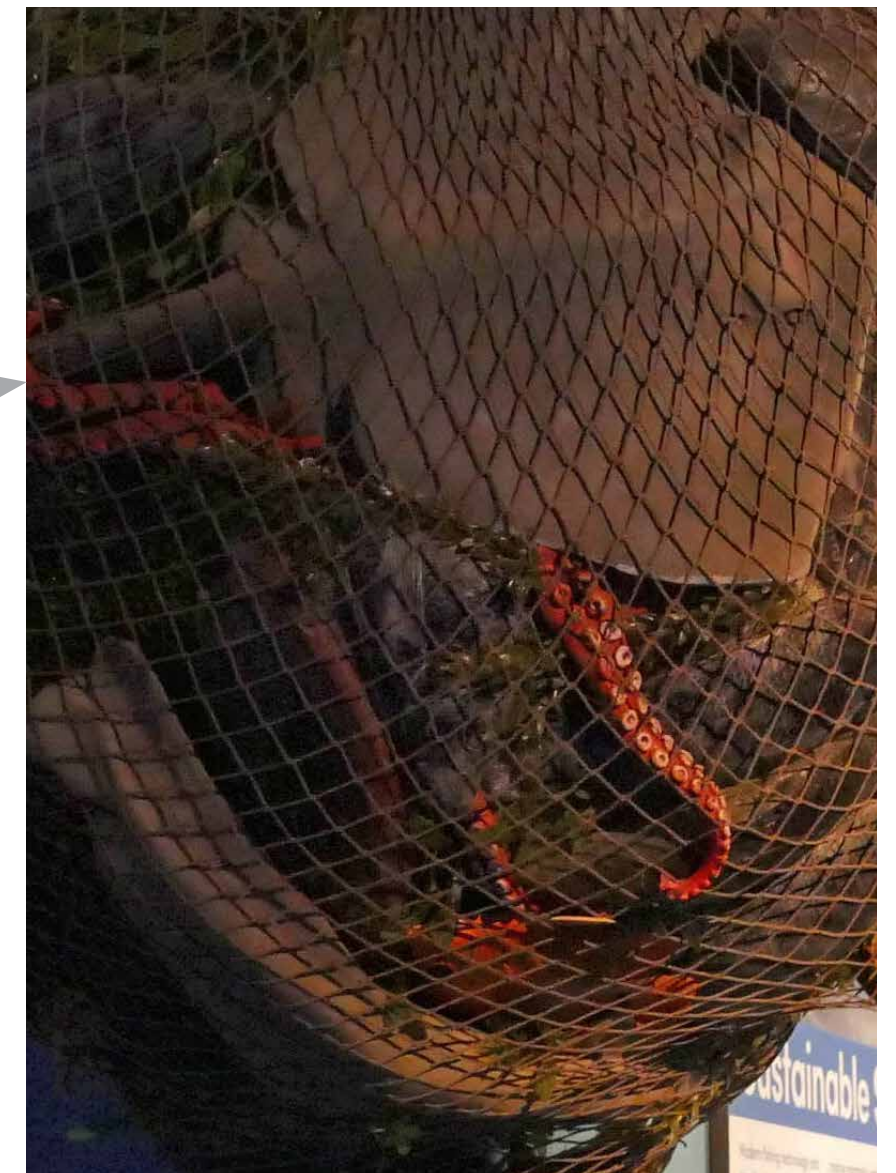
The Living Dock

The impact of shrimping.

Educational signage display



Signage with models showing how much bycatch comes with one pan of shrimp, including an explanation of overfishing and choosing sustainable fish to eat. Additional text explaining GSA's beginnings and use of bycatch.



Reference photos: display at the Arizona Sonora Desert Museum



The Wilderness Coast Fish, Flowers, Fun

This area offers visitors an active aquarium experience. It includes a wade-in ray tank, play area and picnic area. Additional tanks may display baby alligators and turtles. This area should be heavily landscaped with a focus on flowering plants. The landscaping and seating will create a space that is desirable for social functions (weddings, fundraising events, etc.)

Plan Overview



The Wilderness Coast Outdoor Tanks

reference photos

These reference photos show tanks that are located outside - some with covered visitor viewing. The tanks are located in Florida, Texas, Missouri, Oregon, the Czech Republic, Switzerland, Singapore and Japan.

By using local species GSA can expand its displayed collection without the need for climatized construction. Some species may only be displayed seasonally. Tanks might need rain or sun protection.

Many of the tank viewing panels shown here are made of glass, not acrylic.



The Wilderness Coast

Native plant landscapes



Landscaping can play a huge role in helping to create the relaxing atmosphere and natural environment that aquarium visitors enjoy, especially at outdoor facilities, which is why the big animal parks like Sea World, Bush Gardens and Disney World (Living Seas) spend much time and effort planting and maintaining these landscapes.

We are big fans of native plants. They require less water once established, and provide food and shelter for insects, birds and mammals. A large majority of the plants used in Walt Disney World Resort landscapes are native species. They consult regularly with horticulturists and botanists from several universities and other institutions to select appropriate species.

It would be ideal if you could find a Florida Nursery, Growers and Landscape Association (FNGLA) Certified horticulturist to help you. Parks that use these include Atlantis Resorts and Baha Mar (Bahamas), Sea World Orlando, Walt Disney World and Busch Gardens Tampa.

As the most inexpensive building material, plants-should be used extensively throughout The Wilderness Coast area to hide structures, frame tanks and border paths. All exhibits are to be respectful of exisiting trees. Most fences, that are not covered by graphics, should have climbing plants and other plantings to make them disappear.

Native plants of the Florida Panhandle (<http://floridayards.org/index.php>)



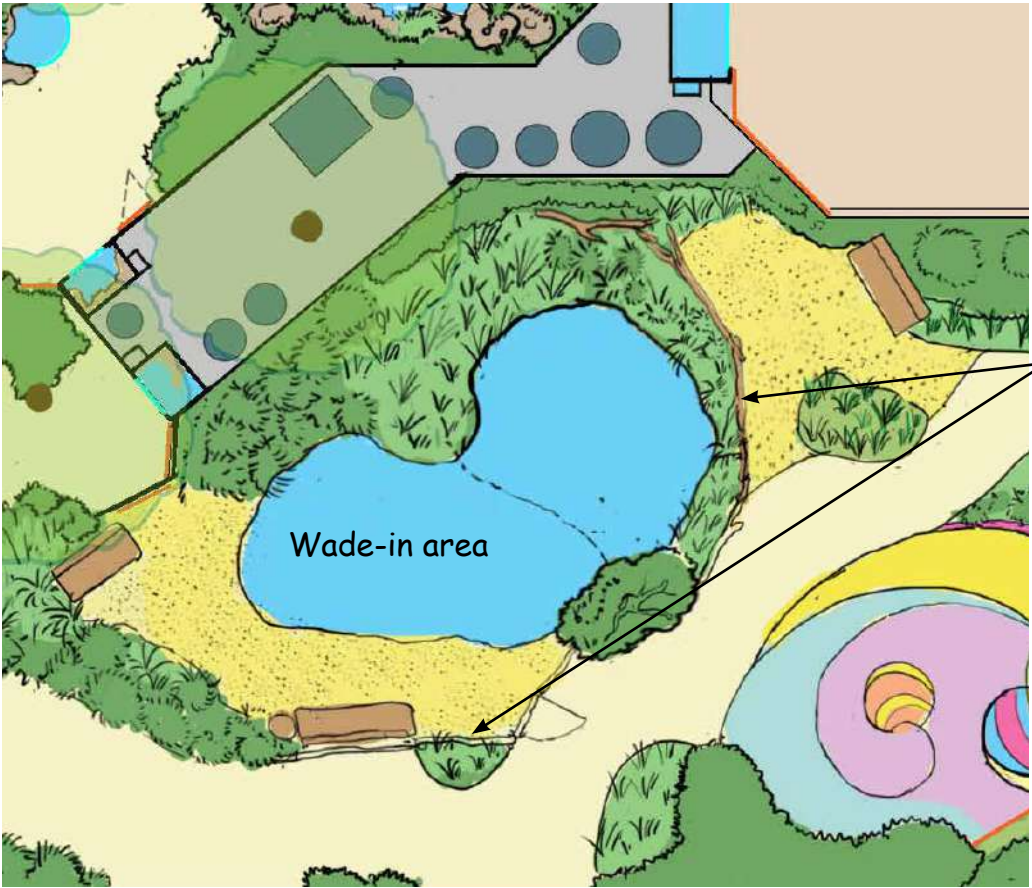
The Wilderness Coast

Ray Touch Wade-in Pool

Reference photos



Shade structure and wade-in area
Atlantis Aquarium, Long Island, NY



Beach fence



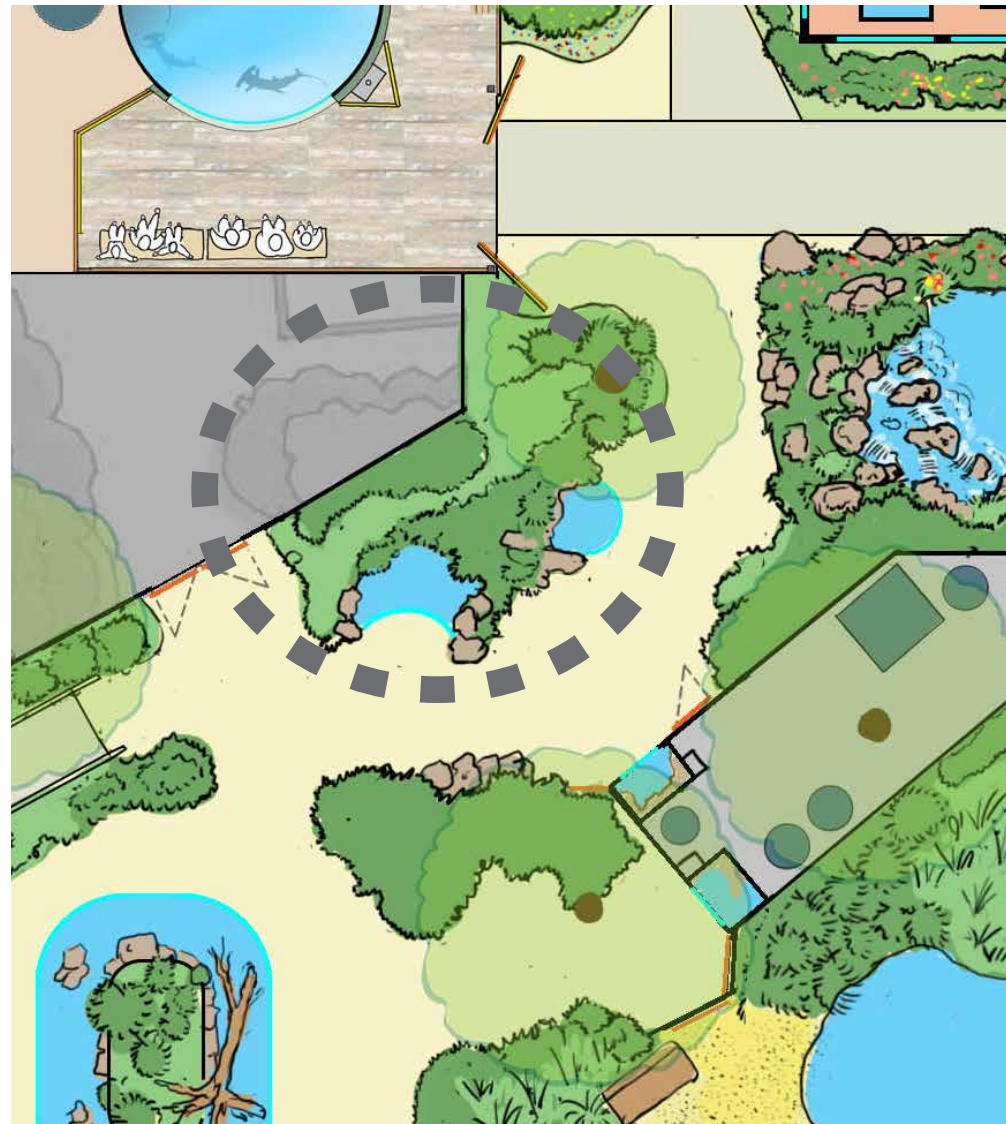
Native coastal grasses and shrubs
Beach/ sand fencing

Wade-in ray touch



The Wilderness Coast Reptiles

Outdoor displays of reptiles and amphibians will show visitors other local aquatic animals. The exhibits can be heavily planted without the threat that the plants will be destroyed.



Large, richly landscaped rattlesnake exhibit with water and land areas. Unique because of: large size, proximity to animals, beautiful plantings
Tennessee Aquarium

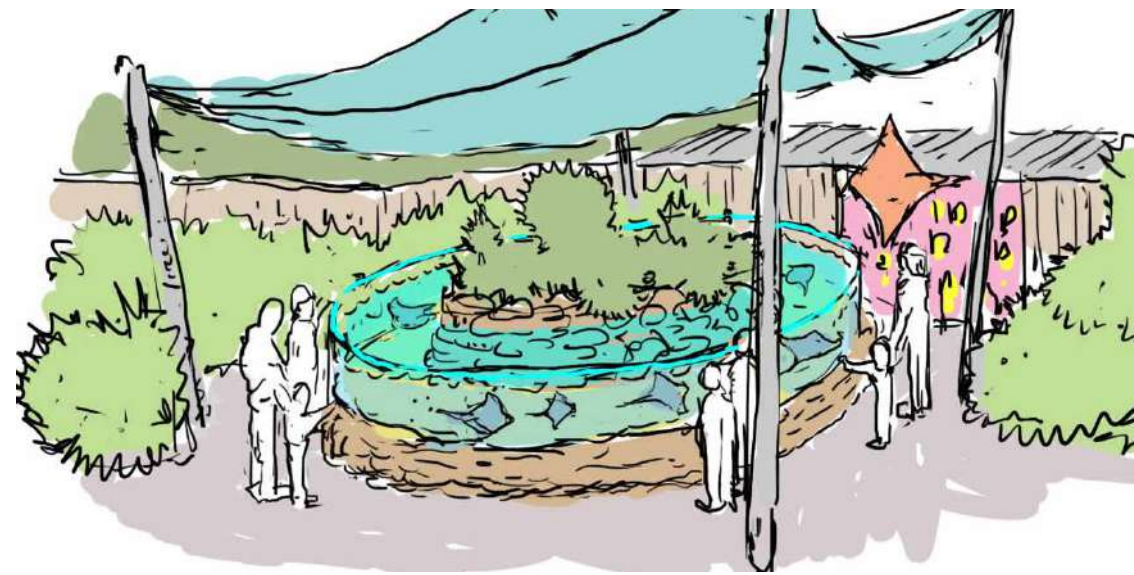
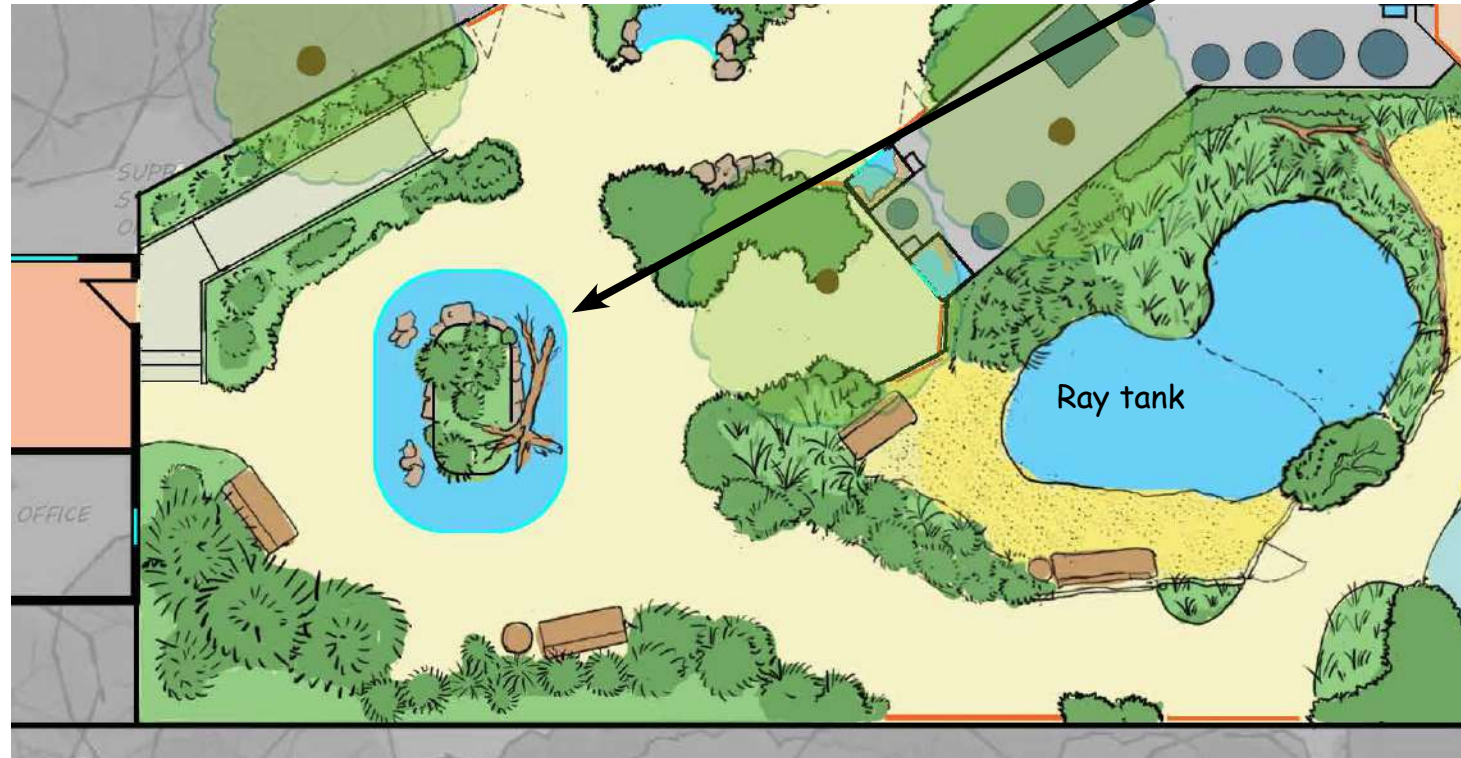


Baby alligators are appealing and don't need large exhibit space. This exhibit has logs, rocks, sand patches, hiding places, running water and a larger pool.

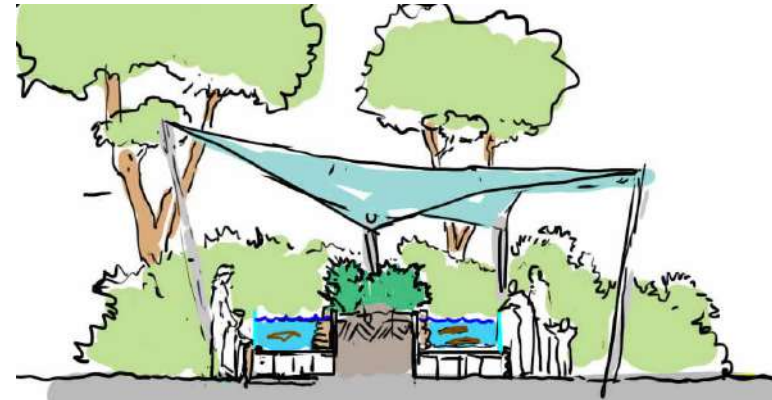
San Diego Zoo

The Wilderness Coast

Turtles

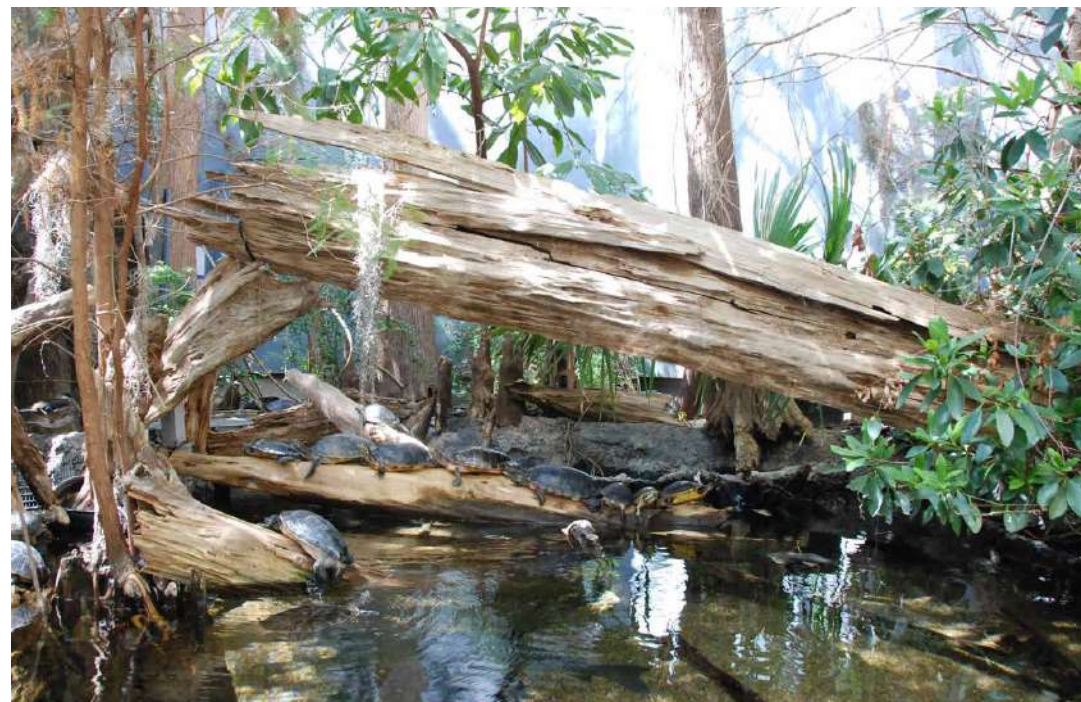


Alternative to the sun shade construction shown here, consider shade trees within the tank and surrounding the exhibit area.



Turtle exhibit Tennessee Aquarium

Turtle feeding for special tours or birthday events.
Carrot peelings clamped in clothespins on poles
Oklahoma Aquarium, Jenks OK



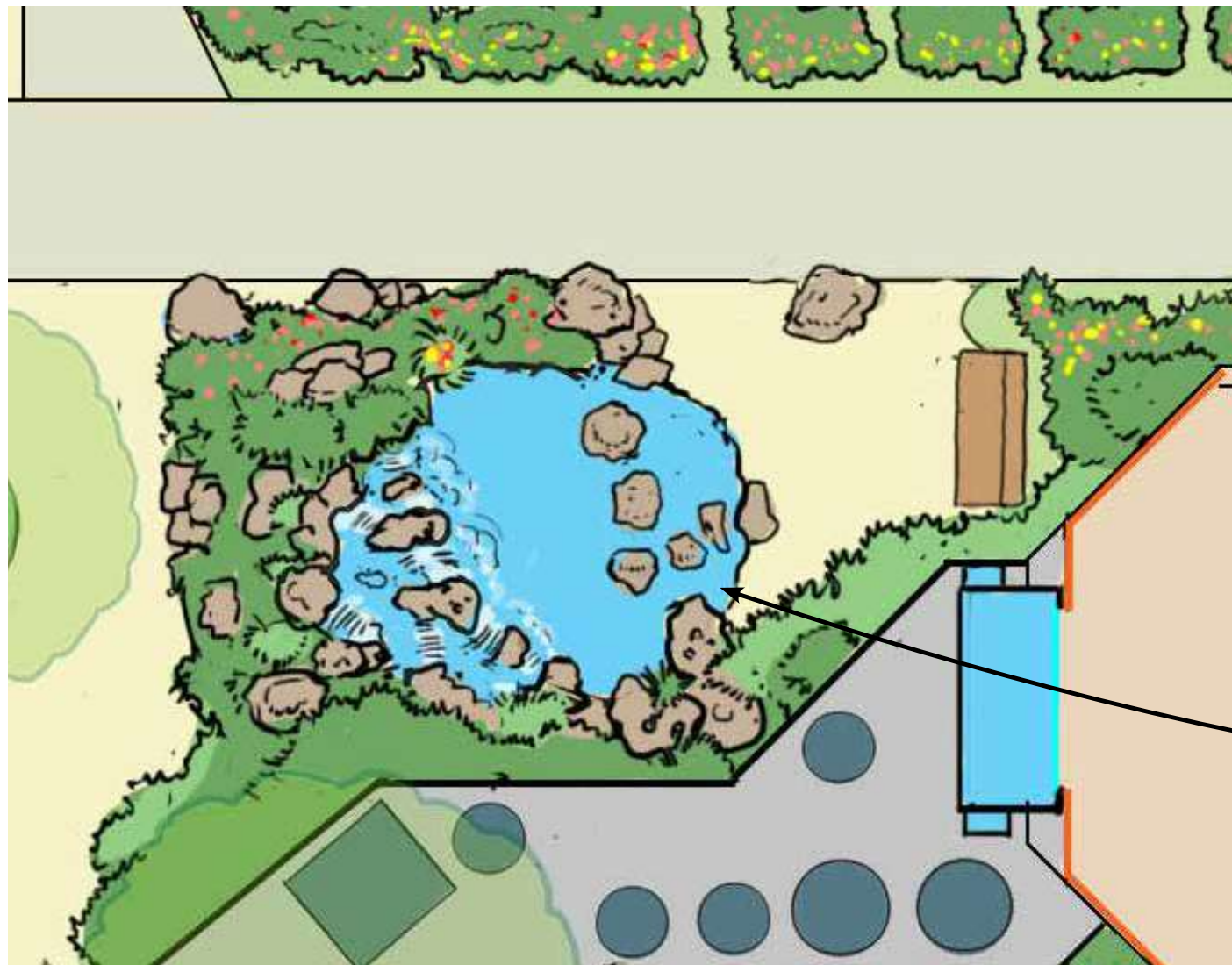


The Wilderness Coast Peacock Bass Pond

The peacock bass pond is located along the path to the Hammerhead Tank. The sound of cascading water at the exhibit will add ambience to the area and create a garden-like experience.



Cascading water



The Wilderness Coast

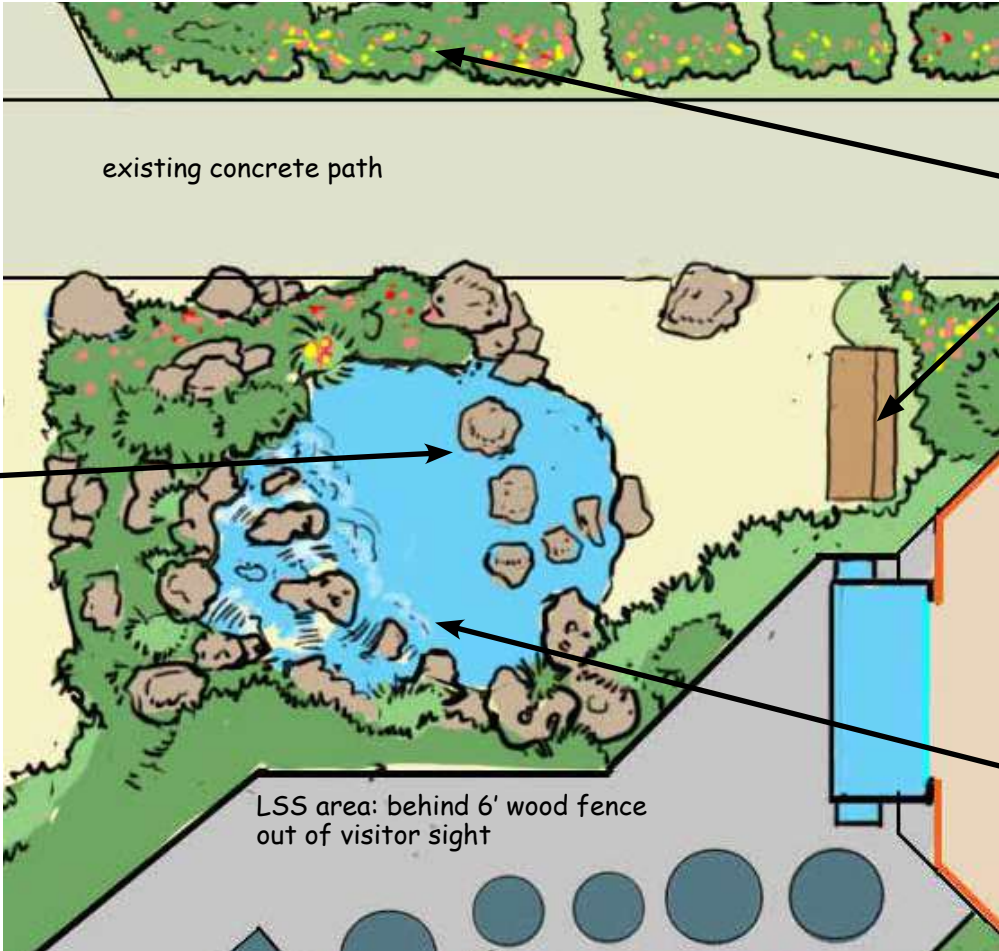
Peacock Bass Pond Features



Stepping stones through shallow water



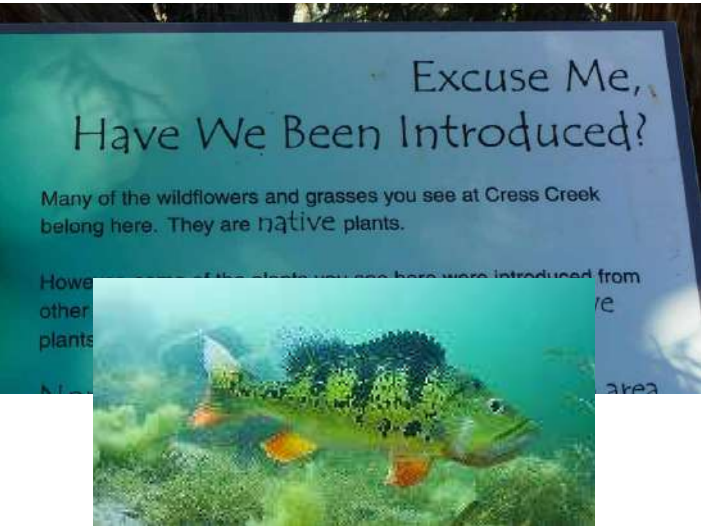
Periscope to observe the fish under water



Landscaping with native flowers and shaded benches



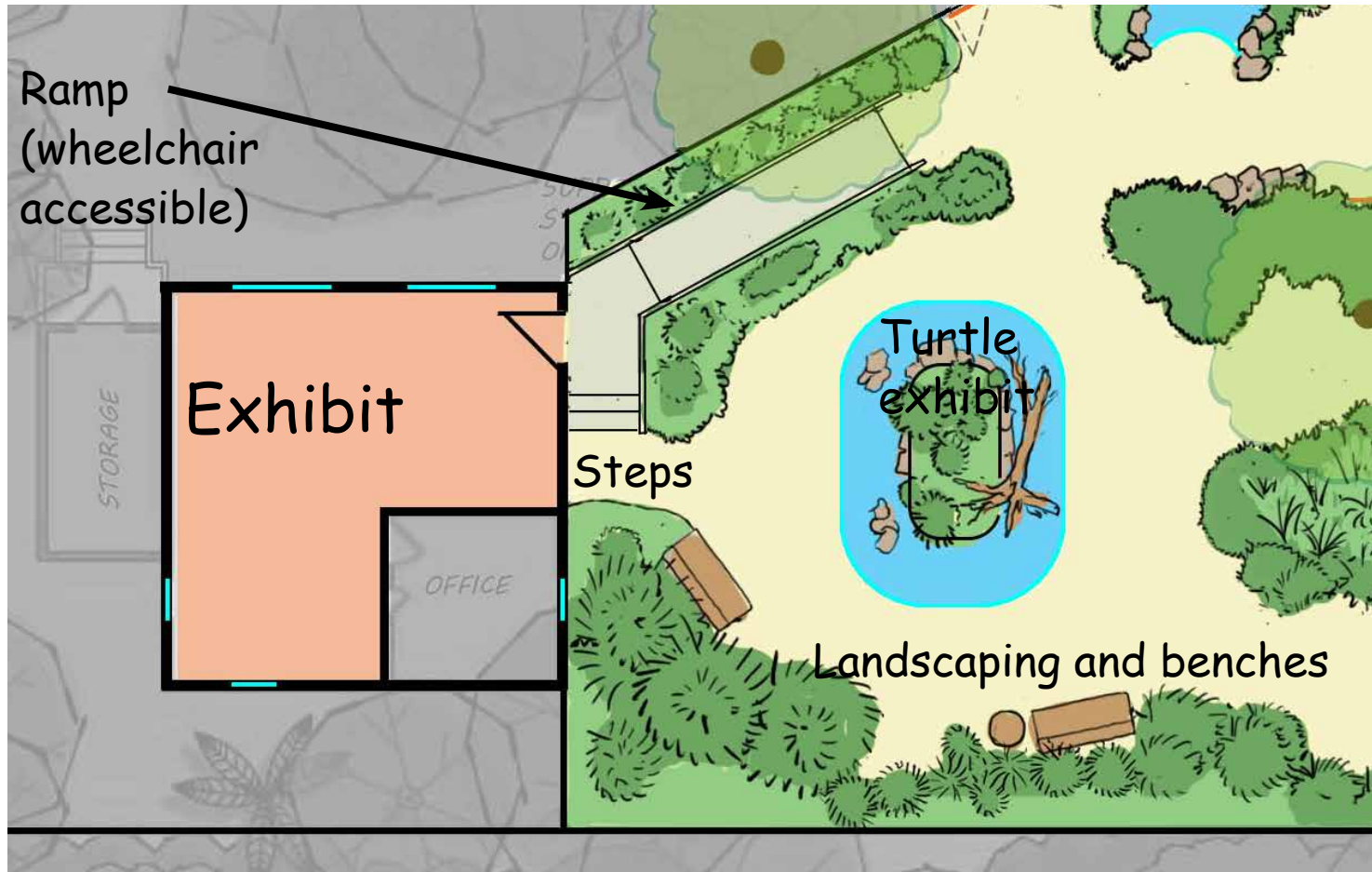
Cascading water and flowering plants



Educational signage : Introduced species

The Wilderness Coast

Exhibit Space



Although this building is used as a secondary office for some staff, it might be better repurposed as a public exhibit (and if so, handicap-access would likely need to be added as shown). The Lab has a plethora of historic information and preserved specimens that might make a great “dry” exhibit display similar to Doc Ricketts Lab of Cannery Row fame. Indeed, Jack Rudloe has correspondence from John Steinbeck who encouraged the creation of Gulf Specimen. Alternatively, this space could be used for temporary exhibitions of local artists or small exhibits on loan from other small museums or aquariums. This provides a regular “new” topic to market each year.

Wall of ocean related movie posters
Odysea Aquarium, Phoenix

This movie wall could be adapted for the GSA to a book wall with titles about the sea, oceans, and fish including:

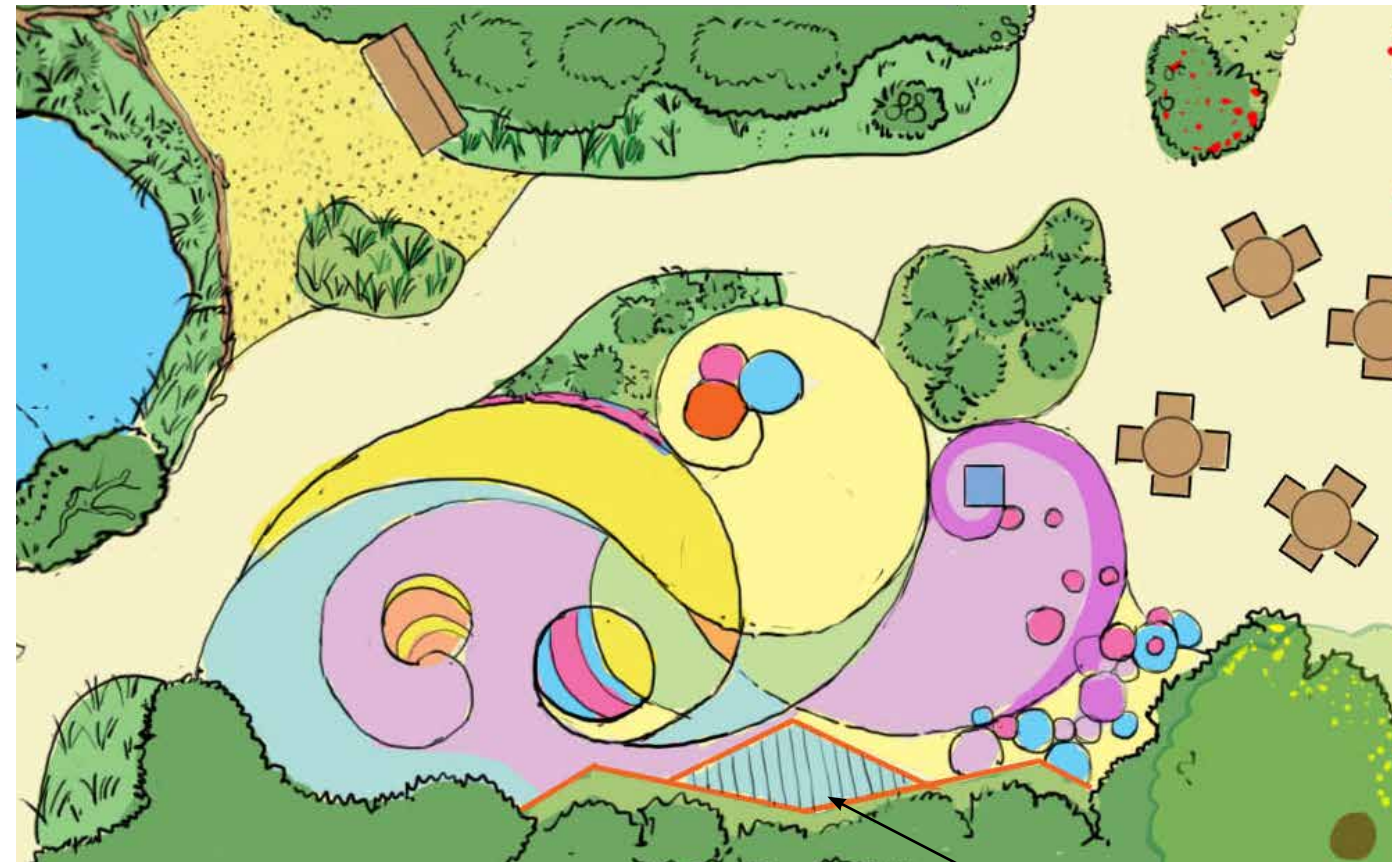
The Old Man and the Sea, Moby Dick, 20,000 Leagues Below the Sea, In The Heart of the Sea, The Rime of the Ancient Mariner, The Perfect Storm, The Sea Brings Forth, The Wilderness Coast, The Living Dock etc...



The Wilderness Coast Play area

This area gives kids the chance to have active fun outside and will extend the duration of the family's visit.

Climbing structures allow for play in all seasons. Sand lets kids dig, discover and build. Water sprays and jets are cooling in the summer.

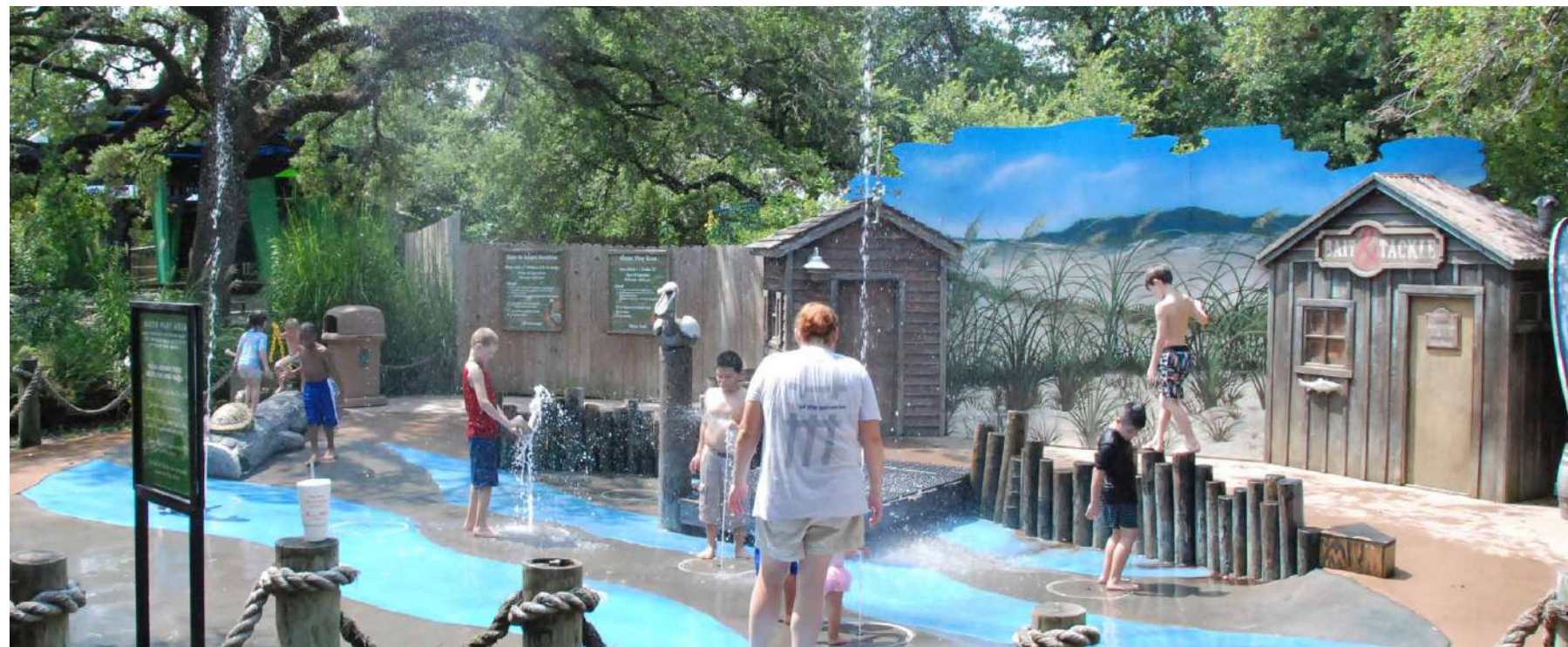


Informative, fun graphics along the back of the playground



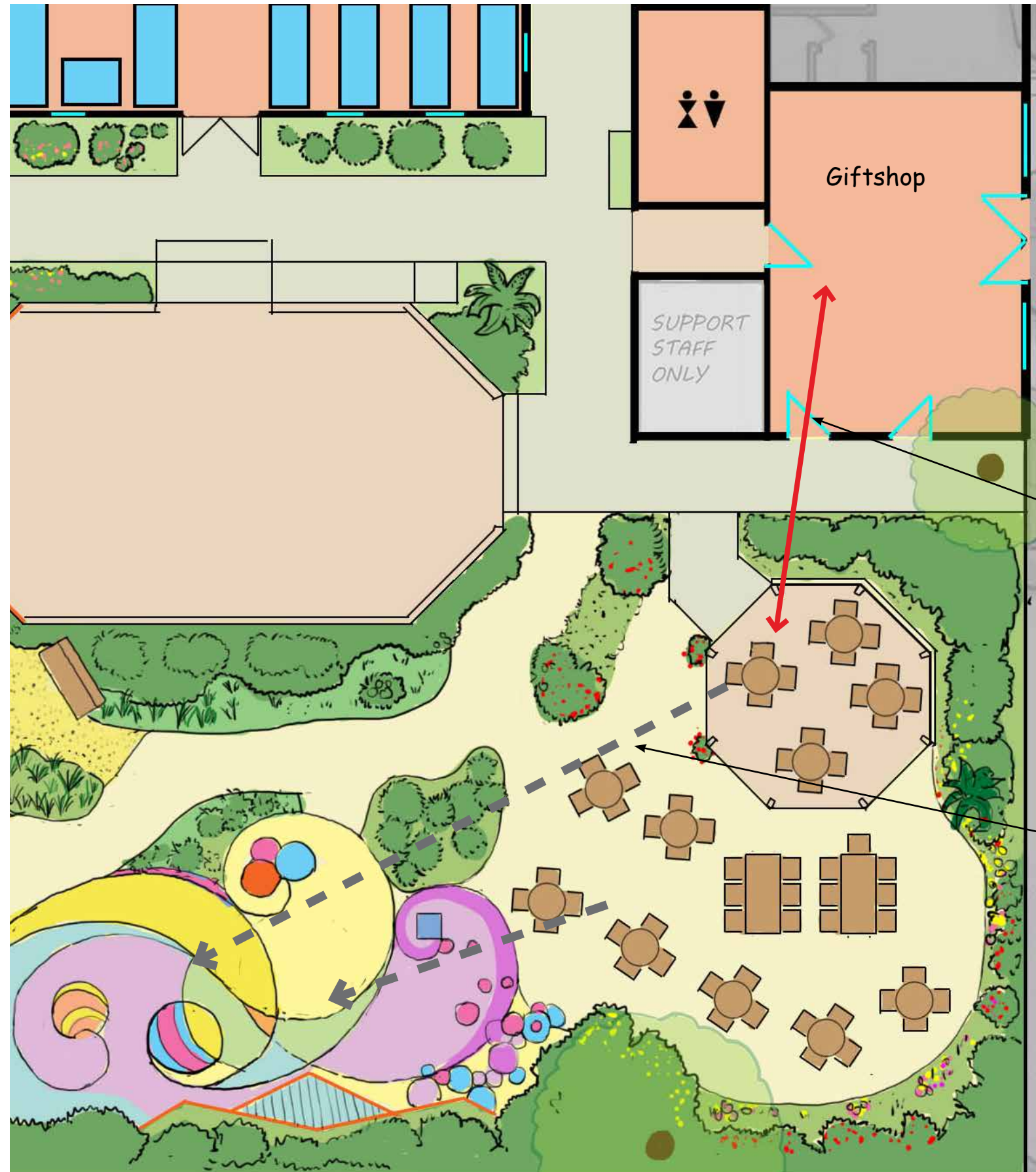
Nuremberg Zoo, Germany
Visitors take off their shoes to dig and play in the sand

below: kids use tools to excavate "bones"



The Wilderness Coast Picnic area

Picnic and cafe area with beautiful, native plantings. The gazebo provides weather-protected seating and could serve as a special area for weddings or social events.



Proximity between picnic and sales.

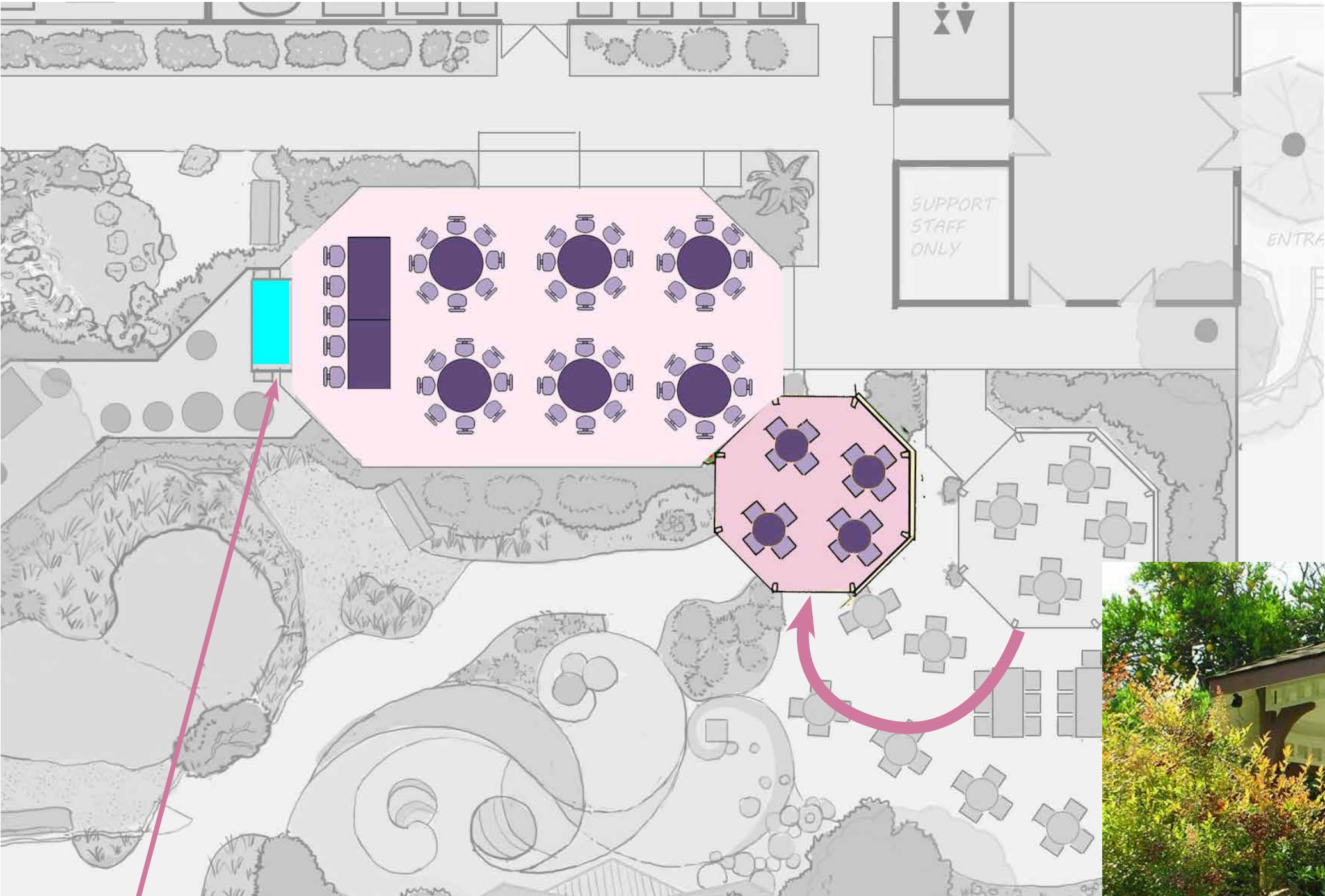
Parents can sit and see children at play



Depending on the location and type of construction, the gazebo may be attached to the pavillion to allow events to be independent of the weather



The Wilderness Coast Event area



Fish tank (new)

By moving the gazebo towards the pavillion it can be made part of an event space. The gazebo could be used for ceremonies, as band space or for seating.

Weddings and other events may usually happen in the picnic area under open skies. By making some minor improvements to the pavillion and adding a larger tank this exisiting construction could become an event facility to be used in inclement weather.



Above : pavillion drecorated for wedding event.

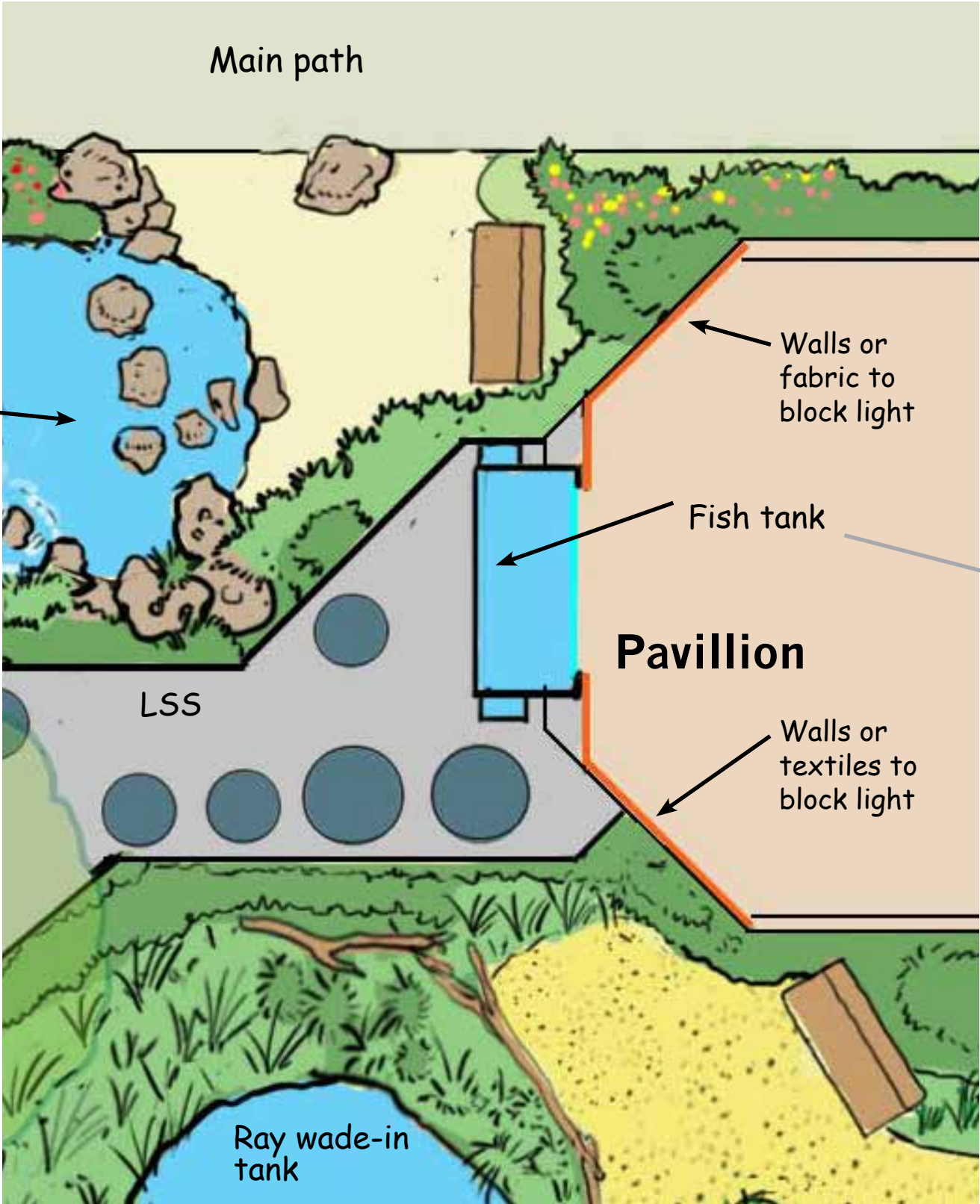
Below: pavillion with lush, beautiful plantings



The Wilderness Coast

Fish tank in Pavillion

Original Photo



Below: Photomontage of pavillion with fish tank and wedding decor. The content of the monitors can easily be adjusted for events.



The Wilderness Coast Butterfly Garden

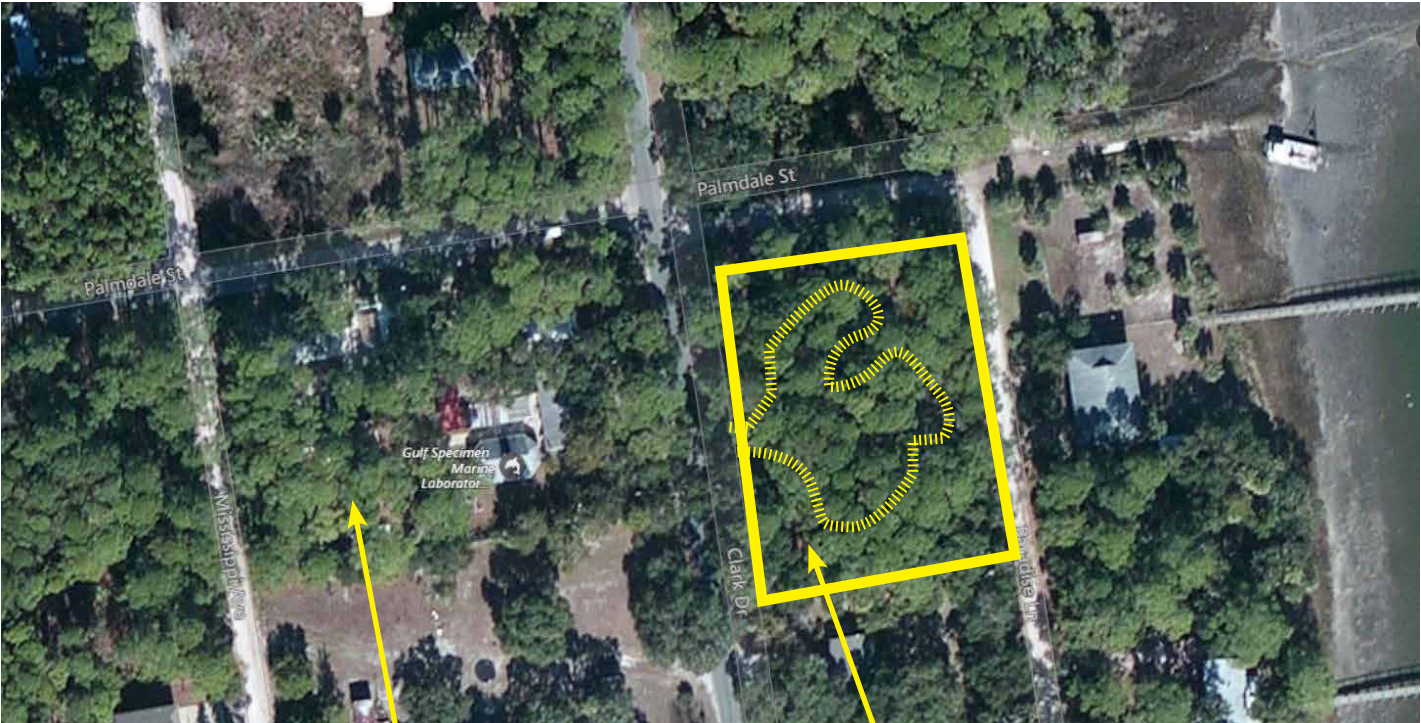
Florida has 180 species of butterflies - 170 are native. Using native flowering plants create a pollinator garden to attract butterflies, hummingbirds and wedding guests.

The University of Florida IFAS website (<http://edis.ifas.ufl.edu/uw057>) gives information on nectar plants to attract butterflies by specific region.



Left: Flowering plantings with small plant identification signs

Gulf Coast Nature Trail



Gulf Specimen
Aquarium grounds

Nature Trail area
(path to be determined)

As a pre-emptive move to preserve access to the GSL&A, and because the parcels directly adjacent to the lab to the south within the same block were not affordable, two connected lots totaling 0.86 acres were purchased directly across the street (Clark Drive) from the Lab/Aquarium. Currently the perimeter sides of this property on Clark Drive and Palmdale Street are used for visitor parking. Because this property is physically separated from the main Lab/Aquarium campus by a city street, its development as additional aquarium exhibit space is unlikely. As such, it is envisioned that this property be used as an adjunct low impact second “free” campus consisting of a new Gulf Coast Nature Trail. In addition to its educational purpose, this trail can also serve as a “flow control” when more than one classroom bus arrives at the same time.

A .25 mile interpretive path through the property gives visitors an impression of the nature of the area. The path can be a boardwalk, a partial boardwalk, crushed shell or cleared ground.

A map at the beginning of the path will show highlights and the length of the trail. Another sign shows the birds and animals that may be in the area. Small plant and tree identification signs can be placed at points of interest.



Gulf Coast Nature Trail

Artifacts



Objects to discover and pick up or touch can be placed (or fastened) along the path.

Several signs along the path explain that objects along the path may be picked up, but should be returned for others to enjoy.

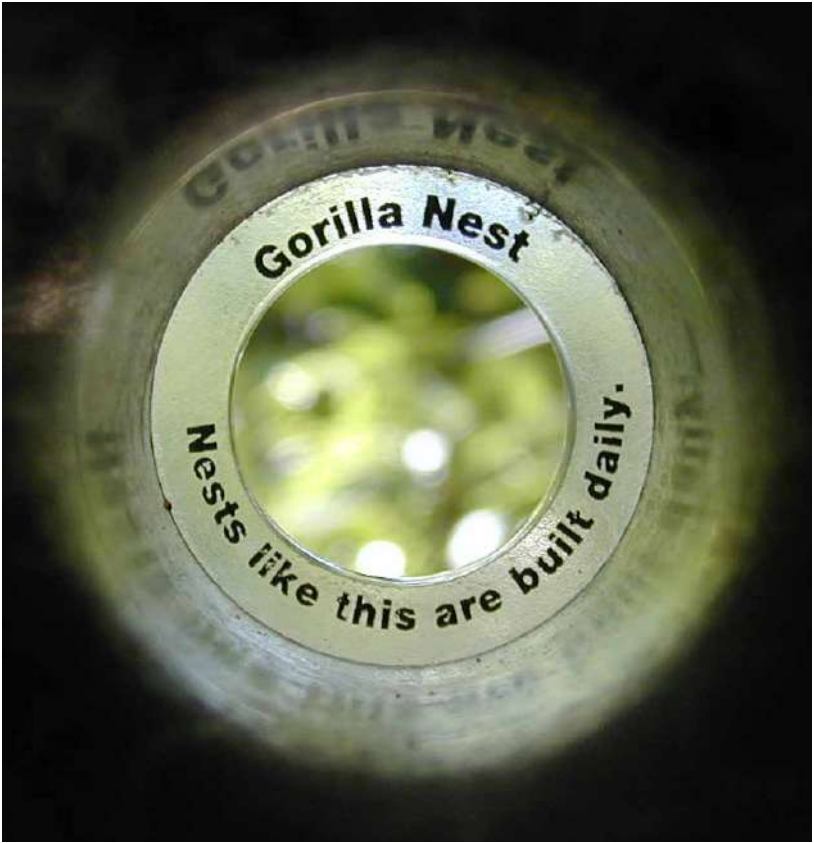
Small signs next to animal habitats in the ground, in trees or at unique elements (fallen tree, ephemeral pool, etc) can explain what visitors are seeing



Gulf Coast Nature Trail

Discovery

For nests or views that are further away a stationary telescope pointed at the object, with an explanation of what is seen written inside.



A mirror mounted above a nest gives a view into the nest.



A metal ring set close to the object that is highlighted helps the visitor look through to see where the focus is.

2nd Part

Renovation Existing Facility



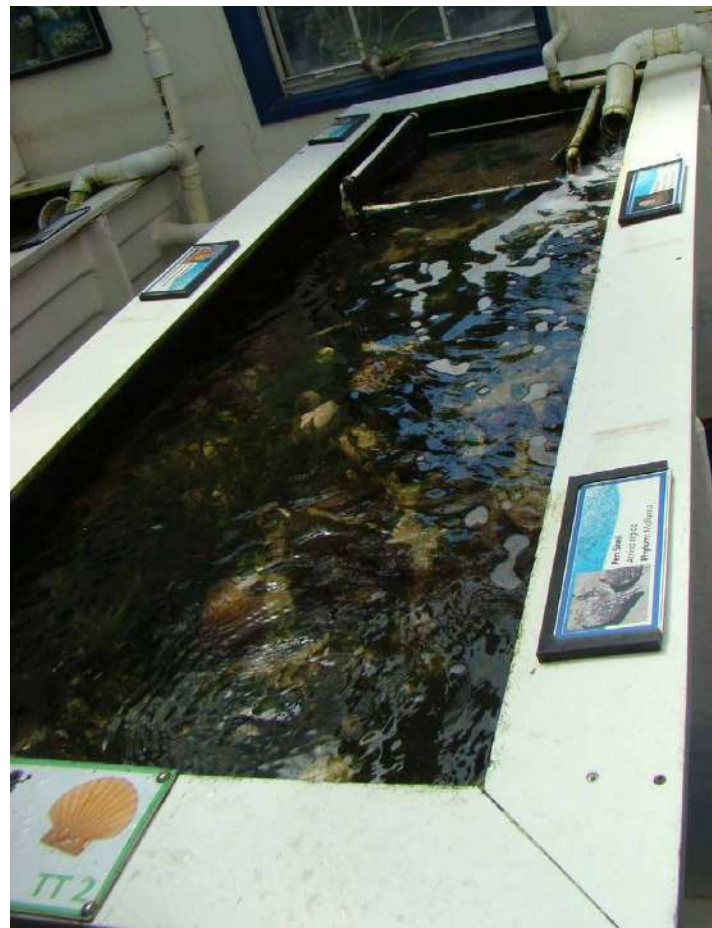
These pages are suggestions for changes to existing aquarium tanks to give the facility a cohesive look and enhance the appearance of guest areas.

We also suggest that:

- specimen packing becomes part of the visitor experience
- the turtle hospital becomes part of the visitor experience.
- a wheelchair/family restroom be added to the grounds
- improved landscaping, and plantings be implemented throughout the visitor areas

Renovation Limited Underwater Viewing

Because of the lab's original purpose of supplying marine animals to universities and other clients, most of the original holding tanks (and now also display tanks) are relatively shallow for easy access but possess no underwater viewing windows. As such, aquarium visitors must view most of the animals from above through the water surface which is problematic because the surface is disrupted by water flows in and out of the tank and the presence of oxygenating airstones.



Reflection and glare are also issues with surface only viewing, especially at the outdoor tanks.



One solution for this (already in progress with the Octopus touch tank) is the addition of floating magnifiers.



Renovation Limited Underwater Viewing - Solutions

This can also be rectified with certain of the existing tanks (i.e., those that are plastic or FRP and are deep enough to warrant) by simply cutting out a section of tank wall and adding an acrylic viewing panel.



Add pre-curved acrylic viewing panels to all FRP tanks

Renovation Tanks



Original photo

Block view of background. In this photosketch the mirror is similar to the mirrors in the SEAMOBILE.

The blue distracts from what matters: the content of the tanks, the graphics or monitors. Color should mainly come from them.

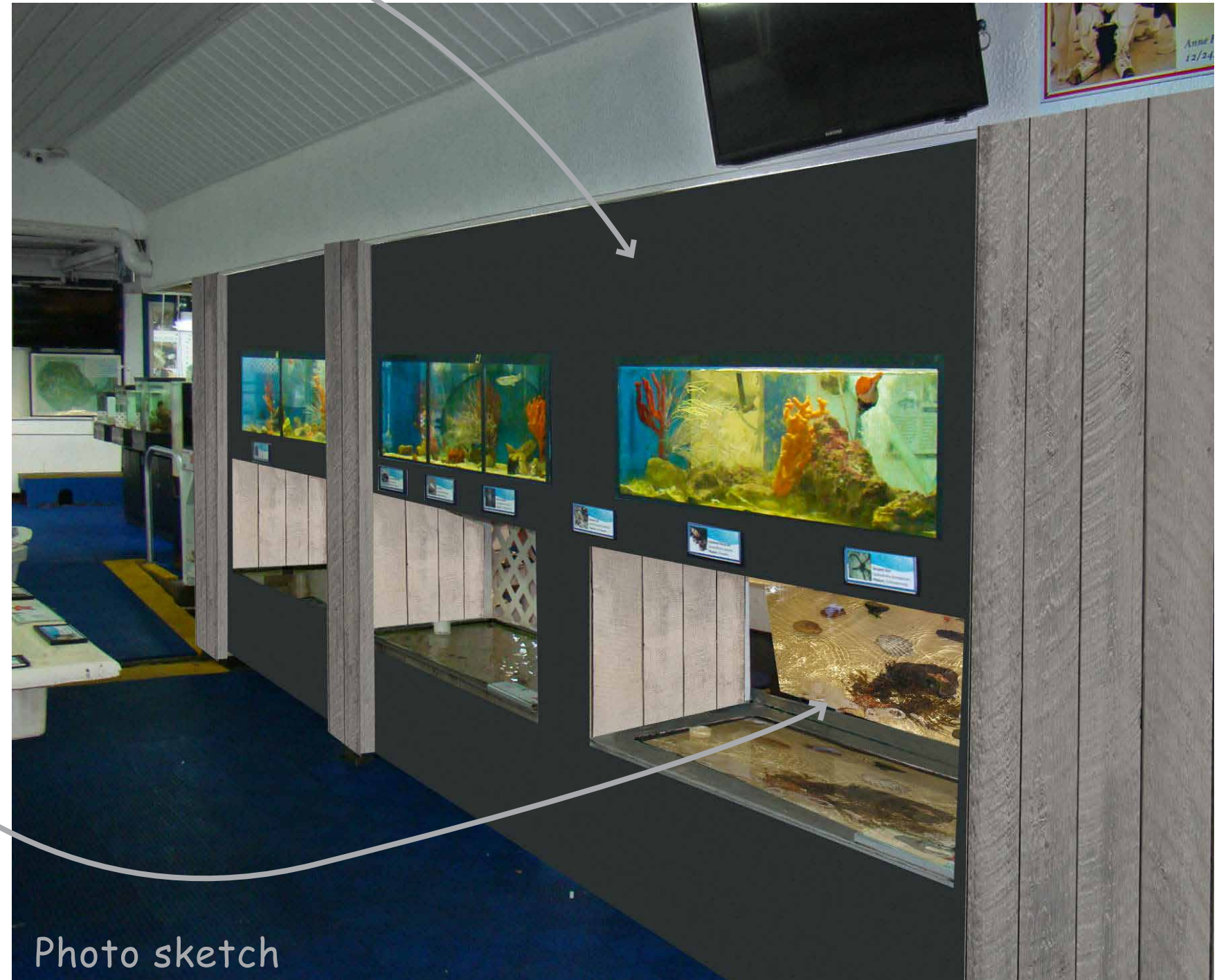
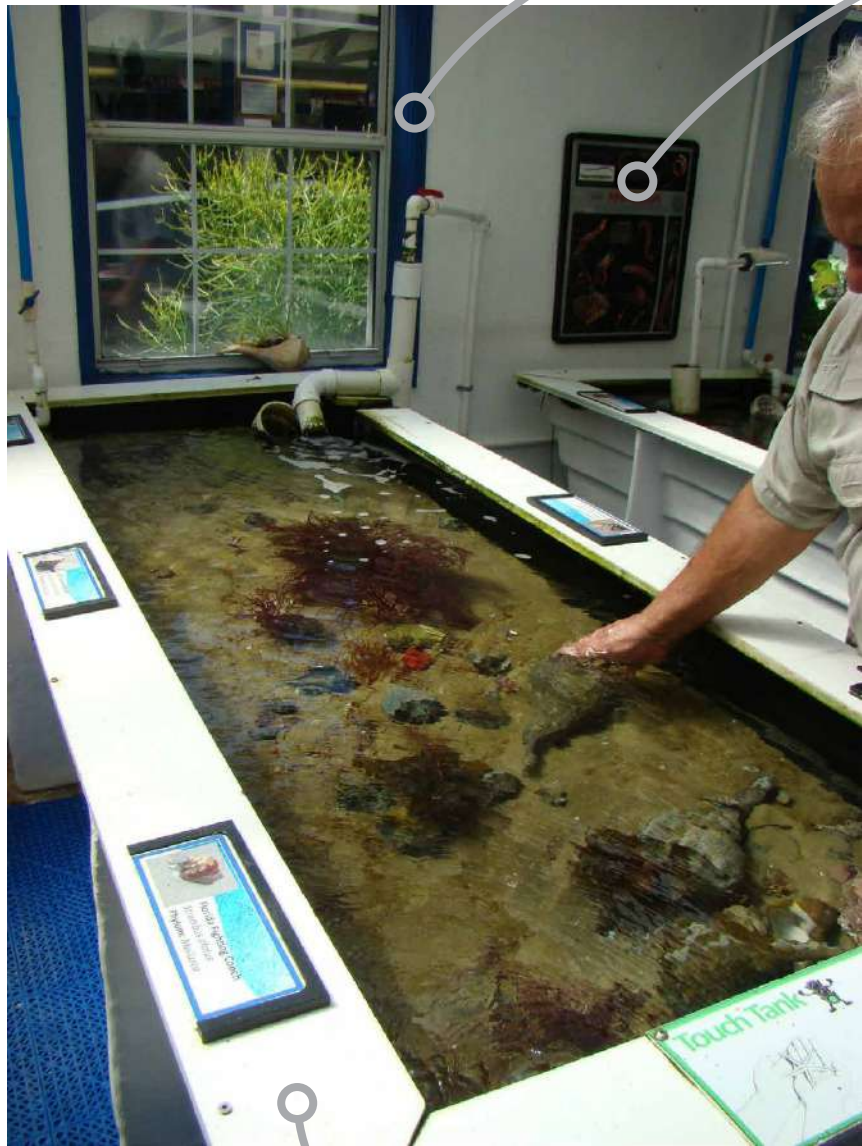


Photo sketch

Renovation Tank ledge frames

Original photo



Frame from blue to a neutral color

Larger graphic. Adds visual interest

Photo sketch



Darker frame brings out the content. (think of a picture frame)

Renovation Color scheme

The color scheme needs more thought and any preferences should be tested with large sample areas.

A darker color will better highlight foreground plants. Ideally minimal amounts of the fences or buildings will be visible.

Hiding them behind beautiful landscaping with climbing flowering plants is preferable.

Further Photoshop testing needed.



Original photo



Samples of various color schemes. Notice how darker colors make plants and graphics pop out.



Photo sketches

Renovation Color scheme

Here, too, the color scheme needs more thought and any preferences should be tested with large sample areas.

Notice how the yellow frame is brighter with darker background colors on the fence.

And again, little of the fences or buildings will be visible. Hiding them behind beautiful landscaping with climbing flowering plants is preferable.

Further Photoshop testing needed.



Original photo



Renovation Color scheme

Here: examples showing consistent use of a color scheme.
Yellow is already used at the aquarium and could be part of the new color scheme.



Reference photo above: existing facility



Reference photo below: Tank at Vancouver Aquarium



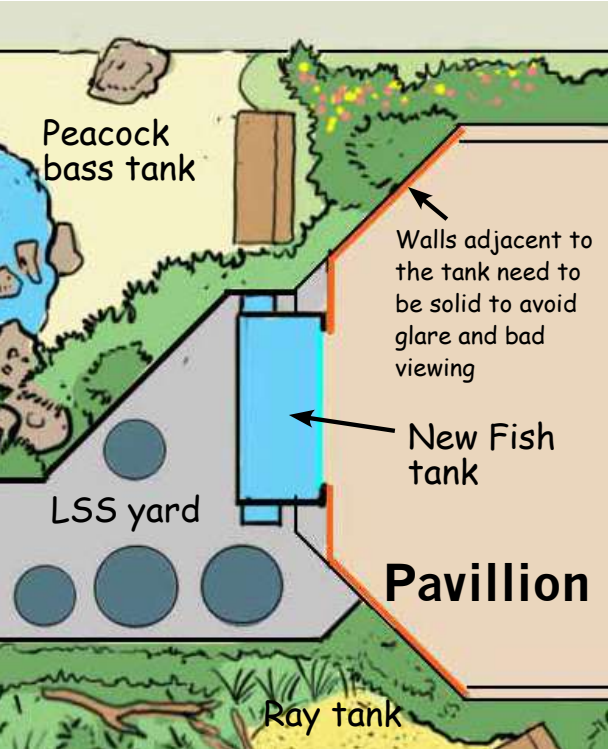
Left: A yellow frame, with a logo or some educational information could become a photo op for visitors.



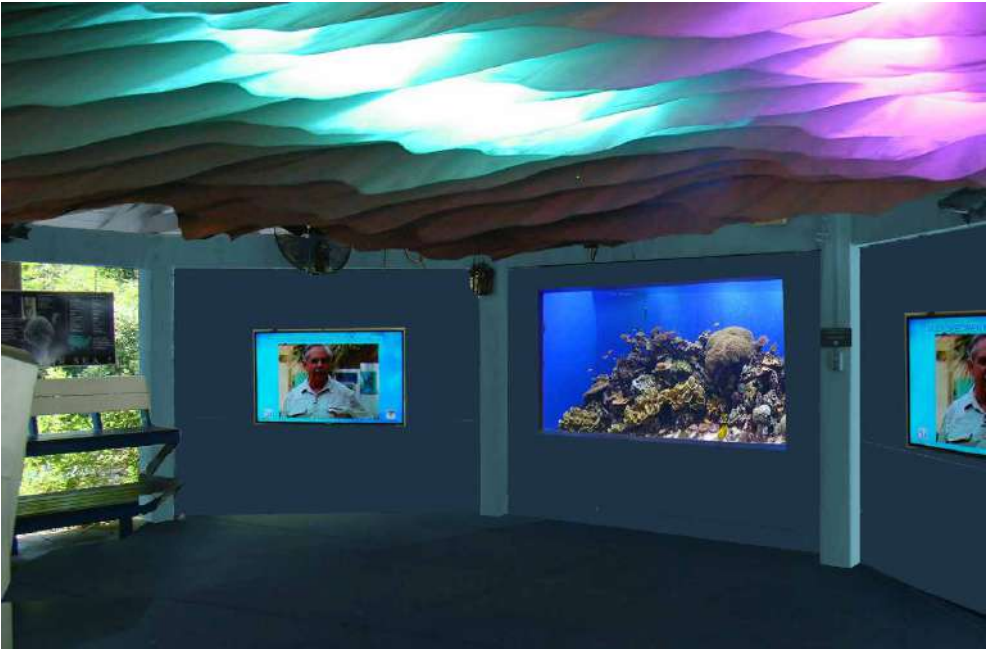
Renovation

Color scheme and a new tank at the Pavillion

An outdoor tank at the pavillion would add interest to the visitor path and create a highlight for event rentals.



A new tank in the center and two monitors right and left with video and/ or graphics and information.





Renovation

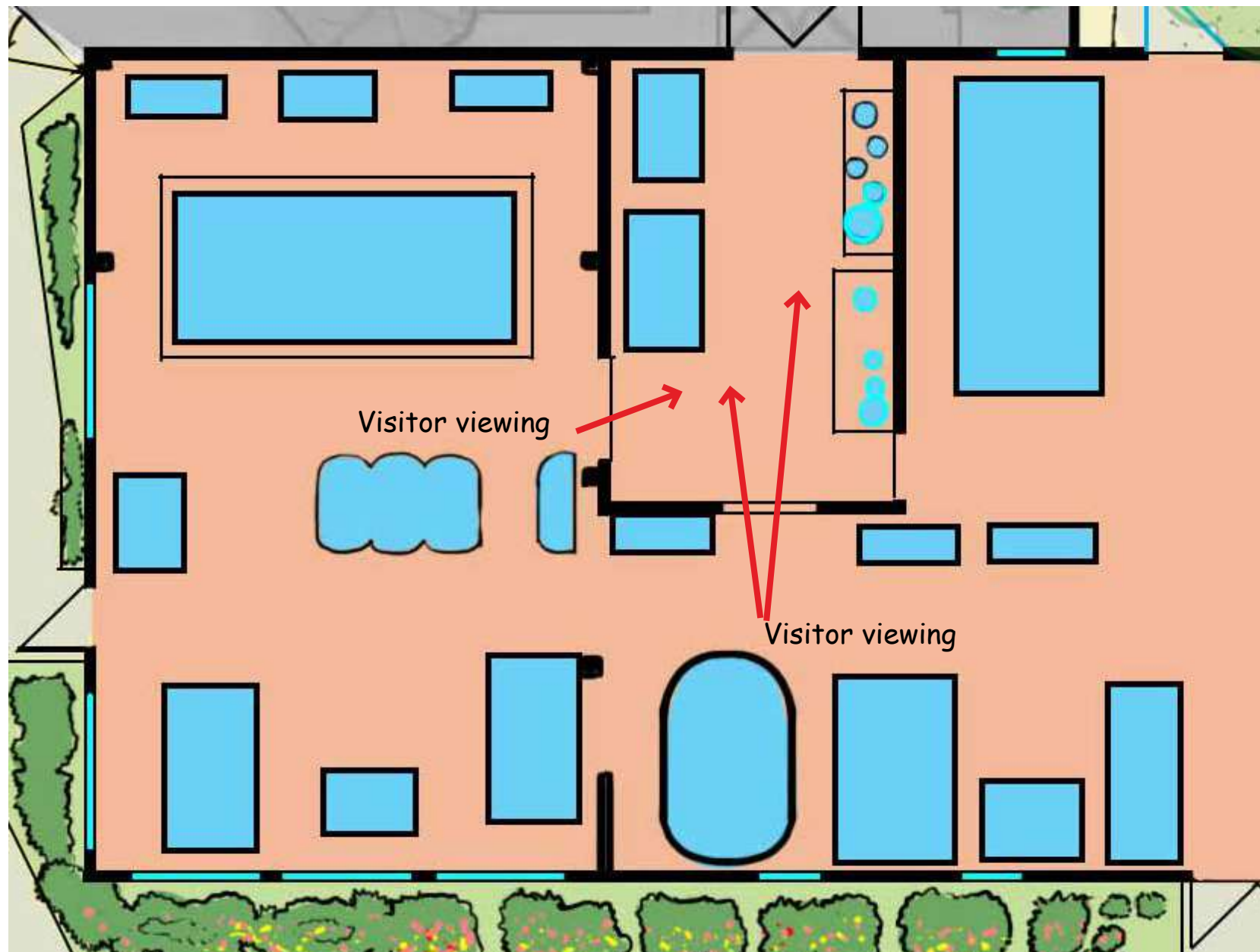
New tank at Pavillion

This page shows beautifully decorated freshwater tanks (one tank is saltwater) as an alternative to the reef tank shown on the page before. Rain and sun might hit the tank and provide enrichment for the fish

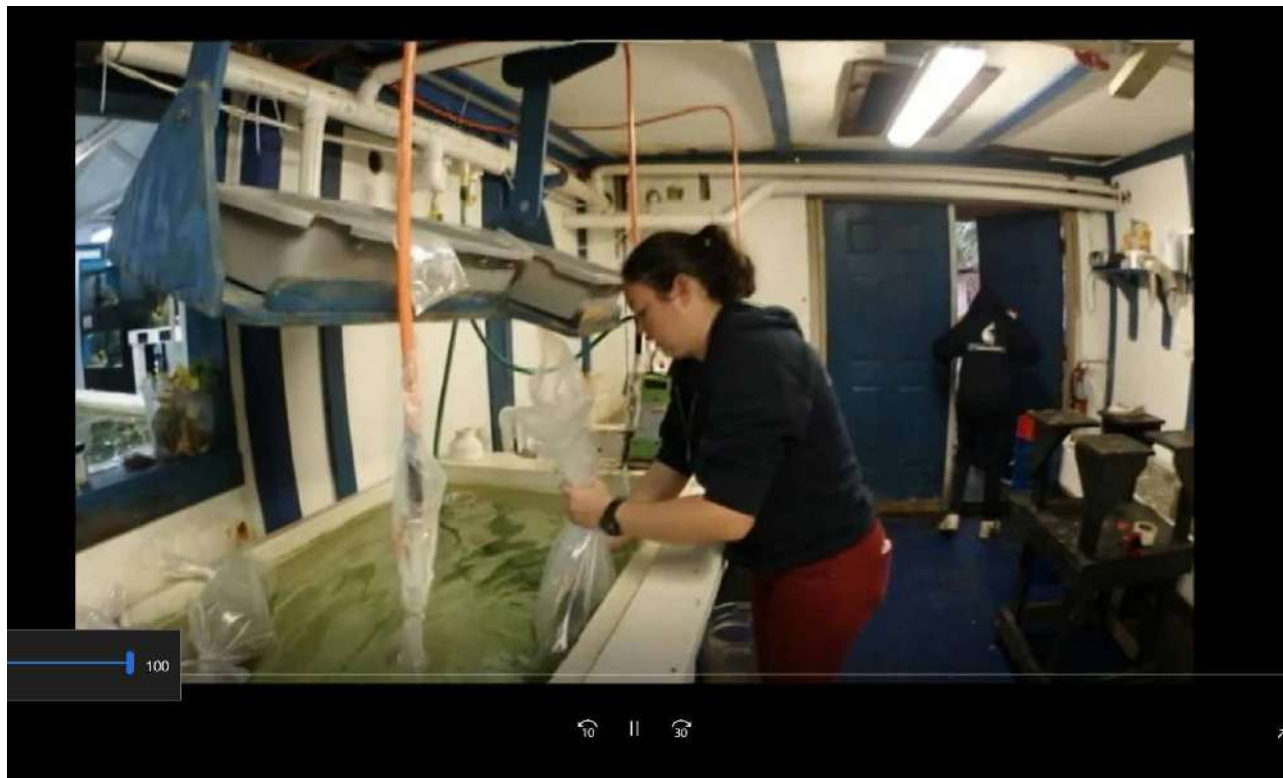


Renovation Packing

Located in the center of the main exhibit building lies the heart of the original specimen collecting and shipping business...The Packing Room! Presently this room is empty of activity much of the day and, although the visitor has side views into this room, its purpose is not explained at all or celebrated. This room too, because of its daily use, is showing much more “wear and tear” than other parts of the public aquarium. Our suggestion is to spruce up this room with new paint and new equipment, better lighting and trying best to eliminate all sources of rusting metal, to present a modern, scientific and aesthetically pleasing living and working exhibit! We suggest the relocation of the existing small aquariums which are blocking the direct view of the room and adding ID signage and graphics, along with a cool and narrated video of the packing process for those times during public hours when packing and shipping is not occurring live. This is an exhibit that will be unique to this Aquarium!



Renovation Packing



Mount a monitor on the wall next to the viewing window into the packing area. Monitor can show packing video in a continuous loop. A second monitor could show video clips from collecting trips.



Signage for packing area:
U.S. (and World?) map showing all the places GMSA ships animals.

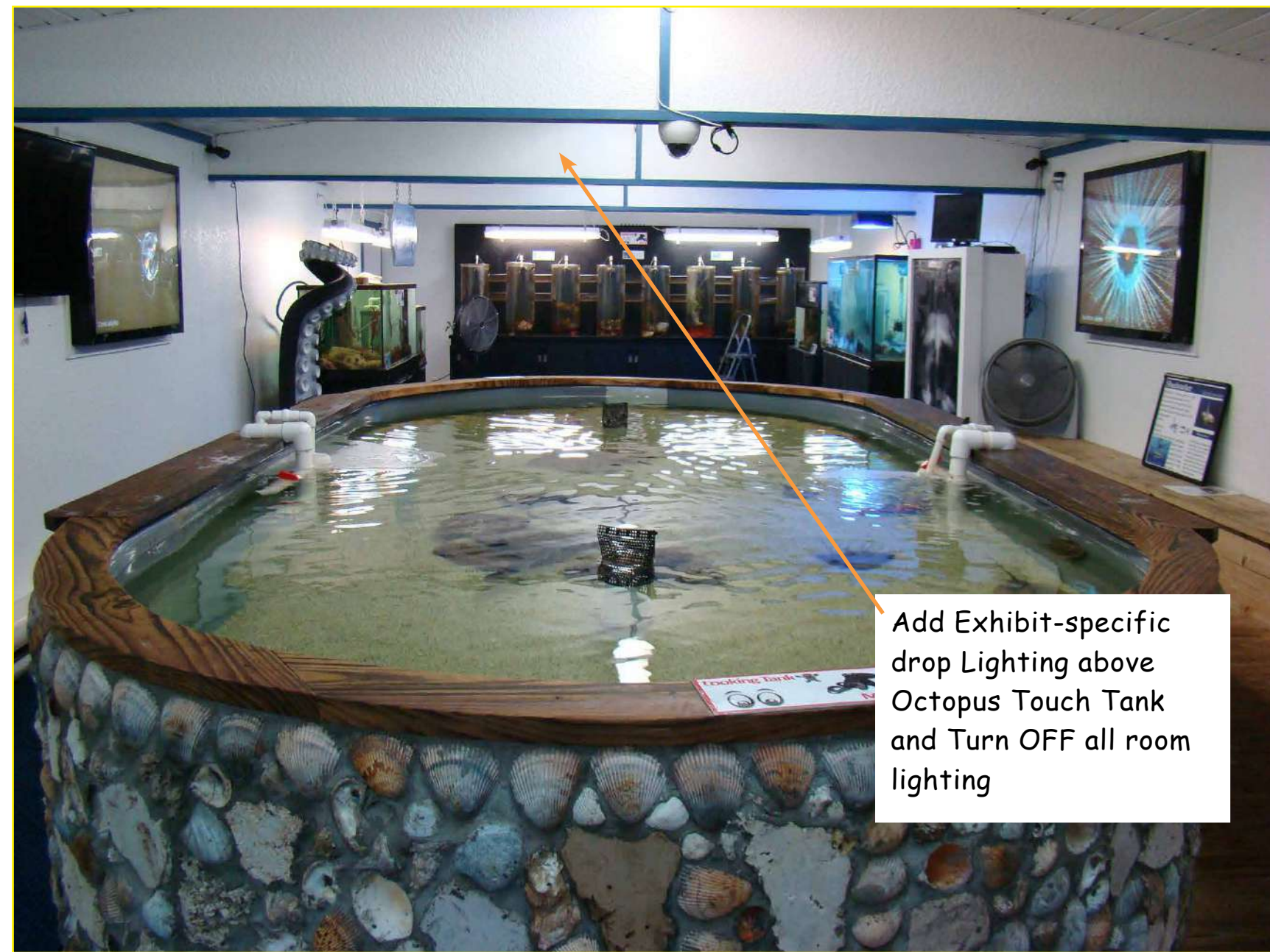


Update signage to explain how schools and universities use animals, and what research is being done that uses the marine animals GSL&A ships.

Renovation

Mother Ocean Building

Whereas the Main Building (Shark / Stingray / Touch Tanks) is very open air with a clerestory and many windows and doorways, which creates a nice well lit airy atmosphere, it makes aquarium viewing somewhat problematic with ambient light coming in from all directions. The Mother Ocean Building on the other hand, albeit smaller, only has two doors, one on each end and no windows. As such, this room can be better used for the addition of new live exhibits in a light controlled space. The room lighting in this room should only be used for cleaning and maintenance and should be turned OFF during public hours. The existing Octopus touch tank should remain but should only be illuminated by exhibit specific drop lighting.



Add Exhibit-specific drop Lighting above Octopus Touch Tank and Turn OFF all room lighting



Likewise, the also concrete-based tray exhibit on the far right could stay but the tanks swapped out for better enclosures, preferably those with return skimmers or piping to eliminate the overflow approach. This could be a good location for a mini jellies culture area. This tray might also be used as a new shallow touch tank for invertebrates.

Renovation Mother Ocean Building (2)

The remaining exhibits however, which are mostly conventional glass aquariums on stands without any shrouds or masking or backing (allowing the less aesthetic aspects to be seen), should be replaced or remodeled as a gallery with aquariums viewed from one (or occasionally 2 or 3) sides, enclosed behind façade walls with all lighting and equipment hidden (accessed from the rear or from front panels).



This exhibit especially should be removed and replaced with a better exhibit that is more aquarium-like and more aesthetically pleasing.

Renovation Monsters of the Deep

This is an exhibit of preserved deep sea animals in jars which are located inside a room but are viewed from the outside via fake “ship portholes”. The specimens are backlit or lit from above and can be rotated by the visitor by turning a crank which turns a small turntable upon which the specimen jar sits.



This is a very cool interactive but suffers from several easily-correctable mistakes:

1. The lighting of the specimens is much too dim. Since these are viewed from the outside, typically during daylight hours, the illumination of the specimens must overcome this outside ambient light. Replacing the existing dim and warm lighting with new aquarium-style LED lighting will make a huge difference. And the LED lighting will not impart any heat to the specimens as the current incandescent lighting is doing which may be affecting the clarity of the preservative (which should also be replaced with new, clear preservative).

2. The specimens are located inside an air conditioned room but are viewed from the outside, typically on a hot day. This causes the porthole viewing panel to condense on the outside which makes viewing the specimens very difficult. This can be rectified by swapping out these viewing panels with panes of insulated glass (two panes with a sealed airspace for insulation) or even a thick piece (3/4" or thicker) of acrylic which has good insulation properties at this thickness and above.



Photos taken on a cooler February day with no condensation. Viewing panels might be crystal lenses for magnification but can still benefit from an insulated pane

Renovation Crab tanks



Graphics block view to construction beyond

Landscaping added for beauty, education and screening

Photo sketch

Renovation Aquarium



Original photo



Photo sketch

Packing room monitor

Guard rails to block visitors from entering room

Screen the lighting so that it is not a distraction for visitors

Renovation Aquarium

*Photos from Sea World and
Busch Gardens*



Fabric will diffuse the light entering from the clerestory windows, prevent reflection in the tanks and allow air circulation.

