AQUATIC SHOWCASE
FORT WAYNE CHILDREN’S ZOO
FORT WAYNE, INDIANA

College of Architecture & Planning
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WAIT TILL I GET A HOLD OF THE CLOWN THAT DESIGNED THIS PLACE...
It is the intent of this book to allow the reader to understand the architectural thesis problem chosen, major design considerations, and the proposed design solution. This book illustrates only the highlights of a nine month study and to present the design solution at the conclusion of this study period.
My project is dedicated to those who's love and support have made it possible:

To my parents and family for five years of encouragement.

To Amy whose love and understanding keep me going.
The Aquatic Showcase is designed with a new philosophy in mind, that of being an aquatic museum. The Aquatic Showcase's emphasis will be to combine live aquarium animals with the expanded educational approach of museums. The themes of the exhibits will explore the historical, ecological, cultural, and artistic connection of man to the sea. This will allow the aquarium to achieve the major goal, of educating visitors more intimately with the sea and give them a sense of their own responsibility for its preservation.
The Ft. Wayne Children's Zoological Gardens, located at 3411 Sherman Boulevard, is operated by the Board of Park Commissioners and is financially assisted by the Ft. Wayne Zoological Society. Encompassing forty total acres, the zoo has become a great source of community pride for Ft. Wayne.

The Ft. Wayne Children's Zoo officially opened on July 3, 1965. From the beginning, Zoo income has exceeded its operational expenses, eliminating the need for municipal tax support. This economic success is attributed to a nominal admission fee, stroller rental, concessions, novelty and souvenir sales, revenue from rides and animal food sales.

The regular visitor's season for the Children's Zoo is a six month period beginning about May 1st and ending around October 31st. However, community educational services and special events continue past zoo operational season. Most animals are now year round permanent residents.

The Ft. Wayne Children's Zoo has been said by many as the most successful community project Ft. Wayne has undertaken. The zoo has proven to be an excellent educational and recreational facility for local citizens, while the total attendance of over 300,000 annually suggest it is a successful tourist attraction.

The Ft. Wayne Children's Zoo has developed an educational program that includes visits from community schools and by conducting demonstrations at the schools. It also has many colorful and educational demonstrations done daily at the zoo.
The Aquatic Showcase will greatly enhance the exhibit potential of the Ft. Wayne Children's Zoo. With the only aquarium facilities located in Chicago, Cleveland and Detroit the Aquatic Showcase will surely become a regional attraction. The general purpose of the exhibits will be to educate the visitor about the environment of the sea. The Aquatic Showcase will be a year round exhibit increasing the tourist potential for the city of Ft. Wayne.

The Aquatic Showcase will provide a giant step towards the zoo's goal, of more permanent structures allowing for year round operation.

The users of the facility are children of all ages. Young and old alike, will be able to use all parts of the facility and equally enjoy it.

The location of the site allows for easy access from the major highways on the north side of Ft. Wayne. The building has been designed to provide an image strong enough to pull travelers into the city from the interstate. The site chosen will form a new entrance into the zoo. The building was designed to provide a strong form yet allow for an inviting and well scaled entrance to the zoo. The design provides this by employing a connecting "avenue" to the existing zoo.

The visitors experience of the sea begins in the gallery of the sea. Here one is acquainted with exhibits of history art and technology as applied to the sea. From here one begins a journey which will allow one to view the fowl who make the water there home in the aviary. The interior of the aquarium is "floated" on the water of a dolphin pool. The design immerses the visitor into the dark mysteries of the sea. The exhibits in the aquarium represent a full range of the water environments that cover more than 70 percent of the earth's surface. It is an architectural environment that shows us the underwater world of the sea. The roles of man and fish are reversed, instead of fish in man's environment man is plunged into the environment of the fish. The design is an "involving" environment making the visitor react to the many wonders the sea holds. The design will give the visitor a true sense of his scale and dependence to the sea. A showpool and instructional theater will further enhance a visit to the Aquatic Showcase. These facilities will be used not only to provide entertainment, but to educate as well.

Coupled with the already successful Ft. Wayne Children's Zoo the Aquatic Showcase is a sound economic project. It will broaden the recreational and educational facilities of the zoo, and provide an even stronger base to attract tourist to the Ft. Wayne community.
To say I could establish a philosophy in only five years of introductory study of architecture is foolishness. As a student of architecture I have however, pursued certain ideals and will continue to study these ideals:

"Architecture is the art of manipulating the sciences to create an environment for people to enjoy living in, and with this environment."

It is the study of these ideals that led me to pursue this particular project.
Long before lead touched paper, several criteria were considered in the selection of this thesis project.

1. To choose a building type with a strong relationship of function to form - Architecture is the art...

2. To choose a building type that would incorporate a structural and mechanical system that would strongly influence many design decisions - of manipulating the sciences...

3. To choose a building type with exciting space relationships - to create an environment people enjoy living in...

4. To choose a building type whose image would contribute to its success - and with this environment.
The Ft. Wayne Children's Zoo is located in Franke Park. The park is located on the northwest side of Ft. Wayne. The Aquatic Showcase will incorporate the woodlands and natural beauty of the park. The site is easily accessible by vehicle from I-69 and US 33 and US 30 by-pass with downtown Ft. Wayne just minutes away.
The site is part of Franke Park and all site work will respect the context of the park. The park has recreational facilities and various sports fields. Directly southwest of the site is a pavillion and picnic area, which can be used by the many regional visitors. Other attributes of the park are the soap box derby track and Foelinger outdoor theater.

The building site is in accordance with the master plan for the Ft. Wayne Children's Zoo prepared by James Basset, Inc. Landscape Architects - Planners. The master plan calls for a new expanded parking area and to create a new entrance for the zoo south of the African Veldt exhibit. Approach to the site will be a pleasant drive through the mature deciduous trees of the park. Framing one half of the entrance is the Diehm Natural History Museum. The museum is a wood sided building with earth berming.
The existing facilities include the original Children's Zoo development and its parking plus the recently developed African Veldt adjacent to it, across Sherman Street. The existing exhibits have been constructed at various times. These exhibits display many varied materials, colors and textures, but remain linked by landscaping and the pedestrian circulation.

Exhibits in the Children's Zoo include domestic farm animals, exotic animals from around the world, common North and South American animals, walk through aviary, as well as horse and pony rides. Other attractions include an amphitheater, train ride and a comfortable refreshment area.

The African Veldt exhibit is a radical departure from the individual exhibit orientation of the original zoo. The 22 acres of grassland, patterned after the plains area of East Africa, is east of the zoo across Sherman Boulevard and is connected by a pedestrian underpass. The animals roam freely throughout the 22 acres of the veldt while visitors may tour the area in electric cars or via foot on an elevated boardwalk. At a village within the Veldt, small animals and birds of East Africa are exhibited.
GOALS & OBJECTIVES

1. To provide the public with a better understanding of the sea and life within the sea.

2. To display animals & plants in accurate re-creations of their natural habitats & emphasize their interdependence.

3. To combine live aquarium animals with the educational approach of museums for a complete understanding of the animals exhibited.

4. To excite, entertain and involve the viewing public with exhibits.

5. To display animals in a manner that will allow the viewer to sense the size and scale of the animals displayed.

6. To create an image that will draw people to the Ft. Wayne Children's Zoo.

7. To provide efficient, low cost systems for the highest quality in the aquarium tanks.

8. To expand regional and national aquatic endeavors.
Programmatically the building breaks down into five separate but related parts, gallery of the sea, aviary, showpool, outdoor exhibits, and aquarium exhibits. The gallery of the sea will display historic artifacts, works of art and technological displays that will tell the story of the sea. The aviary will display birds and other animals that live near bodies of water. The showpool will be a major attraction that will display fish characteristic traits and performing tricks. The showpool will not only be used for entertainment but also educational purposes. The main portion of the project is the aquarium exhibits. The aquarium will be designed to further one's respect for the animals displayed and for the ocean itself. The main spaces will offer excitement and involvement of the visitor with the many exhibits.
Lighting

1. Provide general lighting for all circulation paths.
2. Provide general lighting for parking areas.
3. Provide accent lighting for exterior exhibits and details.

Protection from Weather

1. Cover will be provided for protection from the rain.
2. Exterior spaces will be designed to prevent drifting of snow.
3. Shade trees will be provided for protection from the sun.

Seating Areas

1. Seating should be provided in areas to give rest.
2. Seating will be designed to a child's scale as well as adult.
3. Seating areas will provide view of outdoor exhibits.

Parking

1. Public Parking
   - Main lot 500 spaces
   - Overflow 200 spaces
2. Employee parking should be in the east lot as according to the master plan.
3. Lot should have planted areas to break-up paved surface.
4. Parking close to entrance will be provided for the handicapped.

Picnic Area

1. A picnic area will be provided adjacent to the site.
2. Access to zoo should be provided from picnic area.
3. Staff should have access to picnic area.
BUILDING CRITERIA

Considerations for Handicapped:

1. Ramps will be provided for at all entrances and level changes.
2. Restrooms will conform to handicapped requirements.
3. Viewing areas will allow handicapped access to all exhibits.
4. All areas will provide adequate space for handicapped to maneuver comfortably.

Flexibility

1. All exhibits should allow for some change to reflect current trends in aquatic research.
2. Non-permanent type exhibits should move and store easily.
3. Office and support spaces must also be flexible to ever changing needs.

Lighting

1. All lighting must be sufficient to allow safe passage.
2. Lighting in work spaces will be sufficient to allow comfortable working conditions.
3. Lighting in exhibit areas will emphasize the tanks and the animals exhibited.
4. Light for the aquarium space will come only from the tanks.

Viewing Areas

1. Viewing of main exhibits should be provided for at two levels when possible.
2. Viewers should be able to view animals from several angles.
3. Wall tanks will be arranged to prevent crowding of circulation corridors.
4. Viewing of all tanks will have supplemental information to educate.

Mechanical Systems

1. All systems will be easily accessible.
2. Systems will be incorporated in the design of the building form.
3. Viewing of filter systems may be provided for.

Exhibit Back-up

1. Provide easy access to all tanks and exhibits.
2. Allow for comfort of attendents.

Circulation

1. Intersection of attendant and visitor circulation should be avoided.
2. Circulation of exhibit areas will be fresh but not disorienting.
3. Vertical rises will be acheived by ramp or elevator. Use of stairs should be kept to special areas.
<table>
<thead>
<tr>
<th>Administrative</th>
<th>Laboratory</th>
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<tbody>
<tr>
<td>Director’s Office</td>
<td>Lab Research Director</td>
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<td>225 sf</td>
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<td><strong>4,500 sf</strong></td>
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</tr>
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<td><strong>65,325 sf</strong></td>
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</table>
1. The creation of exciting spaces that will involve the user.

2. Building must provide a strong image to draw people to the zoo.

3. Displays should be set up so visitor can sense complete size and scale of the animal displayed.

4. Circulation must be clear and have a definite path, yet allow visitors to wander if they desire.

5. Building must respect context of Park.

6. The project will form the new entrance to the zoo and must make an entrance statement.

7. The mechanical & structural systems should become part of the entire experience.

8. Vertical circulation should easily accommodate strollers and wheel chairs.
Because of the many special attributes of the site it was clear to me that the site must be dealt with from a conceptual stage on. All conceptual work and much of the design development of this project was done on site. An analysis of the site led me to find five major considerations and problems that must be dealt with for this to be a successful project. The five considerations were image, overall scale, edge, entrance statement, entrance "avenue".

Image

This was a major problem for this building because much of its success relied on its ability to draw people to it. To me the building's exterior had to read somewhat like a billboard and "advertise" the excitement of the spaces inside. The image also had to begin one on the nautical journey they would take once inside the exhibit spaces. The exterior of the building also had to fit with the image of the zoo, that of being a fun learning experience. To me this problem of image would effect all the decisions from form to choice of materials.

Scale

Coupled along with image was the problem of scale. This was a difficult problem because of the large volumes of space contained within the building. The scale needed to fit within the park setting and also relate to the small child. The building's scale had to in some way convey the vastness of the oceans. It needed to also show the varying scale of the animals that inhabit bodies of water.

Edge

The existing zoo, with plantings and buildings, had created a very strong and distinct edge or border to the zoo. I felt that for the new entrance to the zoo to be successful it had to relate to this edge in some way. This problem was further complicated because the new entrance was not on the same grid or axis as the existing zoo. The connection of the two grids became very crucial. I dealt with edge not only as a plan definer but also as a form definer.

Entrance Statement

This building would form the new entrance into the zoo. It has been felt that the entrance into the existing zoo was not strong enough or large enough to handle bigger crowds. These two problems then become considerations in the design of the new entrance.

Entrance Avenue.

The connection of new entrance to existing zoo is the last major consideration. In my preliminary ideas I found myself not dealing with this issue but it soon became clear that for my project to be successful some definition must be given to a pedestrian pathway that would serve as a connector.
With all of the mentioned problems identified, I began the design of the building. My efforts for the first ten weeks were concentrated on finding a form that would best convey many of the issues already identified. My methods included plan, section, and model. I felt this was the best way to deal with the large volumes and many complexities of the building. All of the concepts presented here were done with structure and mechanical systems in mind, but I will only discuss these aspects to some detail on the final documentation. This portion of the book is meant only to show the many varied approaches taken in this project.
The Billboard

The first concept was to take the idea of billboard literally and to build a wall that the many pieces would come out of. The circulation would be contained in the wall and exhibits would be directly expressed on the exterior. This solution at first seemed to be a very logical solution, but after some analysis I soon saw its many faults. One of the large faults was the scale of the wall. It was much too large for the context of the park. This solution did not solve the problem of edge very well. Though the wall was planned on the grid of the existing zoo it failed to help frame the new entrance. But the greatest problem of this scheme was that it failed to integrate the different spaces of the program.
The Ship

I called this scheme the ship because many of the forms were derived from a study of nautical architecture. In this scheme the wall continued to be an organizer but the forms of the building were meant to imitate the forms of a ship. The aviary was split into two groups and moved to the upper section of the building, looking like the stacks of an ocean going vessel. In this scheme the mechanical did not follow the curve shapes of the tanks but was straightened out. Doing this made some very interesting shadows on the expressed tanks, something not studied in the first scheme. But this concept also fell short. Once again the wall created more problems than it solved. Secondly, vertical circulation was a major problem. This concept failed greatly in both forming an entrance and making its connection to the existing zoo. Again I feel that it was the literal interpretations that weakened this concept.
Play of Grids

In this concept it became clear to me that the relationship to the existing zoo had to be clearer. So naturally, two sets of grids were placed on the desk top and the crashing of grids began. This axis of the old zoo was 33 from the axis of the new entrance. This set up a triangular pattern when the grids were placed on top of each other. As one can see this resulted in a triangular planned building. Doing this placed great importance on the vertices. This allowed each of the vertices to have a separate function. The gallery and auditorium occupied one of the vertices in plan, while the other two vertices became the dolphin and coral reef displays. The remaining displays were all located off the whale tank which formed the central space. This building was successful in many ways, and many of the planning ideas can be found in the final solution. The first being the organization of the aquarium around one central pool. The circulation would be on balconies
above the water. Also for the first time the building's functioning began to have a clear relationship to each other. It was clear after this presentation that this was the path to follow. Lastly, the auditorium portion was pulled out of the wall to match the blocking of the existing Diehm museum. This was also the first successful attempt at making an entrance statement for creating a gateway entrance. This was the final time the wall was presented because once again it failed to help the project. The aviary was again split and placed on top of the building. Though the circulation of the building worked, the scale created by doing this was frightening. But this concept did set the gears in motion leading to many good ideas for the final solution.
Separation of Function

From the preceding concept it became clear that the separation of functions would greatly add to the success of the project. Still working with the overlapping grids a concept was developed that connected the differing spaces but allowed them to be independent; the relationship of edge was made less obvious but was accomplished by placing the aquarium exhibit spaces on the same grid as the existing zoo. In this scheme the visitor entered into the aviary space and then went to the other spaces. Responding to a need to establish a ground plane. The visitor was taken to the top level of the building and proceeded through the aquarium by descending on a series of ramps which led finally to a viewing gallery below the water level of the main tank. The auditorium in this scheme was pulled away from the building and gave good definition to the entrance gateway approach. This scheme however had two major planning problems. The first was the importance given to the aviary. Because of its position and shape in the plan it became a more important space than the aquarium space. Secondly, as with most of the schemes presented so far, the showpool had no integration with the building. But this scheme gave insight to more important issues. The first was organizing around one space. Secondly, the scale and image of the building was very successful. Lastly, I found that implying the edge of the existing zoo was far more successful than a literal line.
Radiating From a Point

At the end of the first ten weeks many of the issues had become quite clear. The definition given to many of the problems made it easy to synthesize the good solutions from previous schemes into one solid concept. The first was the problem of image, because of the previous studies it was clear that the vocabulary of the buildings parts would give it the strong image needed. There was no need for a wall to act as a billboard. Scale would now be dealt with through the buildings material. The biggest resolution was the consideration of edge. Until this time the edge followed mostly the existing edge until it crashed into the new entrance. Seeing that this was not working I chose rather to make a connection or transition of the edge. In this concept the edge followed a radius around the building until it connected to the edge created by the new entrance. This would be accomplished by earth bermsing up to the new building in the same manner as the earth was bermed up
to the Diehm Museum. The entrance was found to be strongest by placing a building block directly across from the block formed by the Diehm Museum, thus creating a gateway entrance.

This radiating form fell into place well and brought the excitement to the building that had been lacking in past schemes. In this concept the visitor began his journey by either ascending a series of ramps through the aviary or taking an elevator to the third level. Here he entered the aquarium and descended till below water level. This follows closely the circulation of the Separation of Function concept. This was done so the visitor could establish a ground plane and better relate to the water of the exhibits. The other functions of the building now took on a supportive role, and were treated as such. This way a visitor only had to be involved with those areas he wished to view. The aquarium was planned on the same principle as the points of the triangle mentioned before.

It was felt by critics that the radiating point would be stronger if it were a space and not just a point. The aviary space was felt to be made stronger by pulling it out towards the entrance to allow viewing both in and out. Lastly the critics thought that the buildings geometry should have greater influence on the avenue connector to the zoo. It was this basic concept that led to the final design solution.
The final solution included many of the preliminary ideas found in the previous schemes. First in dealing with image it was found that allowing the building parts to express themselves would best give character to the project. Though the spaces are quite varied in function a common denominator is found in the structural system and the grid developed by the materials chosen. An expression of both mechanical and structural systems educates the visitor about the building as well as breaking down the scale.

The problem of edge was solved by allowing the building to be the connector between the two edges. The upper mechanical levels of the aquarium exhibit break away from the grid of the new entrances to follow the grid of the existing zoo. This was done as a gesture showing direction towards the existing zoo.

The scale of the building has greatly been reduced by using a split level section, allowing the large volumes to be overlapped by smaller spaces, instead of adding to the volume of the space. Also by using split levels I was able to better achieve varying views from many different locations in the building. The building reaches a maximum height of 36 feet and will fit in with its context.

The entrance to the zoo is a gateway to the exhibits. The masses of the museum and the auditorium form the portals that frame the entrance. The entrance is wide enough to handle larger crowds. The entrance leads into a pedestrian avenue that will connect to the existing zoo. The outdoor exhibits are along the pedestrian avenue, allowing viewing of the exhibits from the avenue. The entrances into the showpool also face the pedestrian avenue, providing a better relationship to the pedestrian scale.

The aquarium entrance is on an axis perpendicular to the pedestrian avenue. Its direct relationship to the entrance of the Diehm Museum forms a street intersection.
of the pedestrian avenue. A tower has been placed in this location to serve as a marker. The tower will orient visitors to the entrance from any location in the zoo. The aquarium entrance is elevated six feet mainly to facilitate the mechanical spaces required.

The outdoor exhibits are arranged to provide views from the main pedestrian avenue. The actual viewing is along a path that is below the grade of the pedestrian avenue. Viewing from this path provides a water level view of the outdoor pools. At the aquarium entrance is a patio level that provides views from above the outdoor pools. The entrances to the showpool are located at this level.

The showpool is the building organizer. The pools circular geometry is the organizer of a series of enlarging squares as can be seen in the parti diagram. Using these two geometries allowed the building to connect the exteriors edges and greatly simplified the structural system. The separation of the aquarium spaces from the supportive spaces is clearly shown in this parti. In this scheme the aviary now becomes a connector of the building masses.

The smallest square is the like massing of the Diehm Museum. The auditorium is contained in this mass. The two storey space will allow multiple uses from films to live demonstrations. this portion of the building follows strictly the straight line grid.

The entrance, lobby and gallery spaces make up the next square of the massing. The main lobby is an open space with the balconies of the gallery framing the space. The upper walls of the gallery begin to violate the grid of the square. Here the walls take on curvilinear shapes outside the structural grid. This was done as gesture to the fluidity of water.

The aviary space is a series of ramps that connect the two building masses. The ramps provide the vertical circulation to allow the visitor to move to the upper levels of the aquarium. The aviary is an open space with a natural habitat depicted for the sea fowl. As one ascends the ramps he will be treated to many views of the birds. There will be no barrier between the birds and the visitor, allowing as natural viewing as possible. The showpool is visible from the ramps giving many interesting views while making the trip to the upper level.

The aquarium makes up the major exhibit space of the building. The visitor enters at the upper most level into the Children's Cove. The cove is a hands on area where children will actually be able to touch and handle many of the live animals displayed. From this level there is above water viewing of the coral reef tank and the dolphin pool. From this level the visitor begins on a descending journey through a series of galleries of live fish till one is finally below the water level of the dolphin pool.
The dolphin pool organizes the aquarium spaces. The three gallery spaces are directly off the main pool. From the galleries and along the circulation paths the visitor is treated to views of the activity in the dolphin pool. This relationship makes the space very exciting and interesting.

The gallery spaces have been left simple not to bombard the visitor with too much information. The colors and fish of the aquarium tanks should provide enough color and motion to keep the visitors interested. The galleries will have a floating plane defining the ceiling. The plane will have lighting that will make the space appear to be below the waters surface. The only other lighting of these spaces will be the lights of the tanks.

The coral reef tank will be another major attraction. The tank will have viewing from two levels to accommodate as many people as possible. The tank will contain the animals of the coral reef, including the popular man-eating sharks. The two levels of viewing will provide adequate space for viewing and will give many angles to see the fish displayed. The coral reef tank will also be a focusing point for orientation within the aquarium exhibit space.

Because no natural light can penetrate into the aquarium tanks the articulation of the wall surfaces became very important. At the gallery spaces the walls weave in and out of the structural grid. This was done again to give reference to the water within the spaces. The shadow patterns on the walls take on a wave like pattern. This articulation and detail enhanced the exterior appearance and image of the building.

The central organizing space is the showpool. The pool is in the center of the scheme making it the main focus. The high amount of activity made this a logical choice. The pool is slightly below grade to achieve better sight lines for spectators. The corners of the gallery and aquarium were rounded to provide a full view of the entire pool from any seat. The showpool was at first strictly an exterior space. It was moved inside so its use would not be limited. Making it interior the pool may be used all year, therefore not duplicating the space somewhere else in the building. Making this an interior space has greatly improved the project in many ways. Having a pool like this will make it one of the only aquariums in our climate to have year-round shows. It will be a very good educational tool for the zoos programs with local schools. The wall panel system for the space can be removed to provide natural ventilation in favorable weather. The roof of the showpool is an air suspended dome of a translucent nature. The covering will provide cover from both harsh weather and glaring sun. The showpool will be a very exciting feature and will contribute greatly to the success of the project.
The building has two main zones, one at the lower level and the other at the fourth level. At the lowest level will be holding tanks and filtering systems while at the upper level there are water storage tanks. The vertical movement of water and air for the HVAC are in the spaces marked on the plan and shown in elevation by the circle panels. The filtering and water system will work as shown in the diagram. All pipe will be suspended from the ceiling in the back-up spaces. Most of the tanks will be fed by a gravity feed system.

The HVAC will also be suspended from the ceiling in the back-up spaces with the ducts going through the wall just above the tanks in the aquarium and gallery spaces. A forced air system will be employed for the HVAC. A social consideration for the HVAC will be the amount of humidity that accumulates in the space from the dolphin pool.
The building structural system is exposed concrete and much of the buildings interior will be concrete. Circulation and gallery spaces will be carpeted to provide a comfortable walking surface. The aquarium tanks will be glazed and framed with metal framing. The interior spaces will be treated simply both to defer cost and not to detract from the exhibits. The exterior of the building will be clad in a panel system for the low maintenance cost and the break down in scale the panels will give. Color will be introduced by using various color panels. In this short study color selection was not made. The aviary and exterior wall of the showpool will be the only major space to use a glass curtain wall system. Lastly all railings for ramps and stairs will be metal tube similar to the railings of ships. All finish materials will be chosen to best convey the nautical atmosphere sought in the building.
The structure simplified greatly in this scheme. It follows a ten feet six inches o.c. grid until it meets the radius of the curve. The structure then transforms into a radial condition based on an eighteen degree from center spacing. Though the building has many complex shapes the poured in place concrete structure follows the geometry of the orthogonal and radial grids. The floors of all spaces will be poured in place structural slabs. Structural slabs will free the space for mechanical, especially in the back-up spaces. The structure is exposed to educate the visitor about the building as well as the fish. The exposed structure helps break down the scale of the elevations.

Although there is a direct circulation path the circulation is free enough to allow the visitor to wander as he wishes. The direct circulation path starts with traveling up the ramps through the aviary. The ramps lead the visitor to the second level gallery, where the visitor may follow the balcony spaces around and discover the story of the sea. The final ramp leads to the upper most level of the aquarium. In the aquarium there are ramps along the south and east walls of the space that connect the galleries and make the descending trip to ground level. This circulation will facilitate large crowds yet allow a great deal of flexibility.
1. Showpool
2. Dolphin Pool
3. Holding Pools
4. Filter & Water Systems
5. Viewing Gallery
6. Lower Gallery
1. Entrance/Lobby
2. Information
3. Aviary
4. Aquarium Gallery
5. Exhibit Back-up
6. Receiving
7. Showpool Seating
8. Outdoor Pools
9. Coral Reef
1. Gallery
2. Auditorium
3. Aviary
4. Aquarium Gallery
5. Exhibit Back-up
6. Labs
7. Children's Cove
AVIARY EXTERIOR WALL
INTERIOR AXON
It would be wrong to say that this building represents the finest possible design solution. That solution will never be. Design is a never ending cycle, even after 25 weeks I was still making corrections and changes to the drawings. I am quite proud to say this design is not complete. If it were complete then I would have nothing more to reach for, my career as a designer would be over. From this building I have learned much and realize even more how much more there is to learn. This project has reassured me that this profession is the right choice for me. The building has offered me the challenge I was looking for.

I can say that I am pleased with the solution of this project. The process used to design the building left me questioning at times. Many times I ask in desperation if I would ever find a solution. At the end of ten weeks it became clear that with each failing I was actually gaining knowledge as to what the building wanted to be. I feel the design has fulfilled my goals and objectives made when I first chose this building type.

It is fitting that this building is the culmination of my academic career. It is in my mind the finest project I have tackled. For me it responds well to the many design problems faced. I am especially pleased with the scale I achieved with such a large building. In the past I have had great difficulty with this problem. I do wish more time had been set aside to study materials and color. Both of these choices could have been a twenty week study by themselves.

With this project I end my career as a student at Ball State. But I am only beginning my career as a student of architecture. For me architecture is a fine art an art that is always changing and one from which we can always learn. I will always be a student of architecture, when I find myself no longer being a student of architecture I will find that I am no longer an architect. My talents and wisdom are my Lord's and it is for his glory that I will practice this profession.
The following organizations gave assistance in the research of this building type:

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