THESIS

College of Architecture and Planning

Ball State University, Muncie, Indiana

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INTRODUCTION

Preface......................... 3
Acknowledgments............... 5

PROJECT STATEMENT

Abstract....................... 9
Objectives..................... 10
Site Description............... 11

PRELIMINARY DESIGN

Site Analysis................... 15
Organizational Concepts....... 17
Program of Activities......... 22
Space Summary.................. 24
Development Sketches.......... 26

FINAL DESIGN

Final Considerations.......... 39
Final Drawings............... 40

CONCLUSION

Retrospect..................... 87
Credits......................... 89
Introduction
This brochure is an account of a nine month design process. It is a brief overview of a thesis problem, major design issues considered, and the proposed design solution. Therefore, not every element of this thesis project has been revealed in this outline; however, it does highlight the theories and methodologies I have explored in this my last year of undergraduate study.
Acknowledgments

As this is the final task of my undergraduate career, I would like to recognize those whom have given me support and encouragement throughout my five year study.

A very special thanks to my parents and family for their love and devotion.

To my colleagues and friends, especially Gary Voirol, John Winiger, and Ty Cole for making those long studio hours bearable.

And I would like to thank Shar McCoy for her compassion, understanding, and continual support.
Project Statement
Savana Island is an attempt to transform a small uninhabited island into a resort complex. The island will retain its natural integrity, but exploited in such a way that to experience it is to learn about it. This is achieved through a variety of activities offered throughout the island and the complex itself.

Savana basically serves a multifold purpose: To serve as an educator of the native area by providing trails throughout the island as well as an aquatic research center near the complex; To provide a unique “vacation” image to its clientel; And through its design intent become a promoter of interaction with St. Thomas and the Caribbean culture.

The complex, because of its spatial organization and relationship to the site, becomes not only the focal point of the island but an attraction for the surrounding area as well. The complex will be divided into four major areas; the main body of the complex, the dwelling units, recreational facilities, and a marina. The main body will include such amenities as a restaurant, small goods store, swimming pier, cafe, night club, and administrative functions. The recreational facilities include a racquetball court, two tennis courts, a large swimming pool, and locker rooms. The marina will have the capability of providing service hook ups as an option to living on the island.
Objectives

The following are a list of specific objectives which were taken into account during the design of Savana and the other island amenities.

One: Maintain as much as possible the islands naturalness.

Two: Through organization and design create a learning experience for the clientele.

Three: To establish a relationship with St. Thomas in culture and dimension.

Four: To provide an atmosphere that contributes to the romance of the Caribbean and the enhancement of "vacation".

Five: Provide opportunities for many activities.

Six: To provide a facility that is unique in design to that area but not in form.
Site Description

Savana is approximately two miles west of St. Thomas in the Caribbean Sea. It is presently uninhabited and very green with the exception of a narrow beach that surrounds it. Savana is approximately one mile from tip to tip and one half of one mile at its widest point. It is oriented on a northeast-southwest axis with alternate sides facing both the Caribbean Sea and the Atlantic Ocean. It has a fairly "rugged" terrain with the highest point reaching 269 feet above sea level.

The following environmental data are presented as yearly averages for Savana, which is approximately 17° north latitude.

- Temperature: 78°F
- Humidity: 40-45%
- Rainfall: 30 inches
Preliminary Design
An analysis of Savana reveals a small but steep island. Therefore, slope is going to be a large factor in site selection. Because of the steep northern shores and western tip, I focused my attention to the eastern shores which in fact created a natural marina basin. This is also the most desirable location for the marina. Since, it will be much easier to navigate a boat in the Caribbean waters rather than the Atlantic Ocean, where the current is stronger. The eastern side of Savana is also a more desirable location for the resort complex. In addition to the island acting as a natural wind break, the eastern side offers a view of beautiful St. Thomas. The western shores face the Atlantic Ocean with the nearest land mass forty miles away. Another benefit achieved at the eastern location, is its prominent position along a major boating lane. Thus, the complex advertises itself; inviting visitors to the island.
Organizational Concepts

Once the site has been determined, the next step in the design process is to develop an organizational concept for the complex. I developed two basic concepts each different in structure and characteristic. The first concept is an attempt to unite all the functions in one structure. This scheme provides for maximum interaction and compactness. The second concept utilizes a disintegrated placement of the parts, but connected by a common theme or element. Both schemes are organized along a linear element to assist in establishing a cohesiveness between the parts and to help define the land - water edge.
CONCEPT A

Concept "A" provides compactness through the central arrangement of all the parts. Travel among the parts is simple with the circulation paths, horizontal as well as vertical, intersecting at a common point. Recreational facilities are situated above the complex and the restaurant occupies an exciting off-shore location. Compactness increases the chance for involvement, it ensures unity and creates less of a scar on the site.

Characteristics

CENTRALITY
UNITY
ACTIVITY
COMPACT
Although this concept functions as a whole, the dynamic features of the individual parts are lost. This arrangement is also weak in response to the site variables and does not realize the potentials of interacting with it.
Concept "B" has a similar organization of the public parts. It differs from concept "A" in its placement of the dwelling units. These units are situated along the main circulation element which becomes a focal point of the complex. Travel along this element enables the visitor to experience the beauty of the island. Each dwelling unit offers a different view and perspective of the island and its surroundings.

Characteristics

INDIVIDUALITY
ISOLATION
VARIETY
ORGANIC vs. RIGID
CONCEPT B - PARTI

This scheme is more dynamic because of its disintegrated organization, but lacks in its representation of a cohesive complex. I feel this is the stronger concept because of its great flexibility, informal expression, and individuality.

CIRCULATION ELEMENT
path of all movement
strong identity

RECREATION
suitable land contours
exceptional vistas

SECLUDED UNITS
interaction
undesireable

INTERMEDIATE UNITS
slightly removed

RECEPTION
denotes entrance
to the facility

MARINA UNITS
promotes activity

ENTRY DEFINER
strong symbolism

RECEPTOR
removed
exciting

MARINA
A resort must recognize its purpose and need for existence. To provide an atmosphere and setting different from that which visitors are escaping, the resort clientele is seeking qualities that represent rest, relaxation, and the "vacation" experience. These qualities can be obtained by offering a variety of activities to encourage interaction with the site and facility. So, for a resort to be successful, its main objective is to serve its clientele in as many ways as possible.

Savana is intended to be more than a resort with supplemental activities; Savana, because of its site and location, will become a learning experience as well as a resort. And many of the activities available to visitors at Savana will focus on the interaction between the visitors and the Caribbean.

Since the only access to and from Savana is via the sea, it is natural that many of the activities center around water and its involvement with man. A research center has been programmed for the facility. Planned but not designed, this center is intended to be operated by the marine biology department at the College of the Virgin Islands, St. Thomas. It will basically serve as a research laboratory for studying the Caribbean Sea and related ecosystems. In addition to its professional function, the research center will become a "showcase" for the Caribbean. Exhibits and displays will be available for visitors to observe and learn about the region around them. Also at the research center, will be the opportunity for visitors to skin and scuba dive. Available to both experts and beginners, this enables the visitors to experience the beauty of the undersea world. The other activities associated with the sea include: swimming and an option for those without boats to rent one or another type of water craft. Although there is a beach surrounding Savana, it is short and at times rocky. So, swimming is also possible from the main breakwater.

The other unique factor about Savana, other than its location in the Caribbean, is that it is uninhabited. The natural state of this island provides an excellent model to learn about and experience the Caribbean. Therefore, the facility will incorporate carefully planned hiking and jogging trails to reveal the island's natural beauty. The development of these trails also include the design of picnic areas and viewing platforms placed at advantageous locations. Bicycles and mopeds are also available for
rent and use on these trails.

The actual recreational facilities are comprised of a large freshwater pool with a diving well, two tennis courts, and a racquetball court. A small locker facility accompanies these as does a jacuzzi with views of the marina and St. Thomas.

My efforts to unite Savana with St. Thomas include the establishment of a scheduled boat shuttle between Savana and Charlotte Amalie, the capital of St. Thomas. Which is approximately five miles to the west. This not only unites the clientel of Savana with St. Thomas, but enables others to visit Savana as well.
## Space Summary

### Administrative

<table>
<thead>
<tr>
<th>Room</th>
<th>Sq Ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lobby</td>
<td>2305</td>
</tr>
<tr>
<td>Reception</td>
<td>200</td>
</tr>
<tr>
<td>Accounting Office</td>
<td>500</td>
</tr>
<tr>
<td>Managers Office</td>
<td>180</td>
</tr>
<tr>
<td>Asst. Managers Office</td>
<td>150</td>
</tr>
<tr>
<td>Vault</td>
<td>70</td>
</tr>
<tr>
<td>Conference Room</td>
<td>500</td>
</tr>
<tr>
<td>Employee Relations</td>
<td>500</td>
</tr>
<tr>
<td>Circulation/Storage</td>
<td>340</td>
</tr>
<tr>
<td>Mechanical</td>
<td>500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5245</strong></td>
</tr>
</tbody>
</table>

### Research Center

**College of the Virgin Islands**

<table>
<thead>
<tr>
<th>Room</th>
<th>Sq Ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruction Rooms (2)</td>
<td>600</td>
</tr>
<tr>
<td>Lecture/Movie Room</td>
<td>700</td>
</tr>
<tr>
<td>Faculty Offices (2)</td>
<td>240</td>
</tr>
<tr>
<td>Visitors Information</td>
<td>180</td>
</tr>
<tr>
<td>Research Laboratory</td>
<td>500</td>
</tr>
<tr>
<td>Research Library</td>
<td>300</td>
</tr>
<tr>
<td>Display Space</td>
<td>300</td>
</tr>
<tr>
<td>Restrooms</td>
<td>240</td>
</tr>
<tr>
<td>Equipment Storage</td>
<td>120</td>
</tr>
<tr>
<td>Lockers</td>
<td>250</td>
</tr>
<tr>
<td>Overnight Living Unit</td>
<td>400</td>
</tr>
<tr>
<td>Equipment Rental</td>
<td>350</td>
</tr>
<tr>
<td>Mechanical</td>
<td>420</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4600</strong></td>
</tr>
</tbody>
</table>

### Restaurant

<table>
<thead>
<tr>
<th>Room</th>
<th>Sq Ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dining (120 persons)</td>
<td>2600</td>
</tr>
<tr>
<td>Kitchen</td>
<td>900</td>
</tr>
<tr>
<td>Storage</td>
<td>300</td>
</tr>
<tr>
<td>Managers Office</td>
<td>180</td>
</tr>
<tr>
<td>Lobby</td>
<td>400</td>
</tr>
<tr>
<td>Bar</td>
<td>2100</td>
</tr>
<tr>
<td>Dining Preparations</td>
<td>150</td>
</tr>
<tr>
<td>Employee Break Room</td>
<td>350</td>
</tr>
<tr>
<td>Mechanical</td>
<td>400</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7380</strong></td>
</tr>
</tbody>
</table>

### Recreational Facilities

<table>
<thead>
<tr>
<th>Room</th>
<th>Sq Ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Racquetball Court</td>
<td>800</td>
</tr>
<tr>
<td>Snack Bar</td>
<td>300</td>
</tr>
<tr>
<td>Locker Rooms</td>
<td>600</td>
</tr>
<tr>
<td>Storage</td>
<td>250</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1950</strong></td>
</tr>
</tbody>
</table>

### Wharf Facilities

<table>
<thead>
<tr>
<th>Room</th>
<th>Sq Ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outdoor Cafe</td>
<td>400</td>
</tr>
<tr>
<td>Store</td>
<td>1080</td>
</tr>
<tr>
<td>Laundry Room</td>
<td>500</td>
</tr>
<tr>
<td>Restroom/Shower</td>
<td>725</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2705</strong></td>
</tr>
</tbody>
</table>
EMPLOYEE ACCOMODATIONS

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managers Residence</td>
<td>1200</td>
</tr>
<tr>
<td>Assistant Managers</td>
<td></td>
</tr>
<tr>
<td>Residence (2)</td>
<td>2400</td>
</tr>
<tr>
<td>Three Additional Units</td>
<td>3000</td>
</tr>
<tr>
<td>One Multiple Living Unit</td>
<td>2800</td>
</tr>
</tbody>
</table>

Total: 9400

GROSS SQUARE FOOTAGE

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designed</td>
<td>75280</td>
</tr>
<tr>
<td>Additional Programming</td>
<td>14000</td>
</tr>
</tbody>
</table>

Total: 89280
Marina: important first and last space user experiences.
Recreational Knoll:
careful of placement of
trees... sunbathers.
shade for outdoor
eating.
Restaurant runned away along well.
Final Design
Before the final drawings were produced, a number of design changes affected the preliminary scheme. The living units were reduced to fifty and the marina capacity down to 60. The circle is implemented into the design of the restaurant and marina facilities to strengthen their relationship to the main building. The dome on the main building will be replaced by a cone form thereby eliminating the religious connotations it was expressing. The materials have been chosen in regard to location and culture. All of the buildings will be white either a precast concrete unit or cast in place covered with a white stucco. The main building will have a color impregnated stucco applied to its drum form. All roofs on the condominiums and other small structures will be a red standing seam relating to the red clay tile used in that type of climate. One final note, all paths and roads on Savanna will be constructed out of cobblestone, again indigenous to that area and very strong in uniting the complex and creating the image of an old community.
1. Main Building
2. Restaurant
3. Marina
4. Research Center
5. Light House
6. Recreation
7. Employee Housing
8. Marina Facilities
1. Lobby
2. Reception
3. Manager
4. Assistant Manager
5. Vault
6. Accounting
7. Conference
8. Restroom
9. Employee Relations
10. Waiting Portico
Main Bldg. / Elevation
Restaurant / Elevation

20'
1. Snack Bar
2. Outdoor Eating
3. Shop
4. Office
5. Laundry
6. Mechanical
7. Mens Showers
8. Womens Showers
Marina Facilities / Section
1. Tennis Court
2. Recreational Center
3. Racquetball Court
4. Jacuzzi
5. Outdoor Plaza
6. Pool
7. Diving Well
1. Mens Locker Room
2. Womens Locker Room
3. Storage
4. Snack Bar
5. Shop
6. Outdoor Eating
Living Units / Section
Living Units / Type A
Living Units / Type B
Perspective
As architects we are looked upon to help man exist in his environment. From urban planning to room layout, we must please the subjective masses. And if we are to bring harmony and cohesion to the environs around us, the architecture must work - it must be a problem solver...

The design of Savana has been an attempt to solve a thesis. Architecture can enhance and improve the environment. Whether my solution is successful or not will probably never be realized, but it is a philosophy I will remain committed to and explore throughout my career.
I would like to recognize the following for their professional contributions:

S. Mendelsohn

D. Woodfin

R. Underwood

L. Smith

D. Ferguson

D. Mackey