CASA del BOCA,

A COMMERCIAL / RESIDENTIAL DEVELOPMENT IN BOCA RATON, FLORIDA.

PAUL SPITE
1980 - 1981

PROF. LASEAU / KINGSLEY
ACKNOWLEDGEMENTS

In the state of mind I was in when I began my architectural thesis, I could never have accomplished what I have without the help of some very special people. Therefore, I would like to set aside this space to express my gratitude, first of all to John Baccari, an architect who taught me some of the realities of the profession and made me work with my abilities until I had confidence in myself. Sonny Palmer was most helpful in the preparation of the building program and along with Paul Laseau, Robert Koester, and Robert Kingsley, was painfully correct in challenging my assumptions when they were not too carefully thought out. I would also like to thank Jerry Noble for contributing a great deal of information to my program and Jim Anderson for showing me how practicality and good design can work together. Finally, I would like to express my appreciation to my outside critic, Rod Underwood, for the donation of his valuable time and without whose guidance and timely sense of humor I would most probably have lost sight of my original goals.
ABSTRACT

My original intent for this thesis in terms of what I wished to accomplish had a great deal to do with how my attitudes toward architecture have evolved. These feelings can basically be summed up in two categories, one dealing with the priority of the designer's responsibilities and the other category concerned with what I feel to be important design concepts. These ideas finally fell into place after four years of struggling to determine how to achieve "good" design. How well I have succeeded in applying them is, as it always has been through history, going to be judged separate from the written description of the designer's intent.

I do feel, however, that design decisions should be made with a definite priority system in mind. At the top of my ranking, the professional should first be responsible to the client who employs him and for whom he is acting as an agent. Next, he should act in the interests of the users by properly establishing programming relationships to satisfy physical needs. Third in line are the interests of the public who will only rarely view the building as a sculptural addition to the community. Last in terms of priority in decision making comes the architect's ego, the need for recognition among his peers. If the designer feels that these boundaries are too restrictive for his artistic expression, then he should switch to a field less inhibitive than one involving "public" service.

From the design concepts which have been introduced to me during my academic career, I have chosen four which are important to me and which I have tried to emphasize in my project. Because I feel that the scale of the building should reflect its function, in much the same way as church designers strive for monumentality to dwarf and humble the user, I have tried to relate my public oriented project to a human scale by manipulating massing and detailing. I also feel that a primary responsibility of the architect to his community involves respecting the context in which his building will be placed. I have tried to acknowledge the neighborhood and surrounding buildings, the local stylistic patterns, the codes, and the circulation patterns of the city.
of Boca Raton and of my site. Because I feel that specialization tends to limit the usefulness of a structure, I have tried to give my project the capability of seasonal changes and possibly functional changes. Finally, I have attempted to introduce variety in material usage and by changes in scale to minimize sensory deprivation and increase the perceived complexity and interest of the user in the space.
INTRODUCTION

It is an odd thing that some members of my studio chose to label my work, somewhat in mockery, pseudo-Spanish, post-modernism. The touch of mockery behind this is a disturbing attitude in current architectural thought which I will explore later, but for now I wish to concentrate on what was behind those labels, because I was actually pleased. If pseudo-Spanish was meant to imply that I was working with image, they were correct because I was attempting to emulate the work of Addison Mizner, whose buildings are at the core of the image Boca Raton projects. The term post-modern was applied because of the historic basis of some of my material choices and details. On a broader scale, post-modernism refers to the dual coding of a structure for public interpretation and professional interpretation, which I find to be a fascinating concept. In these two ideas lies what I have tried to say with my project; that architecture does not have to be different or unique to be well done and that while professional considerations of scale, massing, enclosure, etc. are important, equally important are the opinions and needs of the people who must inhabit the structure, the forgotten user.

IN RETROSPECTIVE

I can remember very few times in my life when I have really been shocked, but two of several memorable incidents at this school of architecture stand out in my mind. In my second-year design studio, I remember one of my classmates proposing to hang the roof of a residence from a tripod of I-beams which loomed above it. The effect was very spectacular until it was discovered that he was also proposing to support the roof with load-bearing masonry walls, making the tripod totally unnecessary and in reality, a very expensive tribute to the designer's ego. The second incident occurred quite recently in a discussion concerning whether the shape of a space adequately served the religious ceremonies conducted within. The professor remarked very sincerely, that the spiritual needs for a church should be structured in such a way to add complexity and excitement to
a space. Maybe I am wrong, but that seemed a little backwards. Where could attitudes like this have come from and how could they still exist when public reaction has been moving against them for at least a decade?

Such ideas are relatively new to the history of the profession. In the beginning, builders were merely concerned with shelter for the sake of survival. When staying alive became a part-time job and humanity had time to explore its creativity, art and habitation were combined to form architecture. Questions of taste came to be decided upon, aesthetic principles were evolved, the ideology of keeping up with the Jones’ was firmly established, and our profession was off to a booming start.

Architecture was a recognized art form by the time the classical periods rolled around, but until recently, the following stylistic treatments of building seemed to pretty much follow a set routine. After the recovery from the fall of the Roman Empire, designers seemed to be pulling details from preceeding styles with varying degrees of academic success, or combining such historic details with commonplace, vernacular details to form new styles as occurred with the birth of the French Second Empire mode. If it was the intention of the modernists to break this routine with their totally new concepts, then this was a noble intent indeed. Other ideas that these pioneers held were not so noble.

Public relations had a great deal to do with the initial success of the modern movement. The utopian writings of the leaders of this movement with their glorification of the lowly machine, their concerns for social rejuvenation, their purity and simplicity of design, and their economic, modular packages which put the American dream within everyone’s reach were a force that few were willing to voice a protest against. The uproar would come later when it was discovered that novelty did not compensate for comfort and privacy, that sterility could be extremely boring, and that social injustice was really not being corrected by purity of environment. As always in history, a movement had reached the point where it would be judged by its product, rather than its intent. Modernism was found to be lacking. The public has long since turned its back on the imagery, but for some reason the profession does not seem to be willing to give up the movement.
The role of the architect in modernism is probably one of the reasons for its continued practice. According to an article in a recent edition of Penthouse, leaders of the modern movement have broken with traditional aesthetic values and declared themselves the sole arbitrators of good taste in buildings, ignoring everyone's idea of beauty but their own. Frank Lloyd Wright's reply to a student who asked how to design a nonmodern building was, "You have the mind of a prostitute to even consider the question." The ego trip involved in assuming such a role is probably partially the reason for the continued existence of such attitudes in the profession and in our schools. Reluctance to depart from a tried and true formula, regardless of the rising public reaction against it, is also probably a factor.

As a new formal expression of creativity and as an avant-garde to the profession, modernism had its significance. Nonetheless, it still seems odd to have been taught architecture from the standpoint of theoretical principles, almost a sculptural approach, versus a viewpoint of resolution of the client's needs. Such problem solving was what I had learned coming into this college only to be told to stop drafting and learn to design, which was translated by attitude into producing exotic and imaginative solutions. I tried this for three years only to be told repetitively that I would never be a designer. On internship I discovered that resolution of their needs (where have I heard this before?) was what clients considered to be good design. I tried this upon my return to school and discovered that I did have an ability to design after all. Obviously then, the avant-garde, the cutting edge has become somewhat dull, odd looking building based on designer whims are no longer novelties, and it is time we listened to the rising public reaction to our professional attitudes.

Such public reaction has resulted in a newer and far more realistic movement. With the rise of community-based and very powerful architectural review boards to put a stop to reckless creativity, a generation of post-modernists have come up with an old solution to an old problem. These professionals have learned to work with their clients' needs, to blend their projects into their communities using historic allusions and details, and satisfying
their need for professional recognition by merely doing it better than it has been done in the past. That sounded like a logical way to approach a thesis project.

**INFLUENCES**

As inevitably happens, we are influenced by a great deal by what we study and a great deal of my time here has been spent acquainting myself with architectural history. Most of the work which has influenced me has been fairly recent, though the scope of instruction here has covered several centuries of work. The designers and structures I have admired can basically be fitted into two categories, the illusionists and the humanists. By the illusionists, I mean those architects who use their building forms to imply metaphorical meaning. As such buildings are basically of monumental purpose, I have not tried to respond to my project in this manner as it would be inappropriate in the community of Boca Raton. I have tried to respond to the ideas of the humanists.

In terms of metaphors, I have cared more for buildings than for designers. Ronchamp Chapel by Le Corbusier uses metaphorical allusions, but the fascinating use of light indicates a sensitivity to the user's needs. John Utzr's Sidney Opera House uses forms suggestive of local animals to combine different functions. It is meant to be monumental and succeeds. The last structure I wish to mention is Saarinen's T.W.A. terminal, a form with a clear reference to flight which not only puts a new twist to the modernist axiom, "form follows function," but enforces it with the structural supports suggesting bird legs.

The humanists, or those whom I have chosen to label as such, are all architects whose characteristics of design have influenced aspects of my project. Gaudi uses some metaphorical allusion but is noteworthy for his structural expression and materials usage. Robert Venturi is interesting for his attention to historical and contextual coding, but unfortunately, his so-called lower-class, Route 66 aesthetic which he writes about, does not really show up clearly in his upper-class architecture. Aalto and his Finnish
compatriots especially appealed to me with their attention to materials and detailing, along with a concern for human scale. Finally, the work of Robert Stern was especially important to me, due to the extensive research I have done on this architect. Apparent in his Westchester residence is his combination of the pure white planes of modernism with the tasteful decoration, historical allusion, attention to detailing, and attention to local context of post-modernism. His fragmentation of the facade to allow entry and lighting, along with his formation of zones was also of use to me in establishing a direction for my thesis.

AND I DID IT MY WAY

Before I introduce my project fully, I would quickly like to synthesize those attitudes and goals I carried with me into thesis. First, I felt that the architect should be responsible to the client, the user, the community, and his artistic expression, in that order. Second, I tried to emphasize a dual coding of the project, one for the users and one

language for myself and other professionals.

Third, I tried to synthesize historical and local contexts into a definite image. Last, I tried to break the project down to a human scale appropriate for its public function. Of secondary consideration were; structural expression, spatial variety, attention to materials, and increased richness through detailing.
CHOOSING A THESIS

PROJECT SELECTION

In recent years, there has risen a strong outcry among the elderly for recognition and rightly so, for their needs have long been ignored. In South Florida, boasting a strong elderly population, the need for housing for senior citizens has become somewhat of a crisis. This has been caused by a recent trend to convert apartment houses into condominiums, forcing the elderly out. It is compounded by the increasing lack of socialization between the elderly and other segments of the population. In answer to this, I have chosen to design a commercial and residential complex in Boca Raton, Florida, which might alleviate both of the problems. I propose to call it Casa del Boca.

Several areas of primary concern immediately come to mind when considering a facility of this type. One would be simply planning for the physical considerations of an elderly lifestyle. A second would be providing the residents with immediate access to the commercial facilities to encourage contact between the residents and other community members. Other considerations for the residential zone would be privacy, security, and yes, economic feasibility. The commercial zone would have to be designed to contain both neighborhood and community oriented shops to adequately function as a meeting ground. Finally, a common area or areas will have to be designed to serve as a neutral zone of interaction.

The final solution of Casa del Boca included more zones than these three. Within the commercial areas would be separate zones for community and neighborhood oriented shops. Within the housing would be a community or village zone, a quiet or neighborhood area, and a transitional block fronting onto the commercial zone. A management core could be called upon to double as a systems core. Finally, a common area in the form of a courtyard would be decided upon to provide a neutral zone along with an opportunity for outdoor activity and entertainment. In the interests of time, I focused on the court--
yard and the commercial areas as offering me the most potential for self-development.

QUALIFICATIONS

I felt fairly safe in taking on a project such as this for several reasons. Commercial and residential architecture are my main areas of interest, I had been involved in both of these areas in school and on internship, and this project would allow me to develop myself in both areas. I had also worked in Boca Raton and felt that I had a good grasp upon its image and the concerns of its citizens. Having had many dealings with the elderly, I felt that I could relate properly to the needs and attitudes of this user group. Finally, having worked part-time for a developer in the area, I felt that I could relate to the needs of the type of client most likely to finance such a project.
The people involved in the conception and use of such a project would likely be as follows.

- Development firm
- Construction manager
- Architect
- Complex manager

**Housing**
- Rental and Recreation
- Security and staff
  - Physical plant
- Tenants

**Commercial**
- Marketing and P. R.
- Maintenance and staff
  - Legal counsel
- Community
The users of a project such as this would be a diverse group of people. Living on the site would be the elderly residents whose needs we first considered. Working here would be the administrators necessary to efficiently run both the residential and commercial functions, their staffs, and the employees of the commercial facilities. Visitors to the complex would include guests, community shoppers, neighborhood shoppers, users of the service oriented shops, people watchers, sight-seers, and delivery personnel. All of their needs should be adequately provided for with interrelationships as follows.
PROGRAMMING

BUILDING CRITERIA

Each space in a project should be carefully considered in terms of the impact it will have on its users and vice versa. This will be done, but in the interests of saving time, several overall considerations for the complex should first be clearly delineated. It is necessary to be kept in mind that the main function of Casa del Boca lies in the successful intermingling of its elderly residents with the surrounding community. For this reason, residents are to be located in a manner which provides easy access to the community, while the commercial aggregate should provide a contact point for the community to interact with the residents. Both segments of this project, each involving retail or living areas, management, and support spaces, should meet in a common zone of activity. Besides these main areas of concern, the complex should facilitate community organizational activities, meetings, and exhibits, it should provide for the shopping needs of its residents, and it should support the aesthetic quality of the surrounding area with high design standards. Along with considerations for community activities, the designer should consider programs and activities for the entertainment of the residents.

Generalized principles for the housing would be as follows. It is very important to avoid an institutionalized look. Units should be well lit, well ventilated, and have individual controls in each space. A call system should be available in each room if needed. Level changes should be minimized and views to activity areas would provide a leisurely distraction. Variations between units also would help to establish a sense of identity, and on a smaller scope, the individual's physical limitations should also be considered. Answers to these limitations might include easy opening doors, round corners on tables, high security, sprinkler and smoke alarm systems, direct and alternate escape routes, fire resistant party and physical plant walls, and a protected communications system.

The overall complex, independent
of its separate functions, should also be considered. Individual and overall security using a monitored system should be used throughout the project with emphasis on the entry points. Egress routes should read as transition points between the interior and exterior, be well lit, and easily identified by some coding method. Automatic doors would be of use in a elderly environment and circulation routes should allow for uncongested movement. Parking should be handled in areas relating to the zones of the complex, with residential and commercial parking having separate access. Finally, landscaping should be of a high quality, utilizing highlighted entrances, exterior recreation areas, well lit circulation paths, and landscaped parking to soften and integrate it with the rest of the complex.

General Residence Recommendations

There are additional considerations applicable to all of the units. They should all provide private outdoor space for use by the occupants. High quality of design should be used in both economy and luxury units and a transitional block should be set aside for use by the inhabitants who enjoy a more active lifestyle than others. Finally, these units should be arranged in such a way that they form an entity in and of themselves, separate from the commercial facilities. If these principles are followed, Casa del Boca will be an enjoyable community to live in indeed.

Such details may seem trivial, but unless they are taken care of, higher design principles will never be noticed, for the former will have more of an impact upon the user than the latter in terms of positive feelings toward the complex. To maximize these positive feelings and to insure adequate consideration of user needs, individual guidelines for major spaces will follow.
Unit A - Economy

Unit B - Efficiency

Unit C - Luxury

LIVING/UNIT MINIMUMS
LIVING / UNITS

Unit A (Economy)  10 @ 525 sq. ft.

This unit is to be an economic approach to an independent lifestyle with an option for housekeeping and meal services. As such, it should include kitchenette equipment, a full bath, closet, and storage spaces. Being built with the comfort of the user in mind, it should offer privacy and good views, be quiet and well lit, use natural lighting, and have easy access to parking. Where it is possible through the manipulation of massing, entrances, and facades, a sense of individuality should accompany each unit to help establish a sense of identity.

Unit B (Efficiency)  20 @ 675 sq. ft.

This unit should have basically the same considerations as Unit A. The only differences is the size increase to indicate less economic restrictions and a need to consider the potential for entertainment.

Unit C (Luxury)  10 @ 1,125 sq. ft.

This unit has all of the above considerations in terms of physiological and psychological needs of its users, but it is geared towards those clients who are unwilling to give up the space they were accustomed to in private residences. It definitely offers a potential for entertainment and overnight guests and this should be considered when making design decisions.
LI\'VING / MANAGEMENT SPACES

Administration Office  250 sq. ft.

The main use of the space will be by an administrator. From here he will manage personnel, manage resident services and handle public relations within the community. For this usage, the office should be quiet, informal, be easily accessible, and have controlled access and natural lighting.

Social Services Office  120 sq. ft.

The main users of this space will be the social services director and his staff. Activities of the personnel will include personal counseling for the residents, planning for personal needs, and keeping the residents informed of financial assistance programs. To accommodate this, the space should be quiet, informal, somewhat intimate in terms of lighting and furniture grouping, have controlled access, and offer natural light and views to the outside.

Business Office  100 sq. ft.

The users of this space will be two secretaries. Their functions will be to maintain records on the residents and handle reception, correspondence, business files, and clerical work for the staff. This space should be quiet, fairly formal and act as an access control for the other offices.

Community Activity Office  120 sq. ft.

The user of this office will be the director of activities, whose sole duty will be the development of social programs for the residents. The space itself should be quiet, informal, fairly comfortably feeling, and utilize natural lighting and views.

First Aid Office  150 sq. ft.

The users of this space would be the nurse and the residents of the complex. Activities in the space would include responding to emergencies, dispensing of medicine, and overnight surveillance of
ill residents. As such, it should be quiet, private, formal, and use natural light if possible. Should the need arise, emergency medical equipment should be on the premises and ventilation and temperature control are important.

One Bedroom Space 170 sq. ft.

To be used by residents in conjunction with the first aid office when overnight care is needed, this space should be quiet, familiar, comfortable, and stress fresh air, natural light, and a good view.

Support Spaces 160 sq. ft.

These spaces will be used by the housing management personnel and will support the activities of the same. They will include supplies storage, closet, a coat room, and restrooms.
LI'ING / SUPPORT

Exercise Room 300 sq. ft.

The users of this space will be the residents and the therapist and the activities therein will be physical therapy and exercise programs. Special equipment in this space would include parallel bars, an exercise wheel, an ambulation table, a shoulder ladder, and convertible exercise steps. The space itself should be highly adaptable, active, comfortable, fairly isolated and private, and well ventilated.

Dietician's Office 80 sq. ft.

This space will be used by the dietician in the planning of meals and the supervision of the kitchen. It should be quiet, well lit, somewhat informal, but commanding a view of the work area and dining room.

Dining Area 1,125 sq. ft.

This area will be used by the hostess, the residents, members of the community, and guests. Activities will include meals, social events, and limited public use.

As such, the space should be active, informal, familiar, open, adaptable, diverse, and offering occasions for semi-privacy.

Dining Support 1,000 sq. ft.

These areas will be used by the food service personnel. They will include the kitchen, a receiving area, cold storage, dry storage, a meat and vegetable area, salads area, a bakery, a serving bar, a dish room, and pot and pan storage.

Multi-purpose Room 1,125 sq. ft.

This room is to be used by residents and entertainers for controlled and multi-group activities, for television viewing, for games, for lectures, and so forth. The space provided should be active and informal, familiar with a lot of opportunity for privacy, adaptable, highly accessible, and using natural light.

Art Room 540 sq. ft.

This space will be used by the residents and a craft instructor for the pursuit of
handicrafts or merely for socializing. It should seem lively, adaptable, making use of natural light as well as artificial light, and using good ventilation. Views and possible access to the outside are further considerations.

Greenhouse

180 sq. ft.

This space is to be used by the residents for the planting and raising of vegetation. Special equipment needed will be bedding tables, watering and humidification equipment, and plant lights for seedlings. This space should be a fun one, active and informal and very accessible.

Library

380 sq. ft.

This room is to be used by the residents and staff for book selection, reading, and some conversation. Acoustics are of special concern in this space as it is to be quiet, informal, containing nodal spaces, have limited access, and use natural light along with pools of incandescent lighting to help define personal spaces.

Chapel

1,140 sq. ft.

To be used by the residents, possibly with a clergyman, this space should be used only for worship. Special furnishings would include pews, an alter, an organ, and a lecturn. Such a space should be quiet, very formal, and very private.

Restrooms

140 sq. ft.

Public restrooms should be provided for residents and guests.

Storage

2,500 sq. ft.

This space is to be shared by residents and complex management.

Laundry

100 sq. ft.

This is for use by the janitorial staff.
COMMERCIAL / RETAIL UNITS

Single Aisle Shop       10 @ 600 sq. ft.

This space is to be used by everyone using the complex. Activities within it should include purchasing, window shopping, browsing, sitting, circulation, and conversation. Standard display furniture should be used along the periphery of the shop and the space should be well lit, casual, informal, have a potential for dramatic display, be adaptable, and use diffused natural light where it is possible.

Double Aisle Shops       10 @ 1,200 sq. ft.

This shop should have the same characteristics as the smaller one, except the increased space offers the potential of central showcases and some alcove display. Order packaging and pickup would become a factor in a shop this size also.

Magnet Shops            6 @ 1,800 sq. ft.

These shops would act as a draw for customers and an addition to the activities above, offer eating areas and the problem of delivery and waste removal. Additional furnishings to be considered would be movable display units and checkout counters.
COMMERICAL / MANAGEMENT

Complex Manager's Office 225 sq. ft.

This space is to be used by the complex manager for activities centering around the integration of residential and commercial activities. As such, the space should be hospitable to visitors, seeming relaxed, quiet, private, and using natural light. Although this space is to be a center of communication, access should be thoroughly controlled.

Retail Manager's Office 150 sq. ft.

This space is to be inhabited by the retail manager for the leasing or rental of commercial facilities, monitoring of payments, and so forth. As such, it should be very formal, well lit, fairly private, and having controlled access.

Marketing Office 100 sq. ft.

This space will be used by the marketing director for public relations work and advertising. Special furniture in this space might be layout tables and the space should seem busy, but casual, incorporate a lot of natural light and views, and be highly accessible.

Business Office 150 sq. ft.

This office will be used in a joint effort by the secretary and receptionist to handle reception, filing, typing, correspondence, and other clerical work associated with the commercial management branch. Special attention should be given to furniture layout in this room as traffic patterns through such a space can be a heavy source of annoyance to the workers. It should be an informal and active space, offering the workers natural light and views outward. It acts as a control for access to the other offices.

Legal Office 100 sq. ft.

This space is to be used by legal counsel in the dispensing of legal advice to the management and the tenants if needed. As such, it should be a formal and quiet space with controlled access.
COMMERCIAL / SUPPORT

Security Office 200 sq. ft.

This office is to be used by the chief of security and his staff to maintain complex security, answer alarms, lock up at night, and the possible temporary detention of individuals. Special considerations would obviously include facilities for such detention and this space should have very controlled access in a central location.

Restrooms 140 sq. ft.

These restrooms should be placed in a location convenient to shoppers and guests to the complex.

Storage 5,760 sq. ft.

Storage for the retail spaces should consist of at least twenty percent of the floor space. Shelving will be supplied by the complex, but special considerations will be installed by the tenant.
COMMON AREAS / COMMUNITY

Courtyard 14,000 sq. ft.

This space is to be used by the residents, the staff, personnel, guests, and members of the community. Activities therein will include playing, talking, strolling, observation, seating, sensory perception, eating, and entertainment. This courtyard should give the complex its image and include benches, fountains, trash receptacles, phones, tables, landscaping, level changes, and lighting in its design approach. This highly active and informal space should use the ever-present wind and water in a good design fashion, and be highly permeable to all users of the complex.

Community Room 3,000 sq. ft.

This space should be used on a reservation basis by the community for meetings, receptions, lectures, and so forth. Special equipment should include tables, chairs, audio-visual equipment, a kitchenette, a public address system, and storage for all of the above. The space should be active, informal, but fairly noisy with artificial and natural lighting, local systems control, and easy access.

Physical Plant 4,000 sq. ft.

This plant is for use by the maintenance engineer for the repair and maintenance of equipment used in the complex as well as systems equipment. As such, the plan should be very efficient with access for equipment and include a laundry area, a repair shop, and an employee facilities area.

PARKING

Residential Parking 49 spaces

To be used by the residents and staff, these spaces should be as close as possible to the units.

Commercial Parking 200 spaces

These spaces are to be used by the community and store personnel. Shop functioning will be kept in mind to determine location of heavy demand.
FLEXIBILITY

This programming is to be regarded as setting forth minimum requirements for this project. Additional spaces may be added where it is deemed necessary, and spaces may be enlarged where such action does not encroach upon other guide lines. Diagrams are to be considered only as minimal responses and not as literal spatial requirements. Although the program and project may be considered for the purpose of design as being complete within themselves, if possible, allow for future expansion which might occur dependent upon the success of the enterprise. Finally, as many support spaces were only estimated, the square footage for these may be manipulated.

<table>
<thead>
<tr>
<th>SPATIAL REQUIREMENT SUMMARY</th>
<th>sq. ft.</th>
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<tbody>
<tr>
<td><strong>Space</strong></td>
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<tr>
<td>A. Housing</td>
<td></td>
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<tr>
<td>1. Living units</td>
<td></td>
</tr>
<tr>
<td>a) 10 @ 525 sq. ft.</td>
<td>5,250</td>
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<tr>
<td>b) 20 @ 675 sq. ft.</td>
<td>13,500</td>
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<tr>
<td>c) 10 @ 1,125 sq. ft.</td>
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<td>3. Management</td>
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<td>4. Support</td>
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<td>B. Commercial</td>
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<td>1. Retail spaces</td>
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<tr>
<td>a) 10 @ 600 sq. ft.</td>
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<tr>
<td>b) 10 @ 1,200 sq. ft.</td>
<td>12,000</td>
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<tr>
<td>c) 6 @ 1,800 sq. ft.</td>
<td>10,800</td>
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<td>2. Management</td>
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<td>3. Support</td>
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<td>C. Community</td>
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<td>D. Parking</td>
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<td>E. Outdoor and Recreation</td>
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<td><strong>Total Square Footage</strong></td>
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MAJOR SPACE RELATIONSHIPS

The needed strength of the relationships above is indicated by the number of lines connecting the groupings of spaces.
SITE ANALYSIS

CONTEXT

The city of Boca Raton does not give an impression of high activity, although there is a great deal of life at its center. Using buildings of small scale and Spanish flavor, its wealth is evident at its fringes, where the upper income residents play in estates and clubs. My site is located at the southern boundary of this community in an underdeveloped section, but within five minutes drive of churches, other shopping, major business, and major entertainment districts in two directions. There is little pedestrian or bicycle access.

EXISTING

A. Buildings—small offices—to be removed
B. Vegetation
   1. Trees—sand pine, scrub oak, saw palmetto—to be removed
   2. Shrubs—rosemary, cacti
   3. Groundcover—natal grass
C. Slope—relatively none
D. Soil—St. Lucie sand
E. Drainage—20" rainfall/hour
F. Edge conditions
   1. Hard along railway
   2. Semi-hard along condominiums
   3. Soft elsewhere
C. Zoning—local commercial and professional
SITE INFLUENCES

1. Pedestrian access
2. Heavy vehicular traffic
3. Light vehicular traffic
4. Views out of site
5. Views into site
6. Sources of vehicular & railway noise
7. Summer wind
8. Winter wind
RIGHTS OF WAY

A. Setbacks

B. Utilities
   1. Gas
   2. Water & sewage
   3. Electricity

C. Surrounding land use - as shown
ISSUES FROM THE SITE ANALYSIS

A. This project should function as an introduction to the community in view of its location.
B. Noise coming from roads and railway creates a need for a buffering system.
C. Almost constant east-west wind should be utilized if possible for ventilation.
D. The lack of any real constraints or views probably will necessitate the creation of an interior focus to respond to.
E. The respective use of local and federal highways should be considered when assigning commercial functions.
BUILDING TYPE ANALYSIS

CALMONT COMSTOCK APARTMENTS

A. Located in Belmont, Calif.
B. Correlation

Major segments of the building relate to each other in the illustrated manner.
C. Footprint

This massing sets up natural forms around the parking and gardens.
D. Zoning and circulation - refer to the siting diagram.

The circulation does not determine the zones. This is somewhat illogical, but these are garden apartments and this arrangement creates a meandering atmosphere.
E. Entry and enclosure

The entry sequence is also somewhat illogical. Entry is found on the surface of projections and not in the corners where one is more prone to expect entry points.
F. Structure as order

There are no changes in pattern, only extensions of the bay system.
G. Three-dimensional patterns & rhythms
   Patterns within fit into the basic planning grid.

H. Siting
   The siting on this project seemed well considered. The site slopes away from the buildings to aid in privacy. Units open up to the north and close to the south to maximize light and minimize heat gain. The access is softened by garden areas. The horizontal emphasis of the elevations tends to blend the structures into the hillside. Finally, outdoor spaces seem varied in size and scale.

I. Scale and proportion
   The utilization of a sloping site helped to determine the scale as being more residential than high-rise. The facade treatment also breaks the scale of the three-story complex into comprehendible segments.

J. Unique features
   Three story atrium spaces at the entrances break the main horizontal structural statement of the building. Also unique, but in poor taste, are the two-story, four-bedroom apartment units by the pool which disrupt the continuity and image of the project.
A. Located in Oakland, Calif.

B. Correlation
   The units are arranged in such a way that the major blocks front onto a common water area.

C. Footprint
   Represented by the lightly shaded area on the site plan, there is no real breakdown of zones in this footprint and highly irregular spaces are created.

D. Zoning and circulation
   Circulation seems dependent upon the massing instead of the reverse, where functions are not apparently zoned, saved for detaching buildings to act as highlights.

E. Entry and enclosure
   Some sense of entry into the building is found at access from the parking, while bridges define other access points.

F. Structure
   This is hard to determine as elevations give no hint of structural bays and structure, while mainly a post-and-beam system, seemingly varies from one situation to the next.
C. Siting
The court opens up to the south, leaving the north face fairly closed. Water penetration into the complex is used well and access is no problem. There is a nice progression in the scale of spaces in the entry sequence, ending in the ocean.

H. Three-dimensional patterns
As is shown, no real pattern is apparent. The variation in materials and textures is quite rich.

I. Scale and proportion
The buildings are broken by the facade treatment into a small scale human environment, while open spaces add a larger scale to play this against for contrast.

J. Unique features
Water provides both a unity and a focal point to movement in this project. Bridges emphasize this movement sequence, and beached boats add authenticity. There is a sequence, of gradually larger open spaces at the entry points and cupulas double as air-conditioning and thermal exchange points. Finally, much of the structure is exposed.
ISSUES FROM BUILDING TYPE ANALYSIS

A. An effort should be made to create a human scale in keeping with the public image of this project.
   1. This can be done by...
      a) Massing
      b) Material variation
      c) Facade manipulation within a bay system
   2. Image might vary from inside to outside complex

B. The village image might be a good one to work with.

C. Parking can be well handled and in close proximity, and be unobtrusive.

D. Scale manipulation is a good solution for an entry statement.

E. Massing can be used to delineate both zones and entry points.

F. Exposed or apparent structure can be used as an ordering device.

G. Use water as a unifying element between zones.
PRELIMINARY DESIGN

PROBLEM FUNDAMENTALS

A. Constraints/Parameters

1. Programming for the physical limitations of residents
   a) Quiet
   b) Little necessary walking
   c) Few level changes
   d) Privacy

2. Site issues (as above)

3. Building type analysis (as above)

B. Ideas/Images

1. Boca Raton as having a pseudo-Spanish flavor based upon the work of Addison Mizner.

2. Towers as marking key locations in town

3. Neighborhood shopping center as a square or plaza for a residential village.

4. Whole complex as an introduction to Boca Raton.

C. Design objectives - generated from the above

1. To create a "human" vs "institutional" scale

2. To create a focal point for Boca Raton.

3. To integrate two dissimilar functions

4. To create a context within the project for itself

Using this criteria to establish a direction for my project, the following sketches are pulled from my first presentation and illustrate the images and concepts I was working with.
FINAL DESIGN

REFLECTION

There were several major criticisms of this preliminary design. The first of these was concerning a rather casual approach to answering the context of the site because of the apparent lack of constraints. Another was in the justification of the towers, proposed for the purpose of monumentality and to double as cooling towers. The use of water as a tie-in element was a good concept, but poorly developed. The cookie cutter imagery of the apartment units was recognized as a time constraint, but nonetheless, brought under criticism. Finally, the rather prototype Spanish vernacular was pointed out as being a cheap answer to the ideas of "image". After considerable time researching Spanish architecture, water usage, and so forth, I arrived at the following guidelines for the final design.
PROBLEM FUNDAMENTALS

A. Design objectives
1. To create a human scale manipulating massing, levels, spaces, and materials
2. To create a focal point at the entrance to Boca Raton by referring to local materials and styles
3. To develop a commercial center, leaving the residential complex as a backdrop for context
4. To create separate inside/outside images and maintain an inward focus
5. To use water as a unifying element between zones

B. Programmatic and Site Issues - as above

C. Systems
1. Mechanical - management core acts as systems core with absorption chiller units and hot water storage below, cooling occurring at the fountains, and solar heating potential above housing units.
2. Circulation
   a) Vehicular
      1) Separate access to housing
      2) Separate access and circulation for service station

3) Drop off points
4) No easy through traffic
5) Separate service courts and docks

b) Pedestrian
1) From drop off points and major shops
2) Access to housing
3) Perimeter galleries around courtyard
4) Gallery at entrance as reflection of interior

3. Structural
   a) Facade walls basically free of bearing responsibility
   b) Bearing walls act as bay separation and set up rhythms

4. Facade
   a) Slightly arched openings indicate entry
   b) Vertical rhythms based on seating height, eye level height, and entry height.
   c) Horizontal rhythms based on a two foot module.

5. Zoning
   a) Commercial zones of community based and neighborhood based shops
b) Core with mechanical, management, and transitional residential levels

c) Residential village around a community center.

D. Space Definitions
1. Sequential entries with exploding space
2. Creation of zones on the site by the placing of project massing
3. Parking as a wrap around buffer, softened by greenery belts
4. Gallery variations
   a) Possible variations in ceiling height
   b) Open or closed to court
   c) Spacious or confined
   d) Views onto other levels

5. Courtyard
   a) Moves from formal to informal
   b) Uses common vocabulary and height modulation for urban furniture
   c) Creates spaces and circulation through furniture and vegetation location
   d) Cafe as pedestrian stage, wading/stage as one focus, and fountain as another
   e) Undulation of gallery space with plaza space

E. Vocabulary refinement
1. Elevations
   a) Movement of storage to the sides to admit rear lighting
   b) Addition of brackets to soften the planar transition
   c) Deepening fenestration to simulate adobe

2. Courtyard
   a) Water as cooling, irrigation, and white noise
   b) Reduction of courtyard width to solve problems with scale and siting
   c) Use of lighting for evening space delineation

F. Plant selection (recommendations)
1. Ground cover (around plantings in beds)
   a) Juniperus Aurrorea (7"-8")
   b) Ajuga (8"-12")
   c) Pachysandra (6"-8")

2. Shrubs (planter ends and focal points)
a) Euonymus alata Compacta  
   (Dwarf burning bush, 5'- 6')

b) Chamaecyparis obtusa Nana Gracilis  
   (Dwarf cypress, 4')

c) Chamaecyparis pisifera Filifera Aurea  
   (Golden thread cypress, 6'- 8')

d) Rhododendron kosterianum  
   (Mallis hybrid, 4')

e) Juniperus chinensis Armstrongii  
   (Armstrong juniper, 4')

3. Trees (entry definition and space definition)

a) Magnolia soulangiana  
   (Saucer magnolia, 20')

b) Ginkgo biloba  
   (Maidenhair tree, 40'- 50')

c) Pinus cembra  
   (Swiss Stone Pine, 25'- 30')

d) Wild cypress  
   (30'- 50')
COST ANALYSIS

The following figures are an attempt to show the economic impact of the placement of lines on paper. The square footage is estimated, the cost indices shown are those for 1980, and only the commercial and common areas of the project are firmly established, but they will suffice to pull the estimate to within striking distance of the actual cost of Casa del Boca.

1980 Building Cost = 1.53 X 55,880   X  .84   X  2.72 = 3,068,021
                          1.53 X 35,675   X  .84   X  29.01 = 1,330,094
                          1.53 X 27,650   X  .84   X  39.34 = 1,297,077

Estimated Escalation 5,796,092 X (24 mos. @ .01%)  
                          5,796,092 X .24 = 1,391,062

Actual Estimated Cost 1,391,062 + 5,796,092 = 7,187,154

Fixed Equipment (7% of cost)  

Site Development (15% of cost)  

Total Construction Cost 8,768,327

Site Acquisition Estimate 750,000

Moveable Equipment (9% of cost)  

Professional Fees (7% of cost)  

Contingencies (10% of cost)  

Administration (2% of cost)  

Budget 11,530,728
CONCLUSION

The purpose of a thesis has been an ongoing debate in the past year at a time in which students wish to explore and create, only to be hampered by deadlines and guidelines. To myself, I have thought that thesis should be a culmination of study, a masterpiece which utilizes as much as possible of one's previous learning. It should be a time of soul-searching and the delineation of professional attitudes and philosophy. If possible, one should develop one's interest and work on any perceived weaknesses before entering the profession. Casa del Boca has offered me the opportunity to do all of this and in doing so, put me in touch with feelings within myself I did not even know I possessed.

The College of Architecture at Ball State University has taught me a great deal about myself over the past five years. I have begun to experience both the joys and the irritations of this exacting profession. I have formed attitudes and skills which will be with me for life, as well as a confidence in my problem solving ability. Most important of all, in the midst of occasional exultation and more occasional depression, I have searched and found my limits, and surpassed them. It is in this frame of mind that I prepare to leave this school, somewhat apprehensive, but confident in myself and my training. This you have given to me and in return I give you my last and best hypothetical project, Casa del Boca.