RESIDENTIAL UNIT CRITERIA

CLUSTERS

SHARED ENTRY COURTS

CONCEPT: SOCIAL INTERACTION BETWEEN NEIGHBORS
- EXTENSION OF LIVING SPACES OUTDOORS
- ACTIVITIES
  - SOCIALIZING
  - SUNNING (ELDERLY)
  - BARBECUE
  - STREET WATCHING
  - WHEELCHAIR GARDENS

THREE CLUSTER TYPES

1. 2 UNIT

2. 3 UNIT

3. 4 UNIT

SHARED ENTRY & PARKING COURTS PROVIDE 2 POINTS FOR INTERACTION

PARKING COURT IS LANDSCAPED & CENTRALIZED

EMPHASIS OF CIRCULATION & PEDESTRIAN EVEN ON AUTOMOTIVE FACADE
30' MEDIAN LANDSCAPED DECREASES AUTO CONFLICTS PROVING CENTRAL PATH FOR PEDESTRIANS & OFF STREET PARKING WHERE DESIRED

- CLUSTERS ON
  - OPPOSING STREET SIDES
  - WILL HAVE DIRECT VISUAL ACCESS @ ENTRY COURTS
- PARKING AREAS WILL ALSO BE LOCATED DIRECTLY ACCESS STREETS HOWEVER LANDSCAPING WILL RESTRICT VIEWS. A SCREEN WALL WILL BE LOCATED BETWEEN COURT & GARDEN HOPS

- CLUSTERS ON OPPOSITE PEDESTRIAN PATH SIDES WILL BE STACKED TO ELIMINATE DIRECT VIEWS INTO PRIVATE SPACES & FOCUS ON GARDEN ACTIVITY AREA
RESIDENTIAL
UNIT CRITERIA

TRANSITIONAL
ZONING.

CONCEPTS

1. THE TRANSITIONAL ZONING OF SPACES ALONG THE CIRCULATION SYSTEMS.
   A. ALLOW AN INDIVIDUALLY CONTROLLED OPPORTUNITY FOR SOCIAL INTERACTION AS WELL AS ISOLATION.
   B. FULLFILL TERRITORIAL REQUIREMENTS OF INHABITANTS WITH TRANSITIONAL OPPORTUNITIES FOR PRIVACY & SELF EXPRESSION.
   C. OPPORTUNITY FOR PUBLIC OR PRIVATE ACCESS TO DWELLING UNITS THRU SHARED OR PRIVATE ENTRIES.
   D. ENCOURAGE INTERACTION BETWEEN ADJACENT NEIGHBORS WITH SHARED ENTRIES OR ORNIES.
   E. ALLOW FOR CONTROLLED INTERACTION BETWEEN EXTERIOR & INTERIOR ENVIRONMENTS WITH:
      I. SHELTERED EXTERIOR LIVING SPACES.
      II. OPEN SPACIOUSNESS OF LIVING AREA.
      III. FULL PENETRATION W/ REFLECTIVE EXTERIOR GLAZING TO INSURE PRIVACY.
      IV. PROMOTION OF HORTICULTURAL & PEDESTRIAN ACTIVITIES.

THE TRANSITIONAL ZONING OF SPACES WITHIN THE DWELLING UNITS.
   A. MAXIMIZE OPPORTUNITIES FOR SELF EXPRESSION.
   B. ENHANCE SENSE OF SECURITY WITH ABILITY TO CONTROL INDIVIDUAL PRIVACY.
<table>
<thead>
<tr>
<th>PROGRAM ELEMENTS</th>
<th>USERS AND RELATIONS</th>
<th>CHARACTER OF ACTIVITY</th>
<th>CHARACTER OF SETTING</th>
<th>SPATIAL REQUIREMENT</th>
<th>SPECIAL FEATURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical one-bedroom unit</td>
<td>Primarily elderly couples</td>
<td>Private daily living functions</td>
<td>Home for expression of independence</td>
<td>Flexible responding to change</td>
<td>Emphasis on controlled privacy transitions and neighborly interaction</td>
</tr>
<tr>
<td>Exterior entry court (shared)</td>
<td>Unit cluster residents (maximun-4 units to a cluster)</td>
<td>Sheltered walkway and entrances to private units</td>
<td>Transitional spacial environment from public (local street) to recessed private dwelling entry</td>
<td>Sufficient space to allow sheltered seating, planting, and walkway (circulation)</td>
<td>Pedestrian circulation will be of non-slip unglazed ceramic tile</td>
</tr>
<tr>
<td></td>
<td>Visiting friends and relatives</td>
<td>Exterior seating area for street-watching, socializing, reading, etc.</td>
<td>Entry statement, central focus at cluster level and personalized private entries</td>
<td>Off-street temporary parking space for vans and service vehicles</td>
<td>A driveway will provide the needed temporary off-street parking</td>
</tr>
<tr>
<td></td>
<td>Mobil support service employees and vehicles</td>
<td>Drop-off area for handicapped and services</td>
<td>Temporary parking for vans; services include meal delivery, mail, housekeeping, laundry and maintenance</td>
<td>Individual residence seen and identified as an integral part of the cluster community (neighbors)</td>
<td>An entry statement in the way of a fountain or planting or other focal point will provide a centralized identification element (orientation)</td>
</tr>
</tbody>
</table>
BATHROOM EQUIPMENT STANDARDS

SINK

TUB

TOILET

BATH & SHOWER

ADJUSTABLE SHOWER

GRAB
<table>
<thead>
<tr>
<th>PROGRAM ELEMENTS</th>
<th>USERS AND RELATIONS</th>
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<th>CHARACTER OF SETTING</th>
<th>SPATIAL REQUIREMENT</th>
<th>SPECIAL FEATURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry (interior) public zone</td>
<td>(Elderly) unit inhabitants</td>
<td>Entering</td>
<td>Transitional space</td>
<td>Sufficient wheelchair access</td>
<td>Non-slip flooring, recessed doorway and window to provide natural lighting and view of exterior entry area to ensure security</td>
</tr>
<tr>
<td>Visiting friends and relatives</td>
<td>Seating and storage for outer wear removal</td>
<td>Minimal audio and visual access to living area from entry (public zone of unit)</td>
<td>Space for greetings, coat removal and seating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support service employees</td>
<td>Surface for setting down packages</td>
<td>No access to private areas</td>
<td>Wall space for display of treasured possessions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visitor greeting</td>
<td>Self-expression, personalization opportunities</td>
<td>Bright color and illumination (enhance welcome)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bathroom (private zone)</td>
<td>Inhabitants</td>
<td>Personal hygiene</td>
<td>Ensured privacy</td>
<td>Sufficient space for transfer of resident from wheelchair to bathtub or toilet, disrobing and access (emergency)</td>
<td></td>
</tr>
<tr>
<td>Visitors</td>
<td>Bathing</td>
<td>Functional efficiency</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Linen storage</td>
<td>Bright color and illumination for visual accuracy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disrobing, towelling and dressing</td>
<td></td>
<td></td>
<td>Emergency call system to centralized security office (optional)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Grab bars located to serve toilet and bath tub</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sink with vanity countertop accessible by wheelchair users</td>
<td></td>
</tr>
</tbody>
</table>
LIVING/DINING

STANDARDS & CONSIDERATIONS

CEILING HEIGHT
EMPHASIZES CHANGE
IN FUNCTION

42" CLEAR PASSAGE

360" MAIN CIRCULATION

SLIDING GLASS DOOR

60" VISION LINE FOR T.V.
<table>
<thead>
<tr>
<th>PROGRAM ELEMENTS</th>
<th>USERS AND RELATIONS</th>
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<th>SPATIAL REQUIREMENT</th>
<th>SPECIAL FEATURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dining area (semi-public)</td>
<td>Unit residents</td>
<td>Dining for up to eight persons</td>
<td>Sense of openness</td>
<td>Dining area for eight plus serving and circulation</td>
<td>Sliding glass partition to exterior patio (living space extension outdoors)</td>
</tr>
<tr>
<td>Living area (semi-public)</td>
<td>Visitors (Guest entertainment)</td>
<td>Card or other game playing</td>
<td>Accommodation for small groups</td>
<td>Space for china buffet or personal display</td>
<td>Increased ceiling elevation to provide spatial differentiation (openness)</td>
</tr>
<tr>
<td></td>
<td>Support service employees</td>
<td>Visitor seating</td>
<td>No direct visual access to kitchen or private living areas</td>
<td>Uninterrupted wall lengths (arrangement flexibility)</td>
<td>Natural light and views to (private) pedestrian green space</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hobby space</td>
<td>Extension of living space to exterior living area (patio promotes environmental interaction)</td>
<td>Furniture to be accommodated also includes a minimum of a couch, two arm-chairs, end-tables a coffee table, and shelving space</td>
<td>Flexible space multiple activity functions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Conversation</td>
<td></td>
<td></td>
<td>Carpeting and acoustical considerations between units sharing a common party wall</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Entertaining</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Lounging</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>T.V. viewing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reading</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Watching the outdoors (views)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Other leisure activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Active space for living</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROGRAM ELEMENTS</td>
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<td>SPECIAL FEATURES</td>
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</tr>
<tr>
<td>Kitchen (Semi-public zone)</td>
<td>Unit residents</td>
<td>Package carriage</td>
<td>Highly active space</td>
<td>Seating area for two at small table</td>
<td>Multifunctional space capable of sustaining a variety of activities</td>
</tr>
<tr>
<td>Service employees</td>
<td>Unsacking groceries and storage</td>
<td>Food Preparation</td>
<td>Colors in red spectrum</td>
<td>Adequate storage and counter space for food preparation</td>
<td>Controlled natural ventilation and light, deep window sills for (plant) displays</td>
</tr>
<tr>
<td>Visitors</td>
<td>Dishwashing</td>
<td>Snacking (Seating area for two)</td>
<td>Visually isolated from other living activities</td>
<td>Dishwasher option</td>
<td>Space standards based on handicapped requirements</td>
</tr>
<tr>
<td></td>
<td>Hobby/active living space</td>
<td>Laundry and housekeeping functions</td>
<td>Direct access to entry and dining areas (facilitate package carriage and food service)</td>
<td>Closet for dryer and washer, space for laundry activities</td>
<td>non-slip flooring</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Natural lighting</td>
<td>Appliances and storage must be accessible to handicapped</td>
<td>The spatial standards required by elderly in the micro-enviro of the kitchen must address mobility and skill deterioration in the aging process</td>
</tr>
</tbody>
</table>
KITCHEN STANDARDS

MORNING SUN DESIREABLE

BEDROOM

ENTRY

DINING

LIVING

KITCHEN

RELATIONSHIP DIAGRAM

SUPPLEMENTARY LIGHT

KITCHEN SINK KNEE SPACE

CLOSET (PANTRY)

SNACK COUNTER

SECTION STANDARDS

RECESSED LIGHTING

12" WIDE SHELF

ROLL OUT SHELVES

30" MAX.

30" MAX.

28" LED SPACE
BEDROOM = SPATIAL STANDARDS DIAGRAMS

SPATIAL RELATIONSHIP DIAGRAM

MINIMUM DIMENSION FOR DOUBLE OCCUPANCY BEDROOM

BEDROOM WITH LIVING SPACE

UNOBSERVED VISION LINES

LARGE SILL FOR PLANTS
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Bedroom (Private Zone)</td>
<td>Unit Residents</td>
<td>Sleeping</td>
<td>Private space individually controlled</td>
<td>Sufficient uninterrupted wall lengths must provide at least 2 locations for twin beds</td>
<td>The inclusion of a passive living area addresses increased bedroom boundedness of aging.</td>
</tr>
<tr>
<td>Support Services Employees</td>
<td></td>
<td>Dressing</td>
<td>Subdued illumination and colors in the blue spectrum or natural hues</td>
<td>Dimensions must accommodate handi-capped users in access, dressing and bedmaking chores</td>
<td>Full length window will provide viewing opportunity from seated or reclined position. Reflected glazing and operable louvers will prevent loss of privacy and potential glare problems associated with lens deterioration.</td>
</tr>
<tr>
<td>Over 25% of Elderly (over 60 years old) will be incapacitated about forty days each year or twice the level of younger 32 people.</td>
<td>Support Services Employees</td>
<td>Wardrobe Storage Convalescence Special Therapeutic Treatment Passive living, include seating, hobby space, T.V. or outdoor views, lounging, etc.</td>
<td>Controlled views to private outdoor area Sound insulation Direct access to bathroom</td>
<td>Seating must be provided in the dressing area Space for passive living (hobbies) will be provided with outdoor views</td>
<td>Adjacent circulation buffer zone (hallway) will ensure the privacy of sleeping, dressing and personal hygiene areas.</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>Flexibility for adaptation of functions and locations.</td>
</tr>
</tbody>
</table>
TYPICAL ONE BED UNIT

PLAN
LOUVERS

WALL SECTION
OPERABLE LOUVERS

SCALE: 1/8" = 1'-0"
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Private exterior area</td>
<td>Unit residents</td>
<td>Extension of active living space into the outdoors</td>
<td>Transitional space- private entry of unit</td>
<td>Sufficient space over which seating, reclining, entertaining, dining, hobby and handi-capped access can occur</td>
<td>Sheltered patio area includes the options of a complete screen enclosure (insect control), fully glazed (reflective) greenhouse alternative and the utilization of horizontal rolling shutters to create a completely enclosed living area (fully secure extension)</td>
</tr>
<tr>
<td>Visitors</td>
<td>Sleeping/ lounging</td>
<td></td>
<td>Sheltered on three sides with an overhang</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hobby space</td>
<td></td>
<td>Promotion of environmental interaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Horticulture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seating and dining for up to eight persons</td>
<td></td>
<td>Direct access to unit living area</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Barbeque</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sunning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bird watching</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows (insulated with an 80% reflective glazing to control undesired gain)</td>
<td>Unit residents</td>
<td>Provide exterior views, natural light and ventilation and orientation to 24 hour solar day</td>
<td>Recessed (enhance in/ out transition; allow exterior louvers for security and solar control</td>
<td>Full lengths provide viewing from seated or reclined position, deep sills for plant display</td>
<td>Non-slip flooring and non-reflective materials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Moveable planters</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Window locations directly opposite others on the east/west walls optimizes natural views, lighting and ventilation and creates a see through orientation (openness)</td>
</tr>
</tbody>
</table>
Residential Unit Criteria

Unit Function

The unit's functionality will be determined by its ability to accommodate the activities which occur therein. These activities have been addressed in the preceding matrixes. However, they will vary according to specific individual needs and lifestyles.

Interior Flexibility

Due to the diversified needs of elderly individuals and the change over time inherent in the aging process a great deal of flexibility must be provided for in the design of the dwelling unit. This flexibility is made possible by assuring extensive lengths of uninterrupted wall space, avoiding door, window and closet placement which limits furnishability and by providing "extra" space in the bedroom and kitchen areas. The private sheltered patio should also be adaptable as an extension of the unit living space.

Circulation Concept

The unit's main circulation will be zoned in a central location. The spaces which accommodate living activities (the living room, kitchen, bedroom and bath) will be dead ending cul-de-sac spaces. This will allow a central circulation space sufficiently large to accommodate wheelchairs and walkers. This centralized circulation space will be characterized by a transparency through the dwelling unit. This image will be created by full length fenestration located in direct line on opposing exterior walls. Thus, a marked increase in natural lighting will further serve to identify and differentiate this circulation zone from other living spaces.
DESIGN STANDARDS

CIRCULATION

FASTEN TO WITHSTAND 300 LB IMPACT LOAD HAND RAIL

RECEPTACALS

WALL MTD. LIGHT

SWITCH

RECEPTACLE

ABOVE COUNTER

INTERCOM EMERGENCY CALL SYS.

LEVEL AREA @ EVERY 35' INTERVAL

RAMP

NATURAL LIGHT WHEN POSSIBLE

STAIR

STAIR
Economic Efficiency

The economic considerations will deal in part with the natural selection of standard framing wall and truss construction, avoiding the expense of exotic or specialized construction techniques. The standardization of living spaces will be the prime source of economy. The kitchen, bath and bedroom areas will be standard in all units (other than the efficiency unit.) These components will rely on arrangement relationships in order to create diversified residential environments. The two-level family units will be created by simply extending the exterior walls upward and utilizing the standard bed and bathroom components and including a stairway with space provided for a wheelchair lift.

Energy Considerations

In the southern Florida latitudes climatic factors dictate an avoidance of excessive solar gains and glare problems. The optimum building orientation is east to west. This minimizes fenestration on the south facade (the most intensely heated by solar gains) and also allows low level sun angles (the least intense solar rays) to penetrate the building. However, the glare potential must be eliminated through the use of double paned, insulated reflective glazing (up to 80% of the rays can be deflected). This glazing also reflects heat, eliminating heat build up problems. The utilization of operable, exterior, vertical louvers will complete the control of solar gain and when fully closed will create a dead air space which combined with the above window features would virtually eliminate solar heat gain. The operable louvers will provide the resident with yet another way to manipulate his personal environment in terms of natural lighting, ventilation, privacy and security. Instances where the
site context dictates a north to south orientation will be accommodated by the utilization of wide roof overhangs to eliminate intense solar gains on southern facades and also to provide shelter for entry walkways and exterior patio areas. The operable louvers on southern facades will be of horizontal or eggcrate configuration for maximum efficiency in solar control. The placement of fenestration directly opposite on opposing walls will help, along with an open-space type plan to enhance cross ventilation possibilities. (Prevailing 11 m.p.h. cooling breezes are consistent year round across the site from the south or west.) Adequate ventilation of the attic space must also be mechanically provided to prevent undesirable heat build up. The use of individual heat pump units will provide the most efficient environmental control in this climate due to the small number of heating degree days per year. The choice of materials and adequate insulation must also be included in energy consideration. The use of non heat absorbing materials such as ceramic tile or cedar shingles and the avoidance of materials such as asphalt must be practiced especially in the overhead (roofing) plane.
CLIMATIC & FLOOD PLAIN CONSTRUCTION CONSIDERATIONS

**CROSS-VENTILATION**

**SHIELDED CIRCULATION**

**SHELTERED CIRCULATION**

**CIRCULATION**

**LIVING AREA**

**VEGETATION & PONDS @ WEST**

**FACADE PROVIDES EVAPORATIVE COOLING TO MAXIMIZE NATURAL-VENTILATION**

**BASELINES SOLAR SERRATION**

**CONTROL SUNLIGHT**

**BUILD-UP MAXIMIZE REFLECTION**

**CREATE A PLENUM IN ROOF SPACE**

**CROSS-VENTILATION**

**EXHAUSTS HEAT**

**MECHANICAL ASSIST**

**6PM SUNSET**

**SOLAR PENETRATION**

**NO DIRECT SOLAR ACCESS TO HALLS OR PENETRATION FROM 10AM - 4PM**
Roofing System Considerations

- Roofing materials must be compatible for the building form & materials of the roof.
- Traditional materials may be required to provide a sense of place.
- Ceramic tiles are preferred for the context.

- Roof overhangs must be provided to shelter exterior circulation & activities from rain.
- Flat roofs are more vulnerable to drainage problems caused by excessive rainfall.
- Roofing options which allow direct penetration of prevailing winds are avoided.

- Vault structures & cable details are used to enhance the structure.

- Drainage systems are essential to prevent water accumulation.

- Heat-absorbing & reflective roofs are considered for maximum efficiency.

- A concrete slab-on-grade system is chosen for stability & ease of construction.
Code and Zoning Requirements

These will be presented throughout the text where applicable.

Elderly Security and Special Considerations

A sense of security is very important to the elderly. The creation of calculated close-knit housing clusters and encouraged social interaction should help enhance a feeling of safeness by creating a familiarity with neighbors rather than a feeling of isolation. Intruders or outsiders can thus be immediately identified. The option of an emergency call system with direct access to the on-site security service will be provided for each unit in case of accident, injury or other safety hazard. Operable window louvers will provide not only solar control but also additional security against possible intruders.

Special considerations for the elderly are established in the preceding matrixes and include non-slip flooring, designs accommodating wheelchair and walker users, grab-bars and other fixture design which will facilitate the handicapped user.

Exterior Site Criteria

Automotive versus Pedestrian Circulation

There will be a separation between pedestrian and automotive circulation. The street system access will consist of a primary entry from the east and north. The on-site traffic collector will run along the perimeter of the site with local access roads (500' maximum as per code) terminating in cul-de-sacs and serving local traffic access. The pedestrian circulation will be located centrally on-site. The primary path will run east to west and serve as the most direct circulation spine on-site. Secondary paths will branch off and serve residential clusters at the private facade. Open-green spaces and common recreational amenities will be located along these paths. Resi-
dential clusters will have two distinct facades. The public facade will front the street, while the private facade will overlook the pedestrian paths and open spaces as previously stated. In this way the pedestrian path can proceed uninterrupted, encouraging walking on-site, facilitating access for the handicapped and reducing hazardous intersections and conflicts with automotive traffic. The primary pedestrian path will be six feet wide and secondary paths will be at least four feet wide. All pedestrian paths will be set back at least twenty-five feet from private residential facades. The paved surface of the on-site traffic collector will be twenty-four feet wide lanes with parallel six foot wide sidewalks, set back at least six feet from the street, and the overall street right of way will be 100' feet wide. The local access roads will consist of a 16' foot wide lane (14 feet allows the passing of stalled or parked vehicles) four foot parallel sidewalks. Residential units will be set back at least twenty-five feet from the road as required by code.
CHARACTERISTICS OF SITE ACCESS ROAD

CHARACTERISTICS OF OFF-SITE SIDEWALK

PEDESTRIAN & AUTOMOTIVE CIRCULATION SYSTEMS
Characteristics of Site Access Road

Main Thoroughfare

Drainage 12' 0"

Buried Utilities 12' 0"

50' Utilities R.O.W.

Characteristics of Off-Site Sidewalk

PEDESTRIAN & AUTOMOTIVE CIRCULATION SYSTEMS
CHARACTERISTICS OF NEIGHBORHOOD CUL-DE-SAC ROADS

CHARACTERISTICS OF LOCAL ACCESS LOOP ROADS
PEDESTRIAN & AUTOMOTIVE CIRCULATION SYSTEMS
Parking

Two parking spaces are required by code per dwelling unit. This parking will be located in detached or attached parking courts with no parking space further than one hundred feet from the unit it serves. These parking courts will not be directly visible from any dwelling unit. Landscaping will help screen the parking areas, avoiding views which focus on the car or the sea of concrete as it is typically represented. Overflow off-street parking will be provided at the minimum of one space per four units. A centralized parking and storage lot will also be provided for recreational vehicles, boats and trailers.

Landscaping

Existing natural vegetation will be left intact whenever possible. Residential units will be integrated with this existing landscape to optimize shading, cooling, visual screening and a sense of harmony between the built and natural environments. Additional sub-tropical vegetation will be utilized to provide screening, canopy or other desired differentiation of space. The use of landscaping themes for identification of streets will be utilized. This will enhance orientation and promote on-site walks to view seasonal blossoming of various plants. (For example Orange Tree Road, Palmetto Walkway, Slash Pine Drive, etc.) A landscape maintenance crew will be funded by a home owner's association. However, the elderly will be fully encouraged to participate in all horticultural activities and garden plots will be located in close proximity to all dwelling units.
PROCEDURE

Design Approach

The design process utilized during this thesis project is most closely related to the traditional linear approach. In sequential order the method is illustrated below...

1. Problem Definition
   As described in W. Pena's Book "Problem Seeking" (includes project type research.)

2. Programming

3. Analysis

4. Functional Relationship Diagrams

5. Schematic Design

6. Design Development

7. Design Resolution
   It was found utilizing this method that it is not in fact a linear process. The different phases are so interconnected that they are hard to separate one from the other and the method became a circular process rather than linear. Different phases were addressed in no particular sequence. This approach was more responsive to the way (the thought process of) the brain functions.

Due to the enormous scope of the project extensive research in many design areas were required. The extent of this research progressed from large macro-scale new town, planning with emphasis on self-contained, autonomous communities, to residential site-planning, which was researched especially in road systems, parking facilities. Site research was undertaken to fully comprehend the site's contextual Florida environment and natural ecological systems. Elderly design
research reviewed retirement communities, especially Florida's Sun City Center. Research in elderly Micro-scale environments included behavioral activities, spatial ergonomic requirements, and post occupancy studies of existing elderly residential environments; The Westminster Village, Gillespie Towers and Fountain Bleau Nursing home all located in Muncie, Indiana.

The project was approached at three scales.

1. Community macro scale land use planning.
2. Residential neighborhood clusters and
3. Independent dwelling units.

At all three scales the following items were developed.
A. Design concepts or organizers,
B. Scaled spatial requirements,
C. Functional relationship cluster diagrams,

D. Schematic design and alternatives.

Due to the scope of the project complete development of the design at all scales was impossible. The following design criteria guided the design process throughout the project, as did inputs from design critics during presentations throughout the course of the project.

THESIS CRITERIA
1. Maximum spatial and privacy considerations
   A. Address aging as a process of continuing immobility. Adequate square footage provided based on analysis of changing elderly spatial needs and desires.
   B. Continuation of independent lifestyle patterns.
      Individually controlled privacy satisfying previously established
self expression and territorial needs. Clearly define transitional zones of private, semi-private, semi-public and public spaces.

2. Maximum promotion of continued social interaction among family and friends all ages as well as fellow residents.
A. Calculated clustering of building elements creating small scale neighborhood environments allowing informal association opportunities while minimizing social commitments (controlled social interaction) by transitions.

3. Provision for maximum interaction with the exterior environment.
A. Exterior sheltered balconies, patios and communal spaces.
B. Uninterrupted pedestrian links throughout site (sheltered and unsheltered).

C. Extensive outdoor activities directed and maintained with on-site staff (horticultural, physical fitness, fishing, boating, hiking, and bird-watching).

D. Retain and improve natural pine forests, Ainger Creek waterway and other existing site amenities.

4. Controlled solar access and climatic protection.
A. Optimum - East/West orientation (minimum building exposure to South).
B. Sunscreening allowing only early or late sun or winter penetration of sun into interior environments (controlled heat-load and glare factors).
C. Use of existing vegetation and site conditions to provide sunscreening and evaporative cooling factors.
5. Humane, individualistic scale

* Avoid large monolithic masses avoid monumental scale at dwelling environment.

* Utilize forms, materials and massing relationships responsive to the human scale and traditional residential images of home.

The following diagrams, text and drawings document the thesis project design and process from problem definition to design development.
DESIGN DEVELOPMENT

MACRO SCALE LAND USE

SITE PLANNING
Macro-Scale Land Use

SITE DEVELOPMENT: Stages
One year per phase
Englewood Village

PHASE I
*Residential (Independent Elderly)
+Model Complex: Indicative of Development Character (Image)

Purpose:
-Determine project marketability
-Analyze response to unit types and mix.
-50 to 100 units developed will provide 10 to 20% of the annual demand for the city's elderly housing, (500 homes per year).
-Minimize risk for developer.
-Independent elderly unit mix-10% efficiency, 45% small one bed, 30% large one bed, 15% two bed.

PHASE II
*Residential (Mixed Unit)
+Family housing Introduced 15% of development

-150 to 250 units, 30 to 50% annual housing demand.
-Unit mix: 5% efficiency, 20% small one bed, 30% large one bed, 30% two bed, 10% three bed, 5% four bed.

*Health Care (128 bed Nursing Home)
-Out patient clinic
-Mobile health service

Upon completion of Phase II, the on-site population will be approximately 500. This primary service population will be able to support the proposed retail and personal care services. (Initial subsidy may be required.)
PHASE III
* Congregate Care Garden Apartments (Dependent Elderly)

- 100 units integrated with retail and personal care services.

* Retail and Personal Care Services

- Convenient access and relationship to residential units.

* Social/Community Center

- Meetings, clubs, recreational activities (residential participation encouraged.)

The total on-site population will consist of over 3,000 residents.

PHASE IV
* Residential (Mixed Unit)

- 250 to 300 units per phase
- 1,000 total units for project
- Flood plain area will require grade changes on site raising elevation approximately three feet minimum.

PHASE IV
* Residential (Mixed Unit)

- 250 to 300 total units

MIXED ELDERLY & FAMILY HOUSING
OFF-SITE SERVICES

F

E

INDEPENDENT ELDERLY HOUSING

COMMUNITY CENTER

RECREATION

PHASE V
* Recreational

- Golf Club
- 9 hole, 3 par golf course
- Marina
- Public ramp, private docks
LAND USE - RELATIONSHIP DIAGRAMS - ZONING

INDEPENDENTS HAVE UNLIMITED MOBILITY; DISTANCES LESS IMPORTANT.

SERVICES
OFF-SITE

HOSPITAL

INDIRECT ACCESS

COMMUNITY CENTER

RETAIL

INDEPENDENT RESIDENTIAL

DIRECT ACCESS

RECREATION

COMMUNITY CENTER

NURSING HOME IS SELF-CONTAINED; CONTROL ACCESS TO OTHER ZONES.

OFF-SITE SERVICES

HOSPITAL

INTER-RELATED

COMMUNITY CENTER

RECREATION

RETAIL

INDEPENDENT RESIDENTIAL

DIRECT ACCESS

COMMUNITY CENTER

RECREATION

NURSING HOME

INTER-RELATED

COMMUNITY CENTER

RETAIL

COMMUNITY CENTER

RECREATION CENTRALIZED; ACCESS TO SURROUNDING COMMUNITY.

DIRECT ACCESS

INDEPENDENT RESIDENTIAL

COMMUNITY CENTER

RECREATION

INTER-RELATED

RETAIL

INDEPENDENT RESIDENTIAL

HOSPITAL

COMMUNITY CENTER

NURSING HOME

NURSING HOME

COMMUNITY CENTER

RECREATION

DIRECT ACCESS

INDEPENDENT RESIDENTIAL

COMMUNITY CENTER

RECREATION

NURSING HOME

HOSPITAL

COMMUNITY CENTER

RECREATION

NURSING HOME

HOSPITAL
LAND USE
DEVELOPMENT
CONCEPTUAL LAND USE DIAGRAM - ALTERNATIVE ONE

CAnal/Key Development - Zoning Relationships - No Scale

A Medical Facilities Core. The Retail Support Area Is Located Centrally At The Intersection Of The Site's Two Access Roads @ The Highest Concentration Of Traffic. The Community Center Is Flanked By Lakes. It & The Recreation Zone Are Centralized. In Order To Get A Waterway Link To The Southwest Residential Neighborhood An Access Road Into The Adjoining Southern Neighborhood Or A Bridge Over The Canal Must Be Provided. Landscape Buffers Ensure Residents' Privacy.
SCHEMATIC SITE PLAN - LAND USE ALTERNATIVE ONE

SCALE: 1’=600’

- INDEPENDENT RESIDENTIAL - 225 ACRES
- DEPENDENT RESIDENTIAL - 14 ACRES
- NURSING HOME - 4 ACRES
- RETAIL/COMMERCIAL - 6 ACRES
- COMMUNITY CENTER - 4 ACRES
- RECREATIONAL - 22 ACRES

CANAL/KEY RESIDENTIAL DEVELOPMENT
SYMPATHETIC TO DEVELOPER; MAXIMUM DWELLING UNITS - 2,000
WATERFRONT CANAL SITES INCREASE THE UNIT VALUE. THIS
DEVELOPMENT IS RESPONSIVE TO NEIGHBORING RESIDENTIAL TYPES,
WITH MINIMUM CONCERN FOR THE SITE'S NATURAL ENVIRONMENT.

- ROAD SYSTEM - UTILIZES EXISTING SITE ACCESS ROADS &
  REFLECTS THE CONTEXTUAL LINEAR STREET PATTERNS [MOST
  ECONOMIC SYSTEM]. THE LINEAR CUL DE SAC ROADS ARE INTER-
  LOCKED WITH THE CANALS [BOTH ARE DOUBLE LOADED WITH UNITS].

- PEDESTRIAN SYSTEM - PATHS FOLLOW THE CANAL & ARE SETBACK FROM ROOM
CONCEPTUAL LAND USE DIAGRAM & ALTERNATIVE TWO

MEDIUM DENSITY DEVELOPMENT - ZONING RELATIONSHIPS - NO SCALE

CONCEPTS: TO LOCATE SERVICES & AMENITIES ALONG THE SITE'S PRIMARY ACCESS ROAD CREATING A HIGHLY ACTIVE 'AMENITIES' CORRIDOR. THE RESIDENTIAL NEIGHBORHOODS WILL BE SETBACK & SCREENED FROM THE MAJOR ROADS WITH EARTH BURMS & LANDSCAPING. THE NURSING HOME IS LOCATED IN UNUTILIZED LAND OF THE EXISTING MEDICAL DEVELOPMENT. THE RETAIL AREA IS LOCATED AT THE SITE'S MAIN ENTRY TO

INDEPENDENT RESIDENTS

INDEPENDENT RESIDENTS-PHASE 1

RETAIL

DEPENDENT RESIDENTS

COMM. CENTER

NURSING HOME

HOSPITAL & MED. OFFICES

RECREATION

OFF SITE ACCESS

ENCOURAGE USE BY SITE RESIDENT AND PASSER-BY. THE CONGREGATE CARE UNITS ARE SANDWICHED BETWEEN THE RETAIL & COMMUNITY CENTER TO ENSURE EASY ACCESS BY THE DEPENDENT RESIDENTS. A THIRD ACCESS ROAD INTO THE SITE WILL PROVIDE DIRECT ACCESS TO THE RECREATIONAL ZONE WHICH INCLUDES A MARINA & GOLF COURSE.
SCHEMATIC SITE PLAN - LAND USE ALTERNATIVE TWO

MEDIUM DENSITY RESIDENTIAL DEVELOPMENT

SUBURBAN TYPE DEVELOPMENT - 2025 DWELLING UNITS [MAX.]

SITE PLANNING RESPONDS TO EXISTING TOPOLOGICAL SITE
CONDITIONS. RESIDENTIAL NEIGHBORHOODS INTEGRATED
WITH GOLF & MARINA FACILITIES & 60 ACRES NATURE PRESERVE.

ROAD SYSTEM: RECTILINEAR & CURVILINEAR ROADS ARE
COMBINED TO CREATE CONTROLLED INTERACTIVE NEIGHBORHOODS.

PEDESTRIAN SYSTEM: SEPARATED FROM ROADS [IN RESIDENTIAL ZONES]
CONCEPTUAL LAND USE DIAGRAM - ALTERNATIVE THREE

Environmental Preservation Development - Zoning Relationships - No Scale

Concepts: Locate services & social spaces along major thoroughfare to attract interaction with the surrounding community. This area acts as an architectural image maker for the total development & as a buffer from the thoroughfare for the more private independent residences. The short loops serve to create well defined & self controlled residential neighborhoods. The swamplike forrest at eastern portion of the site is retained in its natural state. Recreational amenities occupy the remaining acreage in the potential flood plain zone. Pedestrian access opens into the site from the south as Rock Creek Park extends into the site further enhancing the interaction between the development & the surrounding community.
SCHEMATIC SITE PLAN - LAND USE ALTERNATIVE THREE

ENVIRONMENTAL PRESERVATION DEVELOPMENT - 1,458 DWELLINGS SYMPATHETIC TO THE SITE'S NATURAL ECOLOGICAL SYSTEM. NATURAL FORESTS, FAUNA & DRAINAGE PRESERVED. ROCK CREEK PARK EXTEND INTO SITE. PUBLIC GOLF & MARINA FACILITIES ARE INCLUDED IN THIS PEDESTRIAN-ONLY ZONE. [SOFT LAND USES]

ROAD SYSTEMS - RESPOND TO ORGANIC DRAINAGE PATTERNS & SITE CONTOURS. CURVILINEAR LOOP & CUL-DE-SAC ROAD UTILIZED. PEDESTRIAN SYSTEMS - SIDEWALKS ARE SET BACK FROM MAIN ACCESS ROADS & MEANDER THROUGH RESIDENTIAL & PARK ZONES.

SCALE: 1" = 000'
CONCEPTUAL LAND USE DIAGRAM - ALTERNATIVES 4 & 5

Environmental Preservation, Development, Zoning Relationships - No Scale

Concepts: Centralize services & amenities at the site's main intersection of access roads. [Convenient locations for all residents]. Dependent residential, nursing home, and medical/hospital zones are integrated and centralized. The community center and recreational amenities are adjacent and centralized. The residential loop & cul-de-sac road system creates self-controlled neighborhoods.

The potential floodplain is utilized for recreation as an extension of Rock Creek Park. The pine forests in this zone are left in their natural state.
SCHEMATIC SITE PLAN - LAND USE ALTERNATIVE FOUR

ENVIRONMENTAL PRESERVATION DEVELOPMENT

MAXIMUM RESIDENTIAL DWELLING UNITS - 1,494 D.U.
MAXIMUM UNITS PER ACRE - 9 D.U./A. [ZONED]

ROAD SYSTEM - RESPONDS TO SITE DRAINAGE PATTERNS

PEDESTRIAN SYSTEM - SEPARATE FROM AUTO IN RESIDENTIAL AREAS.

SCALE: 1" = 600'

- INDEPENDENT RESIDENTIAL - 137 ACRES
- DEPENDENT RESIDENTIAL - 11 ACRES
- NURSING HOME - 4 ACRES
- RETAIL/COMMERCIAL - 9 ACRES
- COMMUNITY CENTER - 2 ACRES
- RECREATION - 110 ACRES
SCHEMATIC SITE PLAN - LAND USE ALTERNATIVE FIVE

ENVIRONMENTAL PRESERVATION DEVELOPMENT
MAXIMUM RESIDENTIAL DWELLING UNITS - 1,494 R.U.
MAXIMUM UNITS PER ACRE - 9 D.U./A. [ZONED]

ROAD SYSTEM - ONE MAJOR ON-SITE INTERSECTION
SERVES TWO MAJOR RESIDENTIAL LOOP ROADS

PEDESTRIAN SYSTEM - SEE ALTERNATIVES THREE & FOUR
FINAL
MASTER PLAN

LEGEND

A  Existing Building - 2 units total 11 acres
B  Independent Living 16 units
C  Independent Living 16 units
D  Independent Living 16 units
E  Independent Living 16 units
F  Commercially Controlled 4 acres
G  Community Center 2 acres
H  Preservation Plans, Theatres, Lagoon, and garden
I  Employed Community Hospital (60 beds)
J  Medical Office Complex (Existing & Proposed)
K  Nursing Home 100 beds
L  Medical Center Complex
M  Private Community Park
N  Private Golf Course
O  Private Shopping Center
P  Private Day Care Center
Q  Private Clubhouse
R  Private Clubhouse

Scale: 1" = 200'
DESIGN DEVELOPMENT

RESIDENTIAL CLUSTERS
CHARACTERISTICS OF RESIDENTIAL CLUSTER

SCHEMATIC PERSPECTIVE IMAGE SKETCH
RESIDENTIAL DEVELOPMENT • NINE UNITS PER ACRE

SCALED LANDUSE RELATIONSHIPS • ZONING REQUIREMENTS

RESIDENTIAL LOTS

SCALE: 1" = 10' - 0" [1,440 SQ. FT]

LARGEST UNIT
1992 S.F. LIVING SPACE

1,900 S.F. PARKING

75 S.F. ROAD & DRIVEWAY

2,944 S.F. PATHS PEDESTRIAN

ZONING CODE
REQUIRED SET-BACKS & LOT-SIZE MINIMUMS
[4,840 SQ. FT] LOTS INCLUDES CIRCULATION SYSTEMS
DETECTED UNIT BUILDING AREA
[1,440 SQ. FT]

59.7%

6.2%

10.7%

4.8%

7.7%

2.7%

5.6%

2.7%

3.6%

2.7%

48% COMMON OPEN SPACE

RESIDENTIAL ACRE • NINE UNITS

SCALE: 1" = 60' - 0"

UNIT MIX

EFFICIENCY
11% 1-UNIT

SMALL 1-BED
93% 3-UNIT

LARGE 1-BED
93% 3-UNIT

TWO BED
23% 2-UNIT

9% PARKING

15% AUTO. CIRCULATION

6% PEDESTRIAN

LOT WIDTH

42' BASED ON CIRCULATION & ZONING REQUIREMENTS.

PROPOSED SET-BACKS & LOT SIZE
[4,840 SQ. FT] LOTS ATTACHED UNIT BUILDING AREA
[2,100 SQ. FT]

ZERO LOT LINE

11.5' MIN. DISTANCE LINES

CIRCULATION CENTER LINES

ROAD & SIDEWALK

25' SET-BACK

100 LOT DEPTH

100 LOT DEPTH

SET-BACK SIDES

BULK

10'
SCHEMATIC
RESIDENTIAL CLUSTER

ALTERNATIVE ONE:
CENTRAL PARKING COURTS
8 DWELLING UNITS PER ACRE

CONCEPTS: PROMOTE SOCIAL INTERACTION BETWEEN NEIGHBORS.
SHARED ENTRIES & PARKING COURTS PROVIDE TWO POINTS FOR SOCIAL CONTACT. SHELTERED ENTRIES ACCOMODATE SEATING FOR STREET-WATCHING, SOCIALIZING, ETC...

ROADWAY: 30' WIDE MEDIAN IS LANDSCAPED TO PROVIDE VISUAL SCREEN, DECREASE TRAFFIC FLOW & AUTO CONFLICTS & PROVIDES SET-BACK SIDEWALK & OVER FLOW PARKING.
SCHEMATIC
RESIDENTIAL CLUSTER

- ALTERNATIVE TWO
- DETACHED CARPORTS
- 7.5 DWELLING UNITS PER ACRE

CONCEPTS: LANDSCAPED MOTOR COURT PROVIDES CENTRAL FOCUS & ENTRY STATEMENT FOR RESIDENTIAL CLUSTER.

CLUSTERS W/ SHARED DETACHED CARPORTS OFF CENTRAL MOTOR COURTS
- CLUSTERS W/ MOTOR COURTS SEPARATE FROM ADJACENT CARPORTS

MOTOR COURT SERVES AS DROP-OFF FOR THE HANDICAPPED & SERVICES TEMPORARY PARKING NEEDS. CENTRALIZED PARKING AREAS WILL BE HEAVILY LANDSCAped TO RESTRICT VIEWS FROM UNITS. RESIDENTIAL CLUSTERS ON OPPOSITE SIDES OF PRIVATE PEDESTRIAN PATH WILL BE STAGGERED TO ELIMINATE DIRECT VISUAL ACCESS INTO PRIVATE SPACES.
SCHEMATIC RESIDENTIAL CLUSTER

ALTERNATIVE THREE ATTACHED CARPORTS

5.5 - 8.5 DWELLING UNITS PER ACRE

CONCEPTS: SHELTERED WALKS & ENTRIES TO PRIVATE DWELLING UNITS. LINEAR ARRANGEMENT FOLLOWS CONTOURS OF NEIGHBORHOOD LOOP ROADS. CLUSTERS CREATE INTIMATE NEIGHBORHOODS.
CHARACTERISTICS OF PEDESTRIAN PLAZA

SCHEMATIC PERSPECTIVE IMAGE SKETCH
CHARACTERISTICS OF MULTIFAMILY CLUSTER

SCHEMATIC PERSPECTIVE IMAGE SKETCH
SCHEMATIC RESIDENTIAL CLUSTERS

PRIVATE
- PRIVATE GARDEN
- PRIVATE UNIT
- CARPORT
- PARKING
- ENTRY

PUBLIC
- ROADWAY

ENTRIES OVERLOOK
- SHARED CARPORT AREAS
- ALTERNATIVE THREE

PRIVATE
- PRIVATE UNITS
- P. UNIT
- SHARED PARKING AREA
- ENTRY

PUBLIC
- ROADWAY

SHARED ENTRIES REMOVED FROM
- CENTRALIZED PARKING AREAS
- ALTERNATIVE ONE

DIAGRAMATIC CONCEPTS

GARDENS
- CARPORT
- UNITS
- ENTRIES
- MOTOR COURT
- PRIVATE

PRIVATE UNITS
- PUBLIC
- ROADWAY

CENTRALIZED MOTOR COURT
- W/ ATTACHED CARPORTS - ALT. THREE

PRIVATE UNITS
- CARPORTS
- MOTOR COURT
- GARDEN

PUBLIC
- ROADWAY

MOTOR COURT W/ DETACHED CARPORTS
- & SHARED CENTRALIZED ENTRY
- ALTERNATIVE TWO
CLUSTER DEVELOPMENT
STUDY MODELS

Linear Duplex
Large and small one bed units
Hip roof option

Linear Duplex
Large and small one bed units
Shed roof option
Linear Duplex
Small one bed and efficiency unit
gable roof option

Linear Duplex
Large and small one bed unit
final roof option
Three Unit Linear Cluster
Small and large one bed units
and two bed unit

Four Unit Linear Cluster
Efficiency, small and large
one bed units and two bed units
Four Unit Cul-De-Sac Cluster
Efficiency, small and large
one bed units and two bed unit

Six Unit Cul-De-Sac Cluster
Efficiency, 2 small and 2 large
one bed units and 1 two bed unit