

COHOUSING: HOUSING THE BOOMERS

A Design Thesis Submitted to the
Department of Architecture and Landscape Architecture
of North Dakota State University

By

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In Partial Fulfillment of the Requirements
for the Degree of
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May 2005
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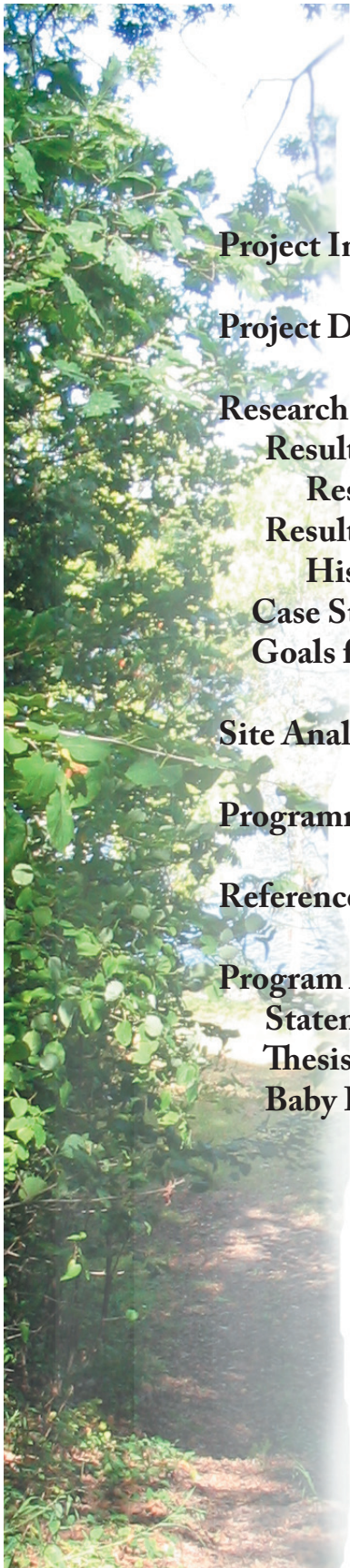


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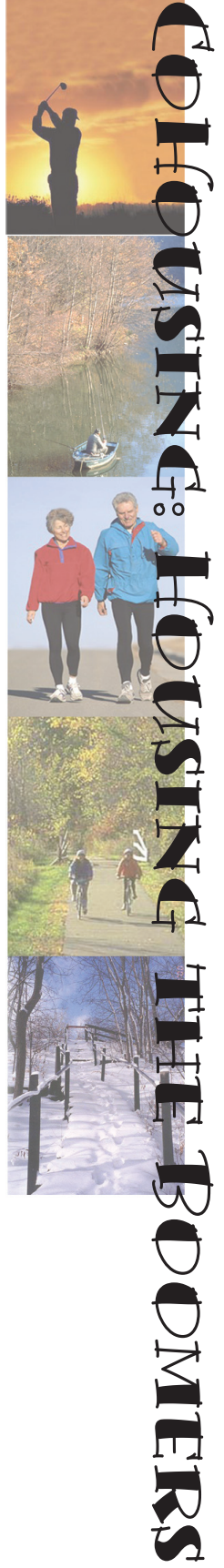
Baby Boomer Survey



GO HOUSING. HOUSING THE BOOMERS



*Project
Introduction
and
Description*





Project Introduction

With the largest generation coming close to the retirement age, there is a high demand for new communities aimed at appealing to the baby boomers and the future generations.

Throughout this project, elements such as personal comfort, independence, and other senior lifestyle conditions will be explored. One main element in this project will be creating a “community” that allows the residents to know each other and get together with communal events.

A well developed way of integrating the social and design aspects of addressing the boomers issues is using the Cohousing concept. I would allow the independent lifestyle of the resident, yet at the same time allow the social activity that they crave.

Project Description

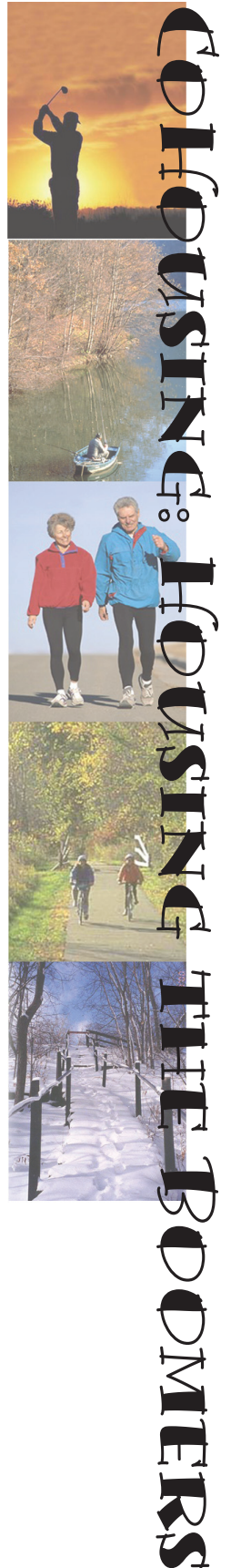
The design that will be created will be limited to members of this particular demographic, but more specifically, the group of retirees who do not wish to leave the four seasons of weather by moving to a Southern climate. The cohousing community will be located on a lake front, in an overall smaller community. The development will include modest homes that will differ in their massing—but will in detail relate to one another. This retirement campus will include element found in cohousing communities, such as:

- a common house with a kitchen and dining room for meals and for social events or meetings.
- workout spaces to assist them in maintaining good health, and other facilities designed with the boomers in mind.
- a shared lake access pier and boat dock for residents.
- a park that is nestled in along the homes, the common house, and the pier.
- a guest house for visiting family members.

The homes and the common house will all have views to the lake. The clients involved in creating the community are local private developers.

Major Project Elements

The main objective of the development is for the users to live and socializ in a community that involves cohousing. The individual elements that are involed in this community are:





Homes:

The site will incorporate ten to twelve single family, single level homes. This would allow for a potential of 20 to 30 people living within the community. More specifically the homes will be designed with the idea of older, retired married couple, a single individual, or even single individuals that will room with another individual. The individual living units will range from approximately 1200 to 1600 square feet, depending on the options of one or two bedrooms, lofts, etc. Attached garages can be assumed at this time.

Common House

The common house will be a major component of the cohousing community concept. It will provide a space for community dinners, bingo nights, space for family reunions of the residents, a workout space, library, computer room, laundry facilities, a TV room, workshop and more. The building will also hold meetings for the association that they belong to by living in the community. They will all have a say in what happens within their neighborhood of their peers. A parking lot will be built outside of the common house for overflow parking if a resident has an event that includes guests from outside the community. Single day visitors can park on the street in front of the home of the person(s) they are visiting.

Outdoor Areas

An outdoor common area/park will be developed for outdoor gatherings, activities, or just individual relaxation. This park will be adjacent to the community pier where the residents will dock their boats.

Guest House

The guest house will be used for visiting family and friends to stay overnight. It would be rented out for a small fee.

Storage

A storage facility for seasonal equipment will be designed and incorporated into the design of the overall development.





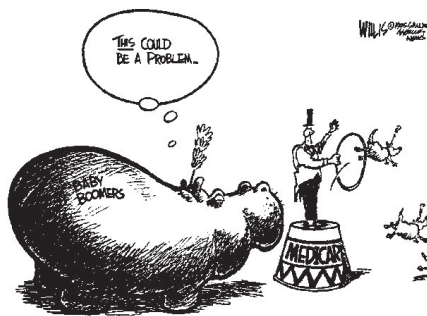
Results from
Theoretical Premise
Research



RESEARCH RESULTS & GOALS

About the Boomers

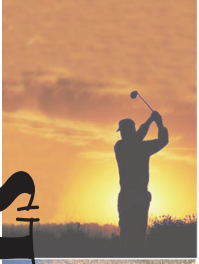
The elderly population in this country is greatly expanding, and has surely become the fastest growing population in our society. This occurrence is supported by the baby boomers, since the first wave of their generation is going to hit age 60 in 2006. They are the largest single generation, with the “baby boom” coming after soldiers came home from World War II and starting their families.



After a life of growing up, going to schools, and working, comes retirement. Retirement is a time for one to indulge in social activities, hobbies and other recreational functions. Many want to live in a place that was not feasible during their working years because of factors such as it being located too far from the workplace or the schools that the parents wanted their children to attend. Retirement is a rite of passage in one’s life where they can create the rest of their life almost without any restrictions. After years of saving for the very reason of retirement, this demographic can achieve whatever they desire, since they are becoming one of the wealthiest groups with the average household net worth valued at \$60,300, almost twice of the general population.¹ Lake homes, condominiums on golf courses, smaller single-level homes are popular for this group to move into or build.



A lot of times retirees just want a community with other retirees to settle down into. Living in communities that are age-appropriate allows the users to meet people with at least one



thing in common. They will be able to make friendships and bonds with others with the same interests, or even different interests that can be shared and learned from.

Either way, living in a private house or choosing a community; a home is a home. A home is a sense of belonging, familiarity, and comfort. It is where memories are created and shared. It gives independence and control over one's lifestyle, where social and cultural norms are shaped from individuality.

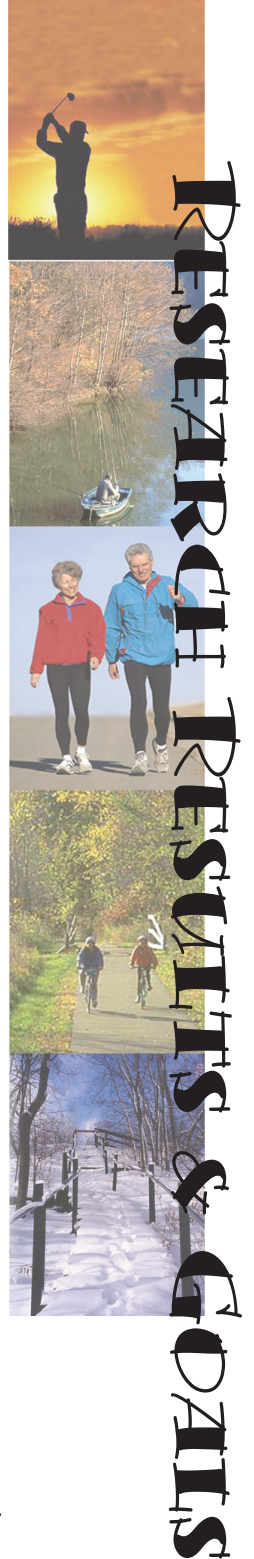
Baby Boomers have characteristics that are, in some cases, markedly different from their parents. Some of the personal characteristics of baby boomers include:

- redefined family structure and parenting;
- women who have invested in education and careers;
- dual incomes and increased financial resources;
- social consciousness and willingness to question authority, e.g., doctors;
- redefined sexual behavior and partnering;
- emphasis on health and fitness; and
- increased life expectancy.

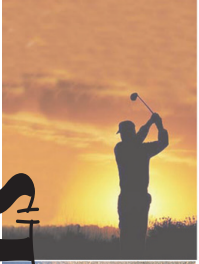
*“Just as the boomers
have influenced all
the products and
services throughout
their lives, the
sheer size of this
group is going to
revolutionize this
industry”*

Robert G. Kramer

*Executive Director of the National Investment Center
for the Seniors Housing and care Industries*



RESEARCH RESULTS & DATA

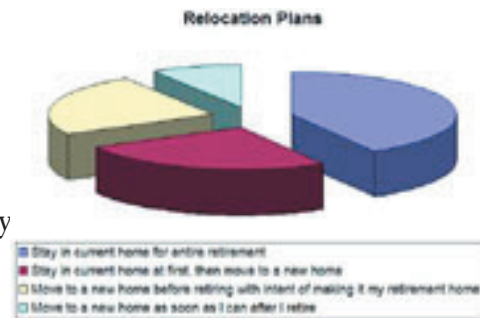


Boomers on the move

Retiree's require special consideration since they are not ready for assisted living care or nursing homes, since they can still lead their independent lifestyle.

With surveys reporting the baby boomers want to live in a home other than the ones that they currently live in after retirement, there is a strong demand for "housing the boomers." The Baby Boomer Report: Annual Opinion Survey by Del Webb reports that 59% of the baby boomers surveyed plan on moving to a new home or community slightly before or during retirement. This shows a rising interest in relocation among boomers with nearly six out of ten eventual retiree's planning on a new home for retirement (compared to 1999's survey showing 31% of the boomers planning on relocation) (Del Webb Survey: 4).

Another finding is that most of the boomers do not plan on relocating more than three hours away. Many boomers will not want to move to the Sun Belt states, Florida, or Arizona the way previous generations did, but "age in place" in their own communities. Considering most people live in a metropolitan area, this would give evidence of creating a development on the far outskirts of a metro area. This would allow the retiree's to still remain close to family and friends still within the city, and at the same time provide them with an intimate community of their own.



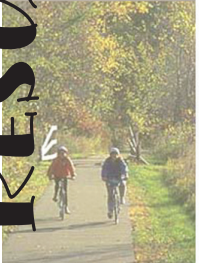
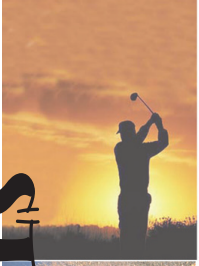


There are many things to consider when designing for this new generation of retirees. In a general, “there are two stages of housing seniors: early retirement living for those between the ages of 65 and 80, and senior care for the age 80-plus set.”³ For those reaching the stage of retirement, there are three main options:

1. staying at home;
2. moving to an active retirement community;
3. moving to an independent living community. (Polhamus & Diefenbach: 50)

Option numbers two and three both offer leisure amenities and freedom from home maintenance. It is also noted in the same article that “many [from the baby boomer generation] may opt for communal senior living environments if these facilities promote independence and offer innovative features and amenities,” (Polhamus & Diefenbach: 51). The development that will be designed in this project will keep in mind the “transitional” period between the end of a working career and pre-senior care.

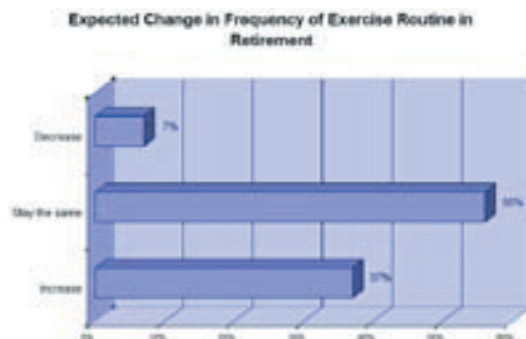
The baby boomer generation is far more social and active than their parent’s generation. They are actively involved in social groups, volunteer activities, clubs of interests, personal hobbies, etc. They also realize the importance of an active lifestyle involving exercise and aerobics.



Mental and physical activities are two aspects that are a vital part in this generation's lives; therefore it is extremely important to incorporate them into a design to appeal the boomers and future generations.

Baby boomers have strong social networks, and will expect interaction with each other and the community. They have a "legacy of social responsibility" and "boomers also will place more value on generational interaction" (Polhamus & Diefenbach: 52). This supports the development designed solely for the purpose of housing the boomers and integrating spaces for meeting and interacting with others.

The second major design element to be included is exercise and fitness spaces. With the nation being infatuated with healthy lifestyles which include healthy eating and physical activity, this momentum has also swayed the boomers. Most expect to be healthier than their parents were in their retirement. The boomers strongly agree they will live longer and be happier if they remain physically active during retirement. In fact, 93% expect to exercise the same amount or more in retirement. (Del Webb: 14)





Results from

Typology Research



GO HOUSING: HOUSING THE BOOMERS

Design Considerations

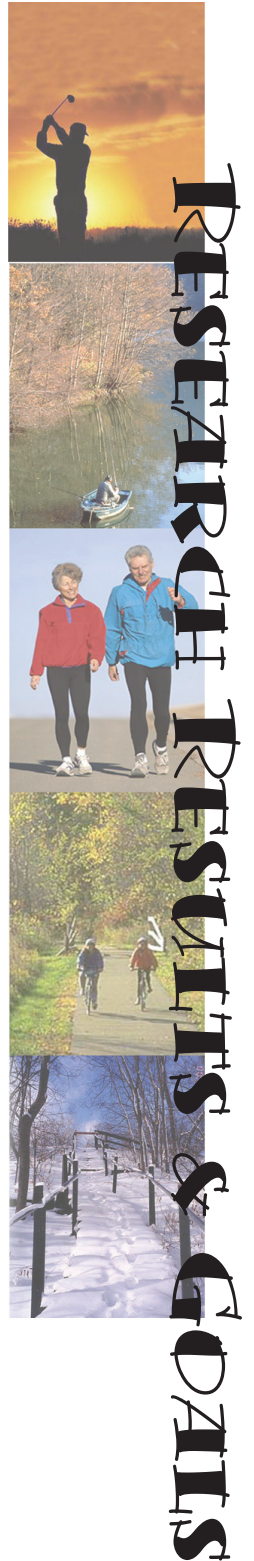
There are many design considerations to be made when planning and creating a retirement community. There are certain factors to incorporate.

Some common features of universal design include:

- Single-level homes.
- Garage door openers.
- Lever door handles.
- 3-ft.-wide exterior and interior doors.
- Minimum 36-in.-wide hallways (42 inches preferred).
- Front-loading laundry appliances.
- Wider, deeper stairs.
- Closet shelving in adjustable heights.
- Non-slip flooring with level thresholds.
- Lighting/interior finishes that reinforce wayfinding.
- Both visual and audio indicators for doorbell and security and smoke alarms.

In kitchens, universal design can be achieved by incorporating features such as:

- Single-level faucets.
- Pulls (no knobs) on cabinets and drawers.
- Counter-height ovens.
- Raised dishwashers.
- Counter tops at a variety of common heights: 30, 36, and 42 inches.
- Roll-out shelves or drawers in lower cabinets.
- Glass doors or open shelves in upper cabinets.



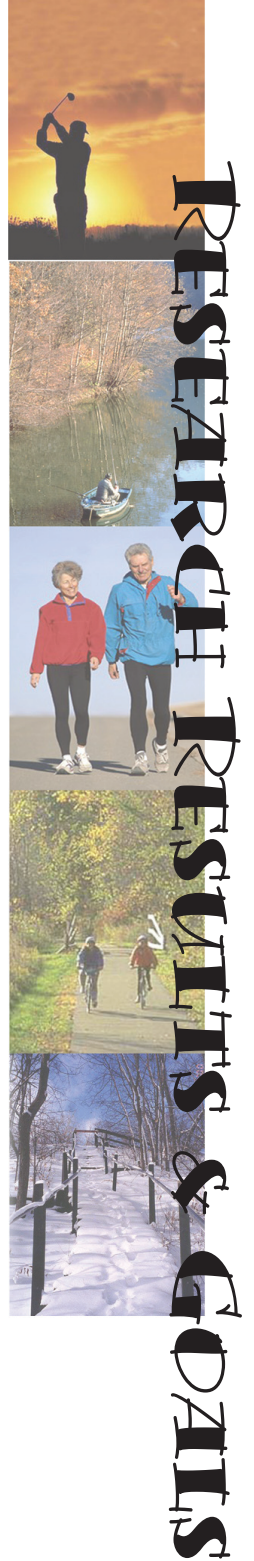
RESEARCH RESULTS & GOALS



- Vertical (pantry-style) cabinets for most-used items.
- Waste and recycling containers on pull-out drawers in lower cabinets.
- Built in desks.
- Side-by-Side refrigerator/freezer (24-in.-deep units are preferred).⁴

*"Baby boomers
will ask for more
choices, more
amenities, more
services, and more
environments
tailored to meet
their needs."*

*Urban Land
May 2002*



RESEARCH RESULTS & GOALS

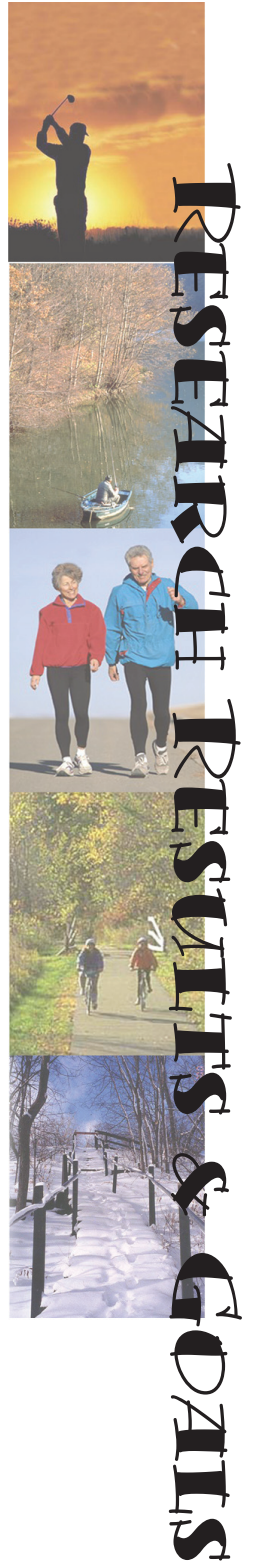
cohousing

Cohousing was started in Denmark in the 1960's and has come to the United States in the early 1980's. It is a form of "collaborative housing that attempts to overcome the alienation of modern subdivisions in which no-one knows their neighbors, and there is no sense of community."⁵ It is a community of peers that join together to live in the same community. The people have a conscious decision to live together based on a common factor. The different types of collaborative housing incorporate peoples with families, the elderly, homosexuals, artists, Christians, single parents and so on.

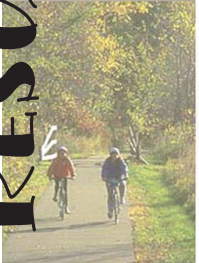
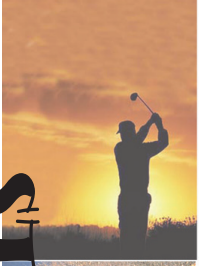
There are a number of features that help create the cohousing environment. The first is the participatory process. This step includes an assembly of people with common interests form a group to help plan and design a community to meet their needs. The second step is the physical layout and orientation of the site plan, keeping in mind the whole desire for a sense of community. An example of this is clustering groups of homes together to create large, shared outdoor spaces for everyone to enjoy instead of individual lawns that give the sense of "ownership" instead of "shared-ship". Having a common house that is designed for daily use as deemed appropriate for the particular user group is part of the third step. The common house always includes a large kitchen and dining room for shared dinners and events. The rest is

designed for the specific use, i.e.: for a family with children community, the common house might include recreation rooms, a childcare center, laundry facilities, a library, etc. The fourth and fifth step is creating the management and maintenance of the community. It is not a leasing situation of renting the properties from a large business, it is privately owned by the individual users. The management consists of the adult users, and no one person has more of a say than anyone else. It is also assumed that if one user has great experience in unclogging a sink drain, he is expected to help out his neighbors and the common house with those plumbing issues. This is expected to happen without charging, but as part of the responsibilities of living in the community. The sixth and final step is that no profit is made by the community for living in this kind of structure (www.cohousing.org). Everyone's money is their own, however they are expected to contribute to shared dinners, or mutually giving money to purchase a new tree and pay for the removal of the one that died.

The universal elements in a cohousing community include the common house, shared outdoor spaces, and the private homes. Each community will create their own individual buildings or spaces for their needs. For the most part, the common house is centrally located and used daily. It contains the dining room and kitchen, a play or recreational room, an extra room that is used for craft making or



RESEARCH RESULTS & DATA



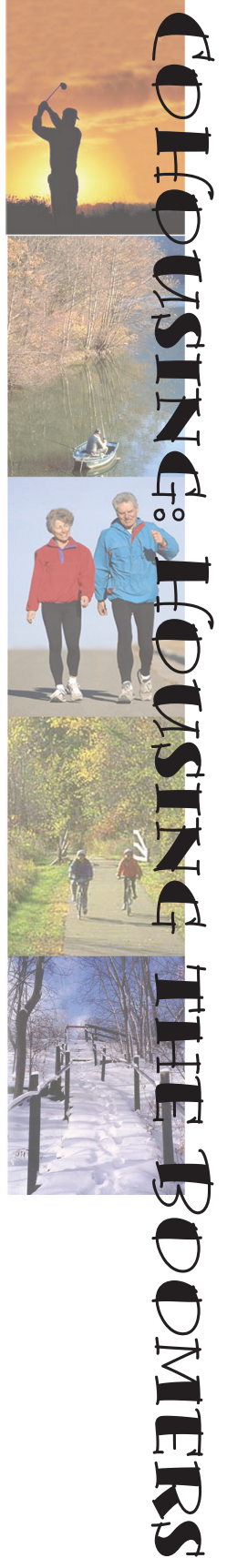
and whatever else is decided valuable by the original group that help organize and design the community. The amount of dinners served a week is up to the community to decide, with the meals costing about \$2.50-3.75 a person. The payment is only paid if a person chooses to eat the meal that night.

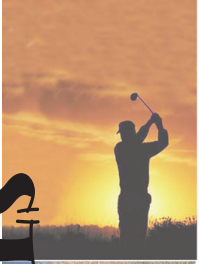
A second common element are outdoor spaces that are used as areas for youth to play together but also embrace the idea of neighbors sitting outside together and making small talk in pleasant weather. A community garden is usually incorporated into the master plan, and that is also an expected responsibility for the residents to maintain. The produce that is grown there is used for the shared and individual family dinners.

Finally, the third common thread is the individual home. Homes are designed and set up with the idea of public, private, and semi-private spaces. Since most of the homes are closer together with small yards (because it enforces the idea of the sharing and meeting friends in the outdoor spaces) a typical design includes the kitchen and living room facing the streets and the bedrooms towards the back of the house. A lot of times there are two porches, one in the front that is intended to be used when you want friends and neighbors to stop by and share coffee, and then there is a more private porch in the back used for families to sit together.



Case Studies





Benicia Waterfront Commons A Waterfront Community

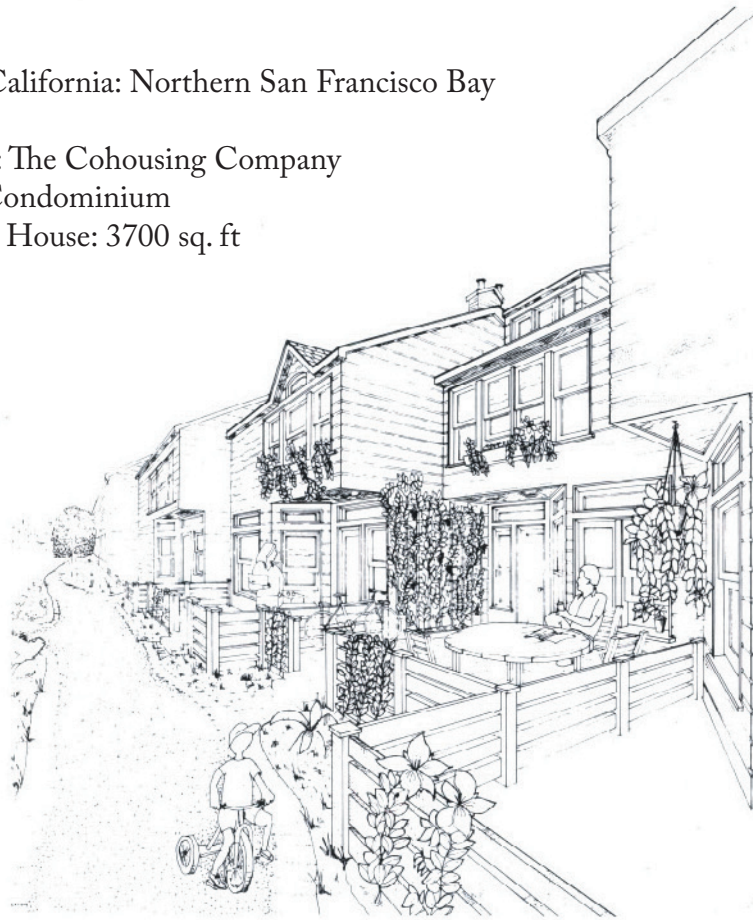
Benicia, California: Northern San Francisco Bay

27 Units

Architect: The Cohousing Company

Tenure: Condominium

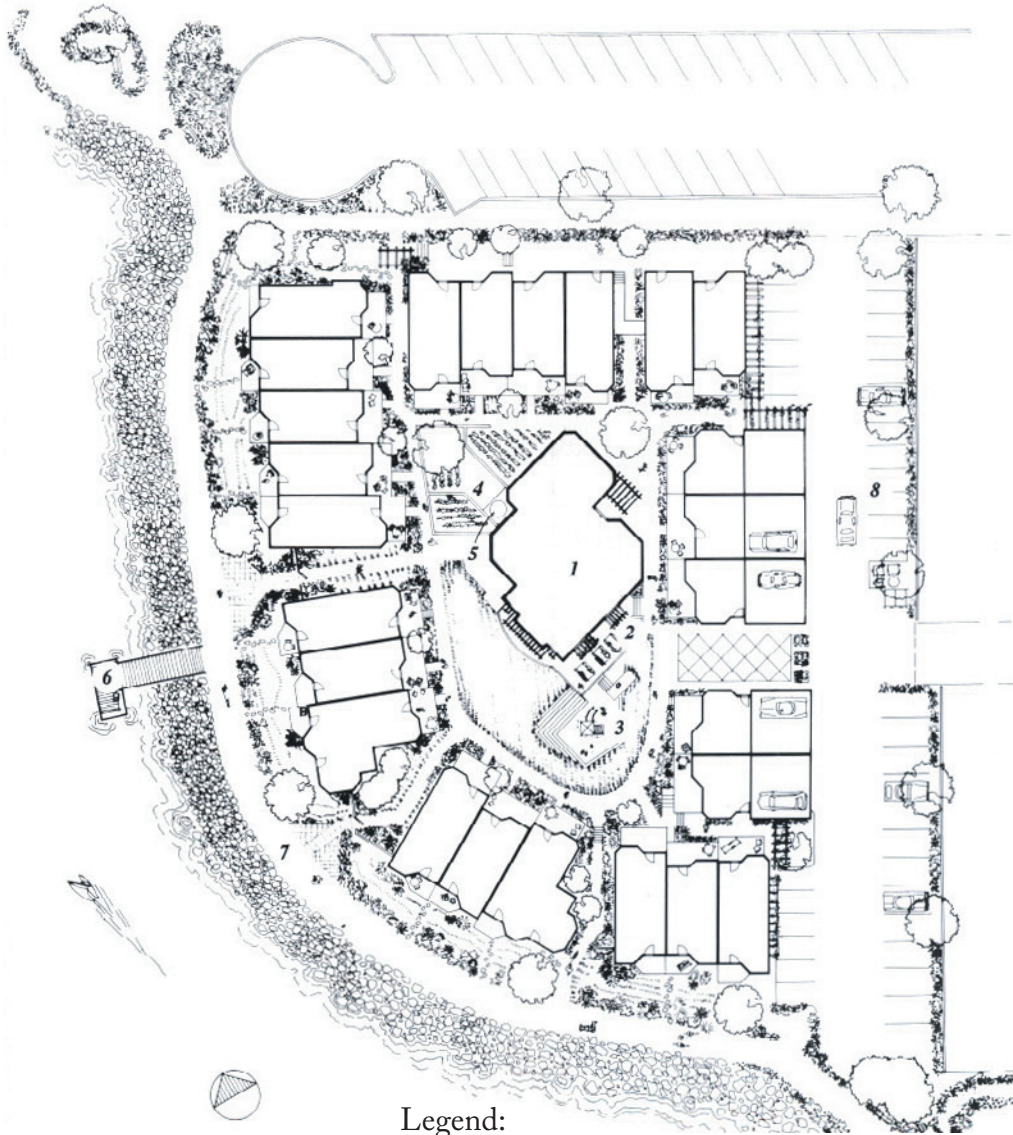
Common House: 3700 sq. ft



Benicia Waterfront Commons is planned for a spectacular site at the north end of the San Francisco Bay. It is a 1.5 acre site with the Contra Costa hills providing all 27 planned condominium style units with a view of the Bay.

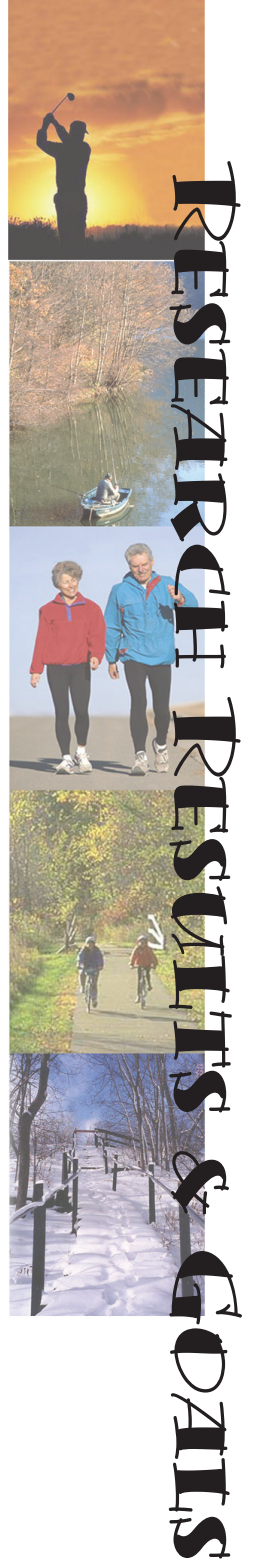
It is similar to what I am planning on designing in terms on number of units, topography, and the waterfront issue.

Site Plan



Legend:

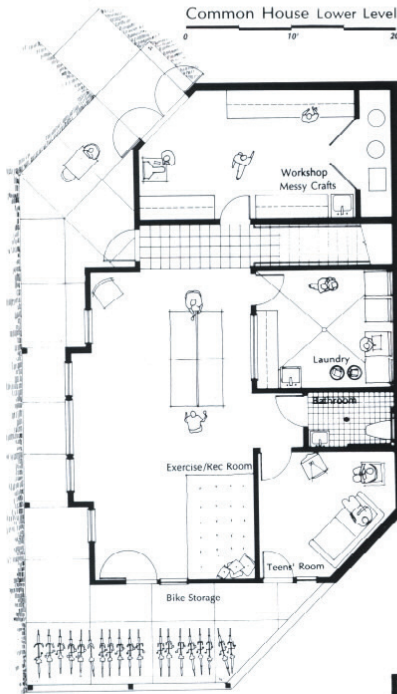
- | | |
|---------------------|--------------|
| 1. common house | 5. hot tub |
| 2. terrace | 6. pier |
| 3. play area | 7. path |
| 4. vegetable garden | 8. recycling |



RESEARCH RESULTS & GOALS



Common House



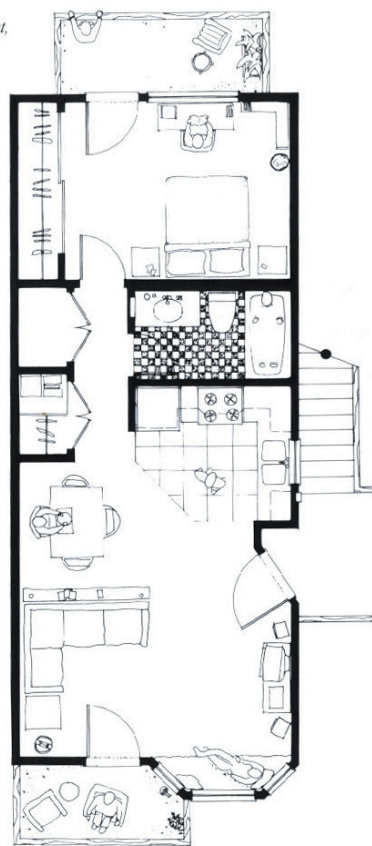
The common house conforms and meets the goals of the individuals that will live there. A sun terrace, children's play room, recreational room, workshop, and a guest room was important to the residents that it would be included in the common house.



Floor Plans

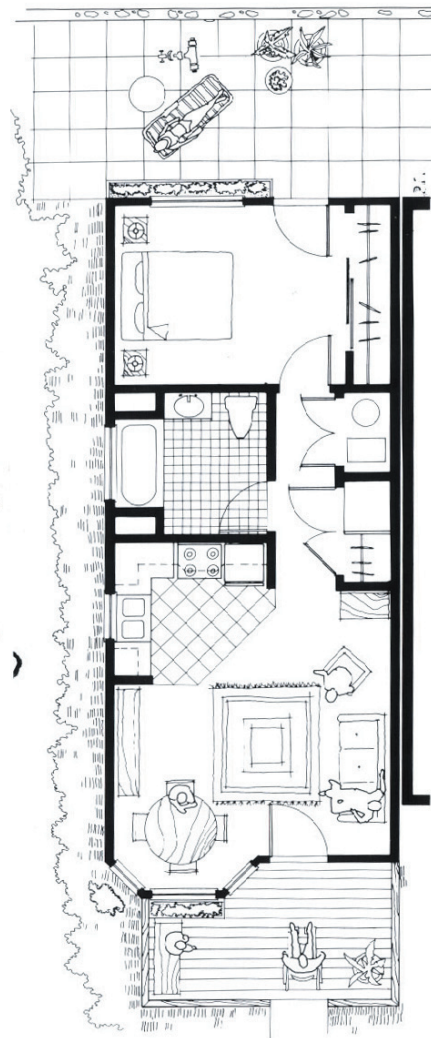
These two floor plans are a good example of showing a good way of designing a well organized single-level floor plan. It also shows how the private vs. public spaces are organized.

*One-bedroom
handicapped-accessible flat,
613 ft.*

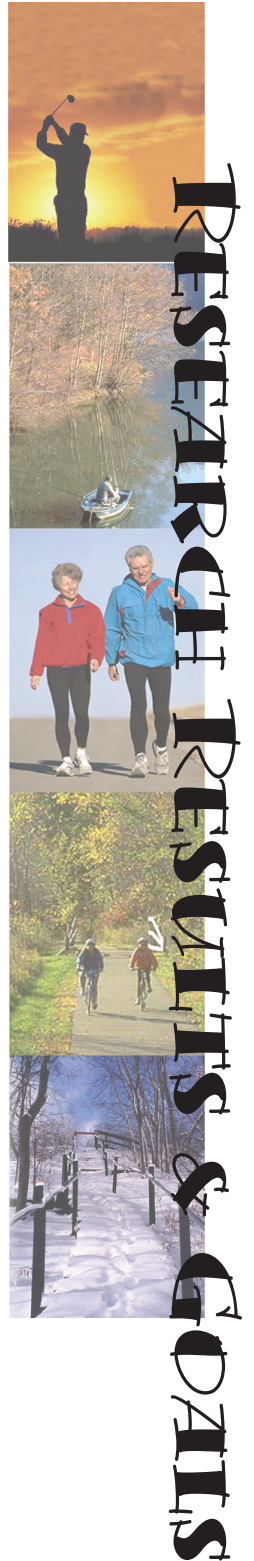


UPPER STORY FLAT

One-bedroom flat, 606 ft.



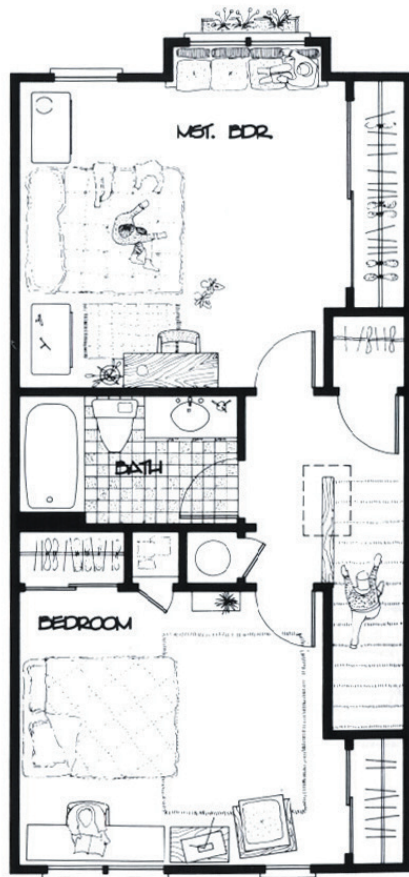
GROUND FLOOR



RESEARCH RESULTS & GOALS

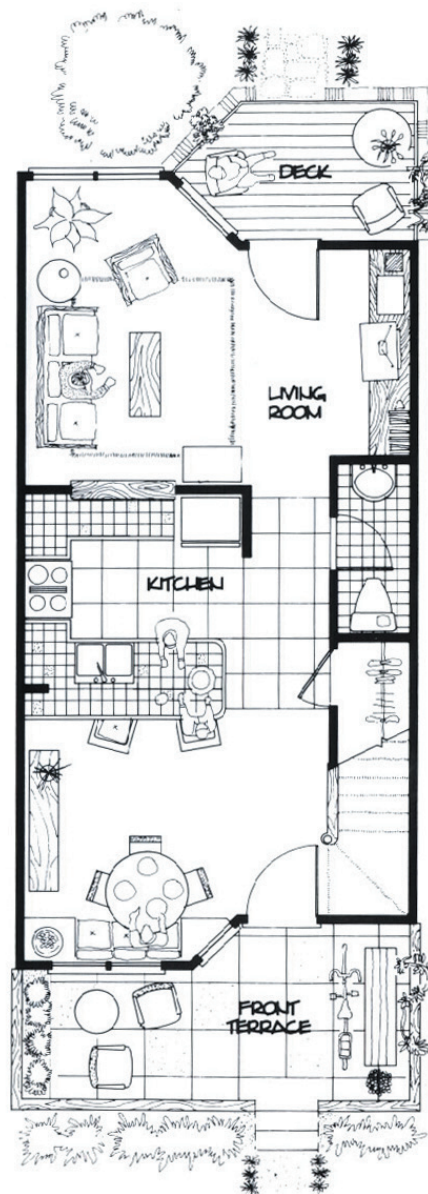


This is a two-story, two bedroom condominium.
Once again, it shows the “public” front of the house, then the more “private” back.



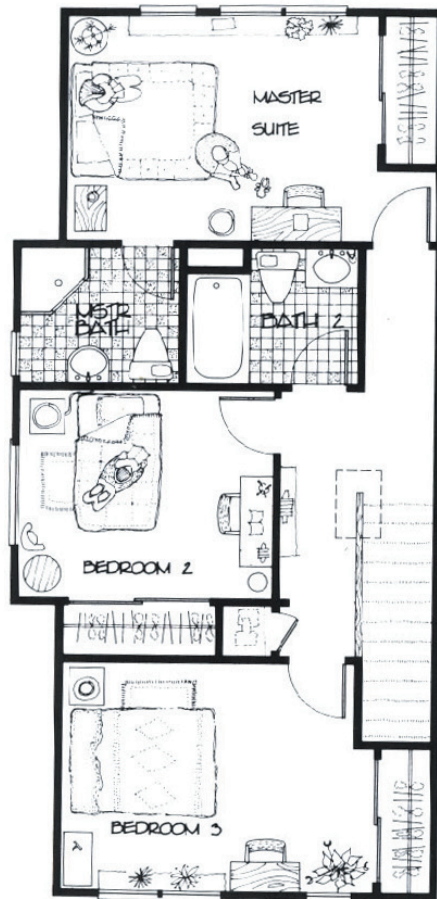
SECOND FLOOR

2 Bedrooms / 1.5 Bath
approximately 1085 sq. ft.



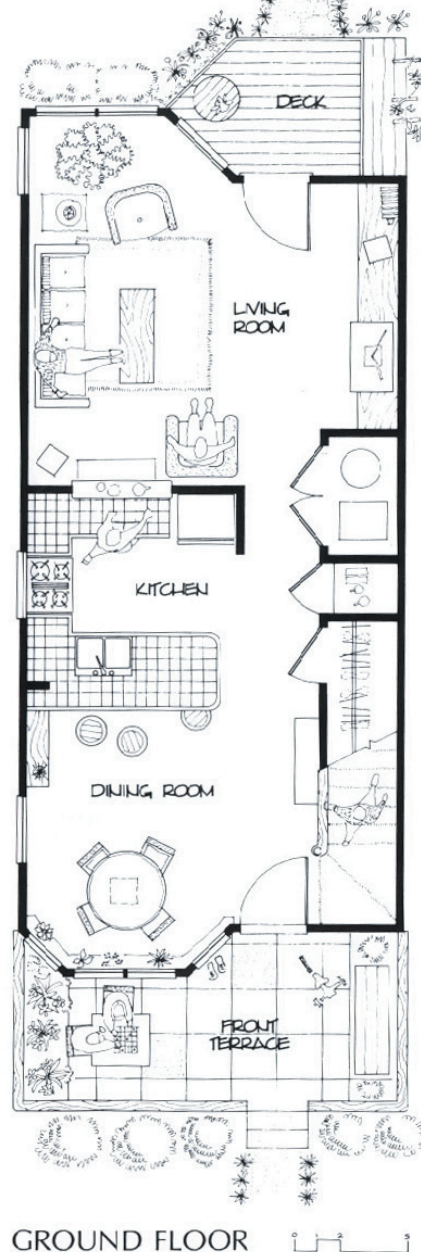
GROUND FLOOR

This floorplan represents another two-story condominium, with three bedrooms. A design issue to notice is the two bathrooms are on the second story.



SECOND FLOOR

3 Bedrooms / 2 Baths
approximately 1275 sq. ft.



GROUND FLOOR





4 Bedrooms / 2 Baths
approximately 1520 sq. ft.

Overall Impression:

The radial arrangement of the condominiums along the the bay shore seems to be successfull solution. It appears from the site plan that the homes are assembled much like row houses are, however, each one seems to have a different shape that makes each one distinguishable.

The common house is centrally located and has a large open ground floorplan that would accomedate other circumstances other than eating. The common house also incorporates an appealing outdoor deck, used both for outdoor eating and socializing.

case study #2

"Cheesecake" Community *An Interior of Warmth*

Mendocino County, California

11 Units

Architect: Fernau & Hartman

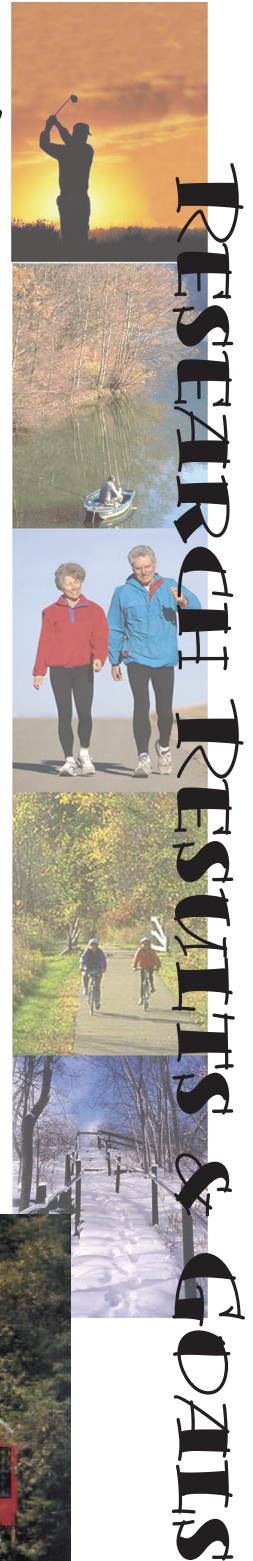
Tenure: Bedroom-living

Overall size: 6000 sq. ft.

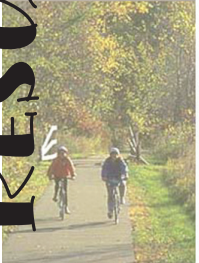
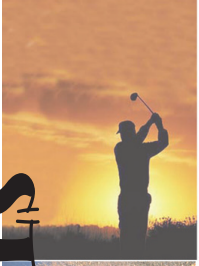
Cheesecake is a retirement cohousing community. The site is in California nestled in two clearings of the Redwood Forest. It is also located within the Navarro River's 100-year floodplain, thus requiring the buildings to be constructed on stilts.

Photos:

(Below) Main lodge (left side) incorporates shared living/dining and kitchen on the main level, and two bedrooms above. The library tower is on the right side, with a bedroom on the main level (red) and the library and reading room above.



RESEARCH RESULTS & GOALS



Exterior Connections and Site Plan

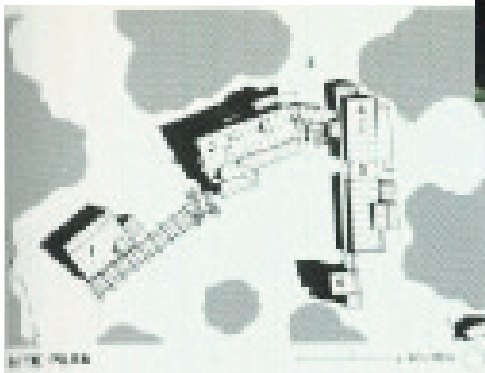
This compound is connected by pergolas and covered porches.

Photos:
(Top right): long porch flanks entrances to bedrooms and creates a linear line.

(Bottom right): Bedroom wing (blue colored) connects with the library tower behind it.

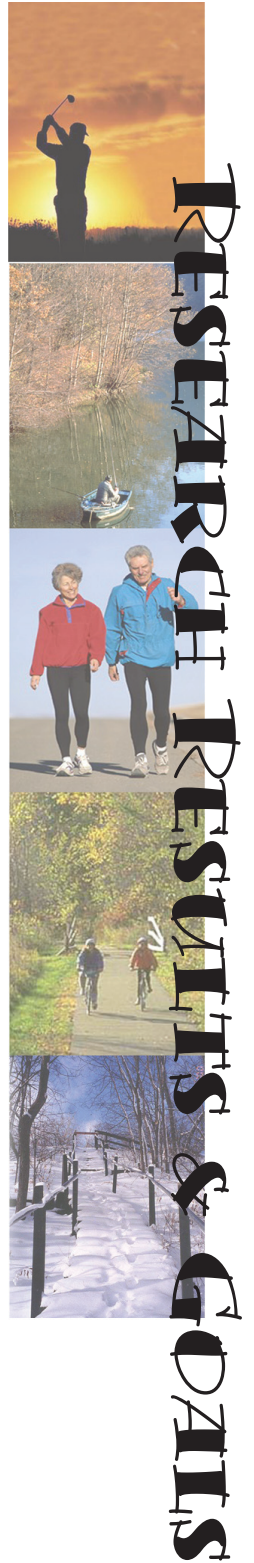


- Site Plan:
1. Workshop
 2. Lodge
 3. Parking
 4. Laundry
 5. Bedroom Wing
 6. Library



Interiors

From the outside, this looks like a colorful building that may be associated with a children's museum. Once inside there is a whole new atmosphere, with inviting feelings of warmth. Below is the shared living room, warmed by a fireplace. It is designed for large gatherings with a built in bench along the wall and more intimate gatherings with the furniture.



RESEARCH RESULTS & GOALS



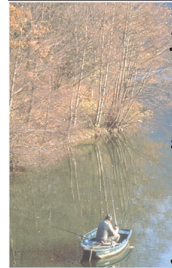
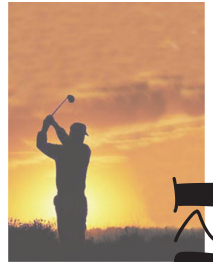
*“People can be
doing their own
thing, and yet
be in proximity.”*

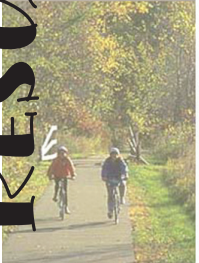
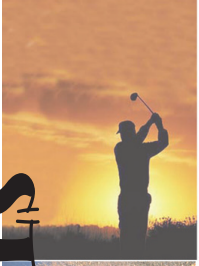
*Sophie Otis
Cheesecake Resident
speaking about the communal
space in the living room*

RESEARCH RESULTS & GOALS



A lot of natural wood was used throughout the spaces to provide a natural, warm feel. Below, a “breakfast nook” is built (within the shared kitchen) with windows on three sides to allow the morning sun inside.

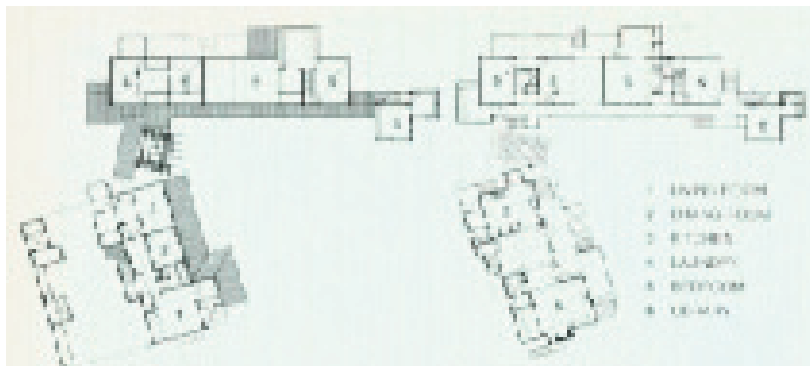




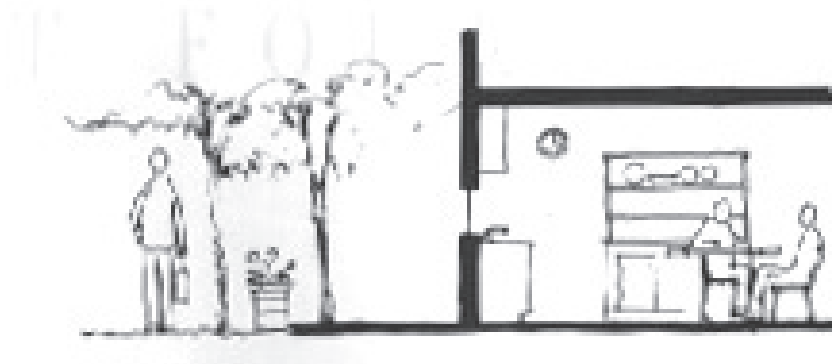
Overall Impression:

I believe that Cheesecake has too much of a “dorm-atmosphere” for what I feel retirees in the Midwest would want. The user only has a bedroom of their own, everything else is completely shared. I feel that the majority of retiree’s that would opt to live in a communal society would enjoy the shared spaces, but at the same time want some personal privacy and more space.

What I did benefit from is the interior spaces. They were beautifully done with the use of wood and stones. They had a very homey feel to them even though they were large spaces.



Design Considerations with the implementation of Cohousing



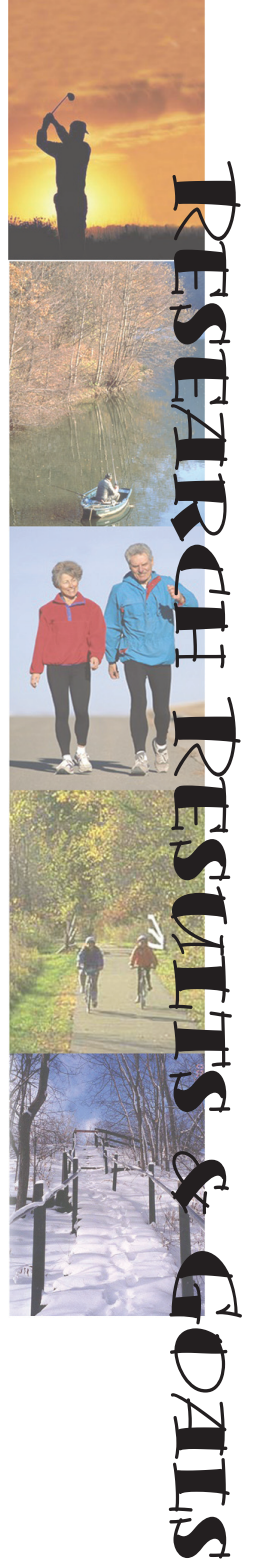
Designing smaller dwellings that are necessary in today's economy, and by what is desired by the cohousing participants, requires a careful design that is more useful and creative by establishing priorities.

There is also a need to still incorporate more private and personal spaces without sending the message that one household does not want to be bothered.

The drawing above shows how a low window provides good light for a kitchen counter and allows space for cabinets above. People sitting at the kitchen table can see out, but people walking by cannot see in.



This drawing shows an enlarged balcony with a love seat, coffee table, and reading lamp provides a secondary private space in a scaled-down dwelling.

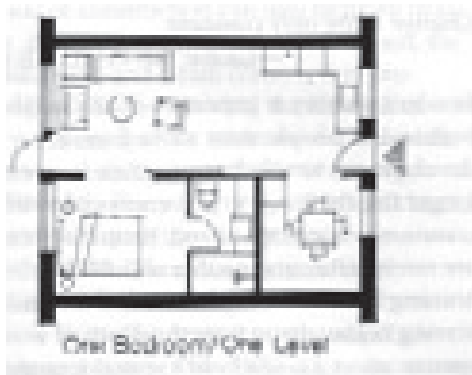


RESEARCH RESULTS & GOALS

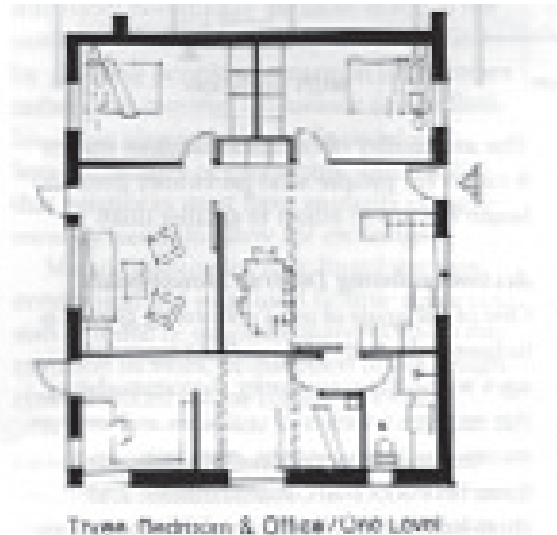


This is an open floor plan that shows how rooms can “overlap” each other and allow the smaller rooms to have the feel of much larger spaces.

Cohousing breaks from the traditional of having the “grand” or “formal” rooms (like a parlor or family room) in the front of the home. From experience, cohousers have found advantages of locating the kitchen on the public side of the home. This creates a stronger link between indoors and outdoors and between private and community areas. The less public side of the house is typically in the rear or upstairs where there is more peace and quiet along with privacy (McCamant, 1994).

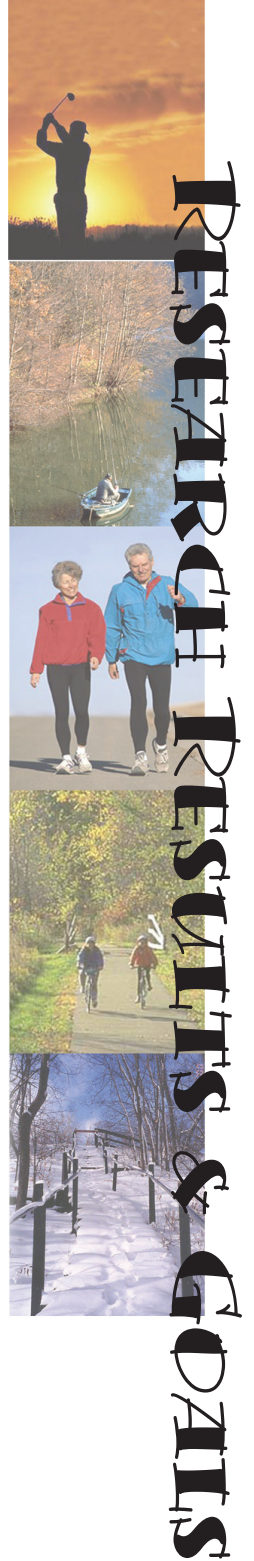


These two floor plans show a well organize way of fitting a whole home within one level of the house.



Insert photos from Sarah Susanka's "The Not So Big House." p.33 (alcoves), p. 53-54 (bathrooms)

"ways to design luxury with intimate spaces"





Goals for the Thesis Project

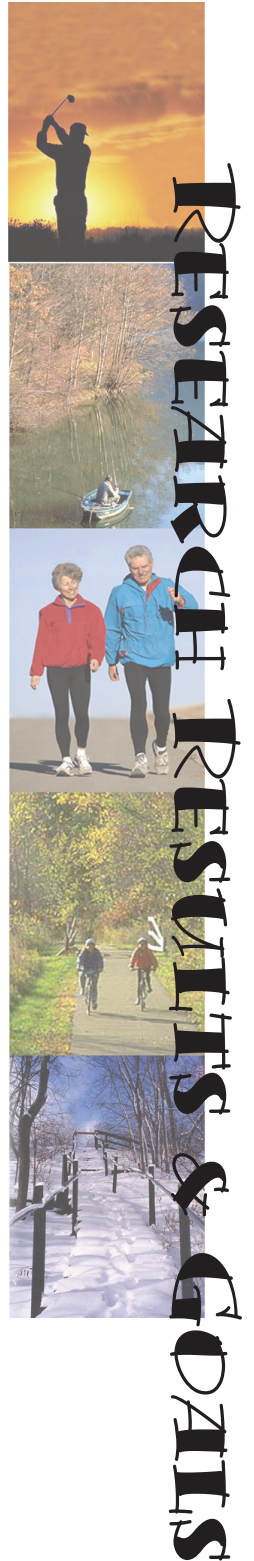


GO HOUSING: HOUSING THE BOOMERS

Goals

What I would like to achieve is a community that is based on cohousing. A community where a person who is about to, or already has retired can live with his peers. The community will allow each couple, or friends to live within the same household, and yet be connected with their neighbors by passing one another on the sidewalk, helping each other out with chores, meeting at the common house, and so on. It will also incorporate healthy living with exercise spaces, both inside and outdoor adjacent spaces, in the common house. There will be pedestrian paths winding throughout the site through small parks designed for gathering, and paths along the lakefront. Overall, my goal is to make this a successful “know your neighbor” community.

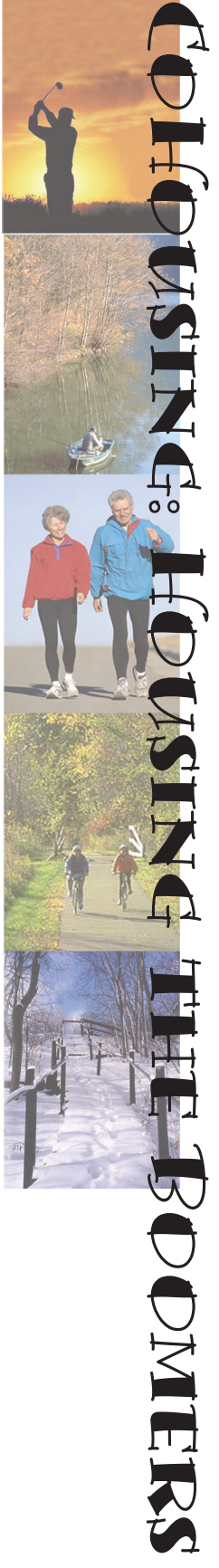
Another goal is to incorporate passive heating and cooling. As mentioned, the baby boomers have had a strong influence on technology, and were the original flower children. They do care about the environment and technology. I would also try to use natural, and reusable materials and furnishings. I feel it would only appeal to them to have an opportunity to live in an environmentally friendly home.



RESEARCH RESULTS & GOALS



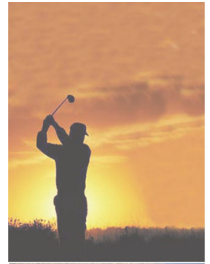
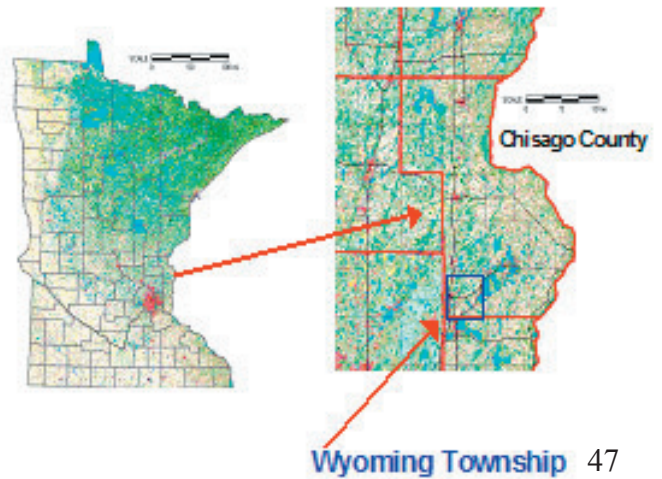
Site Analysis



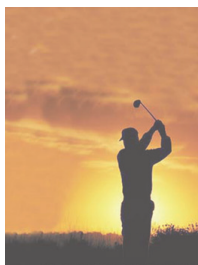
Site Information

This site was chosen due to the neighborhood feel it provides for the surrounding residents. It is in close proximity to Minneapolis/St. Paul and adjoining cities, but is secluded from the “city” life. It is also located on Comfort Lake which helps fulfill a lot of homeowners dreams—to have a lake home.

The economic base of the area of Wyoming Township that this community will be developed in is middle to upper class area of mainly commuting workers from the Twin Cities. They, too, chose to live in the area because of its small town feel within the proximity of the Cities. Wyoming Township itself is mainly residential, with the majority of the businesses owned by people within the overall community. It is still considered a rural area, but becoming a suburb of the Twin Cities (the city of Forest Lake is three miles to the south, and is in the metro area).



SITE ANALYSIS



Demographic Base

General Demographic Characteristics: 2000 Wyoming Township, Chisago County, MN

<u>SUBJECT</u>	<u>NUMBER</u>	<u>PERCENT</u>
<u>Total Population</u>	4,379	100.0
<u>Sex and Age</u>		
Male	2,226	50.8
Female	2,153	49.2
Under 5 yrs	388	8.9
5 - 9 years	427	9.8
10 - 14 years	399	9.1
15 - 19 years	312	7.1
20 -24 years	157	3.6
25 - 34 years	582	13.3
35 - 44 years	964	22.0
45 - 54 years	575	13.1
55 - 59 years	197	4.5
60 - 64 years	130	3.0
65 - 74 years	166	3.8
75 - 84 years	68	1.6
85 years and over	14	0.3
Meadian Age (years)	34.1	(X)
<u>Race</u>		
White	4,309	98.4
Black or African American	12	0.3
American Indian	37	0.8
Asain	44	1.0
Native Hawaiin/Other Pacific Islander	9	0.2
Some other race	28	0.6

1999 Income Distribution of Households & Families: 2000
Wyoming Township, Chisago County, MN

Total Households: 1,474

Mean Income: \$72,058

With 23.7% earning between 75,000-99,999

18.0% earning between 60,000-74,999

11.5% earning between 50,000-59,999

Total Family Households: 1,242

Mean Income: \$75,894

With 27.5% earning between 75,000-99,999

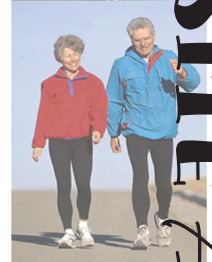
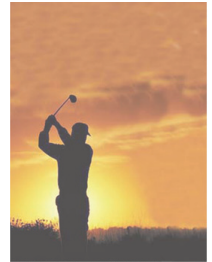
20.0% earning between 60,000-74,999

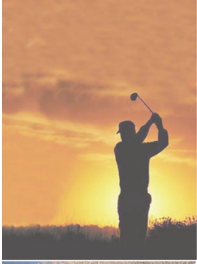
11.9% earning between 50,000-59,999

Housing Demographics: 2000

Wyoming Township, Chisago County, MN

<u>SUBJECT</u>	<u>NUMBER</u>	<u>PERCENT</u>
<u>Households by Type</u>		
Total Households	1,438	100.0
Family Households	1,208	84.0
with children under 18	693	48.2
Married-couple Family	1,090	75.8
with children under 18	611	42.5
Female Householder-no husband	70	4.9
with children under 18	49	3.4
Nonfamily Households	230	16.0
Householder living alone	168	11.7
Householder over 65 years	43	3.0





Housing Occupancy & Tenure: 2000 Wyoming Township, Chisago County, MN

<u>SUBJECT</u>	<u>NUMBER</u>	<u>PERCENT</u>
<u>Housing Occupancy</u>		
Total Housing Units	1,490	100.0
Occupied Housing units	1,438	96.5
Vacant Housing units	52	3.5
For seasonal, recreational or occasional use	29	1.9

<u>SUBJECT</u>	<u>NUMBER</u>	<u>PERCENT</u>
<u>Housing Tenure</u>		100.0
Occupied Housing units	1,438	97.4
Owner-Occupied Housing Units	1,400	2.6
Renter-Occupied Housing Units	38	

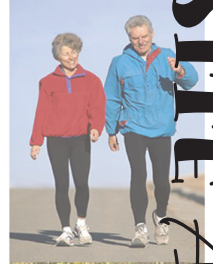
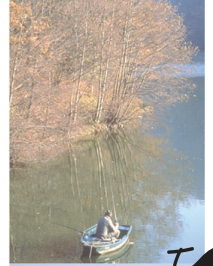
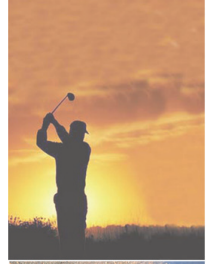
Summary:

The demographics of Wyoming Township are predominately white family homeowners with an average income between \$50,000 and 99,9999. The Township experienced a 67% growth in population between the years 1990 and 2000. The Township continues to see an average annual growth rate of 5.0%. A 40% increase in population is projected between 2000 and 2020.

Brief History of Site

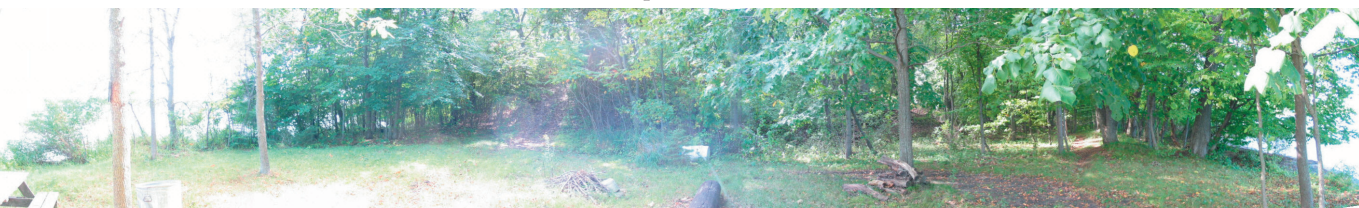
The site has never been developed and is owned by a private citizen that lives on one corner of the property. It is untouched, with a tremendous amount of vegetation. There is a large tree canopy that shades most of the site that will provide an opportunity to have fully matured trees on the completed site.

Surrounding the site is a fairly new development, named Bridgewater, which is an upper-class development of doctors, lawyers, business owners, etc. Most of them work in the Twin Cities and commute.



SITE ANALYSIS

Site panoramic—from standing on the point of the side
Comfort Lake is on the left side of photo

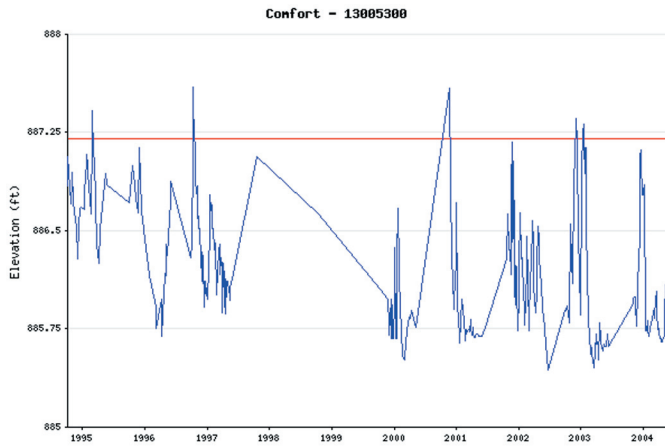




Environmental Impacts

Hydrology

Comfort Lake has a steady water level even with a stream that flows into it (Sunrise River) and an small adjacent lake (Little Comfort Lake).

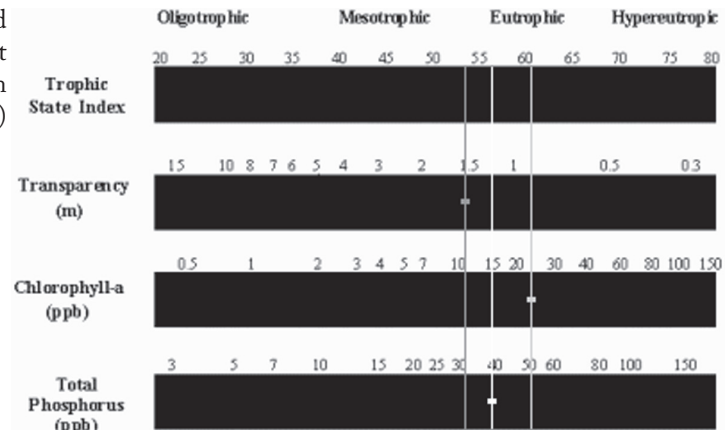


Flooding will not be an issue based on the water level reports. (See line graph on left)

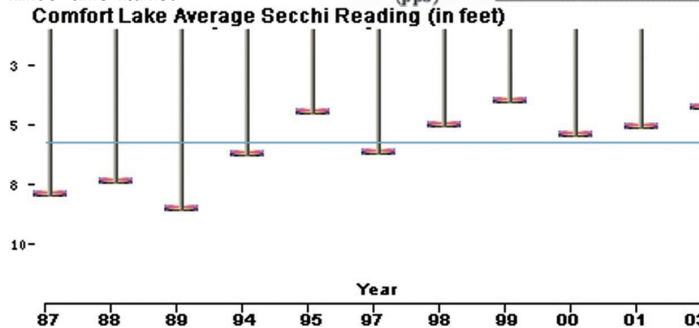
Water Level Data (from MN DNR Website)

Period of record: 06/11/1952-11/29/2004 (618 readings)
 Highest recorded: 888.32 ft (1975)
 Lowest recorded: 884.8 ft (1969)
 Average water level: 886.34 ft

Comfort Lake also has good water quality (see report represented by diagram on right.)



Special care will be taken as to not allow polluted runoff from the design into the lake.



The graph on the left shows the water clarity, by measuring the depth of visual clarity of lake water. The average depth is represented by the blue line.

Water Quality (Policy as defined by the Townships 2004 Comprehensive Plan)

Wyoming Township's natural setting and proximity to Minneapolis and St. Paul provide an attractive place for people to live. As the population of Wyoming Township has increased, the desire for maintaining and improving the quality of the Township's waterbodies has also increased. Because both urban development and existing agricultural uses significantly impact downstream water quality, the degradation of wetlands and lakes in Wyoming Township has become a general concern.

Lakes and wetlands are biological systems that are significantly affected by increases in nutrients, particularly phosphorus, and toxic chemicals. This is because, for most waterbodies, phosphorus is the nutrient that is available in the least amount and therefore limits the growth of algae and vegetation. When the amount of phosphorus in a waterbody increases, the algae population also increases, resulting in a decline in water transparency. In waterbodies with high phosphorus concentrations, algae blooms frequently occur, coloring the water green and releasing strong odors as they decay. Algae eventually sink to the lake bottom and decay, resulting in a decrease in the dissolved oxygen supply. In addition to phosphorus related concerns, toxic chemicals can kill the fish and microorganisms within the waterbody, disrupting the natural biological balance.

In addition to aesthetic impacts, increased phosphorus concentrations can cause major changes in the biological communities of waterbodies. Because game fish are more sensitive to low oxygen conditions than rough fish, carp and bullheads eventually replace most of the game fish in lakes. Sometimes decaying algae during the winter uses all of the dissolved oxygen in a lake and a major fish kill occurs. Increased algae growth will in turn escalate the buildup of sediments in lakes. This process of lake degradation is termed eutrophication. Although eutrophication is a naturally occurring process, human activities dramatically accelerate this process.

The Town of Wyoming Surface Water Management Plan develops erosion and sediment control policies and establishes a system for the treatment of stormwater runoff before it enters rivers, wetlands, and lakes in the Township (WT Appendix A).

Comfort Lake is a major drainage district in the Township.

Area: 3,824 acres

Wetlands: 1,172 acres

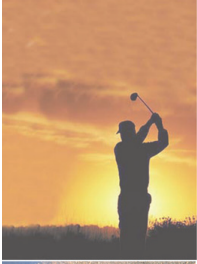
Major Lakes: Birch, School, Little Comfort and Comfort Lakes

It is part of the Comfort Lake-Forest Lake Watershed district.

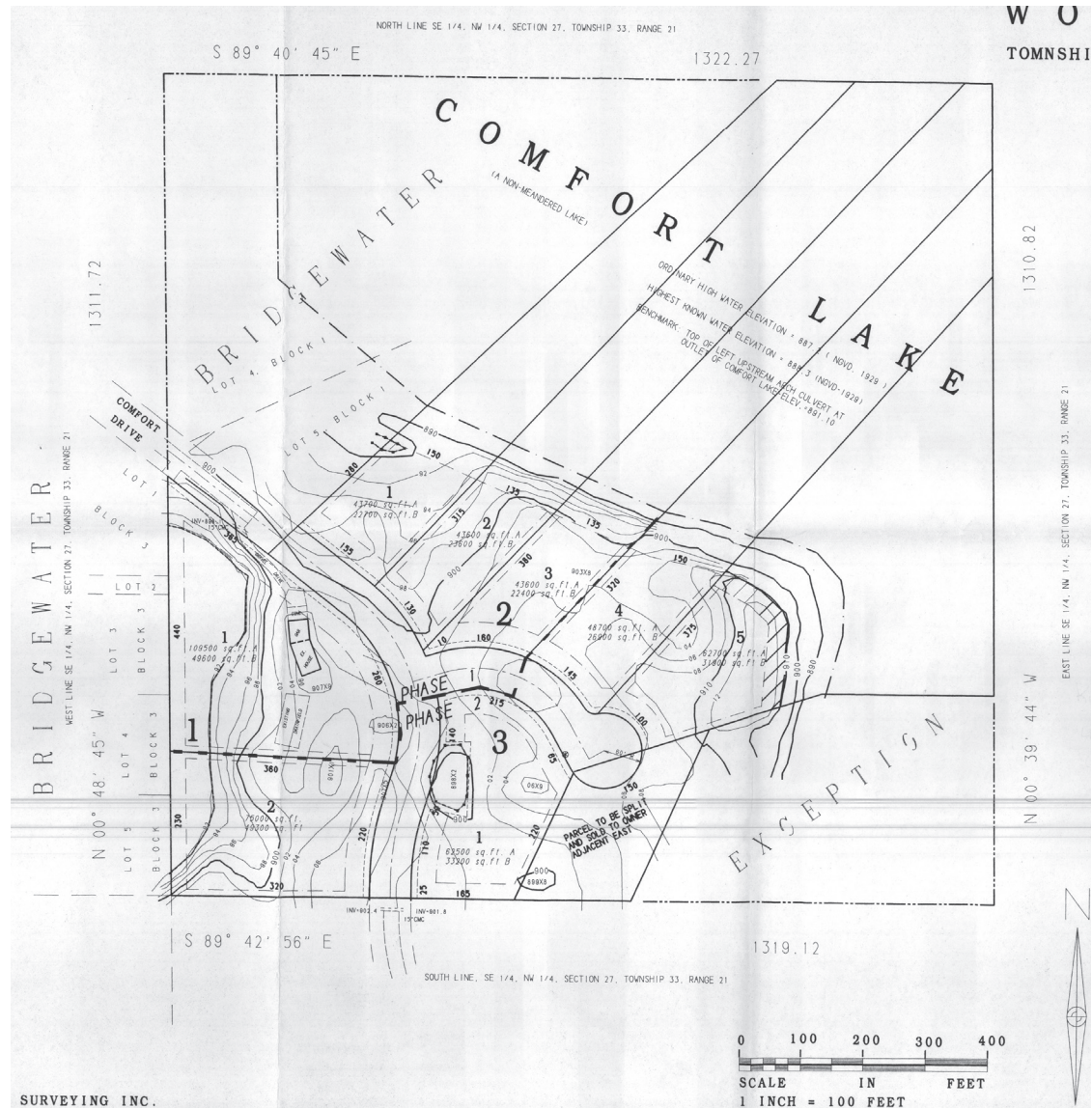
Other environmental issues that will be considered are:

- snow load
- protecting the wetland on the site
- not disturbing as many of the trees on the site as possible

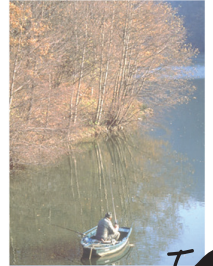
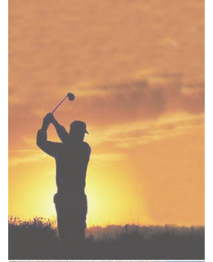
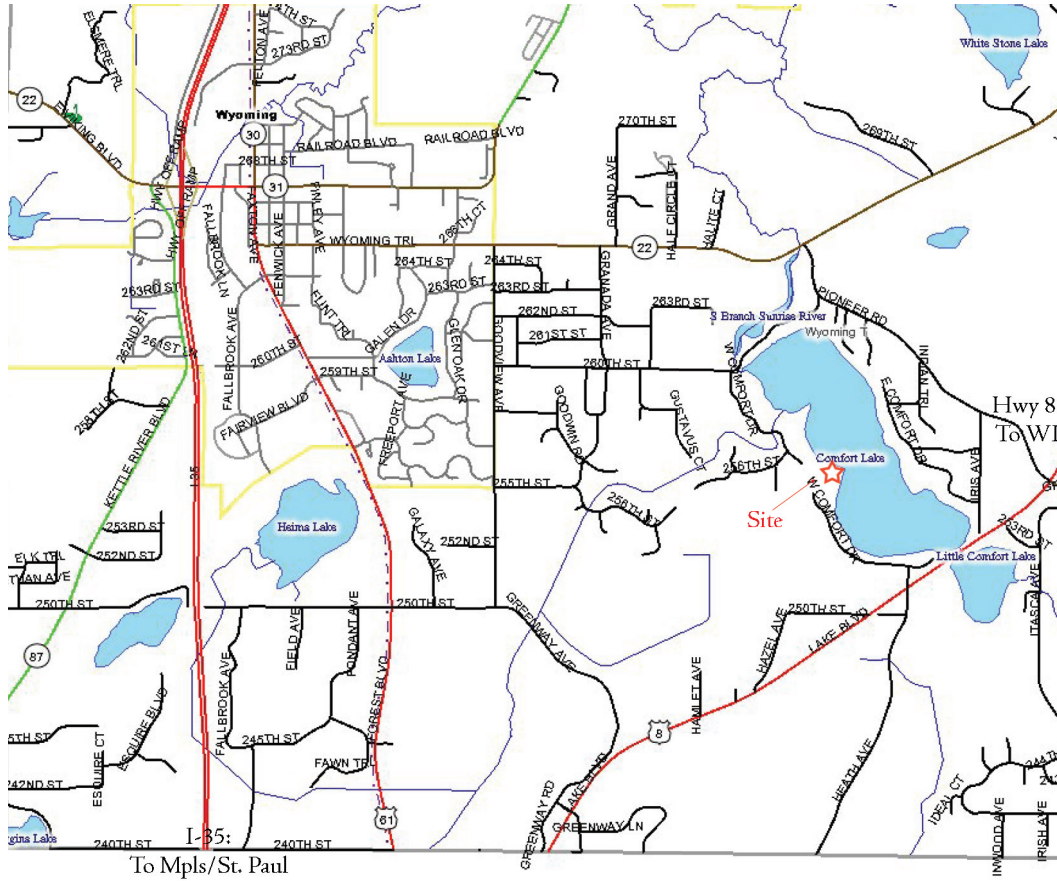




Site Area



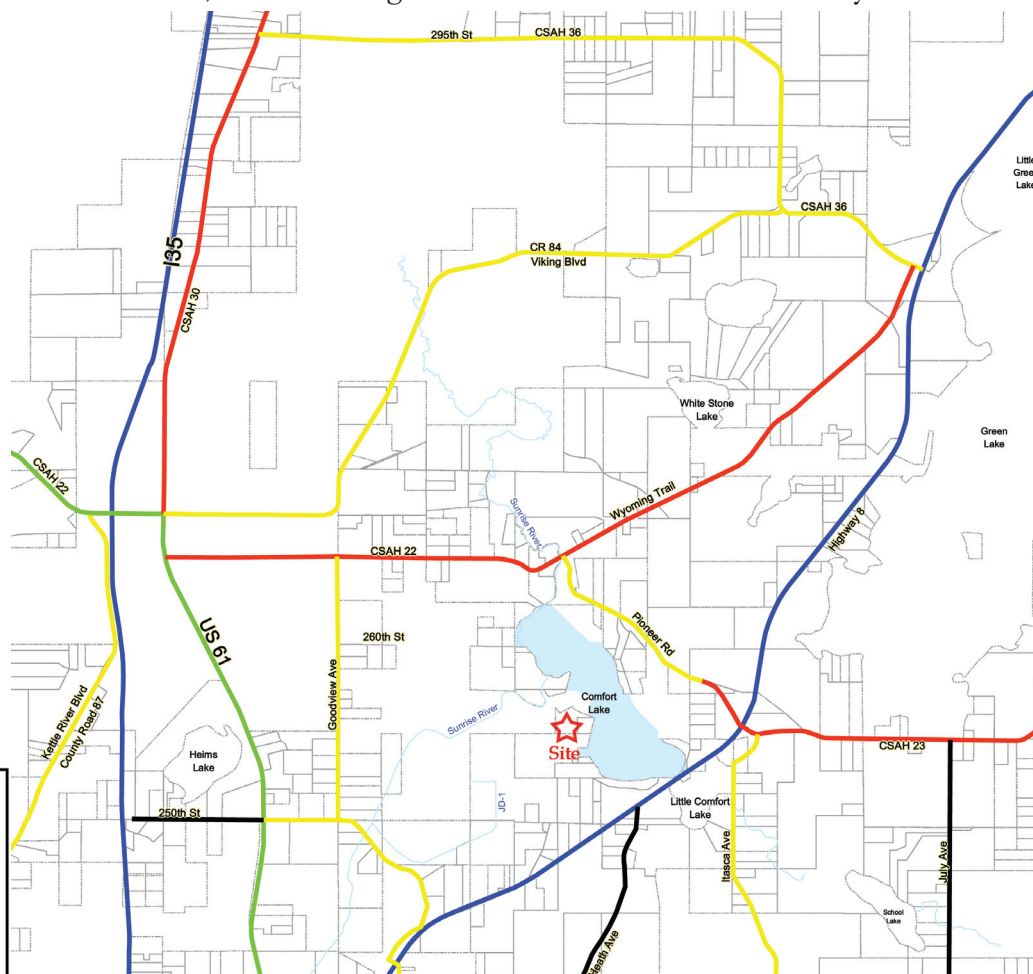
Plat Map



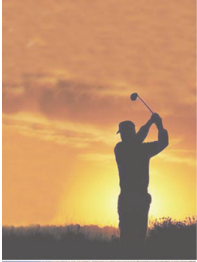
SITE ANALYSIS

Specific Location and Transportaion Links

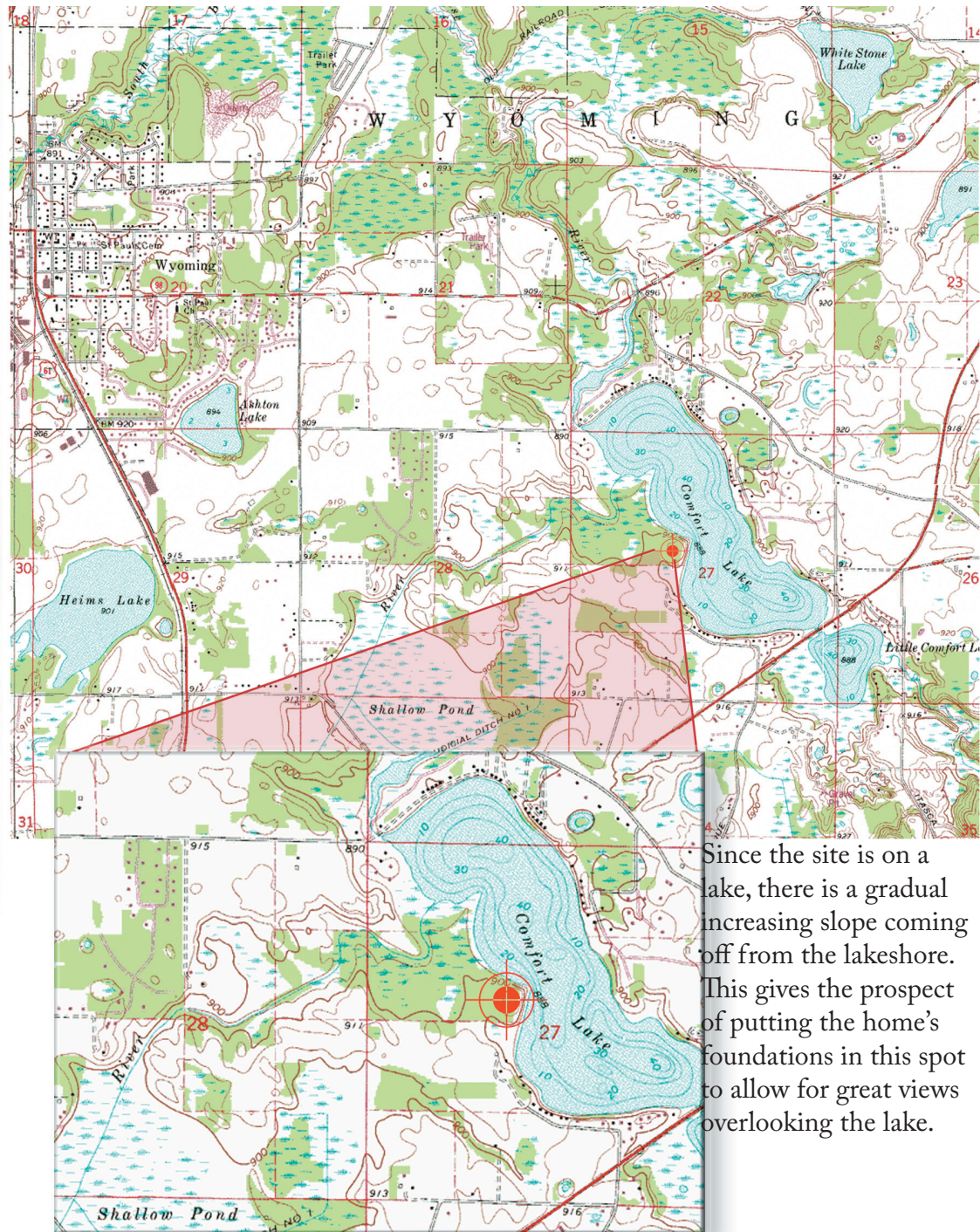
The site sits between two dead end roads, which leaves the opportunity to either connect the roads together, or chose only one road to connect to the development. Comfort Lake is in the middle of two vital roads for the surrounding communities. Highway 8 is located on the eastern side of Comfort, and County Road 22 is on the western side. Access to Bridgewater (the adjoining development to the site) is through County Road 22. The retirement community would also use that road for access for two reasons; one, County Road 22 has access to more roads, such as Highway 61 (quickly accessing north and south Interstate 35), the bike/snowmobile trail (that runs along side Hwy 61), shopping in Forest Lake, etc. Second, Highway 8 was, and still is, considered one of the more deadly highways in Minnesota. Creating another access road off of that would only increase the chances of accidents. Highway 8 only has access to southbound I-35, however using it to travel east to Wisconsin is very scenic.







Site Topography

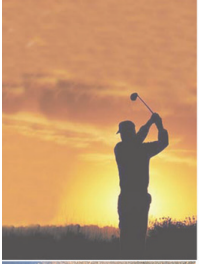


Since the site is on a lake, there is a gradual increasing slope coming off from the lakeshore. This gives the prospect of putting the home's foundations in this spot to allow for great views overlooking the lake.

A photograph of two women walking side-by-side on a paved path. The woman on the left is wearing a red jacket and black leggings. The woman on the right is wearing a blue jacket and black leggings. They are both smiling and appear to be in good health. The background is a clear blue sky.



The soils in the area are mainly made up of sand and clay over a rock bed. Chisago County soils survey classifies all soils on this site as Nebish Loam (40B). The description of the soil is this: Nebish-Talmoon Association: Nearly level to very steep, well drained and poorly drained loamy soils that formed in glacial till on uplands.

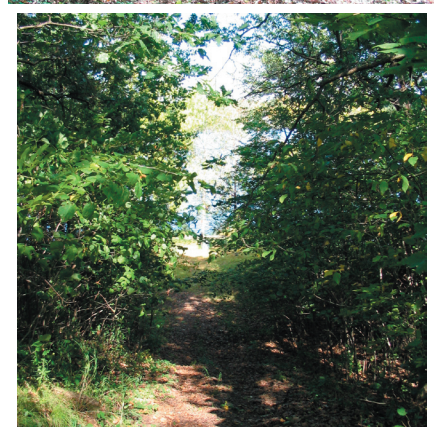


Views/Vistas and the Accoustical Environment

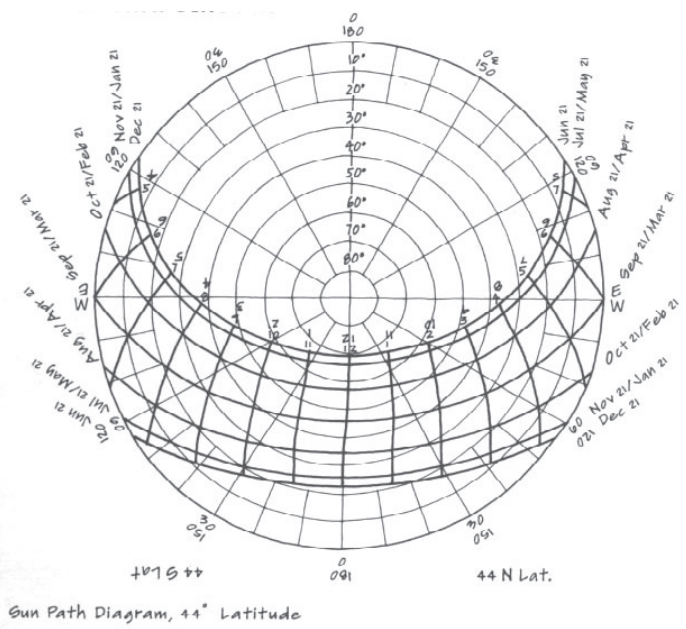
Views of the site give the feel of seclusion. You can not see any homes in the neighborhood surrounding the side, except for homes across the lake. Overall, it is a very peaceful acoustic environment with no highway, factory, or industrial noises.

Existing Structures

None.

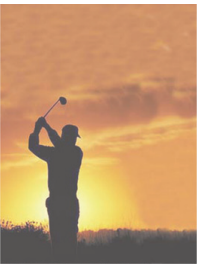


Solar Orientation

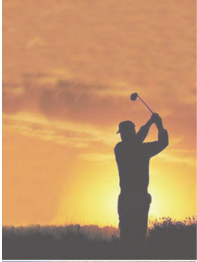


	J	F	M	A	M	J	J	A	S	O	N	D
1 am	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	1	3	1	0	0	0	0	0
6	0	0	0	4	15	22	15	6	1	0	0	0
7	0	0	5	25	50	59	53	34	15	5	0	0
8	2	8	32	62	100	105	101	80	52	27	8	2
9	18	37	72	108	140	148	143	123	87	60	31	17
10	51	78	109	144	187	189	189	164	133	98	62	44
11 am	84	117	147	166	204	232	220	194	163	125	84	70
12 noon	100	137	168	177	225	241	217	205	170	139	95	81
1 pm	110	147	173	182	224	232	231	215	180	142	93	82
2	100	140	161	169	213	228	217	200	176	126	83	74
3	74	115	135	150	182	176	192	177	147	93	56	53
4	44	78	102	121	146	160	174	147	112	63	32	27
5	13	37	57	80	110	122	130	102	67	27	7	5
6	1	7	21	38	63	78	85	58	23	4	0	0
7	0	0	2	10	25	38	38	20	3	0	0	0
8	0	0	0	0	4	8	7	2	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11 pm	0	0	0	0	0	0	0	0	0	0	0	0
12 mid	0	0	0	0	0	0	0	0	0	0	0	0

Mean Global Horizontal Radiation, Btu/hr. ft²



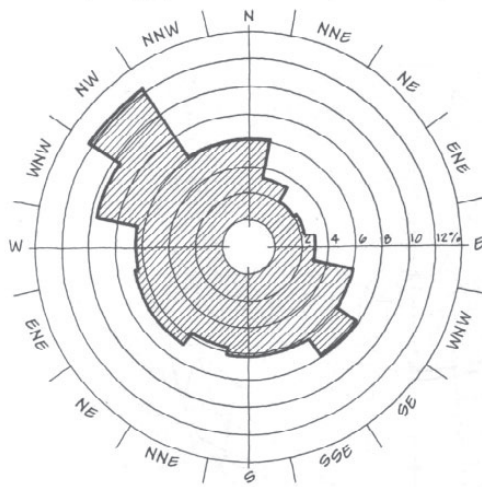
SITE ANALYSIS



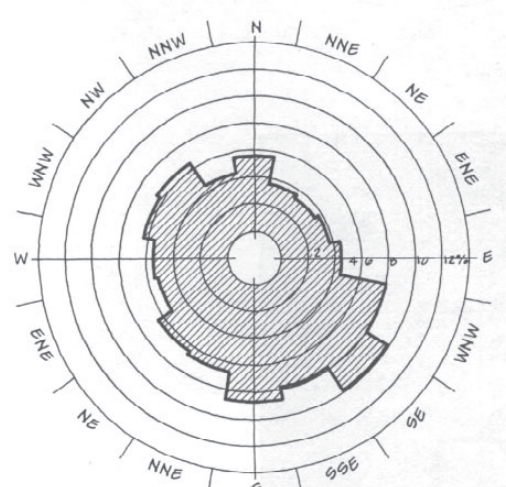
Prevailing Winds

	J	F	M	A	M	J	J	A	S	O	N	D
1 am	WSW	SW	W	WNW	SSW	SSE	WNW	S	ESE	N	SSE	SE
2	N	N	ENE	N	SSW	NW	N	NW	N	FSF	SSE	WNW
3	ENE	E	WNW	ESE	ENE	N	SSW	SSW	WSW	N	NNE	ESE
4	WSW	ESE	NW	ESE	ENE	N	N	WNW	SSE	ESE	WNW	E
5	NW	NNE	W	NW	S	ESE	SE	N	SW	NW	NW	S
6	S	WSW	NW	SSE	SSW	WNW	NW	NW	SSE	N	NNW	ESE
7	S	NNW	SSW	SE	FSF	N	ENE	SE	NW	S	S	WSW
8	GC	GC	NW	NNE	NNW	S	S	ESE	SE	NNE	S	S
9	E	SE	WSW	NW	N	NNW	NW	WNW	N	S	SSW	N
10	S	N	N	E	SW	NE	SSE	SSW	SSW	S	S	S
11 am	S	S	ENE	WNW	W	NE	SSE	S	SW	S	E	NNW
12 noon	S	SSW	S	S	S	SSE	S	E	SE	S	S	W
1 pm	WSW	N	S	SW	SSW	N	SSE	S	S	S	S	SE
2	NNW	N	S	WNW	S	NNE	SE	NW	WNW	S	S	S
3	S	SSE	N	N	SSW	SSW	N	N	N	GSW	N	S
4	SSE	ENE	ENE	E	SSE	SSE	S	ESE	NW	N	SSE	SW
5	NW	ESE	NNW	W	S	NNE	N	N	SW	S	S	S
6	SSE	N	E	SE	SE	WSW	W	WNW	WNW	W	SSW	SW
7	S	S	NW	S	SSW	S	NW	NW	F	FSF	N	N
8	S	NNW	S	S	W	W	N	E	SW	N	S	NNW
9	SSW	SSW	S	WSW	NNE	N	N	E	SE	NNW	S	S
10	NW	S	SSE	SSE	ESE	ESE	SE	E	WNW	WNW	NNW	SSW
11 pm	SSE	NW	N	NNW	SSE	SSE	NW	SE	ESE	N	ENE	N
12 mid	SE	E	WNW	SSE	S	E	ENE	WSW	W	WNW	W	W

Mean Airport Wind Conditions, direction/mph



December Wind Rose, Minneapolis



June Wind Rose, Minneapolis

Wyoming Township Zoning Ordinances and Codes

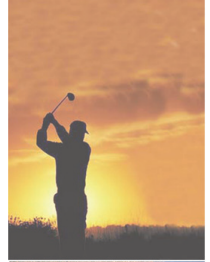
The Townships goals and policies are outlined below. These are taken directly from the 2004 Wyoming Township Comprehensive Plan: Appendix A.

Goals:

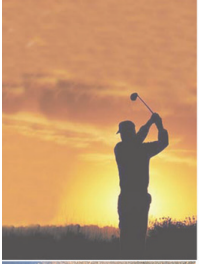
- To provide for the orderly development of safe and efficient housing opportunities in Wyoming Township
- To increase the ability of the private sector to provide housing to meet Wyoming Township's anticipated population
- To provide affordable housing near employment centers. To provide the preponderance of housing in areas served by public infrastructure.

Policies:

- The Town of Wyoming will encourage the use of the planned unit development technique in appropriate areas of the community in order to provide for efficient use of the land and to protect natural resource areas.
- Establish zoning districts to provide for adequate and affordable housing near transportation and employment areas where soils are suitable for individual sewage treatment systems, community systems or municipal sewer can be made available.
- The Town of Wyoming will discourage development proposals promoting residential densities and design inconsistent with the Land Use Plan.



SITE ANALYSIS



The Township has also set up a number of guiding principles to follow to instill a pleasant place of living.

Principle 1: Instill a genuine sense of rural community.

- A sustainable Township accommodates a mix of land uses organized into patterns that recognize the natural and agricultural landscapes as valued components of the Township's cultural heritage that contribute to a sense of rural community.

Principle 2: Enhance biological diversity.

- Protect large areas of relatively undisturbed landscapes, or "roadless areas", and, where possible, provide connections between these areas to improve ecological and scenic values.
- "Soften the edges" between different types of land uses with transition vegetation to increase the habitat value.

Principle 3: Improve water quality and manage water levels.

- Prevent contaminant leaks in the upland zone from industry, agriculture, roads and residential development.
- Protect low-lying surface water 'sinks' and ground water 'sinks', based on surface water and ground water data analysis.
- Monitor water quality and water levels through existing programs and new initiatives.

Principle 4: Avoid environmental hazards.

- Prevent shoreline hazards, flood hazards and hazards from landslide or subsidence due to development.

- Minimize human health hazards from pollutions associated with air emissions, soil and water contamination, noise, and light.

Principle 5: Protect socially significant resources.

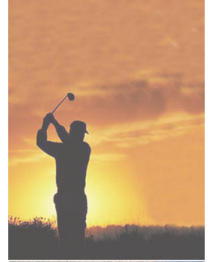
- Allow an array of environmental resource benefits to be reaped from any development, so that public view or direct access to scenic features and rural landscapes is made possible.
- Reserve future options for land use, based in physical resource data, to ensure that long-term environmental and community values are not compromised by short-term economic benefits, and conversely, to ensure the full economic value of a resource is realized over time.

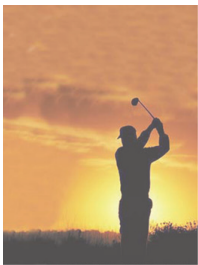
Principle 6: Take advantage of development suitability.

- Determine physical suitability for development, based on the proximity of existing infrastructure, and use soils data to direct development toward those areas containing the greatest soil suitability to ensure compatibility.
- Ensure compatibility between development activity and adjacent land uses.

Principle 7: Achieve a diversified transportation system.

- Allow for a range of travel types to accommodate recreational and commuter bicyclists and pedestrians as well as vehicular high-speed traffic in areas where alternative modes of travel can be allowed safely and quality of travel improved as a result.
- Ensure a safe and efficient local road network that addresses the travel needs of local resident traffic.





The Cohousing community will be classified as a Urban Residential District (UR) as defined by the Township below:

Subd. 1. Purpose

The (RRI) Rural Residential I District is intended to provide an urban expansion area which will accommodate medium density residential development in areas of existing development and in close proximity to incorporated cities and municipal services.

Subd. 2. Permitted Uses

The following uses are permitted:

- A. Single family dwellings subject to the following provisions:
Dwelling units shall not be permitted in areas classified as wetlands, flood plain, peat and muck areas, or areas of poor drainage. In areas where the standing water table is less than three feet, the Zoning Administrator, at the recommendation of the Town Building Official, may require soil testing and borings, footing and foundation engineering and/or an alternate building design or location.
- B. Public parks owned or operated by a government agency or non profit organization.
- C. Home Occupations which do not require use of an attached garage, additional parking, an accessory building, or generate a noticeable increase in traffic, and which are in accordance with Section 28.
- D. Daycare and residential facilities as required by MN Statutes Ch 462.357, Subdivision 7.

Subd. 6. Heights, Yard, Area and Lot Width and Depth Regulations

- A. Height Regulations: (See also Section 30)
No building hereafter erected or altered shall exceed two and one half (2 1/2) stories or thirty five (35) feet in height.
- B. Front Yard Regulations: (See also Section 30)
There shall be a front yard setback of not less than:
 - 1. One hundred, thirty five (135) feet from the centerline, from expressways and four lane highways, U.S. and State Highways, and County State Aid Highways and one hundred fifty (150) feet from the right-of-way of Trunk Highway 8.
 - 2. One hundred thirty-five (135) feet from the centerline of all county roads.
 - 3. Seventy three (73) feet from the centerline of all township roads or forty (40) feet from the road right of way, whichever is more restrictive. If a utility easement exists along the front of the property, and that easement is specifically intended to be used for pedestrian trails or walkways in addition to utilities, then the forty (40) foot setback shall be measured from the easement. See also Section 4, Subd. 131.
 - 4. Where a lot is located at the intersection of two or more roads or highways, there shall be a front yard setback on each road or highway side of each corner lot.

5. No building shall be erected, reconstructed, altered or moved nearer to the street line on which it faces than the average setback observed by the adjacent residential buildings on the same side of the street and fronting thereon within the same block. No building shall be closer than forty (40) feet to the edge of any street lot line, or utility/pedestrian easement if applicable. See also Section 4, Subd. 131.

C. Side Yard Regulations: (See also Section 30)
There shall be a minimum interior side yard setback of ten (10) feet.

D. Rear Yard Regulations: (See also Section 30)
There shall be a rear yard of not less than twenty five (25) feet.

E. Lot Area and Width Regulations:

1. Except as provided for in Section 15, each single family dwelling shall be located on a lot having an area of not less than one (1) acres, at least one acre of which must be buildable area, and width and frontage on a public road of not less than two hundred (200) feet. See also Section 4, Subd. 18. The depth of the lot shall be a minimum of two hundred (200) feet and shall not be greater than four (4) times the lot width.

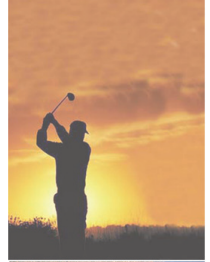
2. If any portion of a lot falls into a Shoreland District, Section 12 will prevail where more restrictive.

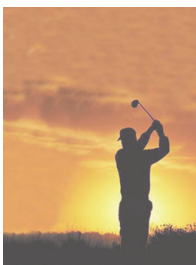
Subd. 7. General Regulations

A. Subdivisions without municipal water and sewer.

1. In subdivisions where municipal water and sewer services are not presently available, the Town Planning Commission may require that the developer submit plan as to how the lots will be resubdivided when services become available as required by the Town Subdivision Regulations.

B. Each living unit must have provision for a future garage with a minimum area of three hundred twenty (320) square feet.





The other way of classifying the community would be as a Planned Unit Development (PUD), as described in Section 15 of Wyoming Township Zoning Ordinance.

Subd. 1. Purpose

The purpose of this Section is to allow variation from the conventional standards and dimensional criteria of this Ordinance, when it is demonstrated that a Planned Unit Development provides more creativity in development of the land, greater flexibility in development, including private ownership of common areas, and provides greater natural resource protection.

The Planned Unit Development (hereinafter referred to as PUD) is intended for use especially where the usual application of bulk and density controls: 1) would not provide adequate environmental protection; 2) would allow design standards detrimental to the natural aesthetic and physical characteristics of the site; 3) would not provide an efficient and feasible use of the land.

Subd. 3. General Regulations

A. All other development regulations of the appropriate Zoning District not specified in this Subdivision or specified as a condition to the Conditional Use Permit shall apply to a Planned Unit Development.

B. It is the intent of this Section that the subdivision of the land involved be carried out simultaneously with the review of a Planned Unit Development.

C. The application for a Conditional Use Permit shall state precisely the reasons for requesting the consideration of the property for Planned Unit Development.

D. Each living unit must have at least nine hundred sixty (960) square feet of floor area excluding the basement.

E. Each living unit must have a garage with minimum area of three hundred twenty (320) square feet.

F. The land which is to be set aside as open or common area shall be clearly indicated on the plan. Provisions for recreational area and for continual maintenance of that area not dedicated and accepted by the Town shall be required.

G. No conveyance of property within the Planned Unit Development shall take place until the property is platted in conformance with the provisions of this Subdivision and applicable to the Town Subdivision Ordinance. All by laws, Property Owner's Association Articles of Incorporation, and Protective Covenants must be approved by the Town Attorney and filed with the record plat. These covenants must be adhered to and cannot be changed without the approval of the Town Board.

H. The uses in the PUD shall be those uses allowed for in the Zoning District in which the PUD is located.

I. There is to be provided within the tract, or immediately adjacent thereto, parking spaces in private garages or off street parking areas in accordance with the requirement of Section 35 of this Ordinance.

J. Drives, accessways and common parking areas must be developed to a standard equal to that required for public use by Section 35. Such drives and accessways must be protected by recorded deed covenants assuring their availability to all residents of the project.

Subd. 4. Site Design

A. The number of principal use structures which may be constructed within the Planned Unit Development shall be determined by dividing the net buildable acreage of the project area by the required lot area per unit which is required in the district in which the Planned Unit Development is located. The net buildable acreage shall be defined as the project area less the land area dedicated for public streets, and land which is not deemed as buildable by this Ordinance. The project area includes all the land within the Planned Unit Development which is allocated for residential and for common open space as required by this Subdivision. Land to be dedicated for public streets is to be excluded from the project area.

B. The common open space, any other common properties, individual properties, and all other elements of the Planned Unit Development shall be so planned that they will achieve a unified scheme of integrated planning and a harmonious selection and efficient distribution of uses.

C. The proposed PUD shall be of such size, composition, and arrangement that its construction, marketing and operation is feasible as a complete unit, without dependence on any subsequent unit or development.

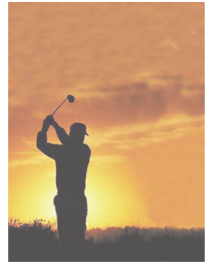
D. All Planned Unit Developments shall be served by central sewer and water facilities unless all individual lots are large enough to support on site individual systems. The central facilities must be designed to meet current MPCA and state health standards. At the time of preliminary plat consideration, the Town may be asked by the developer to provide maintenance of central facilities and assess the operating costs to benefited properties.

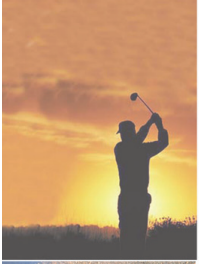
E. Planned unit development (PUD) dwelling units should have a character and scale that relate to the rural heritage of the township similar to design standards for Rural Residential I and II.

F. Vegetated buffers of native trees, shrubs and understory shall be planted in buffer zones of sufficient area from edge of the PUD so as to provide residential privacy and minimize views of houselots from exterior road and abutting properties.

Subd. 5. Standards for Common Open Space

B. Common open space must be used for amenity or recreational purposes. The uses authorized for the common open space must be appropriate to the scale and character of the Planned Unit Development, considering its size, density, expected population, topography, and the number and type of structures to be provided.





Yard Regulations: Section 28 of the Zoning Ordinance.

Subd. 1. General Statement

No yard, or other open space, shall be reduced in area or dimension so as to make such yard or open space less than a minimum required by this Ordinance, and if the existing yard or other open space as existing is less than the minimum required it shall not be further reduced.

No required yard or open space allocated to a structure or parcel of land in compliance with this Ordinance shall be used to satisfy yard or open spaces or minimum lot area requirements for any other structure or land.

Subd. 2. Yard Requirements

The minimum yard setback distances from the appropriate lot line are set forth within the district provisions of this Ordinance.

A. Corner Lots.

1. Where a lot is located at the intersection of two (2) or more streets, the width of the yard along the street shall not be less than forty (40) feet.
2. On a corner lot, nothing shall be placed or allowed to grow in such a manner as to materially impede vision between a height of two and one half (2 1/2) and ten (10) feet above street level for a distance of thirty (30) feet from intersecting streets.

B. Through Lots.

On a lot fronting on two (2) parallel streets, both street lines shall be front lot lines for applying the yard regulations of this Ordinance.

C. Earth Sheltered Buildings.

Computations for yard requirements shall be based upon measurements from the exposed exterior surface of the building.

D. Exceptions.

1. Architectural projects including chimneys, flues, leaders, sills, pilasters, lintels, ornamental features, mechanical devices, cornices, eaves, gutters, and the like, provided they do not extend more than three (3) feet.
2. Yard lights and signs provided they are located three (3) feet or more from all lot lines. Lights for illuminated parking or loading areas or yards for safety and security purposes may be installed where necessary provided that glare is not visible from public right of way or adjacent residential property.
3. Off street parking spaces except as hereinafter regulated.
4. Fencing or buffering materials as hereinafter regulated.
5. In front and side yards: balconies that extend a distance of four (4) feet or less provided they are seven (7) feet or more above grade at the building line. Also steps, terraces, driveways, stoops, decks, and patios which do not extend in elevation above the ground floor level of the principal building or to a distance of less than five (5) feet from any lot line.
6. In rear yards: recreational and laundry drying equipment, picnic tables, open arbors and trellises, balconies, breezeways, porches, detached outdoor living rooms and decks, and outdoor eating facilities, are allowed, provided these are not less than five (5) feet from any lot line.

Building Requirements from Section 30:

Subd. 1. Building Size and Architectural Requirements

The following building size and architectural standards shall apply to all districts unless otherwise specified.

A. Height Exceptions

The building height limits established shall not apply to belfries, cupolas, domes, spires, monuments, airway beacons, radio or television towers, flag poles, chimneys, or flues, nor to elevators, watertanks, poles, towers and other structures for essential services; nor to similar structures for essential services; nor to similar structures extending above the roof of any building and not occupying more than twenty five (25%) percent of the total roof area shall be fifty (50) feet; except as otherwise regulated herein.

B. Architectural Requirements.

The following architectural requirements shall apply to all dwellings in the “A” and all residential districts, except in manufactured home parks.

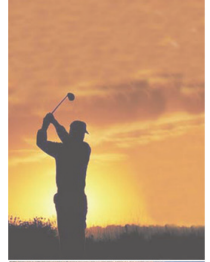
1. Dwellings shall have a width of not less than twenty four (24) feet in width.
2. Dwellings shall be placed on a permanent foundation forming a complete enclosure under exterior walls.
3. Exterior walls shall have the appearance of wood or masonry regardless of their actual composition.
4. All dwellings shall be constructed on site or be prefabricated. Additions to manufactured homes shall not be considered in determining dimensional requirements.
5. The architectural character in all new residential and commercial shall be visually compatible in character and scale with existing buildings and incorporate design standards for each of the zoning districts.
6. Dwellings that are constructed slab on-grade.
 - a). Provisions shall be made to provide for storm protection internally to the dwelling. Storm shelters internal to the dwelling shall be provided in a bathroom or laundry room so as to ensure accessibility and that the storm shelter is not obstructed by storage.
 - b). Compliance with this requirement shall be based upon Federal Emergency Management Agency (FEMA) guidelines and standards, except that the shelter door shall be solid core construction (not limited to metal) and only one deadbolt lock shall be required.

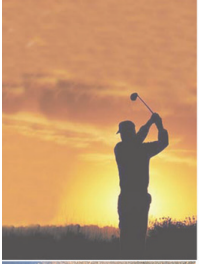
C. Minimum Ground Floor Area.

The ground floor area for any dwelling shall be at least nine hundred sixty (960) square feet.

D. Maximum Total Lot Coverage.

1. The total area of all buildings shall not exceed more than twenty (20%) percent of the total buildable lot area. Credit may be given for those areas which are not considered buildable, yet which are permeable surfaces.
2. The total area of all impervious surface on a lot shall not exceed thirty (30%) of the gross lot area for residential uses and fifty (50%) of the gross lot area for nonresidential uses. See Section 12, Subdivision 19, D, 1 for lots in a shoreland district. Credit may be given for those areas





which are not considered buildable, yet which are permeable surfaces.

E. Driveways

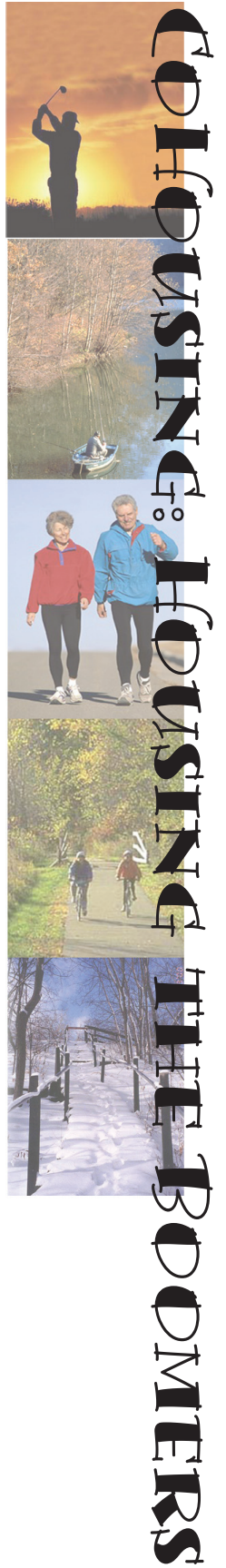
Every principal structure shall have an all-weather surface driveway completed prior to issuance of a Certificate of Occupancy.

F. Wetlands:

No structure shall be erected, reconstructed, altered or moved nearer than ten (10) feet from a delineated wetland.



Programmatic Requirements



ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

common house

Entry

Description

The entry will be somewhat formal, but rugged enough to handle the dirt and mess that it will have to tolerate with the amount of traffic that will be entering. It will function as a greeting and arrival space with coat hooks to hang jackets, purses and other items.

General Issues

Size	150 sq. ft
Quantity	2
Users	Residents and Visitors
Utilized	24 hrs
Usage	Greeting and socializing

Access

Direct	Yes
By Corridor/Hall	Yes
Public	Yes
Private	No

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	Yes
Flexible Configuration	No
Temperature Control	Yes

Equipment Needed

Coat hooks

Adjacency Requirements

Kitchen and Dining room
Main circulation hall





ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

Kitchen

Description

The kitchen is used for cooking and preparing meals for the community. It will be a major part of the socializing with neighbors and friends.

General Issues

Size	200 sq. ft
Quantity	1
Users	Residents
Utilized	Daytime
Usage	Cooking and pre-paring meals

Quality Issues

Natural Light	No
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	Yes
Flexible Configuration	No
Temperature Control	Yes

Access

Direct	No
By Corridor/Hall	Yes
Public	Yes
Private	No

Equipment Needed

All kitchen appliances
Large pantry cabinets

Adjacency Requirements

Dining Room
Kitchen/Dining Storage
Bathroom

ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

Dining Room

Description

The dining room is used to gather with neighbors and eat the daily meals. It can also be used as a large gathering place for community meetings, game night, etc. It will have dining room table and chairs similiar to the sets that would be found in a residential setting. This room will also be a major part of the communal feel of the community.

General Issues

Size	750 sq. ft
Quantity	1
Users	Residents and Visitors
Utilized	24 hrs
Usage	Dining and meet- ing

Quality Issues

Natural Light	Yes
Glare Control	Yes
Natural Ventilation	Yes
Accoustic Control	Yes
Flexible Configuration	Yes
Temperature Control	Yes

Access

Direct	Yes
By Corridor/Hall	Yes
Public	Yes
Private	No

Equipment Needed

Speaker System

Adjacency Requirements

Kitchen
Kitchen/Dining Storage
Bathroom





ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

common house

Library

Description

The library will be a quite place for reading, learning, or studying. It will contain books from donations of the residents in the community

General Issues

Size	300 sq. ft
Quantity	1
Users	Residents
Utilized	24 hrs
Usage	Book storage, reading, quiet room

Access

Direct	No
By Corridor/Hall	Yes
Public	No
Private	Yes

Adjacency Requirements

Outdoor Patio

Quality Issues

Natural Light	Yes
Glare Control	Yes
Natural Ventilation	Yes
Accoustic Control	No
Flexible Configuration	No
Termperature Control	Yes

Equipment Needed

ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

Computer Room

Description

The Computer Room is a room with four computers and a color printer. It will have a high-speed internet access and used by the residents for e-mailing, web surfing, researching, etc. Residents can also use programs on there for balancing their budgets, creating greeting cards, etc.

General Issues

Size	200 sq. ft
Quantity	1
Users	Residents
Utilized	24 hrs
Usage	Computer use

Quality Issues

Natural Light	Yes
Glare Control	Yes
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	No
Temperature Control	Yes

Access

Direct	No
By Corridor/Hall	Yes
Public	No
Private	Yes

Equipment Needed

Computers
Color printer

Adjacency Requirements



PROGRAMMATIC REQUIREMENTS



ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

TV Room

Description

A large TV with sofa’s and other cushioned chairs for residents to watch movies, favorite TV shows, or athletic events. Satillite service will be provided with the cost split between the residents.

General Issues

Size	250 sq. ft
Quantity	1
Users	Residents
Utilized	24 hrs
Usage	TV watching

Quality Issues

Natural Light	No
Glare Control	Yes
Natural Ventilation	No
Accoustic Control	No
Flexible Configuration	Yes
Temperature Control	Yes

Access

Direct	No
By Corridor/Hall	Yes
Public	No
Private	Yes

Equipment Needed

Television
A/V Equipment

Adjacency Requirements

Bathroom

ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

Exercise Room

Description

The Exercise Room will be used for working out. Strength machines, free weights, and aerobic machines will be included. Open spaces will be incorporated for stretching, yoga, or other work-out routines. A television with a VCR/DVD will be included to watch workout/training videos. A stereo with built in speakers will play music.

General Issues

Size	400 sq. ft
Quantity	1
Users	Residents
Utilized	24 hrs
Usage	Physical Activity

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	Yes
Flexible Configuration	Yes
Temperature Control	Yes

Access

Direct	No
By Corridor/Hall	Yes
Public	No
Private	Yes

Equipment Needed

Strength Machines
Aerobic Machines
TV and A/V hookups
Drinking Fountain

Adjacency Requirements

Patio
Bathroom





ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

Laundry

Description

Since the residential homes will be smaller in size, some will opt not to have laundry within their home. This will be another way for the residents to get together and socialize. It will have three sets of high efficiency washer and dryers, along with other laundry equipment: ironing board, etc.

General Issues

Size	200 sq. ft.
Quantity	1
Users	Residents
Utilized	Daytime
Usage	Laundry

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Accoustic Control	No
Flexible Configuration	No
Temperature Control	Yes

Access

Direct	No
By Corridor/Hall	Yes
Public	No
Private	Yes

Equipment Needed

Washers
Dryers

Adjacency Requirements

Outdoors for air drying

ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

common house

Patio

Description

An outdoor space that can be used for dining, exercising, reading, and socializing. Part of the patio should allow for shade from the building or overhead tree canopy. Another part should be left open for the sun to shine on the users.

General Issues

Size	150 sq. ft.
Quantity	2
Users	Residents
Utilized	24 hrs
Usage	General

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Accoustic Control	No
Flexible Configuration	Yes
Temperature Control	No

Access

Direct	Yes
By Corridor/Hall	No
Public	Yes
Private	Yes

Equipment Needed

Adjacency Requirements

Library
Exercise Room
Dining Room



PROGRAMMATIC REQUIREMENTS



ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

Bathroom

Description

The bathroom is a place for personal needs and maintenance.

General Issues

Size	90 sq. ft.
Quantity	3
Users	Residents and Visitors
Utilized	24 hrs
Usage	

Quality Issues

Natural Light	No
Glare Control	No
Natural Ventilation	No
Acoustic Control	No
Flexible Configuration	No
Temperature Control	Yes

Access

Direct	Yes (1)
By Corridor/Hall	Yes
Public	Yes
Private	Yes

Equipment Needed

Changing Table in a single toilet room

Adjacency Requirements

Kitchen
Dining Room
Library
Exercise Room
TV Room

ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

common house Workshop

Description

The workshop will be used for making crafts and hobby-making. It will have power tools and workbenches. It will also have another workbench to be used for messy crafts and storage bins for residents to keep their materials in without having to transport from home to common house.

General Issues

Size	250 sq. ft.
Quantity	1
Users	Residents
Utilized	Daytime
Usage	Crafts, hobbies, repairing parts

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	No
Temperature Control	Yes

Access

Direct	Yes
By Corridor/Hall	Yes
Public	No
Private	Yes

Equipment Needed

Power tools

Adjacency Requirements



PROGRAMMATIC REQUIREMENTS



ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

Kitchen & Dining
Storage

Description

Storage for seasonal items, or kitchen and dining items that are not used daily. It can also store unused tables and chairs if the dining room were to be cleared for a different function.

General Issues

Size	100 sq. ft.
Quantity	1
Users	Residents
Utilized	Infrequently
Usage	Storage

Quality Issues

Natural Light	No
Glare Control	No
Natural Ventilation	No
Accoustic Control	No
Flexible Configuration	No
Temperature Control	No

Access

Direct	No
By Corridor/Hall	No
Public	No
Private	Yes

Equipment Needed

Adjacency Requirements

Kitchen
Dining Room

ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

common house *Sauna*

Description

The sauna is a place for relaxation and reflective thinking. It will be used year-round by the residents, both privately and with neighbors.

General Issues

Size	64 sq. ft.
Quantity	1
Users	Residents
Utilized	Year-round
Usage	Relaxation

Quality Issues

Natural Light	No
Glare Control	No
Natural Ventilation	No
Acoustic Control	No
Flexible Configuration	No
Temperature Control	Yes

Access

Direct	Yes
By Corridor/Hall	No
Public	No
Private	Yes

Equipment Needed

Sauna equipment

Adjacency Requirements

Common House
Outdoors





ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

common house

Equipment Storage

Description

Storage for maintenance equipment, such as a four wheeler, lawn mowers and other lawn equipment, and tools such as shovels, hoes, etc.

General Issues

Size	300 sq. ft.
Quantity	1
Users	Residents
Utilized	Weekly
Usage	Storage

Quality Issues

Natural Light	No
Glare Control	No
Natural Ventilation	No
Acoustic Control	No
Flexible Configuration	Yes
Temperature Control	No

Access

Direct	Yes
By Corridor/Hall	No
Public	No
Private	Yes

Equipment Needed

Adjacency Requirements

Outdoor access only

ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

Front Porch

Description

The front porch is used to greet visitors and neighbors. It will be personally expressed by the residents with use of patio furniture, flower boxes, and other expressive materials

General Issues

Size	50 sq. ft.
Quantity	1
Users	Owners and Visitors
Utilized	Daily
Usage	Socializing

Quality Issues

Natural Light	Yes
Glare Control	Yes
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	No
Temperature Control	No

Access

Direct	Yes
By Corridor/Hall	--
Public	Yes
Private	No

Equipment Needed

Adjacency Requirements





ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

Entry/Foyer

Description

The entry of the home.

General Issues

Size	30 sq. ft.
Quantity	1
Users	Residents and Visitors
Utilized	Daily
Usage	Entering home

Access

Direct	Yes
By Corridor/Hall	Yes
Public	Yes
Private	Yes

Adjacency Requirements

Front Porch

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	No
Accoustic Control	No
Flexible Configuration	No
Temperature Control	Yes

Equipment Needed

ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

private homes

Living Room

Description

A room that can be used for the resident's pleasure of visiting with their spouse or roommate, or for entertaining guests. It will have comfortable furniture, a TV, and whatever else the homeowner desires.

General Issues

Size	150 sq. ft.
Quantity	1
Users	Residents
Utilized	Daily
Usage	Entertainment

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	Yes
Temperature Control	Yes

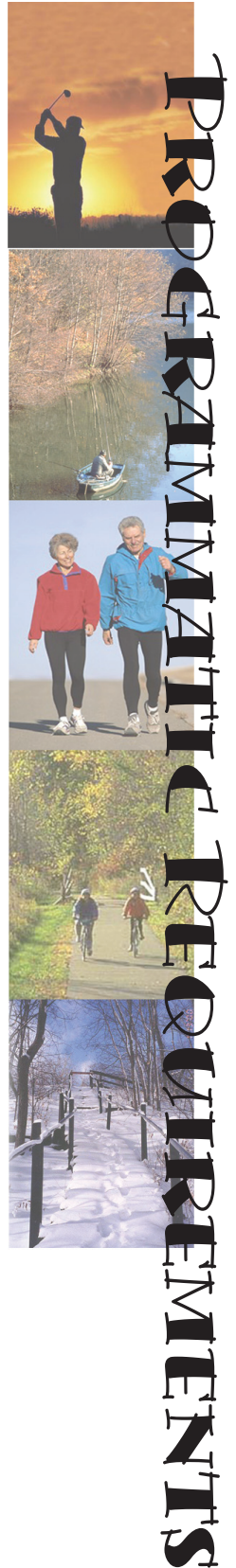
Access

Direct	No
By Corridor/Hall	Yes
Public	Yes
Private	Yes

Equipment Needed

Adjacency Requirements

Bathroom





ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

private homes

Kitchen

Description

The kitchen will be used for preparing private meals with the spouse or roommate. It will also be used if entertaining dinner guests are desired. It is slightly smaller than average kitchens because large family cooking is no longer needed, and great meals will be served at the common house.

General Issues

Size	90 sq. ft.
Quantity	1
Users	Residents
Utilized	Daily
Usage	Preparing and cooking meals

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	No
Temperature Control	Yes

Access

Direct	No
By Corridor/Hall	Yes
Public	No
Private	Yes

Equipment Needed

Kitchen Appliances

Adjacency Requirements

Dining Room
Bathroom
Garage

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Dining Room

Description

The dining room will be a semi-formal room used for eating meals.

General Issues

Size	95 sq. ft.
Quantity	1
Users	Residents and Visitors
Utilized	Daily
Usage	Dining

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	No
Temperature Control	Yes

Access

Direct	No
By Corridor/Hall	Yes
Public	No
Private	Yes

Equipment Needed

Adjacency Requirements

Kitchen
Bathroom



PROGRAMMATIC REQUIREMENTS



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Den/Office

Description

A den/office will may be incorporated in some homes for use in paying daily bills, letter writing and other needs. It can also be used for residents who chose to work part-time from home. It may also be converted into an extra bedroom.

General Issues

Size	90 sq. ft.
Quantity	1
Users	Residents
Utilized	Daily/Weekly
Usage	Personal needs

Quality Issues

Natural Light	Yes
Glare Control	Yes
Natural Ventilation	Yes
Accoustic Control	No
Flexible Configuration	Yes
Temperature Control	Yes

Access

Direct	No
By Corridor/Hall	Yes
Public	No
Private	Yes

Equipment Needed

Adjacency Requirements

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private homes *Extra Bedroom*

Description

An extra bedroom may also be incorporated in the private home. Sometimes as couples age, their bodies do not tolerate sleeping with another individual, and this would allow another bed for one to sleep comfortably in. It could also be used for visiting overnight guests.

General Issues

Size	100 sq. ft.
Quantity	1
Users	Residents and Visitors
Utilized	Daily/Weekly
Usage	Sleeping/Resting

Quality Issues

Natural Light	Yes
Glare Control	Yes
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	Yes
Temperature Control	Yes

Access

Direct	No
By Corridor/Hall	Yes
Public	No
Private	Yes

Equipment Needed

Adjacency Requirements

Bathroom
Master Bedroom



PROGRAMMATIC REQUIREMENTS



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Bathroom

Description

A full bathroom will be made and located adjacent to the main rooms of the house.

General Issues

Size	50 sq. ft.
Quantity	1
Users	Residents and Visitors
Utilized	Daily
Usage	Personal needs

Access

Direct	No
By Corridor/Hall	Yes
Public	No
Private	Yes

Adjacency Requirements

Living Room
Kitchen
Dining Room
Extra Bedroom

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Accoustic Control	No
Flexible Configuration	No
Temperature Control	Yes

Equipment Needed

ALL PUBLIC SEMI-PUBLIC SEMI-PRIVATE ALL PRIVATE private homes Master Bedroom

Description

This bedroom will belong to the homeowners of the residence. It will have a master bathroom and walk-in closet.

General Issues

Size	140 sq. ft.
Quantity	1
Users	Residents
Utilized	Daily
Usage	Sleeping/Resting

Quality Issues

Natural Light	Yes
Glare Control	Yes
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	Yes
Temperature Control	Yes

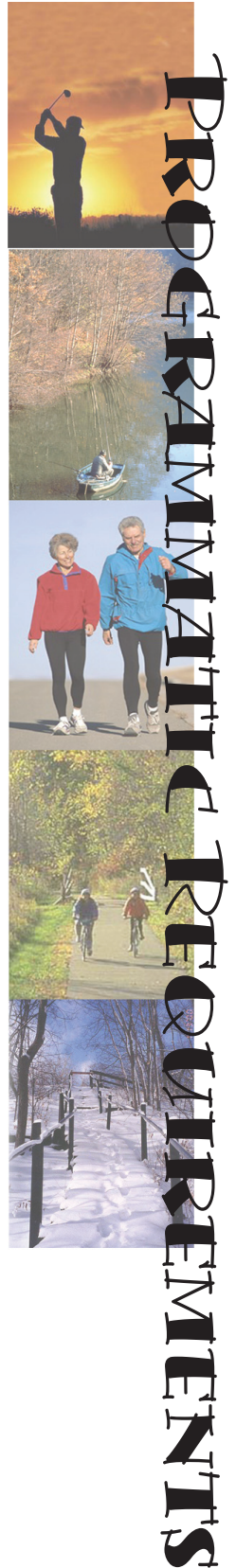
Access

Direct	No
By Corridor/Hall	Yes
Public	No
Private	Yes

Equipment Needed

Adjacency Requirements

Master Bathroom
Walk-In Closet





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private homes

Master Bathroom

Description

A full bath, complete with a jacuzzi tub will be used for relaxation.

General Issues

Size	80 sq. ft.
Quantity	1
Users	Residents
Utilized	Daily
Usage	Personal needs

Quality Issues

Natural Light	Yes
Glare Control	Yes
Natural Ventilation	Yes
Accoustic Control	No
Flexible Configuration	No
Temperature Control	Yes

Access

Direct	No
By Corridor/Hall	Yes
Public	No
Private	Yes

Equipment Needed

Adjacency Requirements

Master Bedroom
Walk-In Closet

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ALL PRIVATE

Walk-In Closet

Description

This room will store clothes and other miscellaneous items.

General Issues

Size	35 sq. ft.
Quantity	1
Users	Residents
Utilized	Daily
Usage	Storage

Quality Issues

Natural Light	No
Glare Control	No
Natural Ventilation	No
Acoustic Control	No
Flexible Configuration	No
Temperature Control	No

Access

Direct	No
By Corridor/Hall	No
Public	No
Private	Yes

Equipment Needed

Adjacency Requirements

Master Bedroom
Master Bathroom



PROGRAMMATIC REQUIREMENTS



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private homes

Back Porch

Description

The pack porch is a more private space that the homeowners can use to visit amongst themselves. They can also use it for entertaining guests by a verbal invitation.

General Issues

Size	60 sq. ft.
Quantity	1
Users	Residents
Utilized	Daily/Weekly
Usage	Visiting

Access

Direct	Yes
By Corridor/Hall	No
Public	No
Private	Yes

Adjacency Requirements

Back Yard

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Accoustic Control	No
Flexible Configuration	Yes
Temperature Control	No

Equipment Needed

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private homes

Garage

Description

The garage will be used for storing the vehicles. It will be attached to the house.

General Issues

Size	253 sq. ft.
Quantity	1
Users	Residents
Utilized	Daily/Weekly
Usage	Protection of Vehicles

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	No
Temperature Control	No

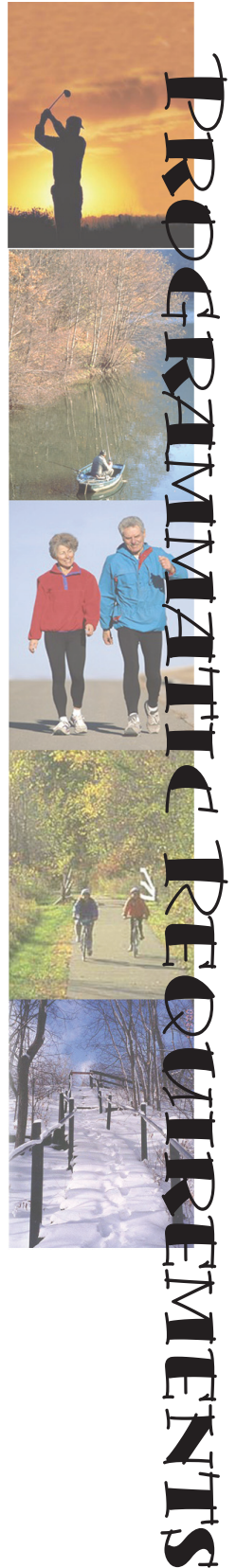
Access

Direct	Yes
By Corridor/Hall	No
Public	No
Private	Yes

Equipment Needed

Adjacency Requirements

Kitchen



PROGRAMMATIC REQUIREMENTS



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guest house

Entry

Description

Entering the guest house from the outside.

General Issues

Size	35 sq. ft.
Quantity	1
Users	Visitors
Utilized	Weekly/Monthly
Usage	Entry

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Accoustic Control	No
Flexible Configuration	No
Temperature Control	Yes

Access

Direct	Yes
By Corridor/Hall	No
Public	Yes
Private	No

Equipment Needed

Adjacency Requirements

ALL PUBLIC
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ALL PRIVATE

Kitchenette

Description

The kitchenette will have basic kitchen appliances and serve other kitchen functions, such as including the kitchen table in the same room.

General Issues

Size	100 sq. ft.
Quantity	1
Users	Visitors
Utilized	Weekly/Monthly
Usage	Making and eating meals

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	No
Temperature Control	Yes

Access

Direct	No
By Corridor/Hall	No
Public	No
Private	Yes

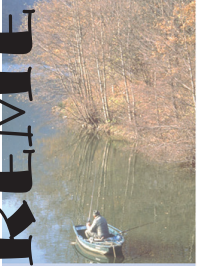
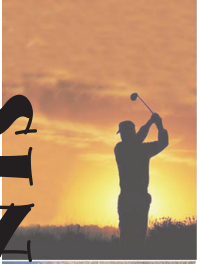
Equipment Needed

Kitchen Appliances

Adjacency Requirements

Living Room





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ALL PRIVATE

Living Room

Description

The living room is used for entering the users of the guest home.

General Issues

Size	120 sq. ft.
Quantity	1
Users	Visitors
Utilized	Weekly/Daily
Usage	Entertainment

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	Yes
Temperature Control	Yes

Access

Direct	No
By Corridor/Hall	Yes
Public	No
Private	Yes

Equipment Needed

Adjacency Requirements

Kitchenette
Bathroom

ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

request house

Bathroom

Description

A full bathroom will be made and located adjacent to the main rooms of the house.

General Issues

Size	50 sq. ft.
Quantity	1
Users	Visitors
Utilized	Weekly/Monthly
Usage	Personal needs

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	No
Temperature Control	Yes

Access

Direct	No
By Corridor/Hall	Yes
Public	No
Private	Yes

Equipment Needed

Adjacency Requirements

Kitchenette
Living Room
Bedrooms





ALL PUBLIC
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SEMI-PRIVATE
ALL PRIVATE

request house Bedroom

Description

General Issues

Size	110 sq. ft.
Quantity	2
Users	Visitors
Utilized	Weekly/Monthly
Usage	Sleeping/Resting

Quality Issues

Natural Light	Yes
Glare Control	Yes
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	Yes
Temperature Control	Yes

Access

Direct	No
By Corridor/Hall	Yes
Public	No
Private	Yes

Equipment Needed

Adjacency Requirements

Bathroom

ALL PUBLIC
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SEMI-PRIVATE
ALL PRIVATE

site elements

Parking

Description

Some public parking will be available for special events that can occur at the common house. The parking will be near the common house

General Issues

Size	3500 sq. ft.
Quantity	10-12 stalls
Users	Visitors
Utilized	Weekly/Monthly
Usage	Exterior/Temporary parking

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	No
Temperature Control	No

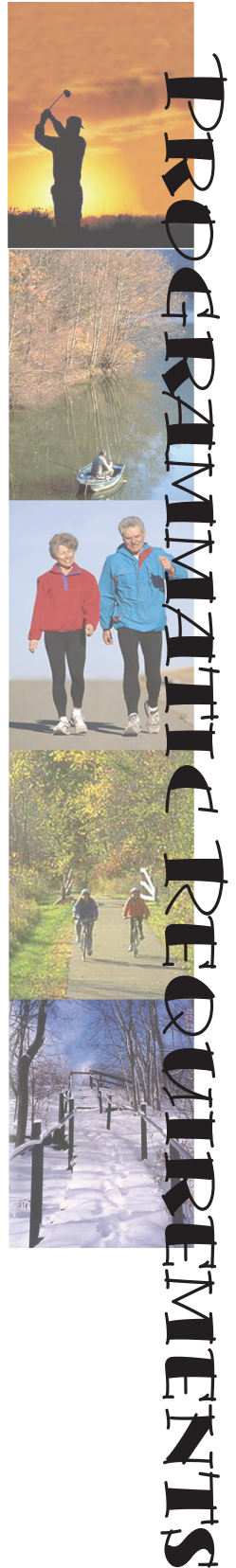
Access

Direct	Yes
By Corridor/Hall	No
Public	Yes
Private	Yes

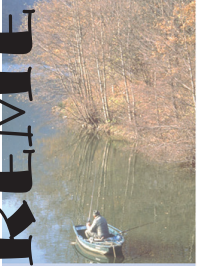
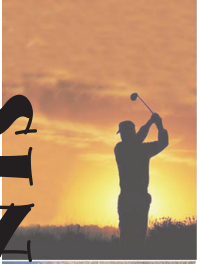
Equipment Needed

Adjacency Requirements

Common House



PROGRAMMATIC REQUIREMENTS



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ALL PRIVATE

Streets & Driveways

Description

The streets will be used for vehicular circulation around the community. It will also be wide enough for on-street parking so visitors can park in front of their hosts' home. Driveways will stem off of the streets and end at the garage of the private home.

General Issues

Size	--
Quantity	1 through road
Users	Residents/Visitors
Utilized	Daily
Usage	Vehicular trans- portaion

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Accoustic Control	No
Flexible Configuration	No
Temperature Control	No

Access

Direct	Yes
By Corridor/Hall	No
Public	Yes
Private	Yes

Equipment Needed

Adjacency Requirements

ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

site elements

Sidewalks

Description

There will be sidewalks for pedestrian traffic along the streets. There will also be other pedestrian paths winding through the green spaces. The objective of the sidewalks will be to connect the homes to each other, and to the common house.

General Issues

Size	--
Quantity	--
Users	Residents/Visitors
Utilized	24 hrs
Usage	Pedestrian Traffic

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	No
Temperature Control	No

Access

Direct	Yes
By Corridor/Hall	No
Public	Yes
Private	Yes

Equipment Needed

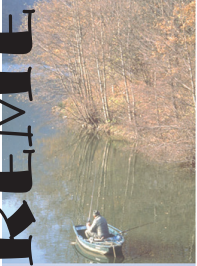
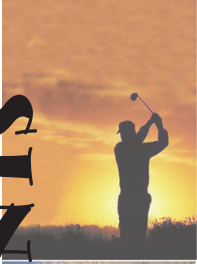
Low street lights

Adjacency Requirements

Private Homes
Common House



PROGRAMMATIC REQUIREMENTS



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ALL PRIVATE

Green Spaces

Description

The green spaces will be used as open parks for outdoor enjoyment, relaxation, and socialization. These spaces will be set aside, and not included in the homeowners parcel of land. They will include areas for gathering on benches. One large space will be adjacent to the common house.

General Issues

Size	80-300 sq. ft.
Quantity	3
Users	Residents/Visitors
Utilized	24 hrs
Usage	Outdoor enjoyment

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	Yes
Temperature Control	No

Access

Direct	Yes
By Corridor/Hall	No
Public	Yes
Private	No

Equipment Needed

Adjacency Requirements

Common House (1)

ALL PUBLIC
SEMI-PUBLIC
SEMI-PRIVATE
ALL PRIVATE

site elements

Pier/Docks

Description

The pier is a place for residents to walk out onto and enjoy the views and activating on Comfort Lake. It will be used year round. Docks will be provided for the residents boats for use in the spring thru fall. There will be a park on the landside of the pier.

General Issues

Size	120 sq. ft.
Quantity	1
Users	Residents
Utilized	Daily
Usage	Relaxation/Fishing/Boating

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	No
Temperature Control	No

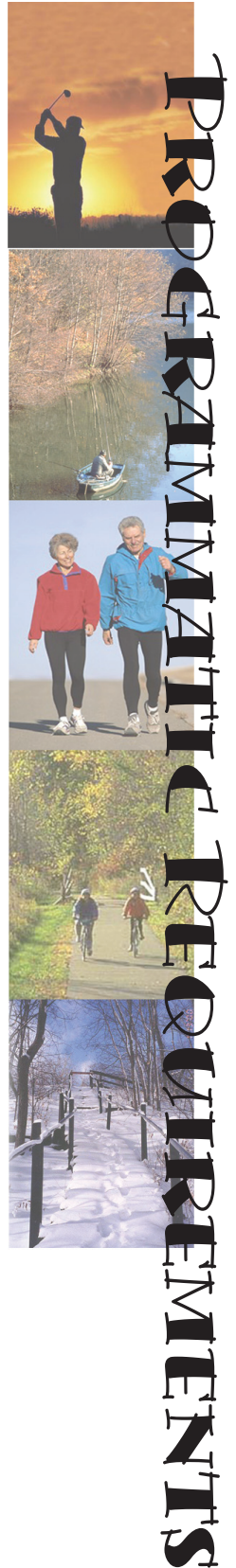
Access

Direct	Yes
By Corridor/Hall	No
Public	Some
Private	Yes

Equipment Needed

Adjacency Requirements

Green Space
Gazebo





ALL PUBLIC
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SEMI-PRIVATE
ALL PRIVATE

site elements *Garden*

Description

A designated place for the residents to plant, grow, and maintain fruits and vegetables of their choice. The produce can be used for private use, or as part of the common house meals.

General Issues

Size	96 sq. ft.
Quantity	1
Users	Residents
Utilized	Seasonally/Day-time use
Usage	Growing produce

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	No
Temperature Control	No

Access

Direct	No
By Corridor/Hall	No
Public	No
Private	Yes

Equipment Needed

Adjacency Requirements

Gazebo
Green Space
Garden Shed

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SEMI-PRIVATE
ALL PRIVATE

site elements

Garden Shed

Description

The garden shed will be used to store support equipment and tools for the garden. There will be no electricity to the shed, therefore daytime light must be used.

General Issues

Size	35-40 sq. ft.
Quantity	1
Users	Residents
Utilized	Padlock/Daily
Usage	Garden storage

Quality Issues

Natural Light	Yes
Glare Control	No
Natural Ventilation	Yes
Acoustic Control	No
Flexible Configuration	Yes
Temperature Control	No

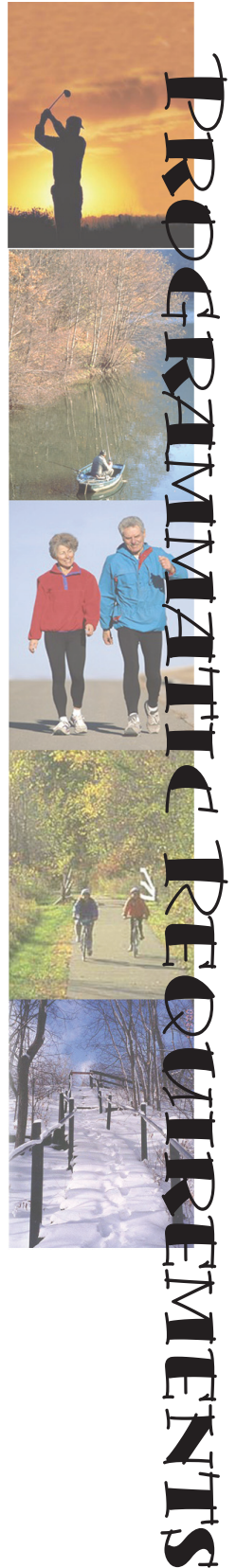
Access

Direct	No
By Corridor/Hall	No
Public	No
Private	Yes

Equipment Needed

Adjacency Requirements

Garden





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SEMI-PRIVATE
ALL PRIVATE

site elements Gazebo

Description

The gazebo is a place to socialize or rest in an outdoor setting, but with our the sun.

General Issues

Size	35-40 sq. ft.
Quantity	1
Users	Residents
Utilized	Daily
Usage	Rest

Quality Issues

Natural Light	Some
Glare Control	Yes
Natural Ventilation	Yes
Accoustic Control	No
Flexible Configuration	Yes
Temperature Control	No

Access

Direct	No
By Corridor/Hall	No
Public	No
Private	Yes

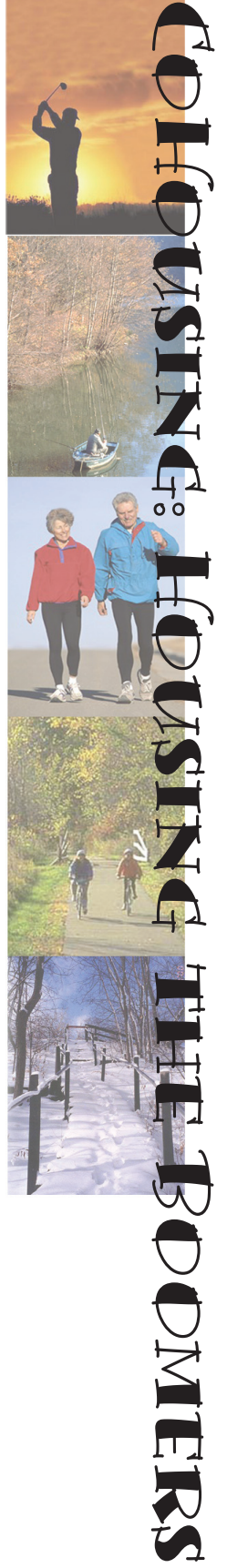
Equipment Needed

Adjacency Requirements

Green Space



*Summary
of
Programmatic
Requirements*



GO HOUSING: HOUSING THE BOOMERS

summary of spaces

Common House: Qty: 1

Entry	1	150 sq. ft.
Kitchen	1	200
Dining Room	1	750
Library	1	300
Computer Room	1	200
TV Room	1	250
Excercise Room	1	400
Laundry	1	200
Patio	2	150
Bathroom	3	90
Workshop	1	250
Kitchen &	1	
Dining Storage		100
Storage Closets	8-12	20
Equipment	1	300
Storage		
Circulation	--	714
@ 20%		

Grand Total: 4,284 sq. ft

Private Homes Qty: 10-12

Front Porch	1	30 sq. ft
Entry/Foyer	1	50
Living Room	1	150
Kitchen	1	90
Dining Room	1	95
Den/Office	1	90
Extra Bedroom	1	100
Bathroom	1	60
Master Bedroom	1	140
Master Bathroom	1	80
Walk-In Closet	1	35
Back Porch	1	60
Garage	1	253
Circulation	--	120
@ 10%		

Grand Total: 1,353 sq. ft

Guest House Qty: 1

Entry/Foyer	1	35 sq. ft
Living Room	1	120
Kitchenette	1	100
Bathroom	1	50
Bedroom	2	110
Circulation	--	50
@ 10%		

Grand Total: 575 sq. ft



common house

Spatial Relationship Matrix

Equipment Storage	Storage Closets	Kitchen & Dining Storage	Workshop	Bathroom	Patio	Laundry	Exercise Room	TV Room	Computer Room	Library	Dining	Kitchen	Entry	
														Entry
														Kitchen
														Dining
														Library
														Computer Room
														TV Room
														Exercise Room
														Laundry
														Patio
														Bathroom
														Workshop
														Kitchen & Dining Storage
														Storage Closets
														Equipment Storage

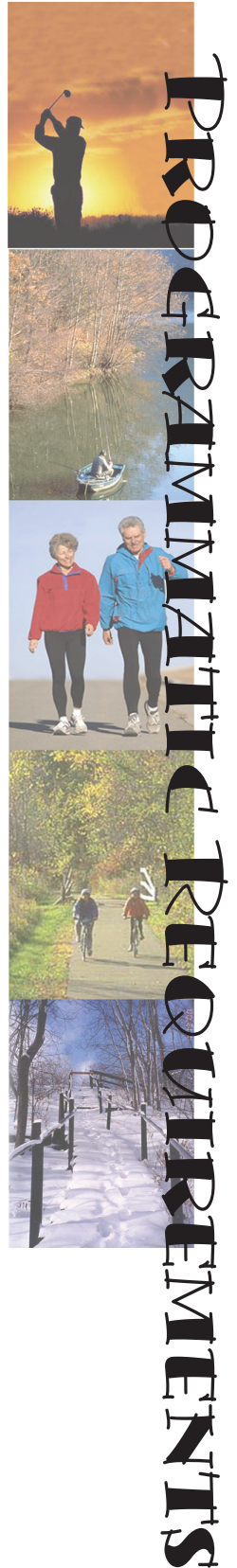
- close adjacency
- intermediate adjacency
- no adjacency

private homes

Spatial Relationship Matrix

Garage	Back Porch	Walk-In Closet	Master Bathroom	Master Bedroom	Bathroom	Extra Bedroom	Den/Office (optional)	Dining Room	Kitchen	Living Room	Entry/Foyer	Front Porch	
													Front Porch
													Entry/Foyer
													Living Room
													Kitchen
													Dining Room
													Den/Office (optional)
													Extra Bedroom
													Bathroom
													Master Bedroom
													Master Bathroom
													Walk-In Closet
													Back Porch
													Garage

- close adjacency
- intermediate adjacency
- no adjacency

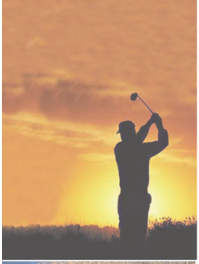


PROGRAMMATIC REQUIREMENTS

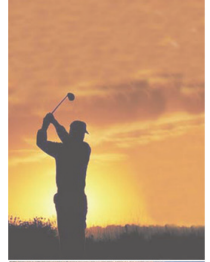


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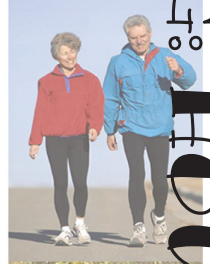
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Appendix A:
Statement of Intent
Written: September 2004



COHOUSING: HOUSING THE BOOMERS

S T A T E M E N T O F I N T E N T

A New Retirement Living Community
Wyoming Township, Minnesota
Valerie Bengtson
September 2004

Today's retirees differ from past retirees. The baby boomers are reaching, or are about to reach their retirement years. This group has a more active, energetic, and social life than generations before them. Understanding this group of "new retirees" will be necessary for the design of a dynamic environment for them to live and play in. The underlying premise of this design is that retired citizens should remain as active in their lifestyle as they were before retirement. This premise will generate design solutions that exhibit this sense of action and activity.

I will create a design for members of this particular demographic, but more specifically, the group of retirees who do not wish to leave the four seasons of weather by moving to a Southern climate. The environment will be located on a lake front, in a smaller community. The development will include modest homes that will differ in their massing—but will in detail relate to one another. This retirement campus will also include:

- a common house with a kitchen and dining room for meals and for social events or meetings, workout spaces to assist them in maintaining good health, and other facilities designed with the boomers in mind.
- a shared lake access pier and boat dock for residents.
- a park that is nestled in along the homes, the common house, and the pier.
- a guest house for visiting family members.

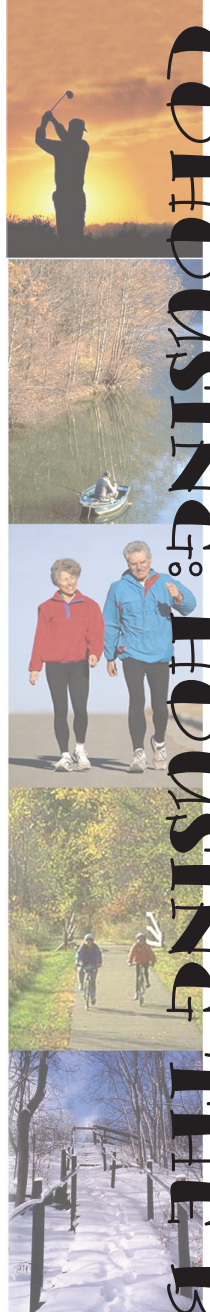
The homes and the common house will all have views to the lake. The clients involved in creating the community are local private developers.

The concept of "cohousing communities" will be researched as a valuable way of dealing with the social, and neighborhood feel that is desired for this development. Overall, it would appear reasonable that about 10-15 units will be incorporated into this neighborhood.

The location is in east central Minnesota, just north of the Metropolitan area. The municipality is Wyoming Township, which is nestled between Chisago City, Wyoming, and Forest Lake. The site is on Comfort Lake which is a very attractive lake. The specific site is located at a point on Comfort Lake, and the land itself is very wooded, has a number of topographical issues to deal with, along with a lot of other attributes that will affect the use of this community. The attractions nearby are Lindstrom, Center City, Shafer, and Taylor's Falls. These cities are known for their Swedish heritage with shops and cafes that cater to that heritage. The area is favored by those who enjoy all season recreation, who participates in golf, boating, fishing, bicycling in the warmer months, and snowmobiling and ice fishing, to name a few in the winter months. The area surrounding can support these activities with three golf courses within 15 miles, 5 or more lakes, and a bike/snowmobile trail that heads north all the way to Duluth. As mentioned this site is located just north of the Twin Cities which is convenient for mall-shopping, sporting events, concerts, etc. can all be accessed within an hours drive. The Wyoming Township area provides a small town atmosphere that many want to achieve after living in a large city, with all the conveniences that the user is use to within a short drive.



Appendix B:
Thesis Proposal
Written: October 2004



COHOUSING: HOUSING THE BOOMERS

T H E S I S P R O P O S A L

Valerie Bengtson
A New Retirement Community
Wyoming Township, Minnesota

North Dakota State University
Department of Architecture & Landscape Architecture
October 2004

User/Client Definition

The user of the project is people aged 55+ and that are in their retirement years. They are also people who are active in life, enjoy outdoor activities, participate in social events that are held locally, and have hobbies that they are willing to share with others. They will require an environment of living that adapts to this criterion.

The client is a private developer whose interest is to develop this community so that the surround community (Wyoming Township) would be happy and proud to share their neighborhood with this type of a development. It is also in the developer's best interest to create unique homes that are affordable in order to keep vacancy rates low with the purpose of paying the developer and investor back quickly and to reach the profit margin.

A permanent staff of approximately six will be needed: one landlord/owner, one fulltime, and one part-time custodian for the community center and grounds keeping, one owner of the café/coffee shop (he/she will hire staff for the business), and one fulltime, (possibly one part-time/seasonal) maintenance workers for home, equipment, site repairs and other needed upkeep.

Major Project Elements

The main objective of the development is for the users to live in a cohousing community.

- **Homes:**

The site will incorporate ten to twelve single family, single level homes. This would allow for a potential of 20 to 30 people living with development. More specifically the homes will be designed with the idea of older, retired married couple, a single individual, or even single individuals that will room with another individual. The individual living units will range from approximately 1200 to 1600 square feet,

depending on the options of one or two bedrooms, lofts, etc. Attached garages can be assumed at this time.

- **Common House**

The common house will be a big supporter of the cohousing community concept. It will provide a space for community dinners, bingo nights, space for family reunions of the residents, a workout space, library, computer room, laundry facilities, a TV room, workshop and more. The building will also hold meetings for the association that they belong to by living in the community. They will all have a say in what happens within their neighborhood of their peers. A parking lot will be built outside of the common house for overflow parking if a resident has an event that includes guests from outside the community. Single day visitors can park on the street in front of the home of the person(s) they are visiting.

- **Outdoor Areas**

An outdoor common area/park will be developed for outdoor gatherings, activities, or just individual relaxation. This park will be adjacent to the community pier where the residents will dock their boats.

- **Guest House**

The guest house will be used for visiting family and friends to stay overnight. It would be rented out for a small fee.

- **Storage**

A storage facility for seasonal equipment will be designed and incorporated into the design of the overall development.

Site Information

This site was chosen due to the neighborhood feel it provides for the surrounding residents. It is in close proximity to Minneapolis/St. Paul and adjoining cities, but is secluded from the "city" life. It is also located on Comfort Lake which helps fulfill a lot of homeowners dreams—to have a lake home.

The economic base of the area of Wyoming Township that this community will be developed in is middle to upper class area of mainly commuting workers from the Twin Cities. They too chose to live in the area because of its small town feel within the proximity of the cities. Wyoming Township itself is mainly residential, with the majority of the

businesses owned by people within the overall community. It is still considered a rural area, but is moving near a suburb of the Twin Cities (the city of Forest Lake is three miles to the south, and is in the metro area).

The demographics will be researched through the internet at the Census Bureau.

Surrounding the site is a fairly new development, named Bridgewater, which is an upper-class development of doctors, lawyers, business owners, etc. Most of them work in the Twin Cities and commute. The site has never been developed on and is owned by a private citizen that lives on one corner of the property. It is untouched, with a tremendous amount of vegetation. There is a large tree canopy that shades most of the site that will leave an opportunity to have fully matured trees on the completed site.

The site sits between two dead end roads, which leaves the opportunity to either connect the roads together, or chose only one road to connect to the development. Comfort Lake is in the middle of two vital roads for the surrounding communities. Highway 8 is located on the eastern side of Comfort, and County Road 22 is on the western side. Access to Bridgewater (the adjoining development to the site) is through County Road 22. The retirement community would also use that road for access for two reasons; one, County Road 22 has access to more roads, such as Highway 61 (quickly accessing north and south Interstate 35), the bike/snowmobile trail, etc. Second, Highway 8 was, and still is, considered one of the more deadly highways in Minnesota. Creating another access road off of that would only increase the chances of accidents. Highway 8 only has access to southbound I-35, however using it to travel east to Wisconsin is very scenic.

Since the site is on a lake, there is a gradual increasing slope coming off from the lakeshore. This gives the prospect of putting the home's foundations in this spot to allow for great views overlooking the lake. There is also a small swampy/wetland spot on the site that will be left alone.

The soils in the area are mainly made up of sand and clay over a rock bed. Chisago County soils survey classifies all soils on this site as Nebish Loam (40B). At the moment, it is also being worked on finding soil borings of neighboring lots.

Views of the site give the feel of seclusion. You can not see any homes on the land, except for across the lake. There are no existing structures located on the site, and a very peaceful acoustic environment with no highway, factory, or industrial noises.

More information will be researched on prevailing winds and solar orientation that occurs throughout the year.

Project Emphasis

The main focus of this development is to use the concept of cohousing as a form of living with peers in a neighborhood. According to the Cohousing Association of the United States, "Cohousing is the name of a type of collaborative housing that attempts to overcome the alienation of modern subdivisions in which no-one knows their neighbors, and there is no sense of community. It is characterized by private dwellings with their own kitchen, living-dining room etc, but also extensive common facilities." As mentioned, the common facilities will be the community center and shared outdoor spaces.

The idea of creating another type of retirement community is the underlining premise of my design: to generate design solutions that exhibit a sense of action and social activity that the new generation of retirees display. This is where the concept of cohousing comes in, to help the citizens achieve their active social life with people that with the same thing in mind.

Plan for Proceeding

First, understanding the local zoning and lakeshore ordinances of Wyoming Township is needed. The Wyoming Township zoning ordinances book has already been obtained.

Research is needed about cohousing communities, which would be achieved through case studies. Other case studies will include other retirement communities to find out what is working for them, and what is not.

A vital piece of research that needs to be obtained before a design solution is made is the style in which the homes and community center will be designed within. The style cannot stretch too far from what is there, but should be respectful to the neighboring Bridgewater development. An overall friendly, warm, and pleasant style would work out best for a residential construction.

Documentation of Design Process

Research findings will be recorded into a folder that is organized by topics. Conceptual sketches that occur during research will also be added. A sketchbook will be created to use specifically for this project.

The ideas and knowledge that will be obtained through investigation of design solutions will be exhibited through AutoCAD drawings, sketches, and hand renderings.

Schedule of Work Plan

Week #1 (Oct. 3 - 9)

Oct 7: *Thesis Proposal Due*

Oct 7: *Cover Page Due*

Oct 7: Student critic preference slips & faculty preference slips available

Research/start Case Studies

Week #2 (Oct 10 – 16)

Oct 14: *Turn in preference slips to main office*

Research/Create Case Studies

Week #3 (Oct 17 – 23)

Oct 21: Primary and Secondary critics announced

Research/Finalize Case Studies

Week #4 (Oct 24 – 30)

Oct 28: Last day of ARCH 561-Programming

Research

Sub-Divide site to determine lots for buildings

Week #5 (Oct 31 – Nov 6)

Start Thesis Program Document – Define the Program

Week #6 (Nov 7 – 13)

Nov 11: Veteran's Day Holiday

Research – Residential Architecture (styles)

Work on Thesis Program Document

Week #7 (Nov 14 – 20)

Nov 15: Last Day of ARCH 571-Advanced Architectural Design I

Work on Thesis Program Document

Week #8 (Nov 21 – 27)

Nov 24: *Draft Thesis Document due to Primary Critic*

Nov 25-27: Thanksgiving Holiday

Visit Site: Further Site Analysis and documentation

Week #9 (Nov 28 – Dec 4)

Finalize Draft of Thesis Program Document

Week #10 (Dec 5 – 11)

Dec 9: *Final Thesis Program due to Primary Critic*

Dec 10: Last Day of classes

Meet with primary critic on areas that need definition

Week #11 (Dec 12 – 18)

Final Examination

Week #12 (Dec 19 – 25)

Holiday Break begins

Dec 24 – 25: Christmas Holiday

Continued Research – Residential Architecture (styles)

Introduce site plan into AutoCAD drawings

Week #13 (Dec 26 – Jan 1)

Holiday Break

Jan 1: New Year's Day

Begin conceptual site layout and building styles

Week #14 (Jan 2 – 8)

Holiday Break

Conceptual site layout and building styles

Week #15 (Jan 9 – 15)

Jan 11: Classes begin – Spring Semester

Meet with primary critic about conceptual work; find areas of improvement, and work on that

Week #16 (Jan 16 – 22)

Jan 17: Martin Luther King, Jr. Holiday

Design Development

Week #17 (Jan 23 – 29)

Design Development

Week #18 (Jan 30 – Feb 5)

Design Development

Week #19 (Feb 6 – 12)

Design Development

Week #20 (Feb 13 – 19)

Meet with primary and secondary critic to approve progression

Week #21 (Feb 20 – 26)

Feb 21: Presidents Day Holiday

Create designs in AutoCAD

Week #22 (Feb 27 – Mar 5)

Create designs in AutoCAD

Prepare for Mid-Semester Review

Week #23 (Mar 6 – 12)

Mid-Semester Thesis Reviews

Work on feedback from Review

Week #24 (Mar 13 – 19)

Spring Break

Week #25 (Mar 20 – 26)

March 25: Easter Holiday

Create board layouts and design

Presentation drawings

Week #26 (Mar 27 – Apr 2)

Mar 28: Easter Holiday

Presentation drawings

Week #27 (Apr 3 – 9)

Presentation drawings

Week #28 (Apr 10 – 16)

Presentation drawings

Week #29 (Apr 17 – 23)

Presentation drawings

Plotting

Week #30 (Apr 24 – 30)

Apr 25: *Thesis projects due at Memorial Union Ballroom; 4:30pm*

Apr 26 – 27: *Presentation of Thesis projects; Memorial Union Ballroom*

Apr 28 – May 5: *Final Thesis Reviews*

Apr 29: *Draft of Thesis Document due to primary critics*

Week #31 (May 1 – 7)

May 6: *Last day of classes*

Finalize Final Thesis Document

Week #32 (May 8 – 14)

Final Examinations

May 12: *Final Thesis Document due; Arch/LA Office 4:30pm*

May 13: *Graduation Ceremony; 4:00pm Fargodome*

Experience

Second Year: 2001 – 2002**Fall Semester**

ARCH 271: D'Anjou

- Study of space within a space
- A Mountain Retreat

Spring Semester

ARCH 272: Yergens

- Creating Handicap Accessibility to existing structure
- Church Design

Third Year: 2002 – 2003**Fall Semester**

ARCH 371: Martens

- New Museum: Abercrombie, ND
- Airport Design: Forest Lake, MN

Spring Semester

ARCH 372: Elnahas

- AIAS Competition
 - Theatre of Arts: Chattanooga, TN
- Bank Design: Fargo, ND

Fourth Year 2003 – 2004**Fall Semester**

ARCH 471: Urness, Barnhouse, Walters

- Urban Design: Fargo, ND
 - Master Planning & Design

Spring Semester

ARCH 472: Kratky

- Marvin Windows Design Competition
 - Residential Architecture
- High-Rise Design
 - San Francisco, CA

Fifth Year 2004 – 2005**Fall Semester**

ARCH 571: Martens

- RFP: Valley City, ND
 - Historic Preservation of a downtown

Bibliography/Resources

Here is a list of current resources being used, or planned on being used. The list will grow and be updated as more research is completed.

A) Books:

Fromm, Dorit (1991). Collaborative Communities: Cohousing, Central Living, and Other New Forms of Housing with Shared Facilities. New York: Van Nostrand Reinhold.

McCamant, Kathryn (19XX). Cohousing: A Contemporary Approach to Housing Ourselves. [Book is in the mail—ordered—will have complete information when it arrives].

B) Individuals

Rhoades, Laurel. Interview. TBA.

C) Organizations

Cohousing Association of the United States
Possibly a Retirement Community Organization

D) Journals

Journals will be selected to show cohousing communities, retirement communities,
and housing developments

E) Textbooks

"Architectural Graphic Standards for Building Construction," Ramsey/Sleeper
"Architectural Graphic Standards for Residential Construction," Ramsey/Sleeper

F) Government Documents

www.census.gov
Housing studies

G) Internet websites

www.cohousing.org
terraserver.microsoft.com
www.dnr.state.mn.us
Other websites of existing retirement communities



Appendix C:
Del Webb Baby Boomer
Report
2003 Survey Results Summary



COHOUSING: HOUSING THE BOOMERS



Baby Boomer Report

ANNUAL OPINION SURVEY

by Del Webb®

2003 Survey Results Summary

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Who is Del Webb?	3
Baby Boomers and Relocation	4
Financial Planning for Retirement	9
Health and Fitness	13
Current Affairs	17
Survey Methodology	21

Background and Objectives

Del Webb, a brand of Pulte Homes, commissioned the annual *Baby Boomer Report* to examine opinions and preferences on retirement, health and fitness, financial preparedness and active adult living communities among members of the largest single demographic group ever to pass through American society, the baby boomer generation.

The target group was members of the baby boomer generation who were between the ages of 44 and 56 and who were either employed full time or seeking full time employment. This age and employment profile was selected as they have yet to retire but are actively planning for their retirement and can offer a great window into the future trends affecting the retirement industry.

Questions pertaining to the following topics were included in the survey:

- Health and Fitness
- Retirement Expectations (Finances, Employment, Activities)
- Home Relocation
- Active Adult Living Communities
- Current Affairs

The results of this survey are summarized on the following pages. Portions of the results have been reserved for internal research only and will remain proprietary to the Company.

Who is Del Webb?

Del Webb is the nation's leading developer of active adult communities with more than 18 communities currently courting the 55+ buyers. Webb opened its first Sun City community outside of Phoenix, Arizona in 1960 and has been redesigning adult living ever since having sold nearly 100,000 homes. Del Webb's communities have evolved into a haven for those 55 and better where they can live the life they desire and pursue the interests, both physically and mentally, that they have had to put on the shelf most of their working life.

The Del Webb Corporation was acquired by Pulte Homes in July 2001 creating the largest homebuilder in the United States. Pulte's logistical expertise, vast land holdings and home building prowess teamed with Del Webb's superior community development skill and understanding of the 55+ market makes for an organization ready to provide for the needs of the baby boomer generation.

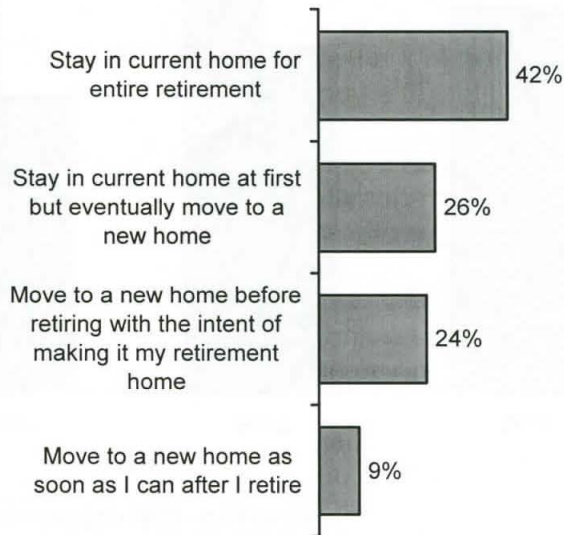
Del Webb

Baby Boomers and Relocation

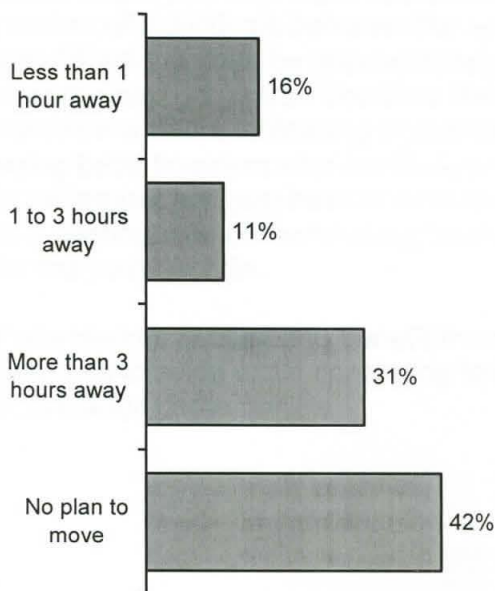
Relocation in retirement is on the horizon for many baby boomers with nearly 6 out of 10 likely to move to a new home for retirement. Compared to past boomer research, this demonstrates a rising interest in relocation among boomers looking to retire.

The 1999 Del Webb baby boomer survey of those age 48 to 52 indicated only 31% had plans to move during retirement.

Some of the difference may be attributable to the younger age group targeted for this survey who may have been more mobile during their career and are therefore more apt to be mobile in retirement.



Base: All qualified respondents (n=1361)

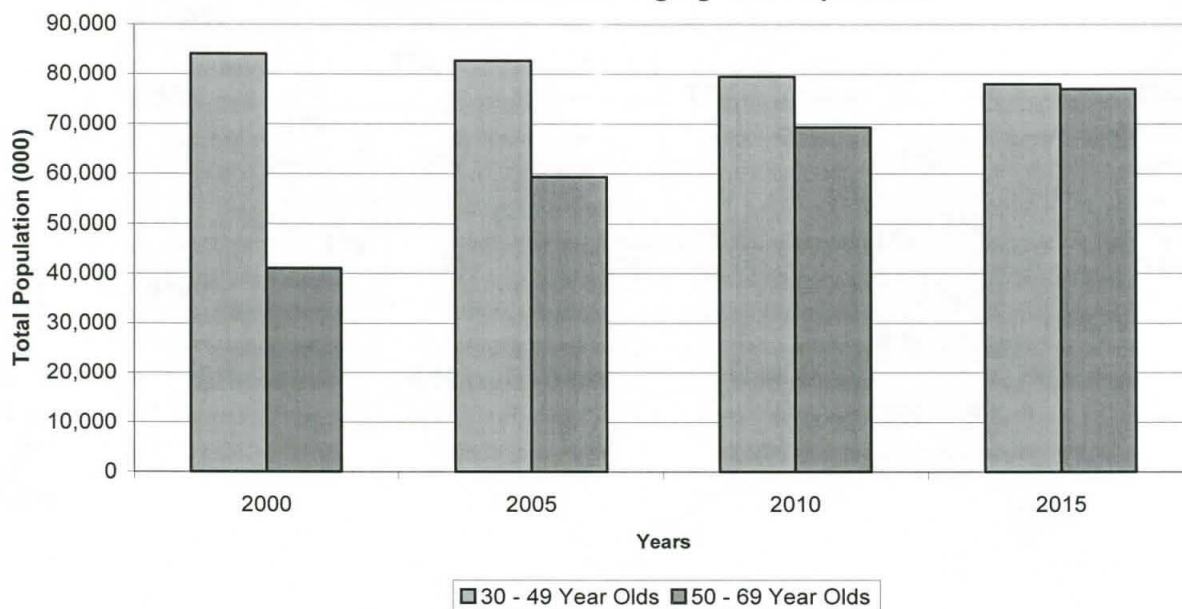


Base: All qualified respondents (n=1361)

Of those planning to move, 31% plan to move more than three hours away from their current location, measured in driving time. This offers Del Webb an expansive market for its active adult communities in destination locations like Las Vegas and Phoenix.

A sizable percentage, 27%, plans to move less than three hours from their current residence. In anticipation of this emerging market segment, Pulte plans to dramatically expand the Del Webb brand with more intimate communities located near major metropolitan areas where relocating baby boomers can remain close to family, friends and the support system to which they are accustomed.

U.S. Census Bureau - Aging U.S. Population



According to the U.S. Census Bureau, the number of individuals between the ages of 50 and 69 will increase by approximately 87% over the next 15 years. Combine these numbers with the increasing percentage of aging baby boomers who are likely to relocate in retirement and you have encouraging signs of a continuation of the housing boom enjoyed for the past decade.

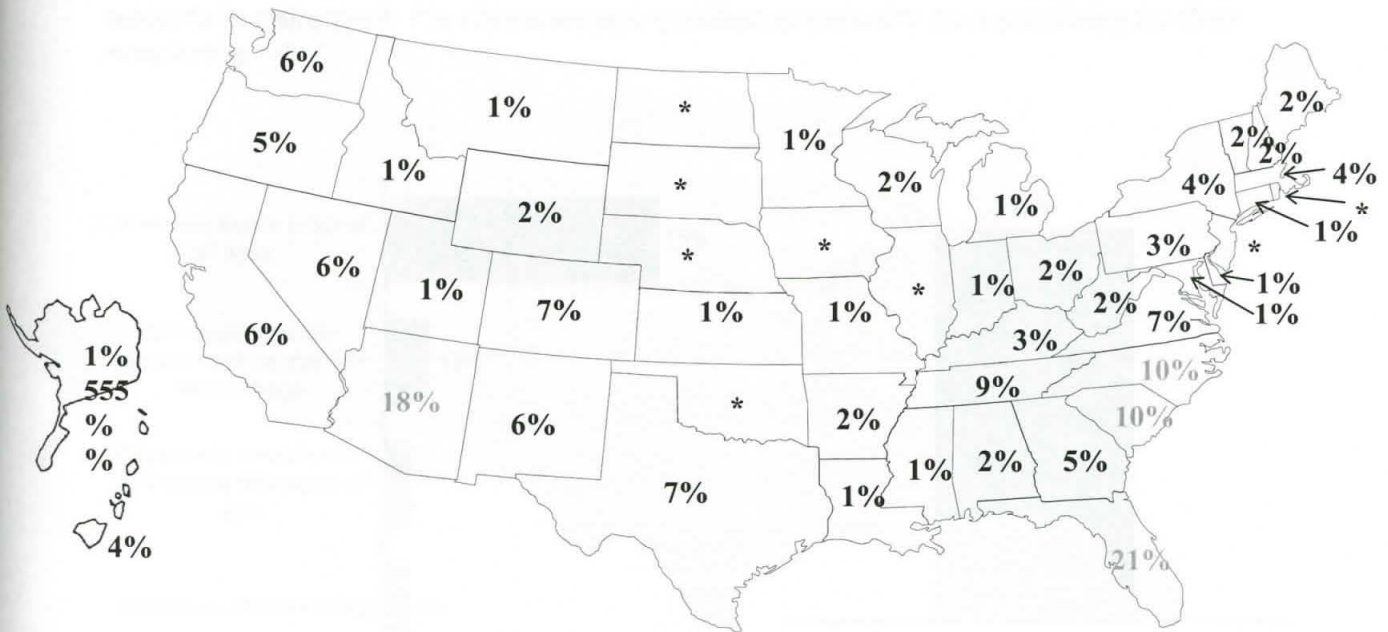
Year	30 - 49 yrs*	50 - 69 yrs*
2000	84	41
2005	82	59
2010	79	69
2015	78	77

** in millions*

Pulte Homes is poised to benefit from this growing trend by expanding the Del Webb brand nationwide while continuing to focus on the traditional southwest for destination active adult communities.

Del Webb

State Boomers Most Likely to Consider Moving to



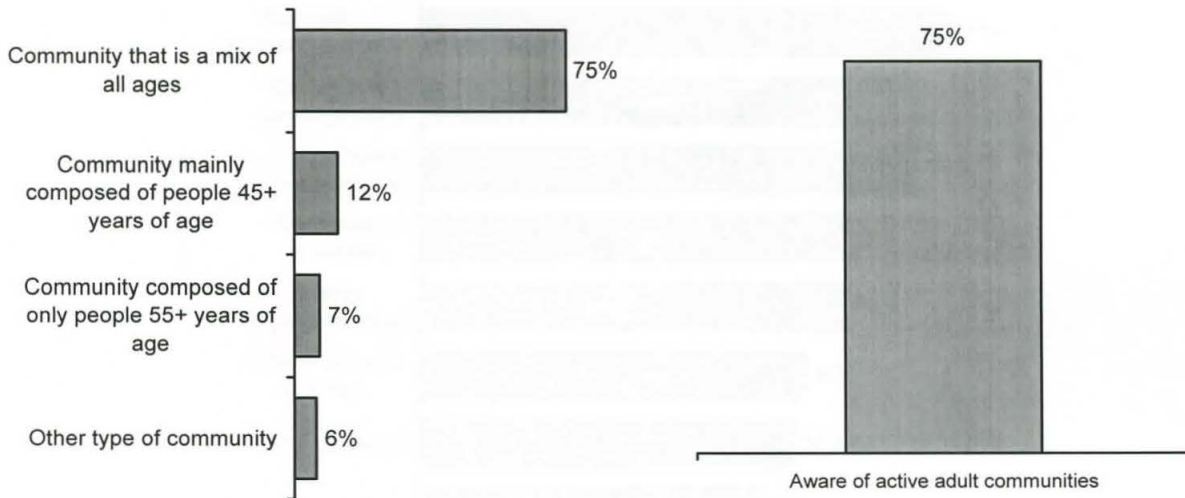
Base: Respondents who are likely to move to another state (n=424)
* less than 1%

The traditional warm climates of Florida and Arizona still top the list of states boomers say they are mostly likely to relocate to in retirement. The Carolinas were also favored as relocation destinations. The top ten relocation states for those boomers surveyed were:

Florida	21%
Arizona	18%
South Carolina	10%
North Carolina	10%
Tennessee	9%
Colorado	7%
Virginia	7%
Texas	7%
New Mexico	6%
California	6%

Del Webb

75% of those surveyed were aware of active adult communities. Among those likely to relocate in retirement, 7% chose an age-qualified community as a possibility for their new home.



Base: Respondents who are planning to move when retire (n=831)

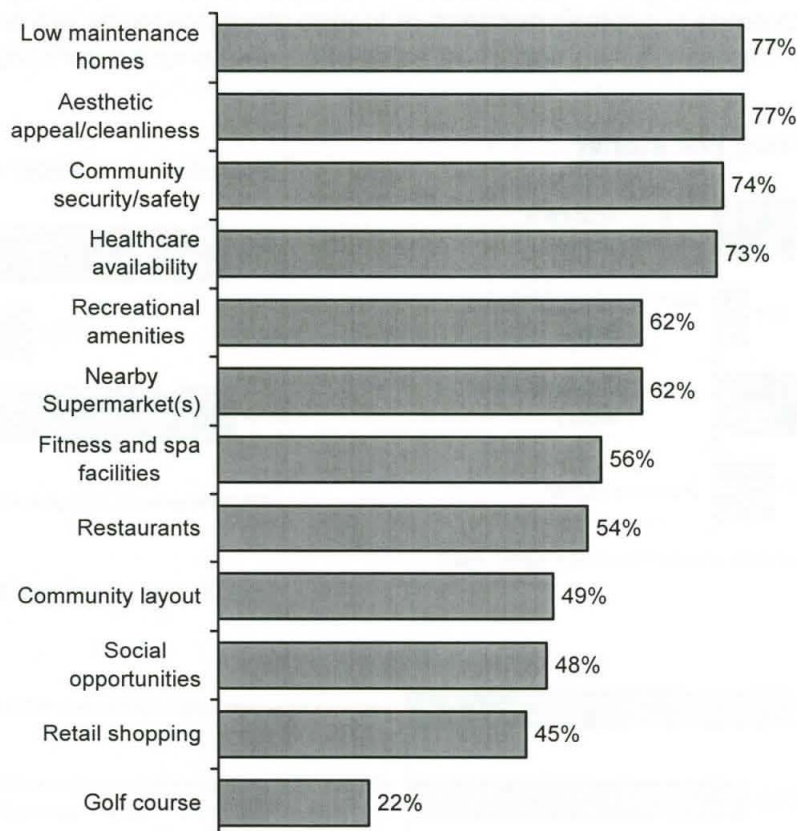
When this percentage is examined in relation to the number of baby boomers in the general population and the high percentage likely to relocate for retirement, the future looks extremely bright for active adult communities.

Year	# age 50 - 69 yrs	# Likely to move*	# interested in active adult communities**
2005	59,000,000	34,810,000	2,436,700
2010	69,000,000	40,710,000	2,849,700
2015	77,000,000	45,430,000	3,180,100

* Based on 59% likely to relocate in retirement

** Based on 7% of those likely to consider an active adult community

When asked to rank a variety of factors they considered appealing in a new community on a scale of 1 – 5, the factors topping the list are common to Del Webb communities.



* Rated a 5 or 4 on a 5-point scale where 5= Very appealing and 1= Not at all appealing

How did Del Webb do?

- 19% of those who plan to move in retirement said they were familiar or very familiar with Del Webb and their opinions were overwhelming favorable.
- 90% of those planning to move more than three hours and 83% of those planning to move less than three hours had a favorable opinion of Del Webb.
- Of those familiar with Del Webb, 50% planning to move more than three hours and 60% planning to move less than three hours said they would probably or definitely consider moving to a Del Webb community.

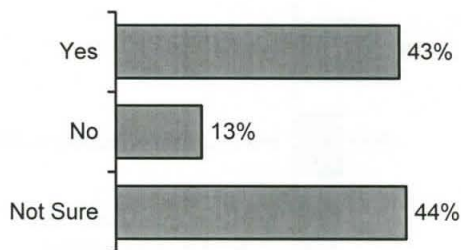
The future for Pulte Homes' Del Webb brand looks bright with high familiarity and favorable opinions among the burgeoning baby boomer population.

Del Webb

Financial Planning for Retirement

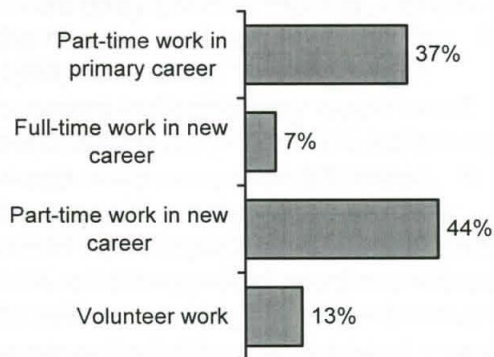
The average age those surveyed expected to retire from their primary career was 63. Yet, a large number of respondents expect to continue working in some capacity. Further, 6% said they never expected to retire from their primary career.

Will you work in retirement?



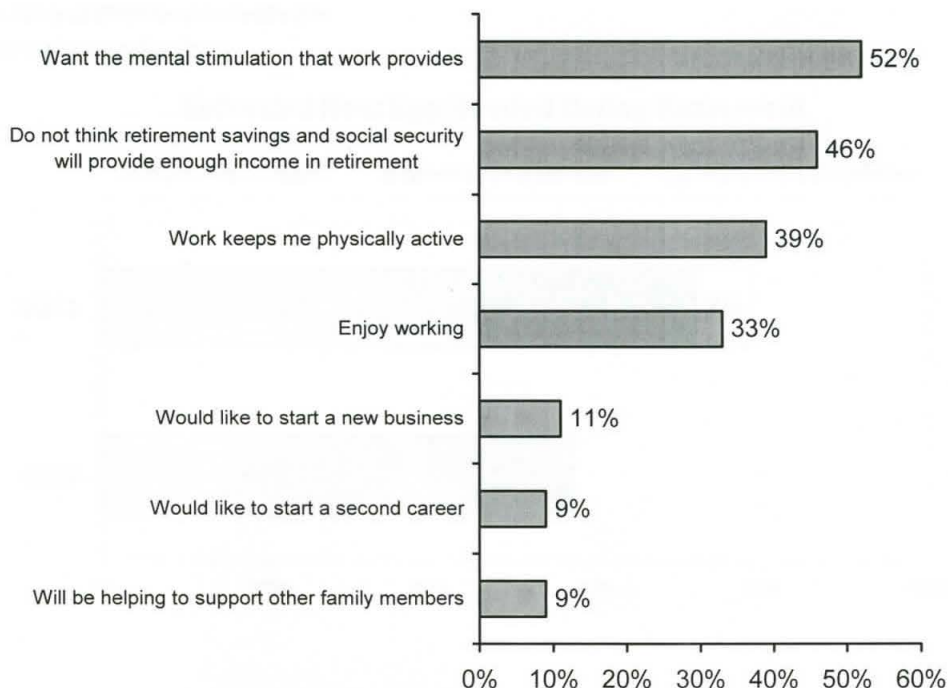
Base: Respondents who plan to retire (n=1250)

Where will you work?



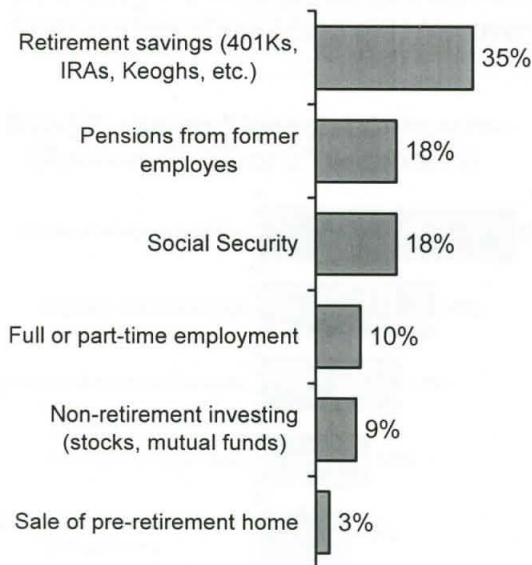
Base: Respondents who plan to continue working after (n=461)

But why will they keep working?



Base: Respondents who plan to continue working after retirement (n=461)

Most Important Source of Income in Retirement



Base: All qualified respondents (n=1361)

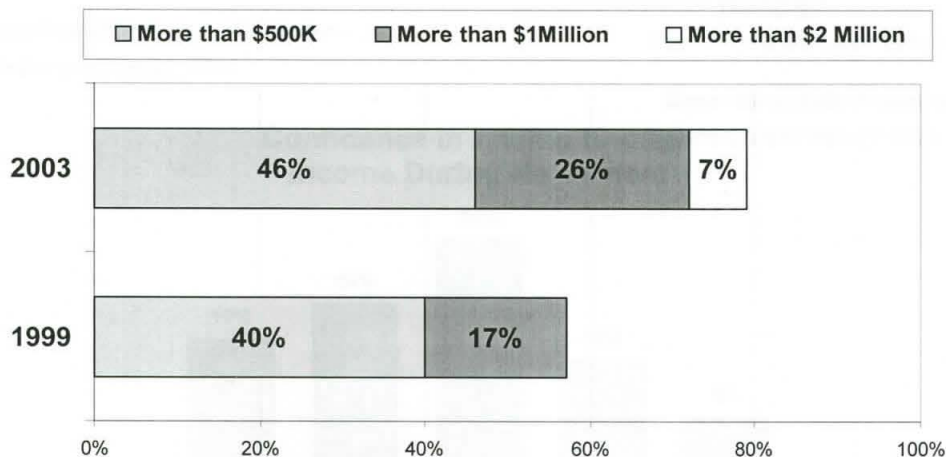
Base: All qualified respondents (n=

11 qualified respondents (n=1361)

The surveyed boomers see their own savings as the primary source of their post-retirement income. They also feel they need to accumulate, on average, \$800,000 and have it last approximately 19 years.

Compared to findings in previous Del Webb baby boomer studies, the size of the needed nest egg is on the rise. In 1999, 40% of the "leading edge" boomers indicated they would need \$500,000 or more and 17% said they would need more than \$1 million. In the present survey, 46% said they would need more than \$500,000 and 26% said they would need more than \$1 million. In fact, 7% of the boomers surveyed said they would need a nest egg larger than \$2 million.

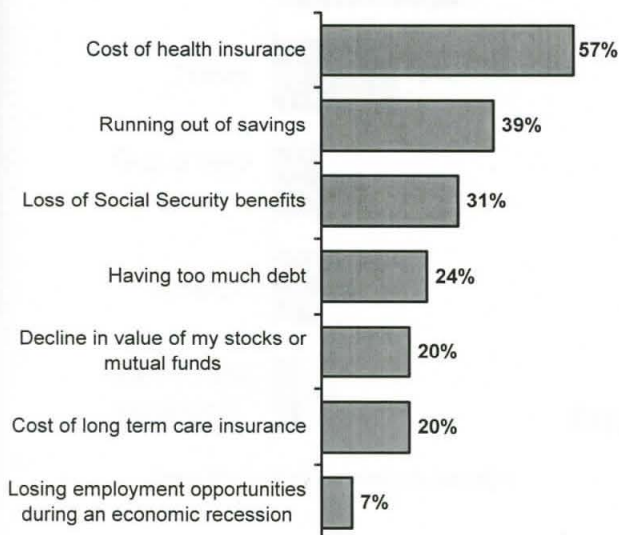
Estimated Nest Egg Needed During Retirement



Many of the financial concerns of the boomers surveyed tied back to the size of their nest egg and whether it would be sufficient. Running out of savings, loss of social security (the #3 most important source of income) and having too much debt were listed as among the most pressing financial concerns. Additional financial concerns stemmed from worries about being able to cover health care costs and the cost of long term care.

Most Pressing Financial Concerns

(Ranked 1st, 2nd or 3rd in concern)

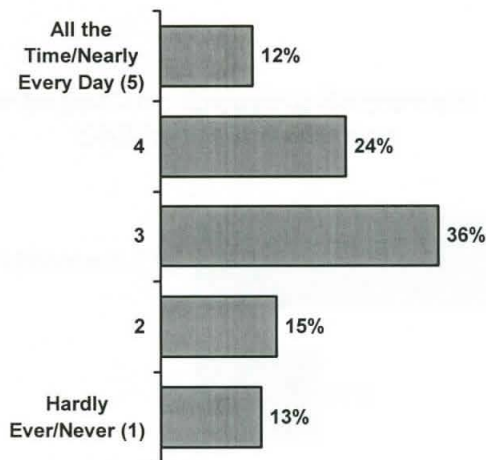


Base: All qualified respondents (n=1361)

Base: All qualified respondents (n=

11 qualified respondents (n=1361)

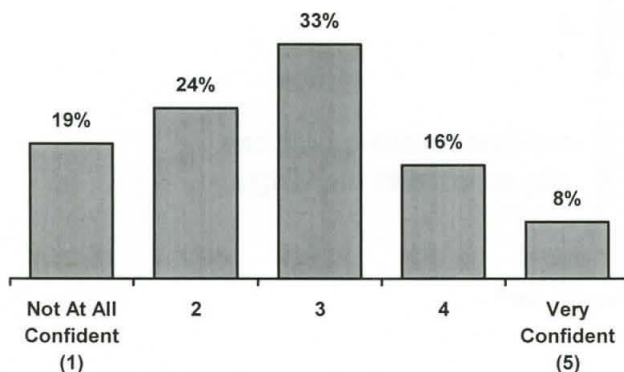
Frequency of Thinking About Retirement Finances



Base: All qualified respondents (n=1361)

Base: All qualified respondents (n=

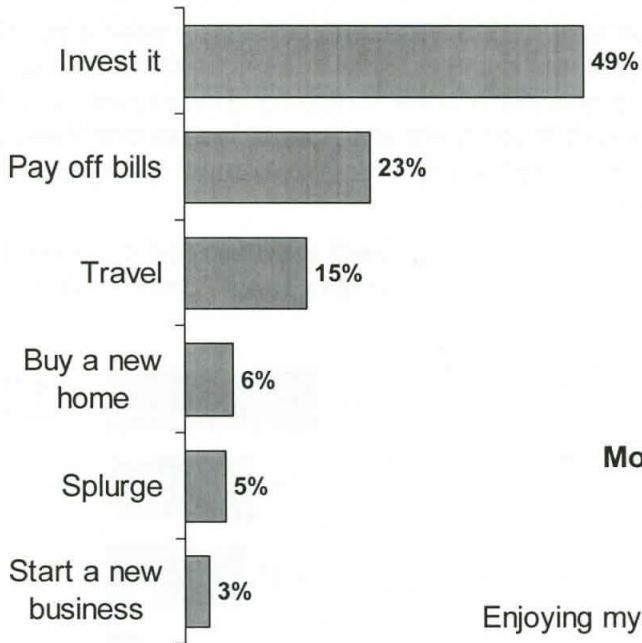
Confidence in Having Enough Income During Retirement



Base: All qualified respondents (n=1361)

Del Webb

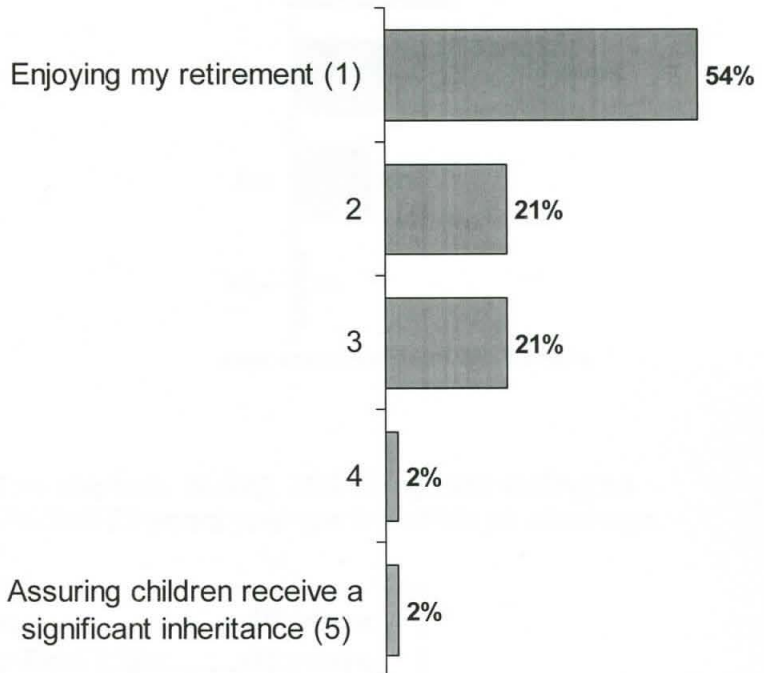
**What Would Do With Winnings if Won
Million Dollars in Lottery While Retired**



Base: All qualified respondents (n=1361)

If they were to win \$1 million they wouldn't splurge, but they will enjoy their retirement and not worry about leaving a financial legacy.

**More Important: Enjoying Retirement vs.
Children's Inheritance**

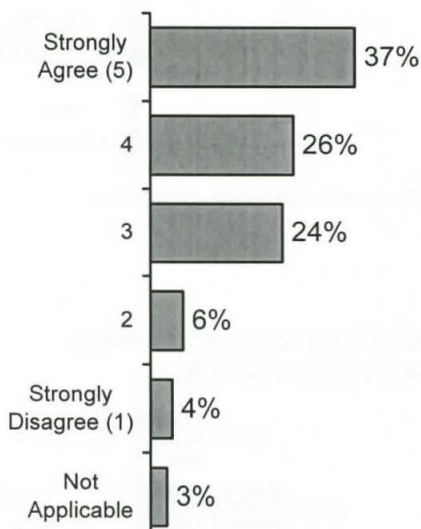


Base: All qualified respondents (n=1361)

Health and Fitness

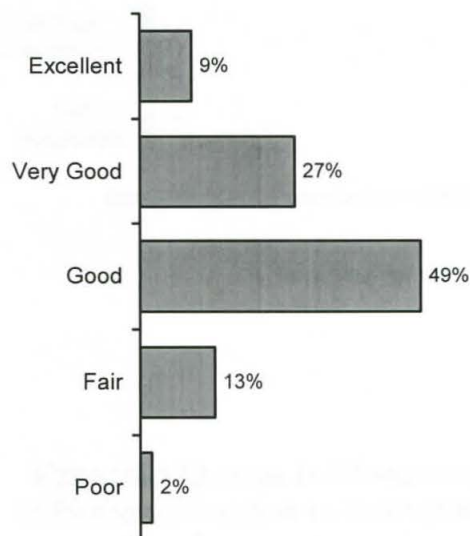
Today's baby boomer is more active than ever with a regular wellness routine as a major part of their lives. Many boomers feel they are in good health and believe they will live longer and be happier if they continue to be active. They exercise at least once a week and expect to increase the amount they exercise as retirement approaches. Fitness is the fountain of youth for the baby boomers.

Expect to be Healthier During Retirement Than Parents



Base: All qualified respondents (n=1361)

Current Health



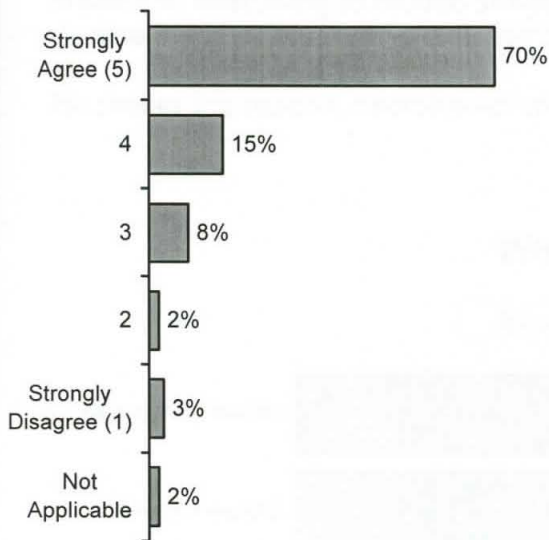
Base: All qualified respondents (n=1361)

And they believe you are only as old as you feel. In fact, 25.2% reported feeling an average of 15 years younger and 9.7% feel 21 years younger than their physical age.

<p>Average Age.....49 years Average Age Feel Like.....42 years</p>

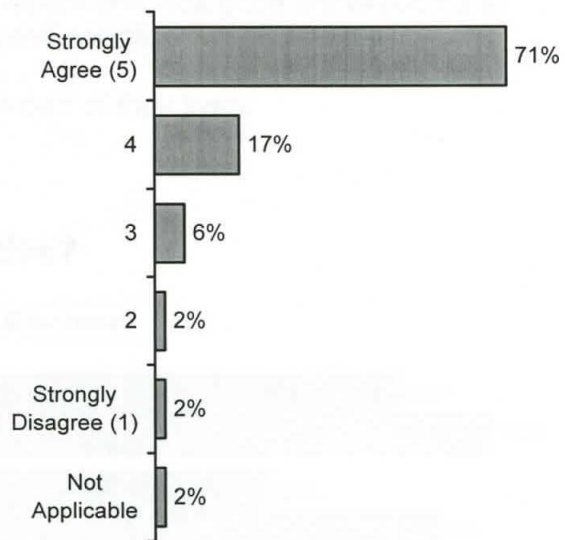
Del Webb

Believe Will Live Longer if Remain Physically Active During Retirement



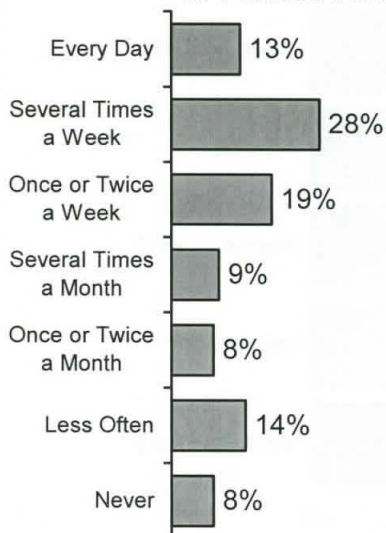
Base: All qualified respondents (n=1361)

Believe Will be Happier if Remain Physically Active During Retirement



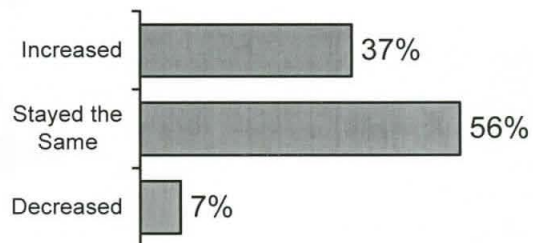
Base: All qualified respondents (n=1361)

Current Frequency of Exercise or Fitness Activities



Base: All qualified respondents (n=1361)

Expected Change in Frequency of Exercise Routine in Retirement

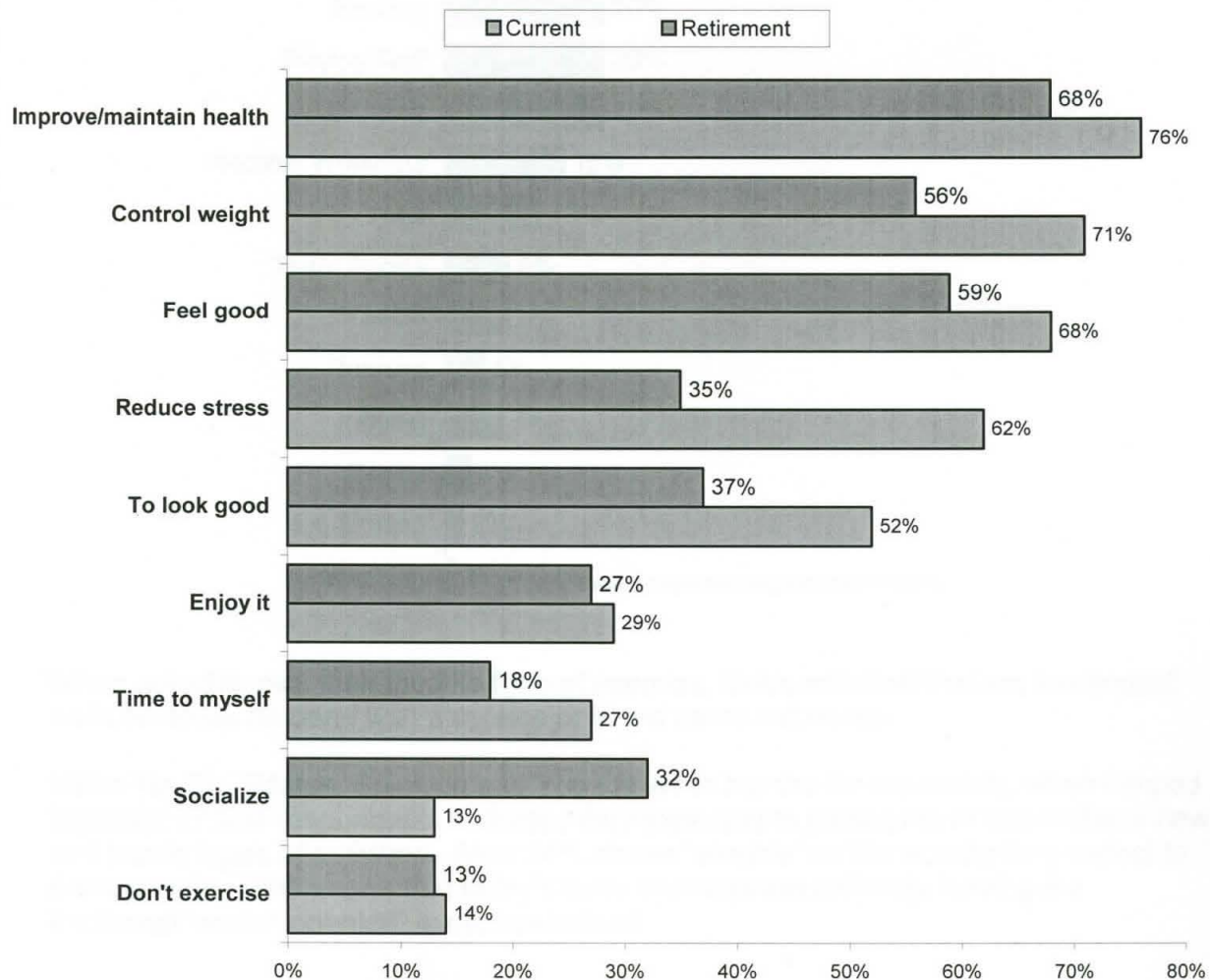


Base: All qualified respondents (n=1361)

The reasons these baby boomers exercise today differ from reasons they give for exercising during retirement. Although improving or maintaining good health is still most important, exercising to reduce stress, control weight and look good are expected to decline in importance while exercising to meet and socialize will increase.

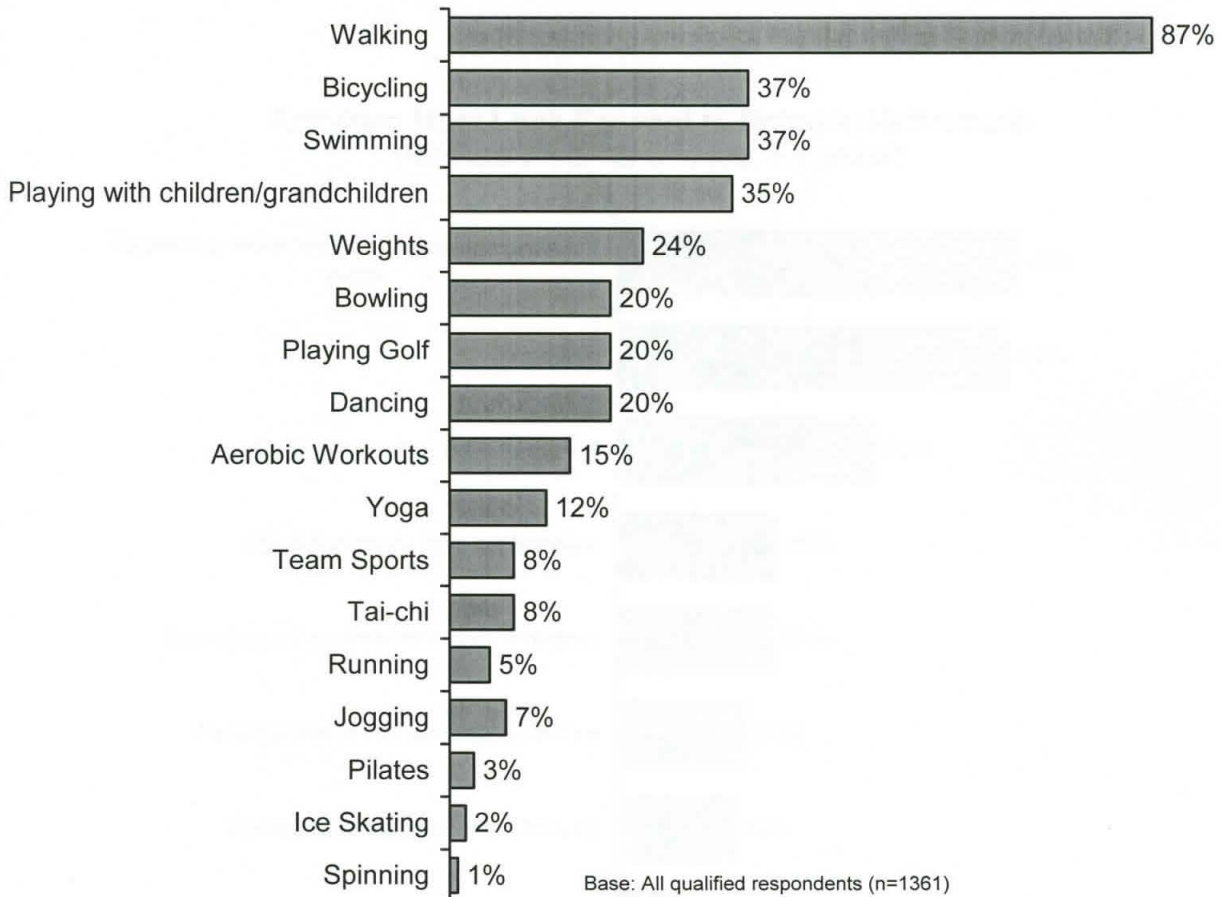
No matter the reason, exercise will always be a part of their lives.

Why Exercise?



Base: All qualified respondents (n=1361)

Expected Favorite Forms of Exercise in Retirement



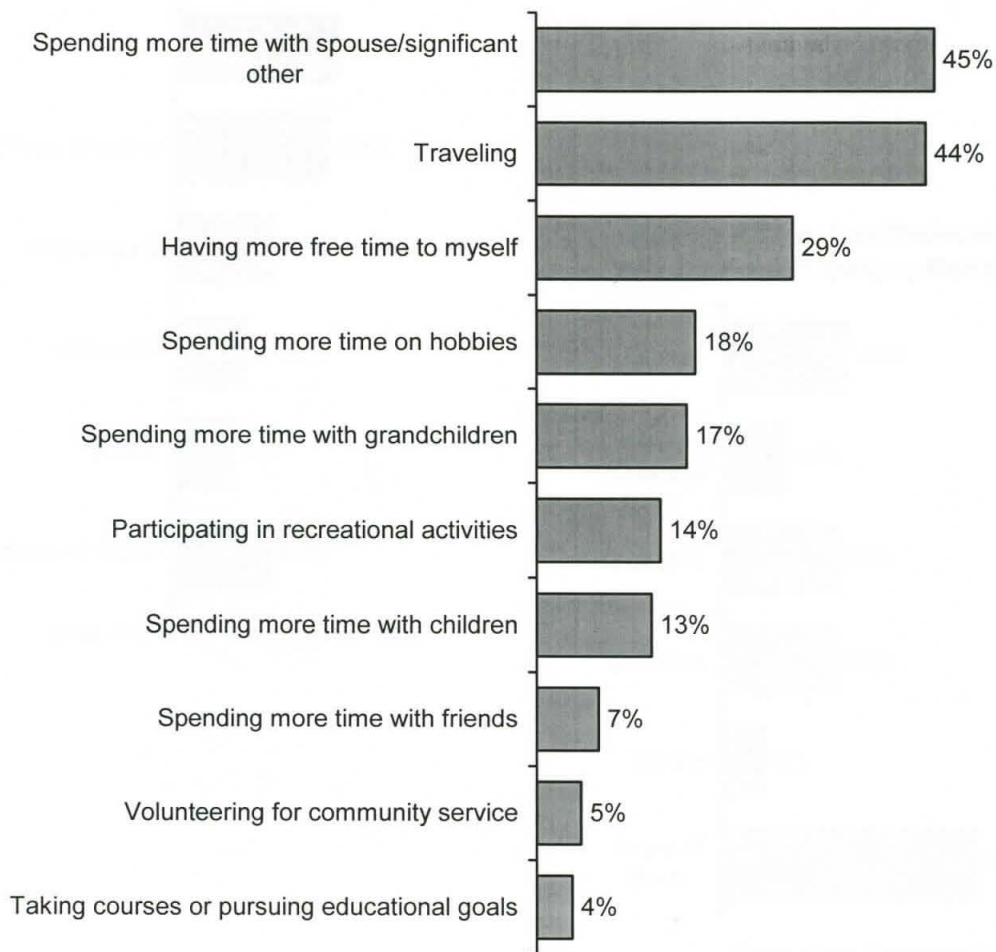
When asked to pick their favorite form of exercise, those activities that are low impact and can easily be done with a spouse or friend came out on top.

While Tai-Chi, Pilates, Spinning and Yoga failed to top the list separately, when lumped together, 17% of respondents indicated they expected to participate in one of these new and trendy types of activities. Also, 24% chose "weights" as the activity they expect to participate in. This shows that today's baby boomers are definitely leaving the traditional "senior-oriented" exercises behind.

Del Webb

This healthy lifestyle will allow these baby boomers to do more of what they are looking forward to in retirement.

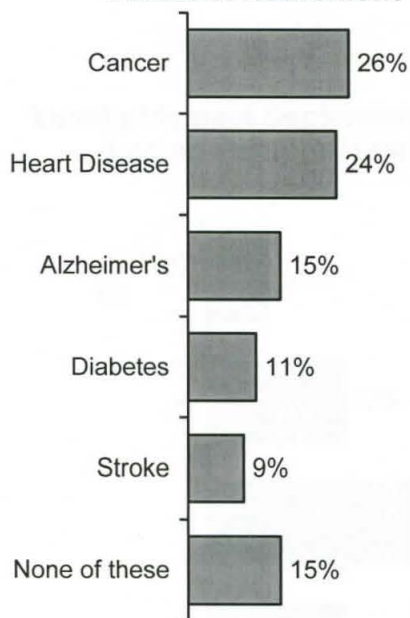
Activities Most Look Forward to Doing in Retirement
(Ranked 1st, 2nd or 3rd most important)



Base: All qualified respondents (n=1361)

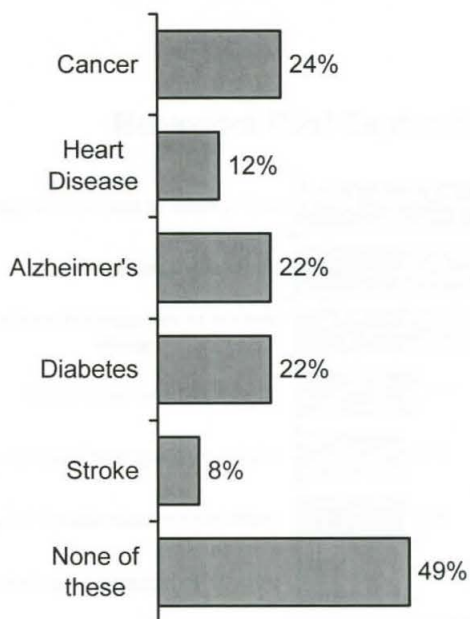
But these healthy boomers are not without concerns. Heart disease is a high retirement health concern among Boomers and offers little hope of a cure before their retirement. Cancer also is reported to be a high health risk concerns in retirement, but the belief in a cure before retirement is much higher.

Health Risks Most Concerned About in Retirement



Base: All qualified respondents (n=1361)

Health Risks that Believe Cure Will be Found Before Retirement

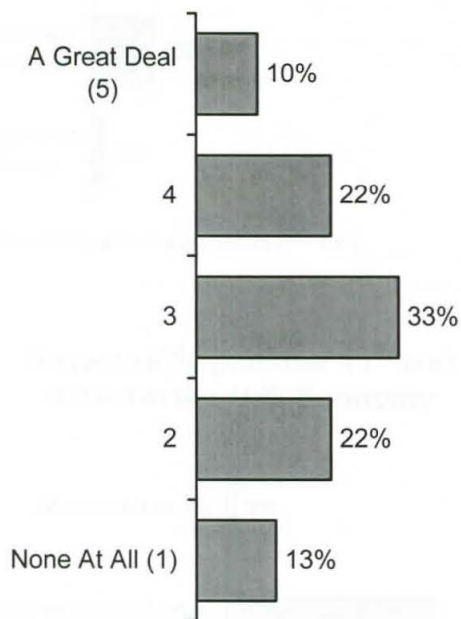


Base: All qualified respondents (n=1361)

Current Affairs

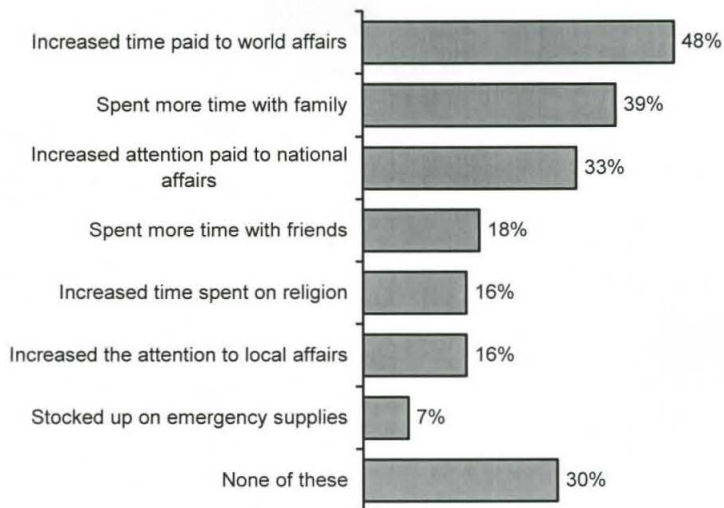
The effect of September 11th on the personal lives of those surveyed appears to be varied although more than a third report that their attention paid to world and national affairs and to their family have increased.

Level of Impact September 11th had on Personal Life



Base: All qualified respondents (n=1361)

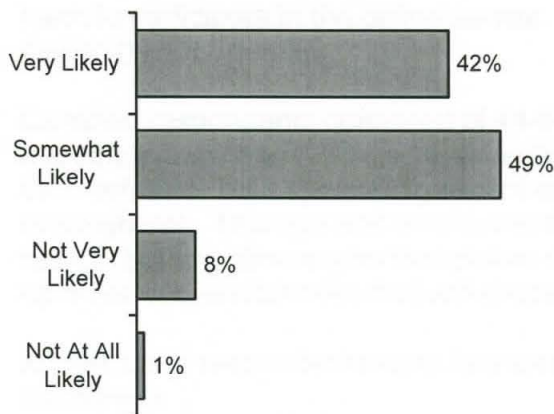
Behaviors Post September 11th



Base: All qualified respondents (n=1361)

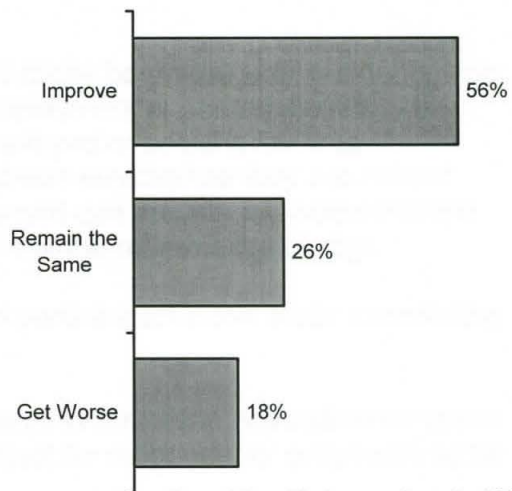
The U.S. fight against terrorism is not expected to subside any time soon as most boomers feel the war will continue into their retirement. September 11th's impact on the U.S. economy is seen as lasting, with only about half of Boomers expecting the economy to improve as they move towards their retirement years.

Expect U.S. to Still be Dealing with Terrorism When Retire



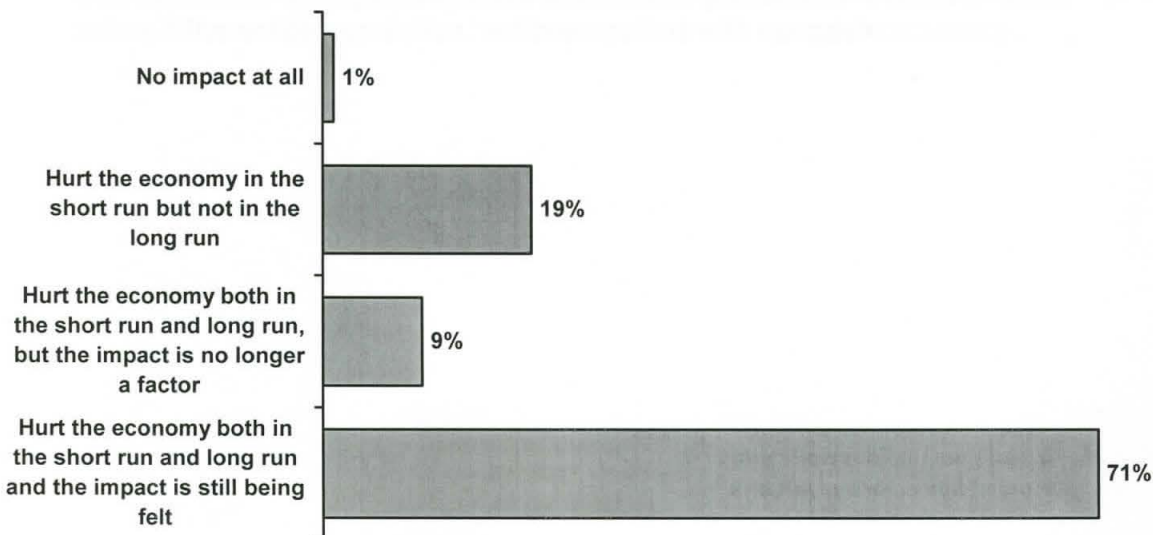
Base: All qualified respondents (n=1361)

Expectations of U.S. Economy Towards Retirement Years



Base: All qualified respondents (n=1361)

Impact of September 11th and After on the U.S. Economy



Base: All qualified respondents (n=1361)

Survey Methodology

Harris Interactive, utilizing internet-based surveys, conducted this research within the United States among a nationwide cross section of qualified respondents in April 2003.

Harris Interactive sent email invitations to a national sample of 44-56 year olds, inviting them to participate in the online survey. The sample was drawn from the Harris Poll Online (HPOL) panel.

Qualified respondents consisted of 44-56 year old (baby boomers) U.S. residents who are either employed full-time, seeking full-time employment or self-employed themselves or their spouse/significant other is employed or seeking full-time employment. This age and employment segment was selected as they are not yet retired, but are planning for that phase of their life and can provide a window into the opinions and preferences that will shape the future of the retirement industry.

A total 1,361 respondents were fully qualified and participated in the study, completing the survey.

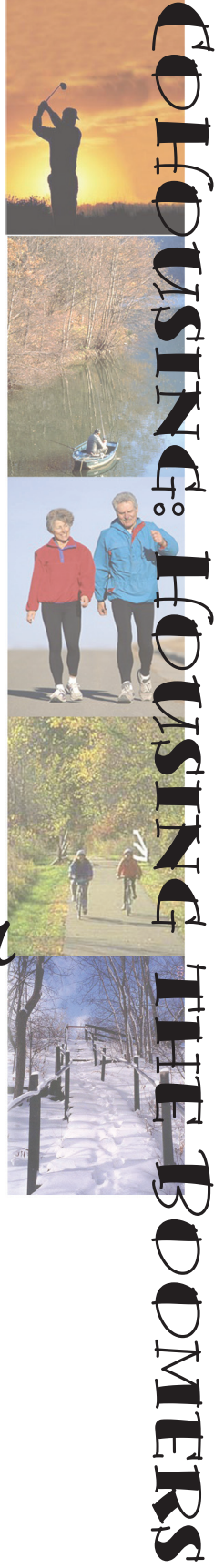
The results are weighted to assure accurate representation of the population surveyed. "Propensity score" weighting was also used to adjust for respondents' propensity to be online.

In theory, with probability samples of this size, one could say with 95 percent certainty that the results of this survey have a statistical precision of plus or minus 5.1 percentage points if the entire population had been polled with complete accuracy.

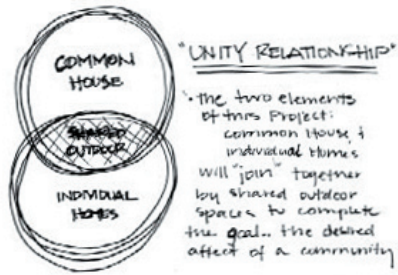
Del Webb



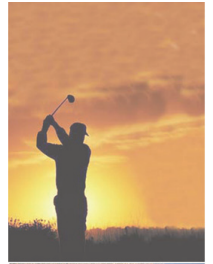
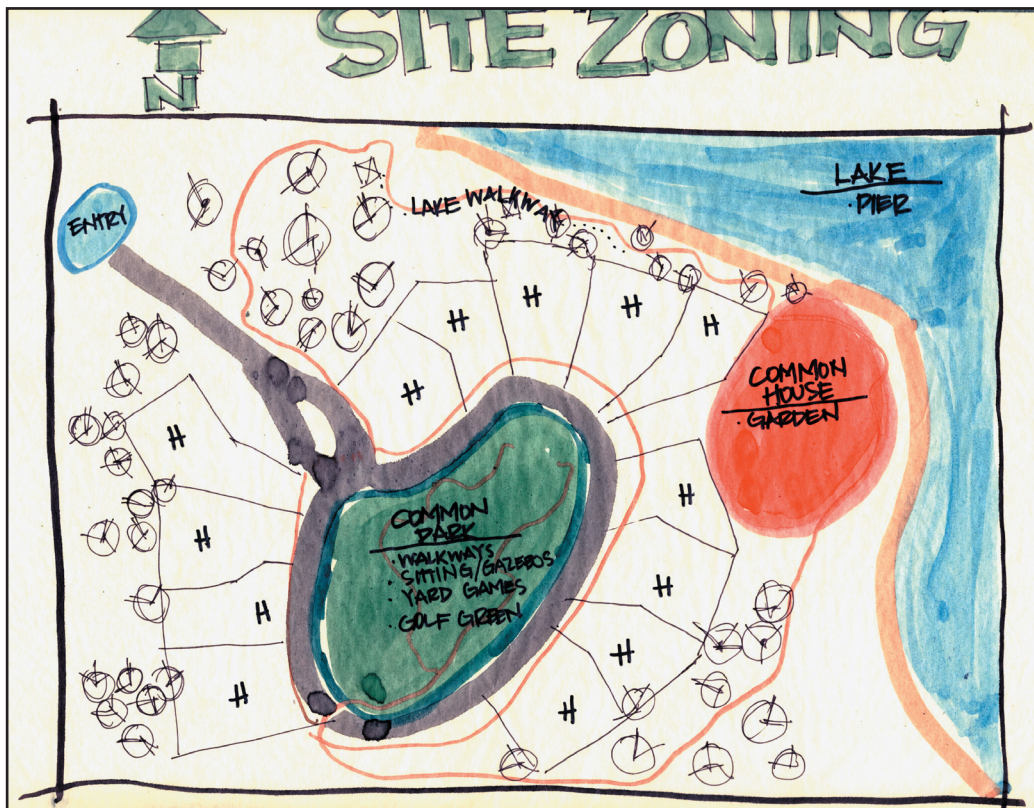
*Documentation
of
Process and Solution*



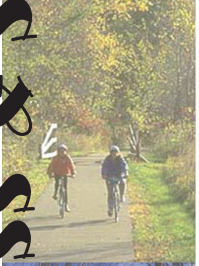
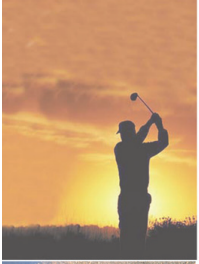
Site and Development



The first step in my process was creating the site to help strengthen the feel of a community and to support the Cohousing idea. One main element that would help tie the resident to each other would be the shared outdoor spaces. I wanted to give the residents a large park where activities would occur. Due to the layout of the land, I provided a site with a large cul-de-sac arrangement to allow for the large, shared outdoor space, so the common house would have the "best" view of the lake and surroundings, yet still maintaining a lot of land for each homeowner. The general layout would look like this:



PROCESS & SOLUTION



For the final solution of the site and it's development, the site is developed as a large cul-de-sac (as mentioned). The common park remains in the middle, with easy access for everyone. The park has a picnic pavilion (that would be used for outdoor gatherings, both communal and public), a putting green and area for yard games such as bocce ball and croquet, and a vernal pool that is landscaped with cattails, boulders, and wildflowers so that it would allow for a beautiful place to sit either when it is flooded or dry.

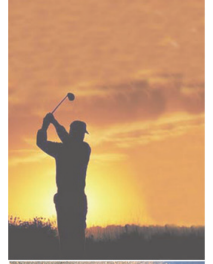
There are walk ways going all around the site connecting homes to each other and to the lake and common house, with benches and gazebos as resting and meeting areas.

A garden is located on the south side of the common house to provide for fresh produce for the community dinners.

A pier extends out into the lake for boat storage and general lake enjoyment.

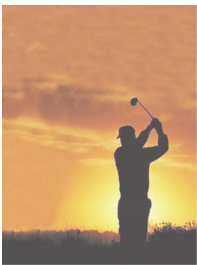
Finally, a guest house was built on the south side of the site for visiting family members and friends.

This is the final site plan and development.



PROCESS & SOLUTION

PROCESS & SOLUTION

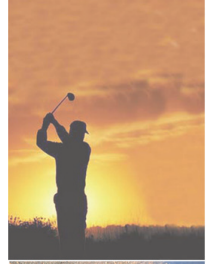




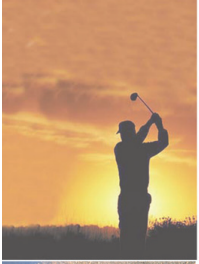
The next step that I took in my process was determining a style that the community should be detailed architecturally in. After some thought and studies of residential architecture, I settled with Prairie Style. What I specifically liked about the style was the low sloping roofs that would not overbear and weigh down the single story, slab on grade home. Another benefit is the repeating windows that the style is famous for, especially in Frank Lloyd Wright designed residences. This would allow for views and vistas of the site to be framed in for the observer standing inside the home. Finally, the last feature that felt well with my overall design goal was the great front porch with an overhang. All in all, I felt that the Prairie Style is a timeless, classic style that would help the survival of the community for many, many years.

My next process was the actual design of the homes. I wanted to consider a wide variety of situations that the boomers would be in during their age of retirement. Such as married, widowed, single, or living with a roommate.

Most of all, I did not want to “recreate” the layout of the house, but I wanted to create more individual spaces. To go further with this, I wanted the homes to have the open-air feel that homes have with “great rooms.” I used the same great room theory, but with the changing of ceiling heights, vaults, materials and partial walls it would help distinguish one room with a function, to another room with another function.



PROCESS & SOLUTION



I stated that one of the reasons that the style chosen was Prairie architecture was for the low sloping roofs. Throughout my designing I adjusted the roof slopes. Originally I went with a 4:12 slope, then worked my way down until I was satisfied. All of the homes have 2:12 slope on them. It is a very low slope, but it gives the homes the look that I wanted, with a proper proportion.



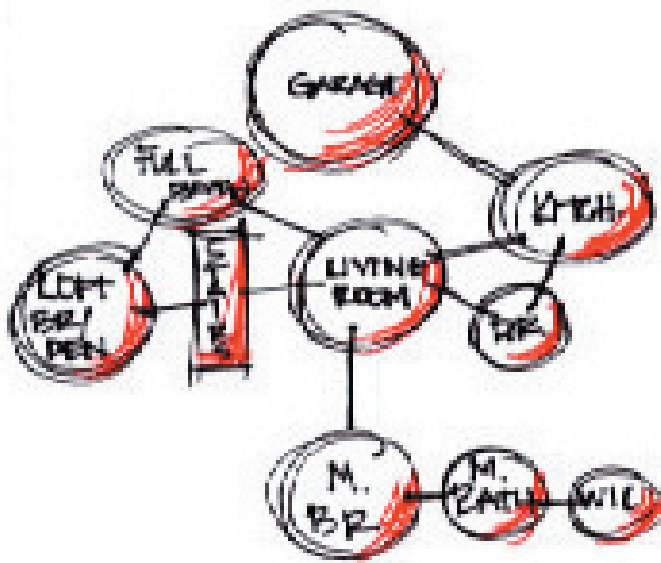
One drawing that was done during my roof study.



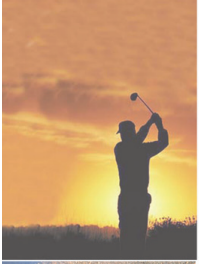
For the basic layout of the homes, I researched a lot into Sarah Susanka and her “Not So Big House,” “Creating the Not So Big House,” and “Not so Big Solutions for Your Home” series of books.

She has many ideas to help organize a house so that it is used to it’s utmost potential.

Studies were also done to help understand how a resident would use the spaces of the house in a cohousing situation. I wanted a smaller than average house, but with spaces that could multi-function.



One original idea was to provide a den for one of the layouts, on a second floor. I decided that the space up there would not be functional or used enough to justify it for a whole new level. Instead, I used Susanka’s concept of an “away space” that is for the most part, a lot like a den, but a place just to get “away” for uses as an office, socializing, meditation, etc.

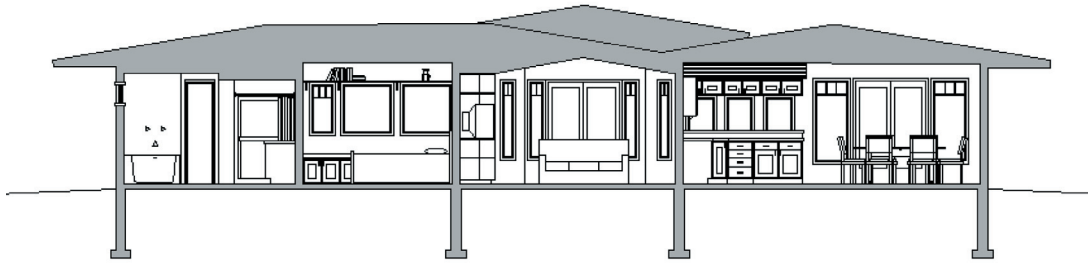


The Two-Bedroom Home

Generally the homes are laid out with the public functions (living room, dining room, etc.) towards the back of the house. This was with the intent to create the views out to the lake, where they will be enjoyed the most.

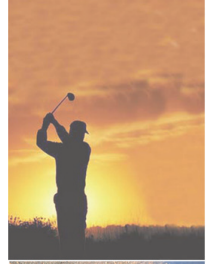
The first house I designed for was a two-bedroom home. This is the largest, more luxurious home on the site. It was intended for a married couple to reside there, but also it could be used for a “roommate” situation, where two, three, or four people live together. This layout includes a built-in breakfast nook, entertainment center, and window seat. It has a low vaulted ceiling in the living room, a lowered ceiling in the kitchen and bedrooms, an a maple lattice suspended ceiling separating the kitchen from the dining room, and from the living room.



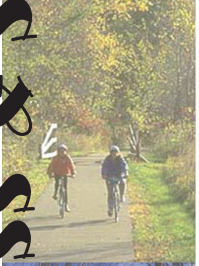
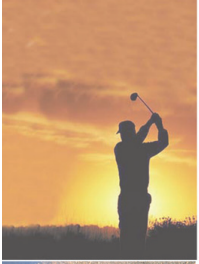


As mentioned, one main goal was not to “recreate” the house, but to help distinguish spaces from one another by changes in ceiling heights. For all three designs of the houses, I created a section elevation to help show this.

Two-Bedroom Home
Exterior view of the front



PROCESS & SOLUTION

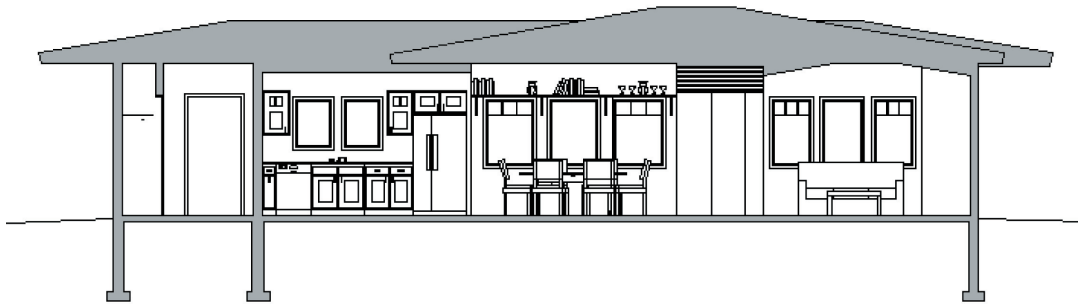


The One Bedroom Home

The one bedroom has the “away” space that is taken from Susanka. There is a two way fireplace the separates the dining room functions from the living room functions, but still allows for the “great room,” and the overall open space.

In addition, in the bedroom, there is a built in window seat and small study desk.



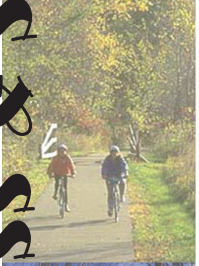
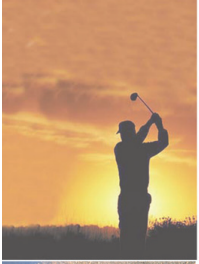


One-Bedroom Home
Section Elevation

One-Bedroom Home
Exterior View of the front



PROCESS & SOLUTION

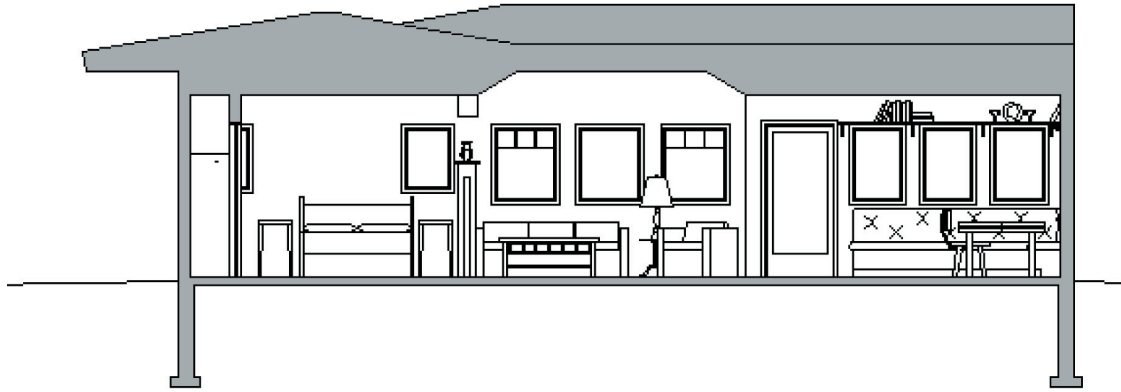


The Duplex Home

The Duplex completes the variety of layouts. This would help find a comfortable home for a retired couple, a single person, or widow/widower. These layouts will also lower the budget required to stay in this Community.

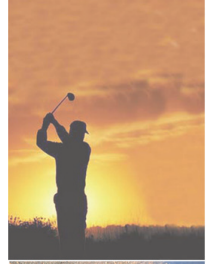
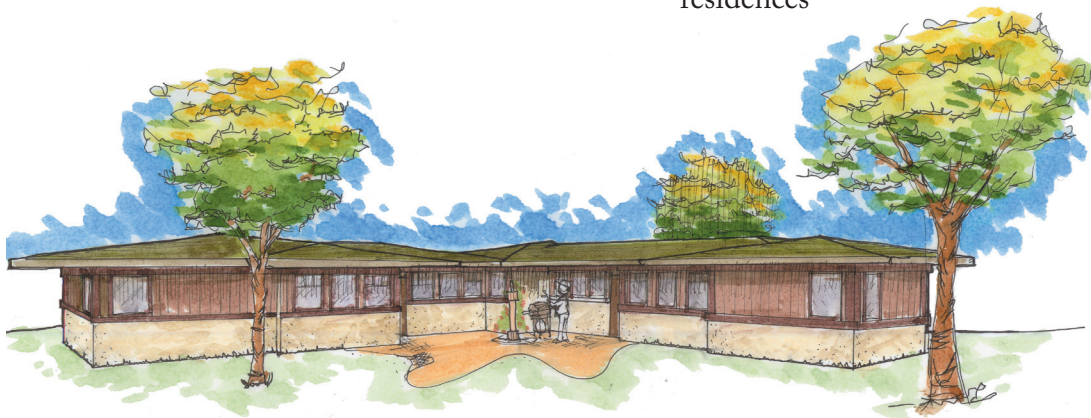
On one end, there is a one bedroom home, and on the other end is a studio home. Built in features include: entertainment stand, window seats, and dining room seating with a table that can be extended with leaves when needed.



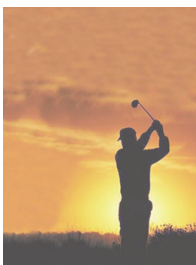


Duplex Home
Section Elevation thru Studio

Duplex Home
Exterior View of the back, showing both
residences

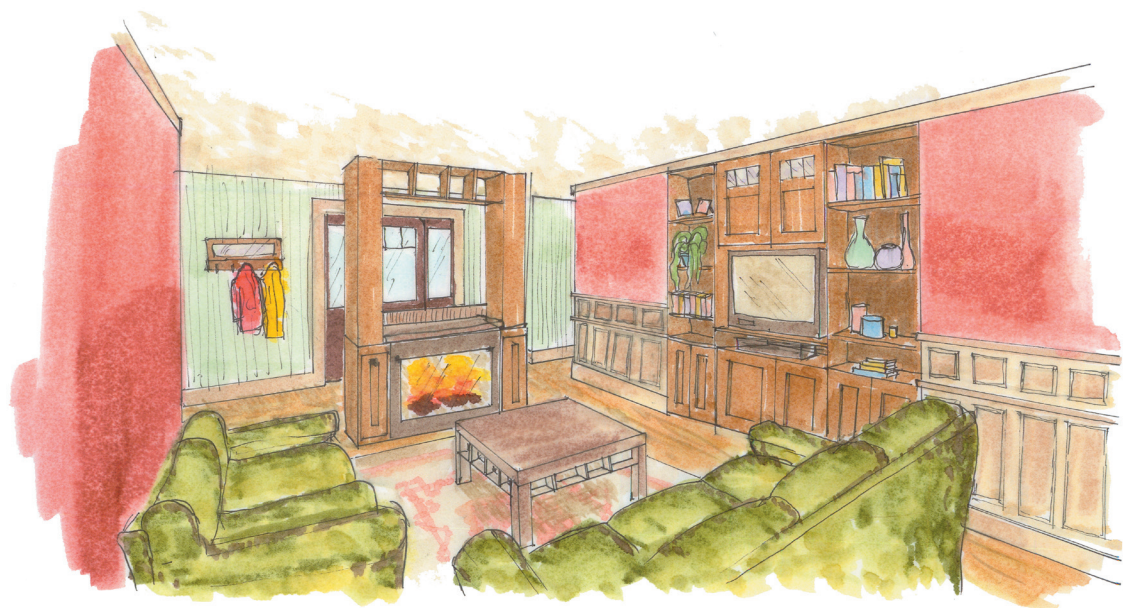
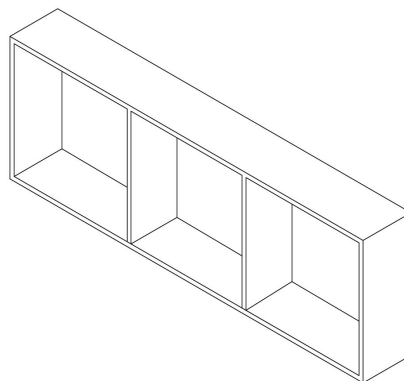


PROCESS & SOLUTION

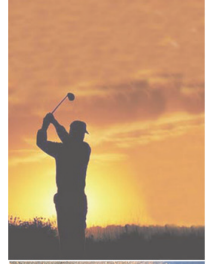
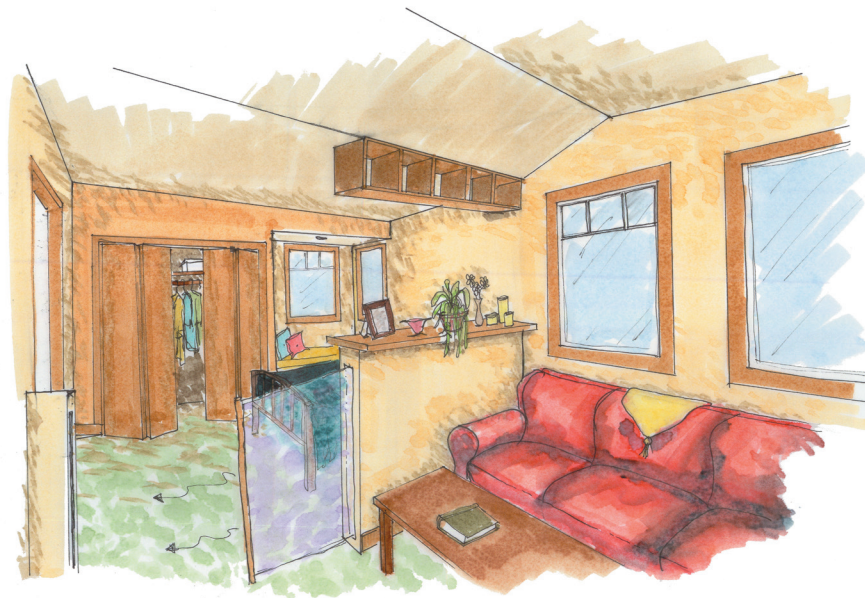
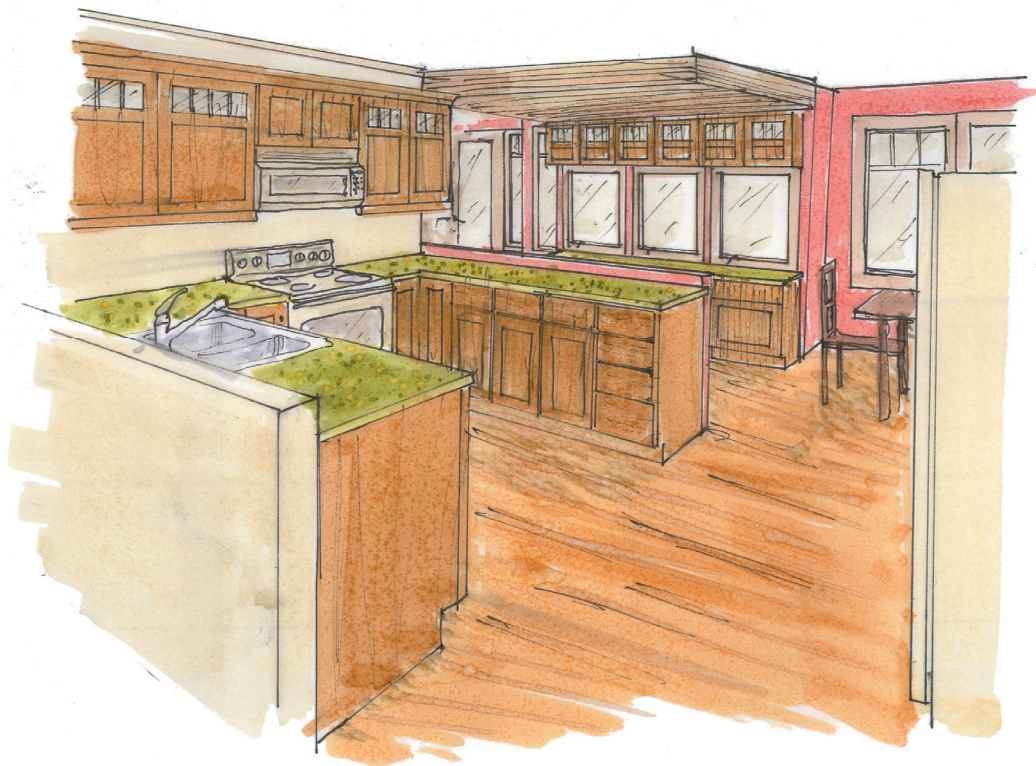


Interiors

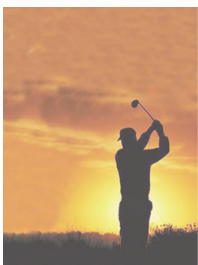
A “motif” was used to create a commonality throughout the homes and common house. It is a sequence of open, repeating boxes. This is found over the front entry porch, doorways, hallways, through window grill patterns, and cabinet styles. This feature is important in tying the overall community together so that it has an element found in everyone’s daily life. It is not only found in the individual homes, but also in the common house, and site elements (around the top of gazebos, the picnic pavilion, etc.)



This is an interior of the Two-Bedroom living room. However, it shows how the “motif” is used commonly throughout all of the homes, even in the furniture. The following page shows how a typical kitchen and cabinetry would look like, and how the partitioning screen would be used in the studio of the Duplex.



PROCESS & SOLUTION

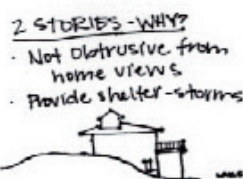


Common House

The Common House is the most important feature in a Cohousing community. Most residents will spend more time here than at their own homes. It is located at the highest point on the site, with the best view of the lake. The front, the side that faces the homes, is in the typical prairie style, as to best match the community, and the lake side has a round, glazed curtain wall. This was designed this way to obtain the best, unrestricted view. The Common House is also two levels, one from the front, so it would not protrude higher than the homes, but then the basement goes down into the ground to provide two stories from the lake side.

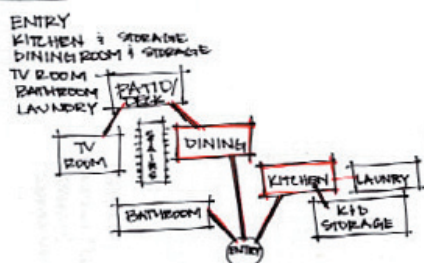
The main function of the Common House is to provide for things that the homes do not have. The homes are slightly smaller than the average since they are missing some of the amenities that are found in them. The common house alleviates that, and has the other services that the group of retirees wants.

A lot of process and thought went into how the layout the spaces of the Common House so that the uses could flow into one another.

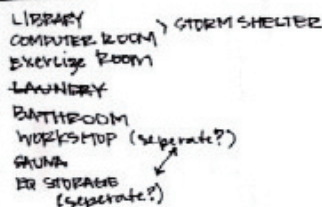


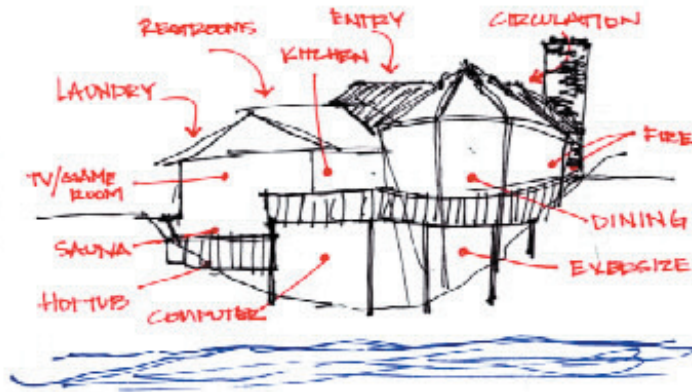
COMMON HOUSE

1ST FLOOR

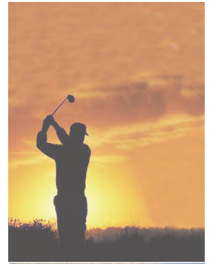
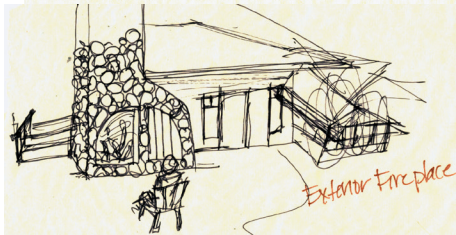
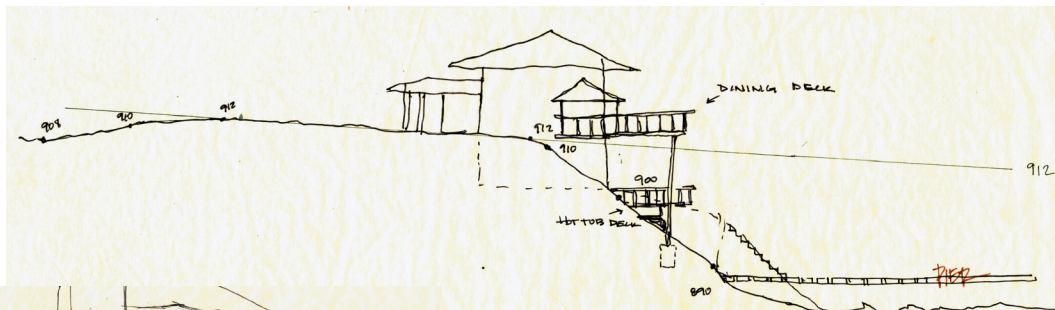


BASEMENT

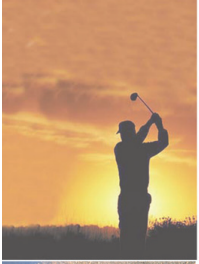




It was decided that the Common House would be the only two story structure on the site. This was easily done by using the existing topography so that the lake side would be two stories, but only one from the view of the homes.

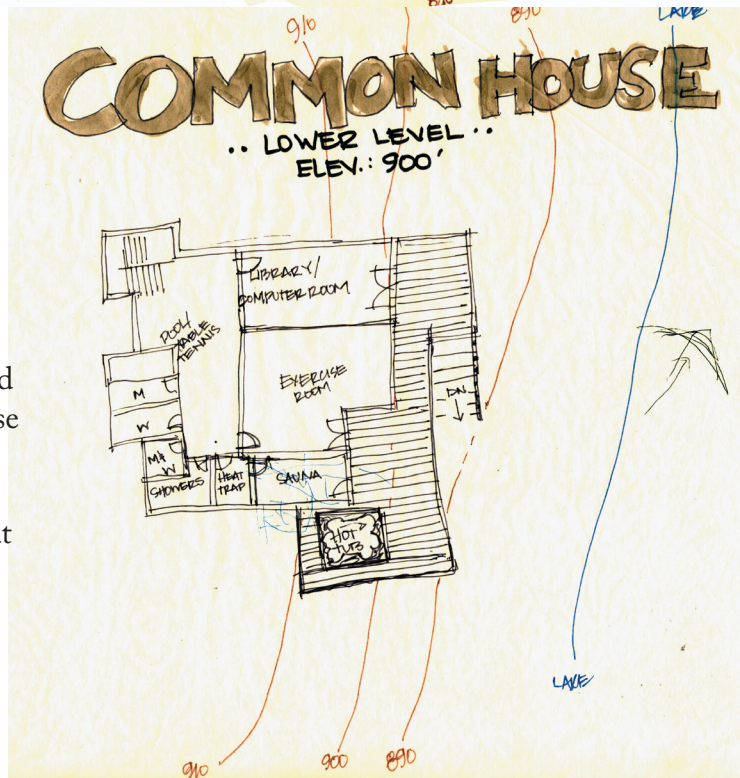
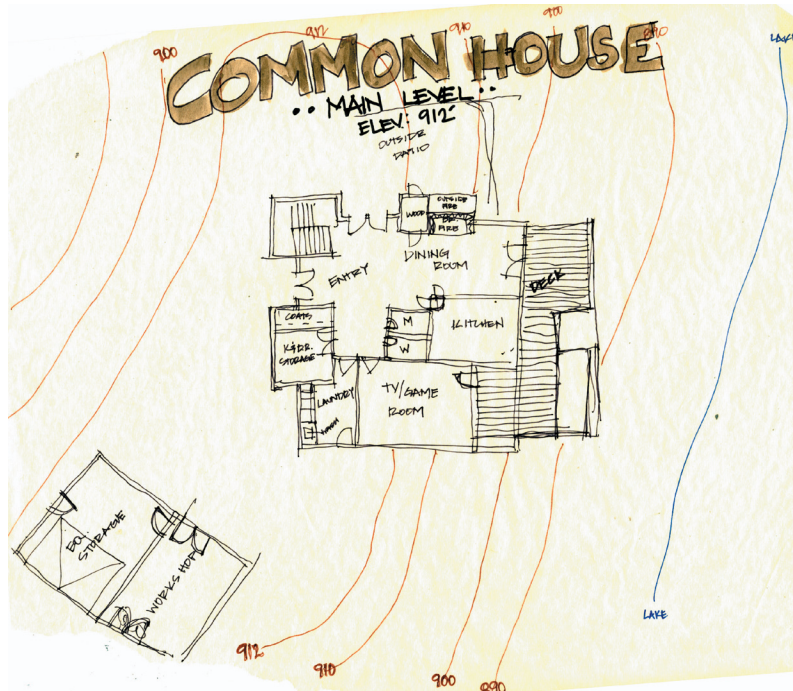


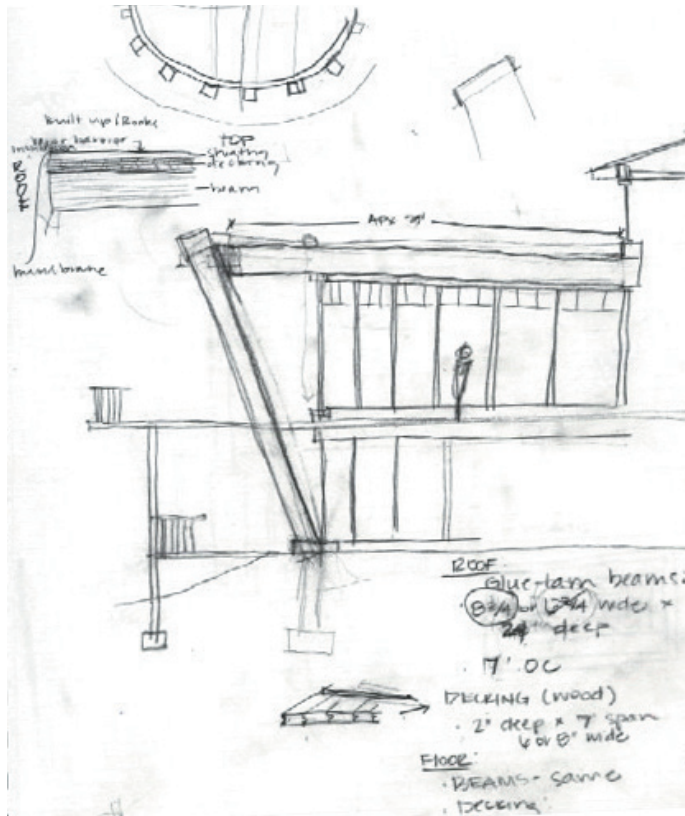
PROCESS & SOLUTION



These are drawings of original ideas on room layouts, and division of functions for the Common House.

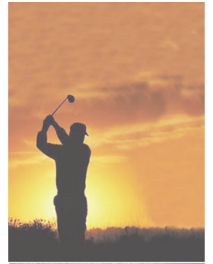
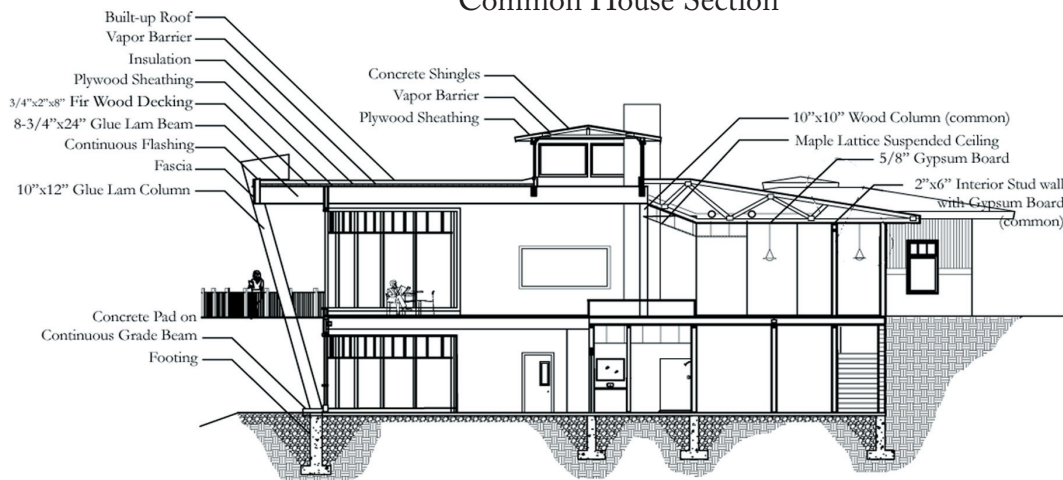
Originally I was trying to keep the prairie style throughout the whole building. Then I decided that the Common House should take advantage of the views to the lake, since it is the reason that it is located on this part of this site. This had to be done in a better way than just adding a large deck onto the back.





I decided to make the dining room have the best view, since it is the largest, most important space in the Common House. A large, curved curtain wall encloses the dining room, along with the fitness center underneath. This way while people are eating, socializing, or working out, they will have an unobstructed view out into nature.

Below:
Common House Section



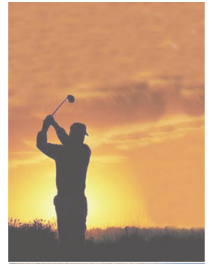
PROCESS & SOLUTION



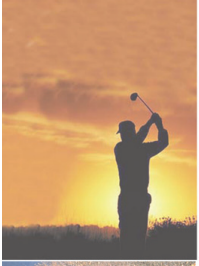
Common House
 Upper and Lower level floor plans



Common House:
 Above: Exterior perspective of the front (the side facing the homes)
 Below: Exterior perspective of the lake side.



PROCESS & SOLUTION



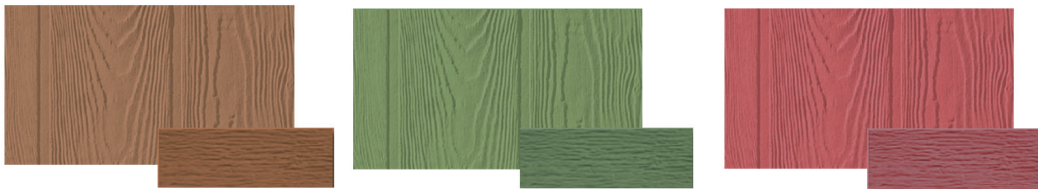
Common House:
Interior perspective of the Dining Room showing the fireplace, serving area, and part of the curved curtain wall that allows for the great views to the lake.

Materials

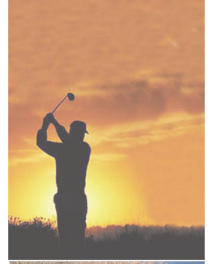


The exterior material selection was made by choosing something with low maintenance and high durability. Concrete shingles are used for durability. Stucco is used for the look, texture and resilience. Finally James Hardie Siding Products are used for the board and batten and trim work on the exterior. HardiBoard is a fiber-cement composite that is non-combustible, and resists rotting or cracking, as well as damage from rain and hail. It provides the low maintenance of vinyl and aluminum siding, but doesn't sacrifice the beauty and characteristics of wood.

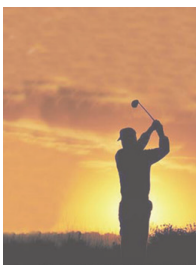
The color palette used for the colors of the shingles and the Harding Siding is shown here on this diagram and through the drawings of the homes.



Homes will use one color for their siding. However, the Common House uses all three of the colors.



PROCESS & SOLUTION



Medallion CABINETRY an SLRNY company

Medallion brand cabinets are used for both the homes and the Common House. They are constructed out of a plywood box with solid oak door and drawer front. The drawer boxes are made from 3/4" hardwood, and the shelves are 3/4" plywood, veneered. The door style chosen is the Quarter-Sawn Oak Park. Quarter-sawn oak's refined grain and rich patterning are achieved by quartering the wood and then cutting at a 90-degree angle to the growth ring. The process exposes a beautiful aspect of the grain called the flake. This vertical, close grain provides a truly spectacular canvas for a host of finishes. Oak Park's distinctive Prairie style lines complement open, flexible spaces by adding warmth and classic style.

As shown by the photo to the right, not only does the Oak Park have a rich texture, but the wall cabinet doors offer the same "repeating box" that is found all over the home, the common house, and the community.

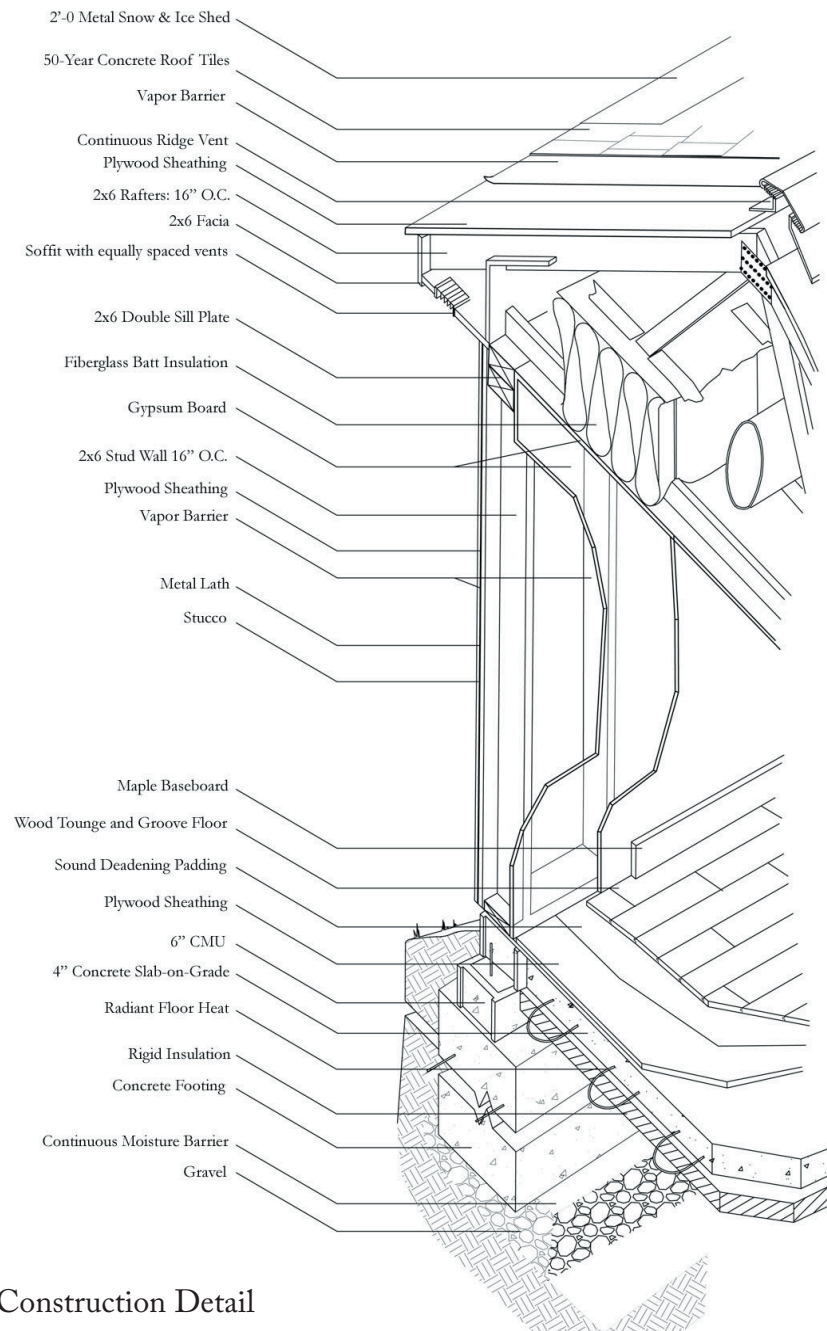


In addition to the Oak Park style cabinets, the other wood in the house, including the casing, baseboard, wainscoting, some wood floors, and crown moulding will be in maple. The stain is a light-medium shade (Medallion brand: Wheat). Above is the cabinet door style and finish, Hazelnut.

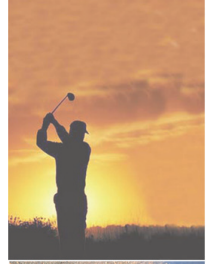
The combination of both these woods will only add depth, uniqueness, and additional warmth to the home.

Construction Details

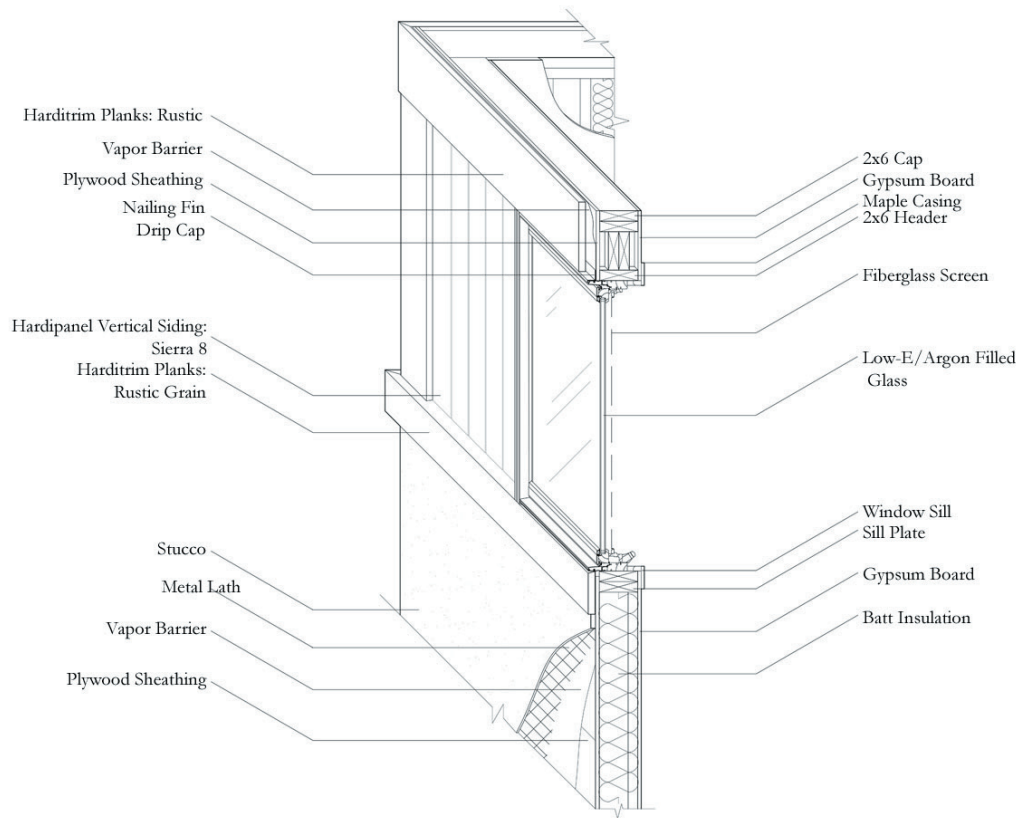
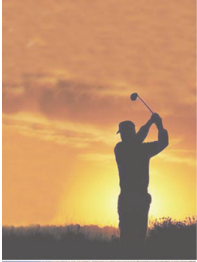
The following are typical details for all homes.



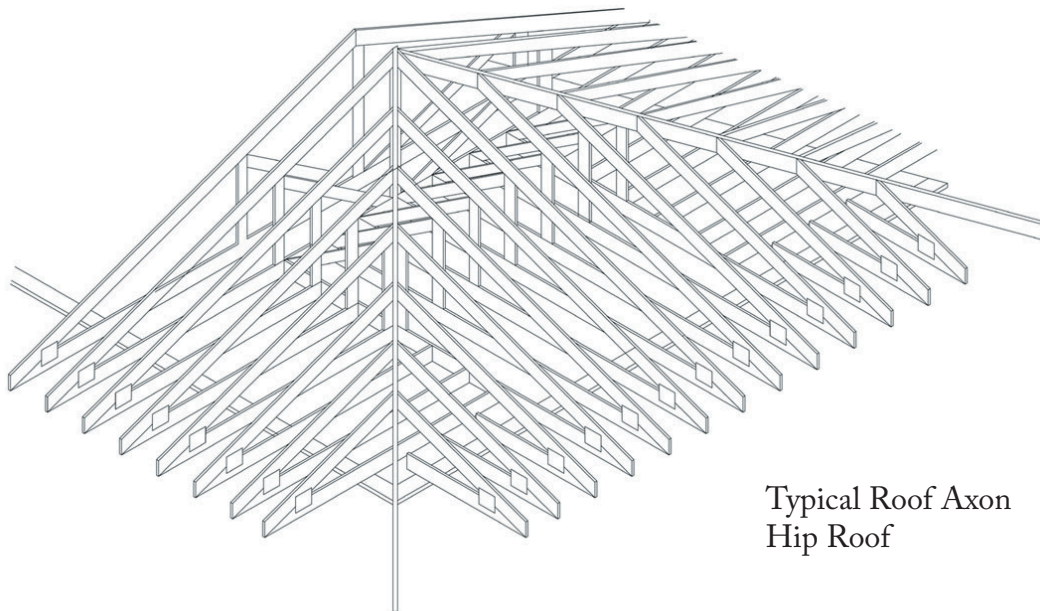
Typical Construction Detail



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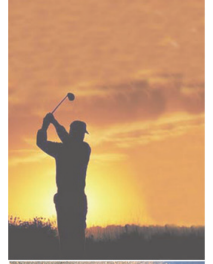
Typical Wall and Window Detail



Typical Roof Axon
Hip Roof

Final Boards

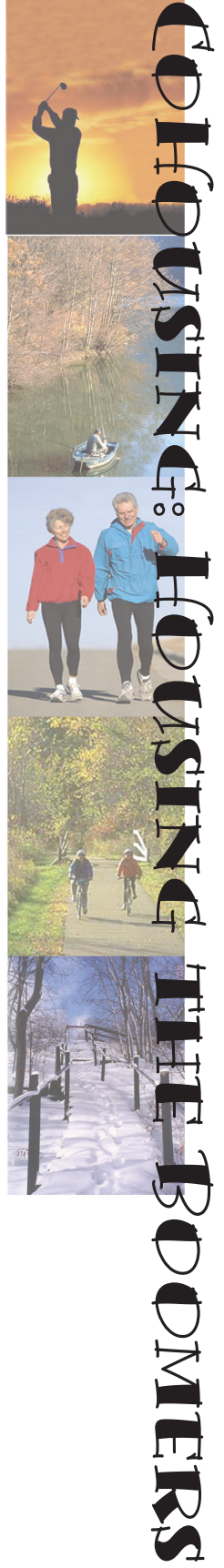
The next two pages show the final board layout.



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Personal Identification



Valerie Bengtson
Class of 2005



I actually grew up about a mile and a half from this site. I knew that I would be a perfect place for a group of retirees to call home.

I went to Chisago Lakes High School, graduated in 2000, and immediately attended NDSU, and applied for their Architecture program.

Some of my favorite college memories came from the four years of studio with the great friends I made. Some of the times that I have ever laughed my hardest were doing the last days of a project, full of sleepless nights, and the things that we would do to keep ourselves awake and going.

I would like to give special thanks to Tom, and Leah for their endless input and criticism. I would also like to thank Michael for his incredible support through everything, and putting up with all the emotions that a Thesis can bring out! And finally, there is my family, whom without them I would not have had the opportunity to achieve this.



PERSONAL IDENTIFICATION