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**LAKE BOUNTIFUL ECOLOGICAL RETREAT**  
transitions from natural to built



North Dakota State University  
Department of Architecture and Landscape Architecture  
2004-2005 Undergraduate Design Thesis  
Michael J. Rueter

Rueter, Michael J.  
Lake Bountiful ecological  
retreat

Arch.  
Thesis  
2005  
Rueter

# Lake Bountiful Ecological Retreat

*Transitions from natural to built*

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

By

Michael J. Rueter

In Partial Fulfillment of the Requirements  
for the Degree of  
Bachelor of Architecture

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Fargo, North Dakota



Lake Bountiful Ecological Retreat  
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CHAPTER ONE: INTRODUCTION

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**A. General Description**

The project overview is a convention center/corporate retreat. The design is intended to be much more than just a convention center for Tastefully Simple but also a nature preserve that the entire community can be inspired by, learn from and interact with. The term “active preserve” will be called upon many times throughout the project as a way to describe the project. The design will try and capture this term by restoring and preserving the nature state of the site while also fulfilling the functional needs of a major corporation and allowing people to interact with the site.

**B. Location & General Map**

The Lake Bountiful site is located 1.5 miles south of Tastefully Simple’s corporate headquarters in Alexandria. Tastefully Simple’s headquarters is located about 3 miles west of downtown Alexandria. Alexandria is located roughly in the middle of Douglas County, which lies in central Minnesota.

**C. Unifying Idea**

Tastefully Simple has already acquired this beautiful site near Alexandria. They are going to develop the land and need to achieve certain functions from the site. The question is what form the development is going to take? Tastefully Simple is an open-minded corporation concerned with preservation. They are open to ideas concerning ways to gain the most from this project. Without the help from projects like this it will be far to easy to follow the footsteps of so many other corporations and develop this site in the most function and economical ways, transforming the landscape to best suit their needs. This project is intended to be an example for future companies to attempt to preserve the land that they are developing on. It will hopefully show that in preserving this land it does not need to be rendered useless to humans but can become a much more beautiful and fulfilling space. This should not be considered the exception but the norm for future developments. Corporations need to start taking a more active approach to these issues to help preserve the original state of the cities they call home. All too often the vary nature that drew corporations to an area, just like Alexandria did for Tastefully Simple, ends up being destroyed to suit functional needs. This project will attempt to prove that this is not necessary.



Figure 1.1. Map of Minnesota



Figure 1.2. Map of Alexandria



Figure 1.3. Aerial view of the site.

## D. History

The area around Lake Bountiful is, most recently, a landscape that was carved by the advancement and retreat of the glaciers. After the glaciers receded the landscape that was carved became part of the transition zone between hardwood forests and tall grass prairies. The boundary between these two ecotypes was constantly fluctuating depending on many climatic conditions. Fire would have been one of the largest determining factors on what the dominant vegetation would have been. After settlers came in 1858 dairy and farming became the dominant activity for the area.

The site for this project is an older farmstead that surrounds a lake, typical of those formed by glaciers, named Johnson Lake (now Lake Bountiful). The land around the lake was used for pastureland but still retains many of the older oaks, maples and other hardwoods. The lake itself gets approximately 9' deep and has just recently been stocked with walleye fingerlings. There are some aquatic surveys of the biota in the lake that the Department of Natural Resources has completed.

Tastefully Simple purchased the land in 2002 to preserve the natural character of the land and prevent this site from residential development. Tastefully Simple has been working with the Minnesota Department of Natural Resources, environmental consultants, and internal committees to determine the appropriate uses for the site. There is a lot of potential for recreation, education restoration, and preservation on the site (Olsen 180).

This transition through out the site will help to provide inspiration to the design along with variation and change over time. These are important characteristics to the site and also to Tastefully Simple. The leaf was the inspiration for the headquarters building because it represents change to them. Because of the importance of these ideas it is imperative that they also provide inspiration for the Lake Bountiful site.



Figure 1.4. View across Lake Bountiful

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CHAPTER TWO: PROJECT DESCRIPTION

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## 2. Project Description

### A. Conceptual Underpinning

Visualizing the natural and original sense of a city is difficult to do in even small communities. Corporate development is not traditionally viewed as being one to help with this issue. Can a company preserve a site, giving the community in which it resides a gift, while still achieving its functional necessities? Can buildings and developments truly blend into the environment, allowing people to interact and learn from it, while preserving that which is intended to be interacted with and learned from?

### B. Major Project Elements

Tastefully Simple has organized a committee comprised of Tastefully Simple employees and an environmental consultant. This committee has loosely defined the major project elements. I will use these elements only as a guide through the project and never view them as constraints. Project elements have also been defined from the masterplan of Aaron Olsen's landscape architecture thesis project. Not all will pertain to this design. I think it is important to state that Tastefully Simple is still in the process of deciding what this site can be used for. The site became available and Tastefully Simple had the vision to see that this area is being developed very rapidly and this would make for the perfect site to preserve, giving something back to the community. The list below is what Aaron listed for project elements. This list might change throughout the project, later in chapter 5 it will already be noticeable that I am altering Aaron's purposed solutions. Being this is intending to be an idea generation project I feel it is important to give Tastefully Simple alternative ideas other than ones Aaron has already purposed but that will still meld with Aaron's masterplan.

Convention center	Retreat Center
Interpretive center	Docks (boat access)
"Garden of Hope"	Maintenance/storage area
Parking	Adaptive reuse of structures
Trail systems	Overlooks
Picnic area	Restoration areas
Living snow fence	Reflective/meditation areas
Storm water management	

The project elements in this list that will be focused on will be:

- Convention center



- Education Retreat Center
- Forest grove building
- Maintenance buildings

### C. User / Client Description

The users of this site will very greatly requiring the program and designs to be flexible.

- The obvious clients are going to be Tastefully Simple employees since the site is 1.5 miles from the corporate headquarters. They will use the site for a variety of reasons like conventions, seminars, exercise and recreation.
- Consultants of Tastefully Simple will be utilizing the site for multiple reasons during conventions and seminars. This will be on a limited bases. Currently all consultants seminars and conventions are held at the Minneapolis Convention Center. The 2004 national convention brought 1,366 consultants to Minneapolis. This is done because consultants arrive from all over the country and transportation to and from Alexandria for such a large number of people has been an issue. Ways in which the consultant conventions could be conducted on site will be investigated. This would allow the consultants to see the corporate headquarters and stopping the need for Tastefully Simple employee's from having to travel to Minneapolis for conventions.
- Employees of Tastefully Simple will also be welcome and encouraged to bring their families to the site for recreation and family meetings. This is currently available at this time. There is one trial established on the site and in the summer months there are non-motorized boats available for use on the lake.
- Local groups and organizations will be able to make special arrangements to utilize the site for conventions, meetings, recreations and education.
- It is the intention of the project to pursue the possibly of making this site open for other business' in Alexandria to use as a convention center for their employees and possibly clients from outside the area.
- The site will not be open to public access without prior arrangement but the site will provide a visual waypoint along what promises to be a



Figure 2.1. Tastefully Simple logo.



Figure 2.2. Tastefully Simple corporate headquarters.



Figure 2.3. Tastefully Simple collage.

heavily developed highway. The idea will be investigated of allowing the public on the site but there are many issues that come along with this. Tastefully Simple has also been considering in the future making the site or part of the site a public park.

#### **D. Tastefully Simple description**

##### **HISTORY OF TASTEFULLY SIMPLE**

Jill Blashek inspired Tastefully Simple in 1995 who, at the time, owned her own gift basket business. Jill shared the idea with Joni Nielson who became a silent partner. Now Tastefully Simple is one of the fastest growing businesses in the United States. In 2002 Inc. Magazine ranked Tastefully Simple the 7th fastest growing private company in the United States, which was a rise from the 2001 ranking of 40<sup>th</sup>; today they are ranked as 44<sup>th</sup>. The ranking is based off annual growth, which Tastefully Simple is at 534.4% with a five-year sales growth of 2,672%. The magazine also highlighted Tastefully Simple by stating, “the largest woman-run firm on the list is also among the most profitable” with revenues in 2003 of 96.7 million. Lastly, Inc. Magazine placed Tastefully Simple on the top of the 13 companies listed in the “Food and Beverage” category.

The outrageous growth of the company has made it one of the largest employers in the Alexandria area. Tastefully Simple started with 7 consultants in 1995 and now has over 20,000 throughout the United States and District of Columbia. All of the products are shipped to consultants through the headquarters building, which is located about 1.5 miles north of the Lake Bountiful site on County Road 45. There is also about 350 administrative and support staff that are employed at the headquarters building.

##### **Core Values:**

- I. We are committed to exceptional quality, simplicity, and uniqueness.
- II. We strive to earn long-term respect and confidence by exceeding expectations.
- III. We are distinctive in our attitude of passion, sincerity, and respectfulness.
- IV. We celebrate with a cooperative spirit of teamwork and fun.
- V. We nurture the community in which we live.
- VI. We are intuitively aware of new products, people, and places.



Figure 2.4. Tastefully Simple headquarters in 1995.



Figure 2.5. Tastefully Simple headquarters today.

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VII. We enrich the lives of consultants and HQ team members through empowerment and personal development. (TS website)

Aspirations:

- I. To be a household name around the world.
- II. To be a trendsetter and business role model.
- III. To be the best for the world in community giving.
- IV. To have the happiest consultants.
- V. To be the #1 employer of choice in the nation.
- VI. To be on the cutting edge of technology. (TS website)

Principles:

- I. Law of Abundancy: Fostering peace of mind through win-win attitudes.
- II. Law of Magic: Creating positive energy through celebration and excellence.
- III. Law of Realness: Building trust through humbleness. (TS website)

These core values, aspirations and principles are important because they identify who Tastefully Simple is and their approach to business and the community which needs to be carried through in this project.

#### **E. Design Methodology**

I will be corresponding throughout the design process with Aaron Olsen, the landscape architecture student whose master plan I will be referencing. I will also be in contact with an environmental consultant that has been hired by Tastefully Simple along with Connie Marcyes, my contact with Tastefully Simple.

I plan on researching other corporate campus/convention centers for typology research. It is going to be important to see what has and has not worked for other corporations and to give Tastefully Simple an idea of what this site can be utilized for.

I also need to have an understanding of the term “active preserve” and the implications it will have on the building designs. This is the major issue with building on the site. The first reason the site was purchased was to preserve it. The question now is if there is a way in which the site can be utilized while still preserving it? Adaptive reuse will also be researched to facilitate the use of the existing farmstead. The intention from the start is not to introduce any new buildings onto the site except for a building on the northwest corner of the site for the retreat center.

<p>Biomimicry will also be researched to see how natural materials and process can be utilized in the design. There is a “green committee” that has been established by Tastefully Simple to minimize the corporations impact to the environment as much as possible. It is very important for this corporation to continue this idea throughout the site.</p> <p><b>F. Project Emphasis</b></p> <p>The focus of the project is to design buildings that transition into the landscape similar to the way the site itself is a transition zone. To design and construct the buildings in ways that impact the site as little as possible, yet allow for interaction with the site.</p> <ul style="list-style-type: none"><li>▪ Fulfill the client’s needs for the site while preserving the original sense of place.</li><li>▪ Adaptive reuse of the existing structures on the site.</li><li>▪ Blend the designs of the buildings into the masterplan.</li><li>▪ The design of the site should be made self-sustaining, both environmentally and economically. This will ensure that all aspects of the project will be able to thrive and continue being a valuable resource to the community.</li></ul> <p>While preserving the historical nature of the site, still provide Tastefully Simple with an icon it, along with the community, can identify with.</p>	
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CHAPTER THREE: SITE ANALYSIS

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### 3. Site Analysis

#### A. Site Identity

- Size of entire site: 154 acres
- Size of Lake Bountiful: 32 acres
- Existing Structures:
  - 1 farmhouse (already converted to meeting space)
  - 2 silos
  - 2 large barns
  - 1 storage building
  - 1 small storage shed by the lake

#### B. Climate

The site is classified by a cool, sub-humid, continental climate. The summers are hot and humid while the winters are cold and dry. There is a wide variation in temperatures throughout the year.

- Latitude: 45 53 32.93190N
- Longitude: 95 23 03.84569W
- Elevation: 1,424'
- Record low: -38F
- Record high: 104F
- Annual Precipitation: 21.8"
- Annual Snowfall: 45.1"
- Heating degree days: 8815
- Cooling degree days: 443
- Frost Line: 3-5'
- Summer wind: South 7 mph
- Winter wind: Northeast 9 mph
- Average wind: 8.3 mph
- Annual clear: 97 days
- Annual partly cloudy: 102 days
- Annual cloudy: 166 days
- Average humidity: 64%

Although the climate is quiet variable there are many activities that can go on outdoors in all seasons of the year. There are some issues with mosquitoes and other bugs during the humid times of the summer.

#### C. Hidden Potentials

This is a site that will provide Tastefully Simple a chance to preserve the natural state of the entire area. With all the development that is happening around this site since the development of County Road 45, which is one of two city bypass roads for Alexandria, this site will eventually become an island of natural beauty. By preserving the Lake Bountiful site Tastefully Simple will be providing the city with a great amenity that looks to be the only



Figure 3.1. Aerial view of site.

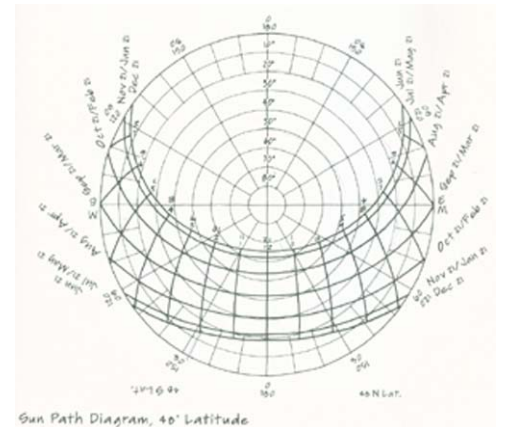


Figure 3.2. Sun Path Diagram

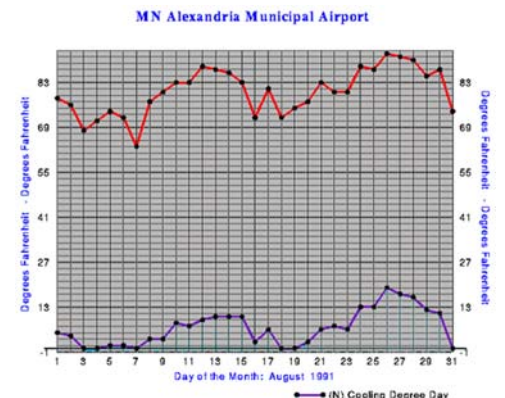


Figure 3.3. Cooling days & maximum temp for July.

natural or park asset along this very busy road.

The transitions between the vegetation on the site provide a great opportunity for the basis of the. The architecture is required to blend with the landscape and promote understanding and interaction with the essence of the site. There are a few visual corridors into the site from County Road 45. This provides an opportunity to hide all buildings on site, with the exception of the farmstead, from the road. By doing this it will truly appear to be a natural preserve in the traditional sense to the community from the road. The farmstead should be exposed to the community to express what is happening on the site and also to provide the feel of the original sense of place.

**D. Conservation**

It is understood that by developing this site we are going to negate the original natural state of the site. Since the site in some areas has already been developed it seems logical to focus the adaptive reuse and new construction to these areas since they have already been disturbed. The areas of the site that have not been previously developed are intended on being brought back to their initial state. New construction that is outside these areas will have to be sensitive the environment and will be avoided at all costs.

**E. Ecology**

The dominant vegetation currently on the site has the characteristics of an oak woodland and agriculture. This has not always been the case as the site lies in the transition zone between the tall grass prairies and oak woodlands of the past. This boundary would have been flexible and ever changing depending on the environmental conditions of the time and the presence of fire. Fire would hold back most of the woodland species from taking over the tall grass prairie but oaks have a thick enough bark to withstand some grass fires.

The original vegetation of Douglas County is a mix of prairie and hardwood species. There are 3 different categories that the original plant communities can be divided into: Prairie, Oak Groves, and Northern Hardwoods. The Lake Bountiful site is located in the Oak Grove vegetation type but this boundary would historically fluctuated depending on precipitation and fire. The classification of the existing vegetation is based on:

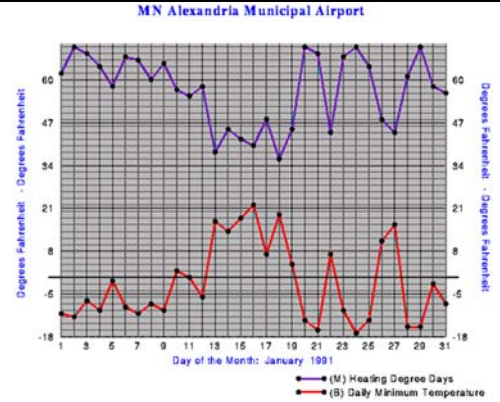


Figure 3.4. Heating days & minimum temp. for Jan.

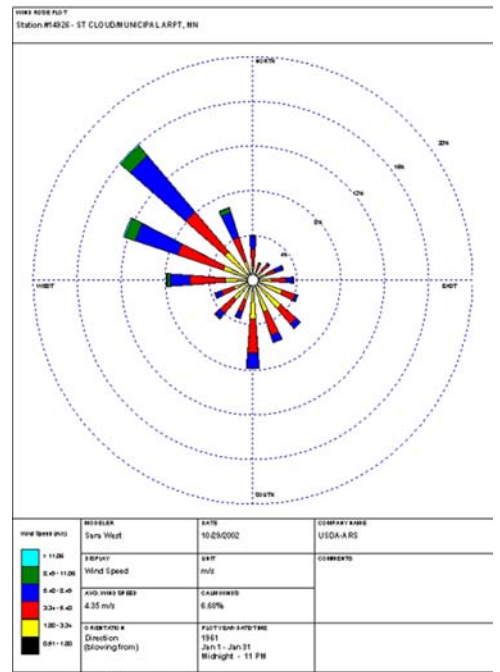


Figure 3.5. Wind rose for Jan.

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Prairie: prairies, marshes, sloughs, and other grasslands where the vegetation consisted of big bluestem, little bluestem, prairie cordgrass, tall dropseed, indiangrass, switchgrass, sideoats grama, hairy grama, blue grama, leadplant, marshgrass, sedges, reeds, and scattered stands of woodland.

Oak Grove: oak groves and oak openings where the vegetation consisted of oaks and some poplar, basswood, maple, cottonwoods, tamarack, and spruce.

Northern Hardwood: identifies areas of northern hardwoods where the vegetation consisted mainly of maple, white oak, bur oak, ironwood, birch, ash, elm, and basswood.

Currently there are a variety of plant species that vary across the site. Around the lake and in the marsh areas of the site there are cattails, bull rushes, and other wetland species. In the wooded areas there are oaks, maples, and some ash trees. There are also a variety of herbaceous species across the site. A portion of the site is also currently used for agricultural uses.

Today there have been five major vegetation communities identified on the site:

- I. Prairie: areas that receive 80%-100% sunlight
- II. Savanna: both prairie and woodland species are found here, random Oak groves are present.
- III. Oak Woodland: dominance of Bur Oaks with other plants species like Black Cherry, American Elm, and Maple
- IV. Lakeshore: sensitive zone along lakes from emergent vegetation to buffer zone vegetation.
- V. Marshes: mostly cattails which, although are prone to be monoculture, are excellent filters (Olsen 16-17).

**F. Behavior**

Currently Tastefully Simple uses the site for some smaller meetings in the existing farmstead. Currently the southern end of the site is used for agricultural purposes. Other than these two uses the only human interaction with the site is vehicles passing by along County Road 45. Providing views to these vehicles will be an important aspect to the project. There is an opportunity to provide the community with a landmark along a busy road and this is also a great opportunity for Tastefully

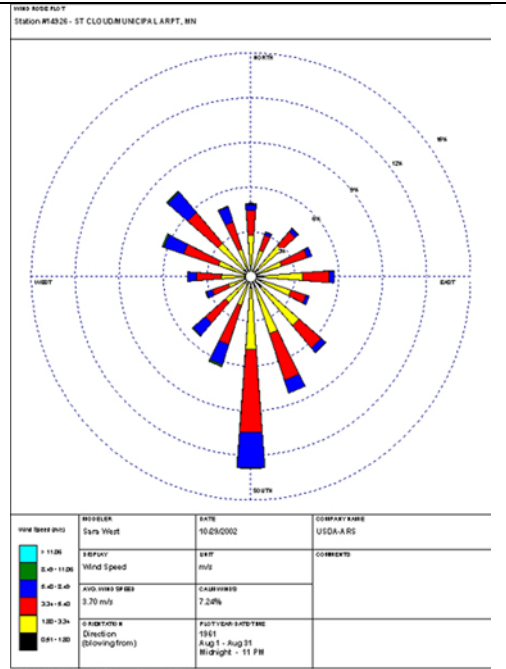


Figure 3.6. Wind rose for Aug.



Figure 3.7. Picture from north side of the site looking across the lake to the farmstead.



Figure 3.8. Picture off the south end of the lake between the lake and agriculture field.

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Simple to display to the public who and what they are.

By developing this site into an active preserve the amount of human interaction with the will be increased. The objective though is to still preserve the essence of the site while increase the amount of human actively allowing for education. The architecture is going to be expected to engage the landscape and encourage this interaction.

**G. Soils**

DpB- Dorset sandy loam, 2% to 6% slope  
DpC- Dorset sandy loam, 6% to 12% slope  
DoC- Dorset sandy loam, 12% to 24%

MaC- Maddock fine sand  
Mh- Marsh

AsC- Arvilla sandy loam, 0 to 2% slope  
AsB- Arvilla sandy loam, 2% to 6% slope

SmC- Sioux loamy coarse sand  
SoE- Sioux gravelly loamy coarse sand

Description of soils:

Dorset series:

Well-drained soils that were formed under grasses that were succeeded by deciduous trees. Generally are somewhat naturally fertile, have low water holding capacity, and are slightly acidic.

Arvilla series:

Well-drained soils that formed under grasses and occur in outwash plains and stream terraces. These soils generally have medium available water capacity medium natural fertility, and medium to high organic matter near the surface layer.

Maddock series:

Deep, well drained soils formed underneath grasses. These soils generally have low natural fertility, low available water capacity, and medium organic mater. Rapid permeability and slightly acidic. Soils are droughty and lowing soil is a problem on unprotected fields.

Marsh:

Shallow ponds and sloughs that contain water throughout most of the year. Excellent for wildlife habitat.



Figure 3.9. Picture standing on the east side of the site looking west across the agriculture field.

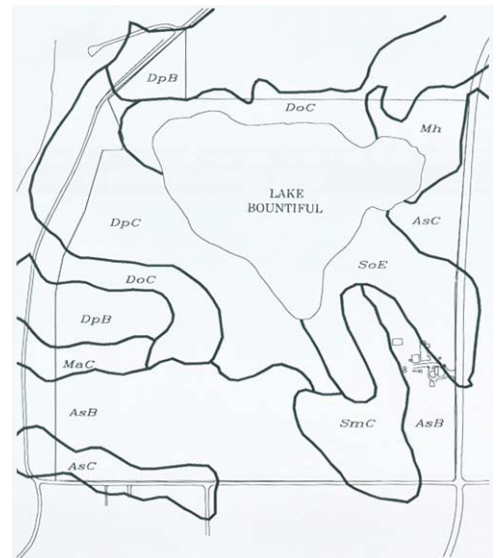


Figure 3.10. Soils map of the site.

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Sioux series:

Excessively drained soils formed under grasses, very shallow, and subject to drought. These soils are generally low in organic matter, have very rapid permeability, very low water capacity, and good source of gravel.

**H. Agricultural Classification**

This site is zoned as agricultural and must follow the guidelines that are associated with that zoning classification (See Appendix A). The agriculture zoning classification is meant to protect agricultural land from residential or commercial development. There may have to be conditional use permits if other buildings are added to the site (Olsen 21).

The agricultural zoning classification has remained even after the development of County Road 45. Before this road was built this whole area, except the zones along the lake, were classified agricultural. The areas around County Road 45 have been steadily changing to residential and commercial in the past couple years to make way for development. It is easily imaginable that Tastefully Simple would not have any problems getting this classification changed allowing for the type of development currently being discussed.

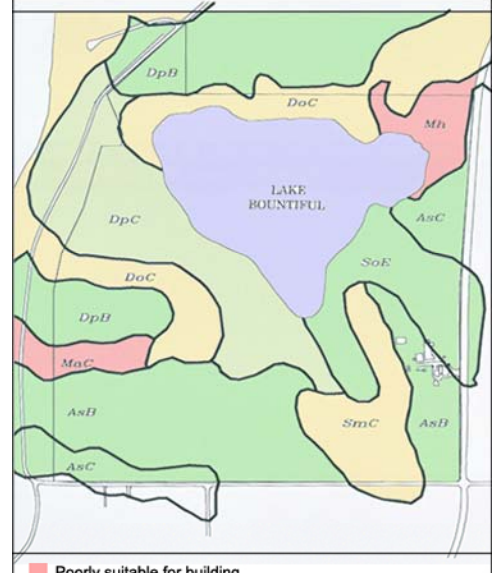


Figure 3.11. Soils analysis.

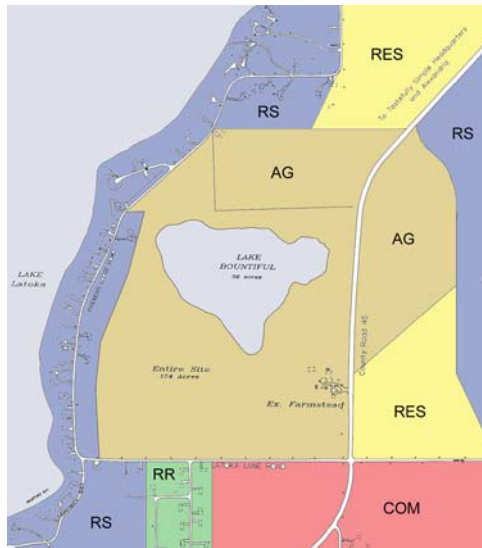


Figure 3.13. Zoning classifications.

- RS: Residential Shore Land
- RR: Rural Residential
- Com: Commercial
- Res: Residential
- AG: Agriculture

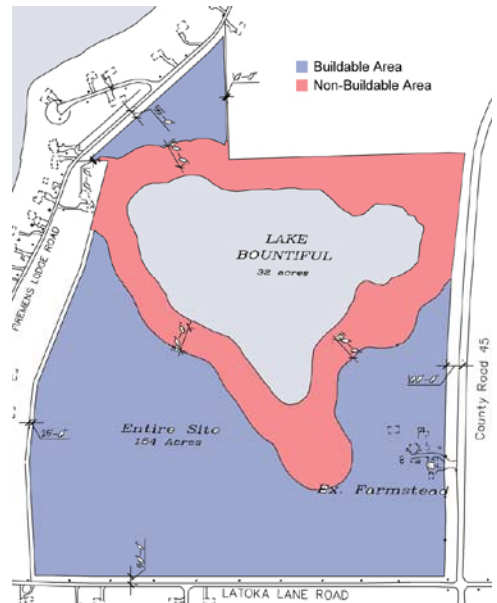


Figure 3.12. Buildable area due to setbacks.

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**I. Water Table**

These soils are moderately well drained with low to medium water capacity. The frost line is usually between 3 and 5 feet and lasts for about 4 to 5 months out of the year. This is common in the area and should pose not hindrance to building footings on the proposed sites.

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CHAPTER FOUR: PROCESS DOCUMENTATION

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### A. Master Plan

The major project elements were placed in the general area of the original master plan. The only areas that were altered were the retreat center and the building in forest grove. This was done because of views and water shed issues. Major project elements were altered allowing the site to become self-sustaining.



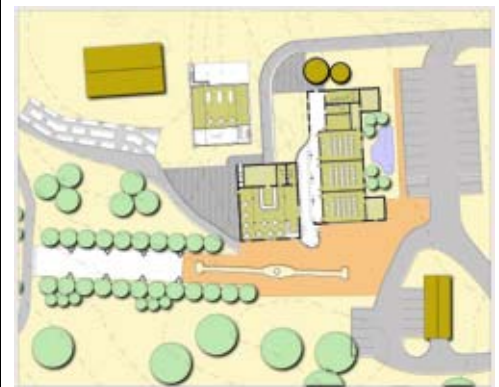
Site plan

### B. Convention Center

- The Large Barn and tall barn were renovated to facilitate a convention center per the mater plan. The major elements for this convention center were altered to allow a self-sufficient entity. The Large barn was converted in the convention hall itself. It will contain 3 meeting rooms with an occupancy of 125 standing and 90 seated. These three rooms can be opened up to provide one large convention hall with an occupancy of 375. The convention center also contains support spaces including one small meeting room, a refreshments room, restrooms and mechanical/storage space.
- The Tall Barn was renovated into a restaurant that will support the convention center when in use and be open to the public when it is not being used for the convention center. A small addition needed to be place on the north side of the building that will house the restrooms and kitchen. It was converted into a two story space with a balcony overlooking the Garden of Hope. This was done increase the occupancy to a total of 200 people. A patio space was added to the master plan of the west side of the building. This will be located next to the Garden of Hope and also be connected to the silo lookout tower. This will provide the best outdoor patio in the Alexandria area with the most peaceful outdoor setting. The patio is also located on the walking trail that winds around the entire site.
- The Breezeway was created to provide an entry sequence to the convention center, connecting the two building and opening up the hallway into the



Convention Center



Convention Center Plan

convention center. It is almost entirely glass, bringing in natural light into the convention center and the structure provides a sense of movement down the spine of the breezeway. This element is intended to become the visual icon for the center.

- The tall silo was converted into a lookout tower. This lookout will provide spectacular sunset views and will overlook the entire site as well as Alexandria itself. The tower will have a hydraulic elevator in the center with a spiral stair around the exterior. Once on the top visitors will be able to orient themselves to the entire site and will be able to recognize the different views that have been created through the site.

### C. Retreat Center

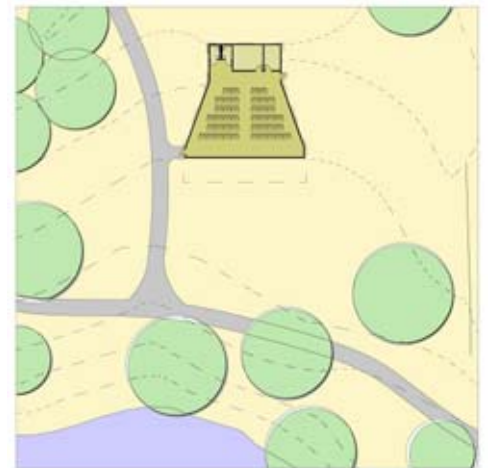
- The Retreat Lodging building was separated from the Retreat Center because of site issues and because of program issues. This varies from the original master plan. Because of a draw that flows into lake bountiful the decision was made to separate the two buildings, placing them on either side of the draw. This will decrease the amount of contaminants that will flow into the lake. Lodging was added to program so the convention center could become self-sustaining. By doing this visitors will become entirely immersed in the site which will better facilitate an understanding of the sustain practices of the site. This will increase enthusiasm, which will hopefully promote the use of these practices on visitors. This most intensive research in sustainable design was focused on this building. According to the following charts this building would be 75-80% more efficient than the standard hotel room. It would almost entirely be heated by the tromb wall and attached rock bed. Skylights would provide all the lighting needs during the day. The building was placed into the hillside to shelter it from the cold winter prevailing winds. This also hides the building from the road preserving the natural sense of the site. The building also curves following the natural contours of the site. Everything about this building was designed around the Sun, Wind & Light practices.
- The Retreat Center was separated from the Lodging because daily visitors to the site will use this building. It would not be appropriate to mix these visitors with the professional that would be saying in the lodging building for conventions. The daily visitors to the site might include school children that



Breezeway



Lodging Plan



Retreat Center Plan

Michael J. Rueter

visitors to the site might include school children that could be educated on the sustainable practices being used through out the site. Once on site they would come to this building and be given presentation and oriented to the site. This would be the staging point and could also be used for various activities during their stay. If visitors are not using the building people staying in the lodging building can use it as a general gathering space or small breakout space.

#### D. Forest Grove

- This element remained the same as the original master plan. Once again the principals in Sun, Wind & Light were used extensively in the design of this building. This building is located in the heart of the site and is intended to be used as a stopping point along the trail. It can be used for picnic purposes or even an overnight camp out point. Because of its location the impact to the site would be to great to bring infrastructure to this building. It will be heated with a tromb wall. Its construction is straw bale to provide high R-value. If restrooms are deemed necessary a wetland area can be created to the NE to act as the filter system. Skylight will also be used for daylight.



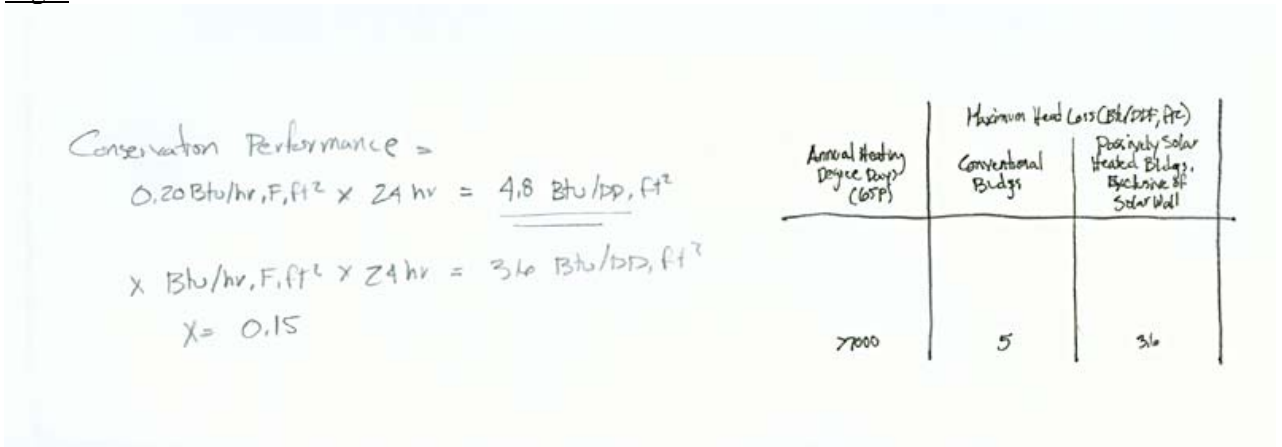
Hotel Entry



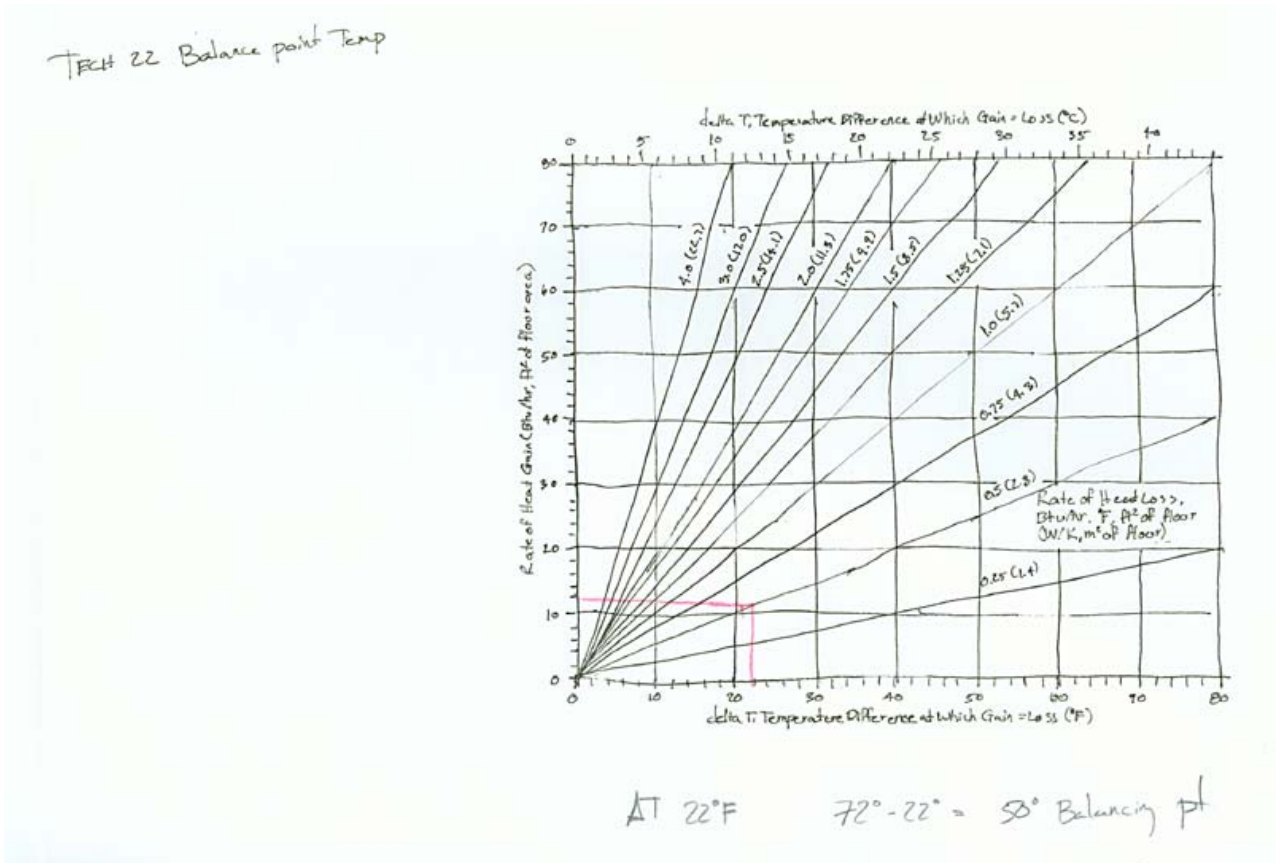
Forest Grove Plan

Lake Bountiful Ecological Retreat  
*Transitions from natural to built*

The following graphs were the precedents for the design decisions for all new construction. This includes the retreat lodging, retreat center and the forest grove picnic area. Information was found in Sun, Wind & Light.



Annual Heating Degree Days



Balance Point Temp

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Lake Bountiful Ecological Retreat  
 Transitions from natural to built

SUN  
 WINTER & FALL / SPRING  
 SUMMER

WIND  
 SUMMER (3)  
 WINTER (1)

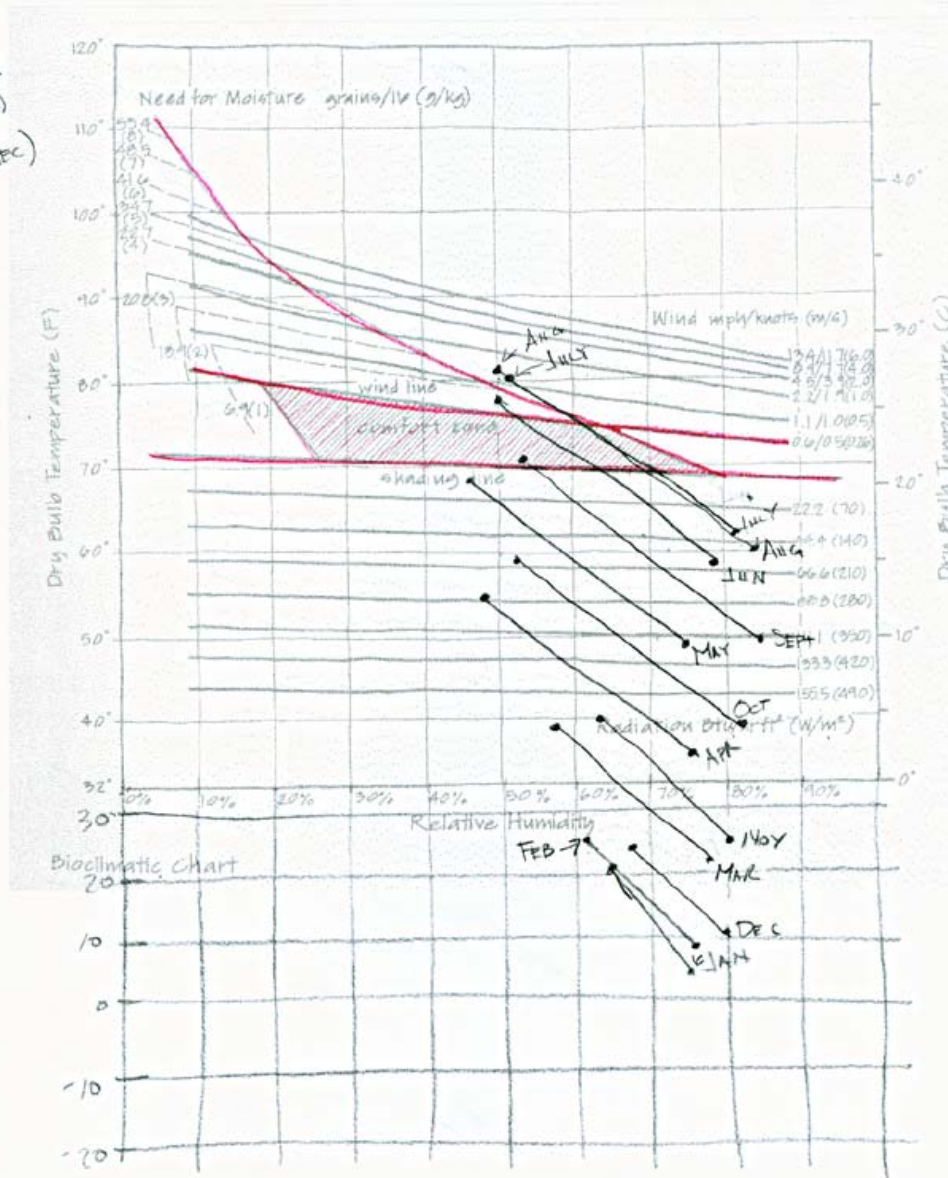
SUN (3)  
 (1)

MAX 31st - JULY 31  
 118° R 60° ALT.

8am - 8pm  
 35° 35°

JUN - AUG (SHADE)  
 SEPT - MAY (SUN)  
 MOISTURE (NONE)  
 WIND = JULY AUG (1)

AZIMUTH  
 (PLAN)  
 ALT (SEC)



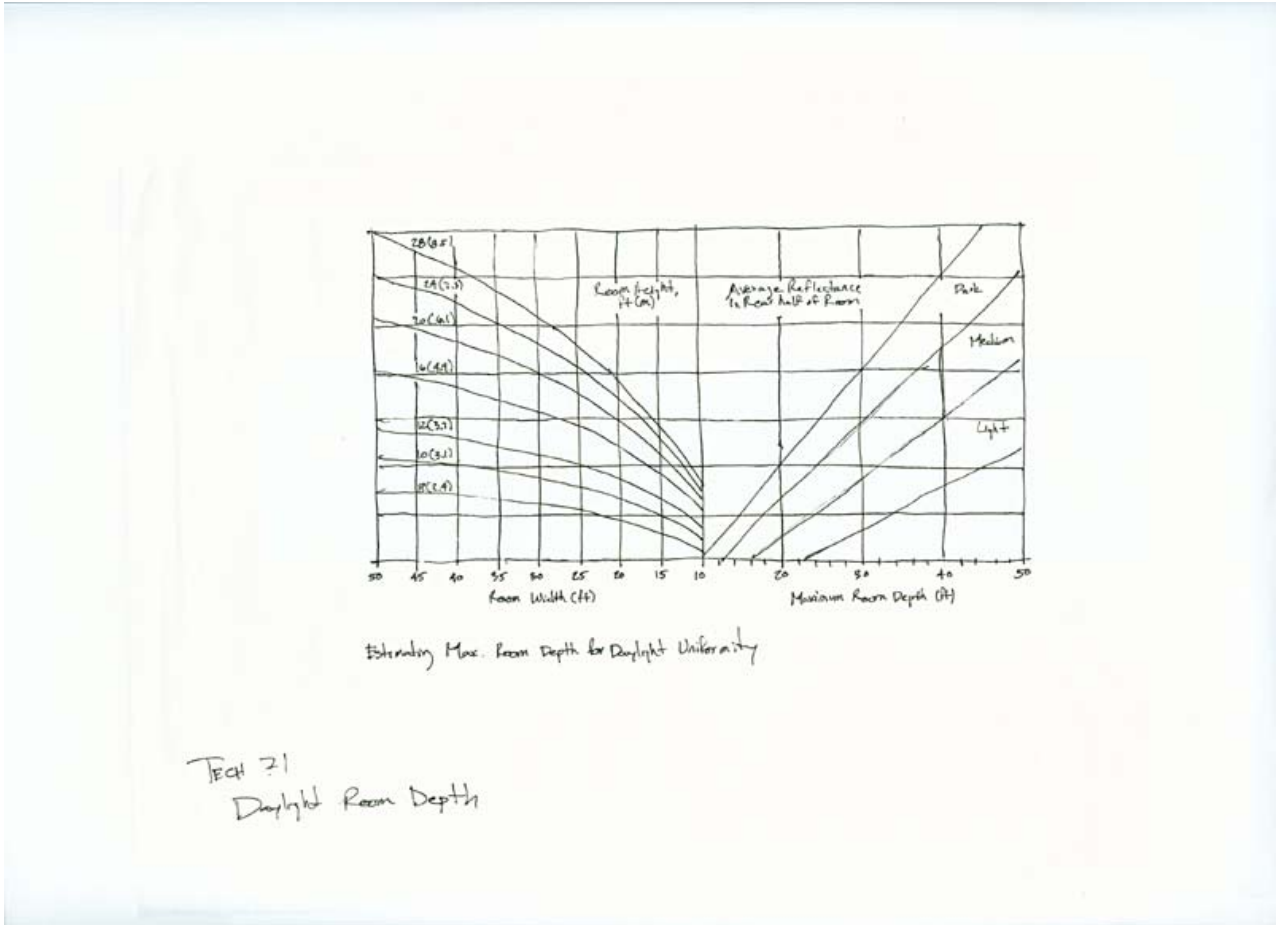
SEPT - MAY  
 HEAT

JUNE - AUG  
 COOL

Bioclimatic Chart

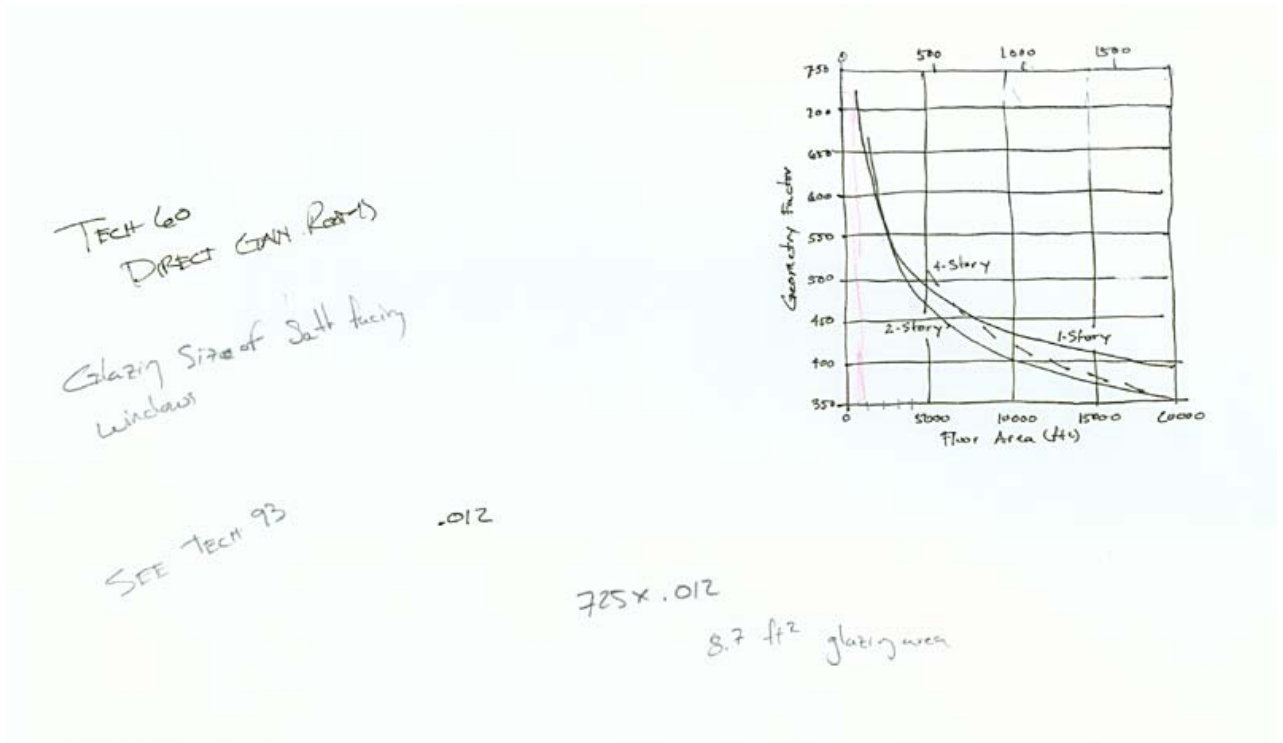
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Transitions from natural to built



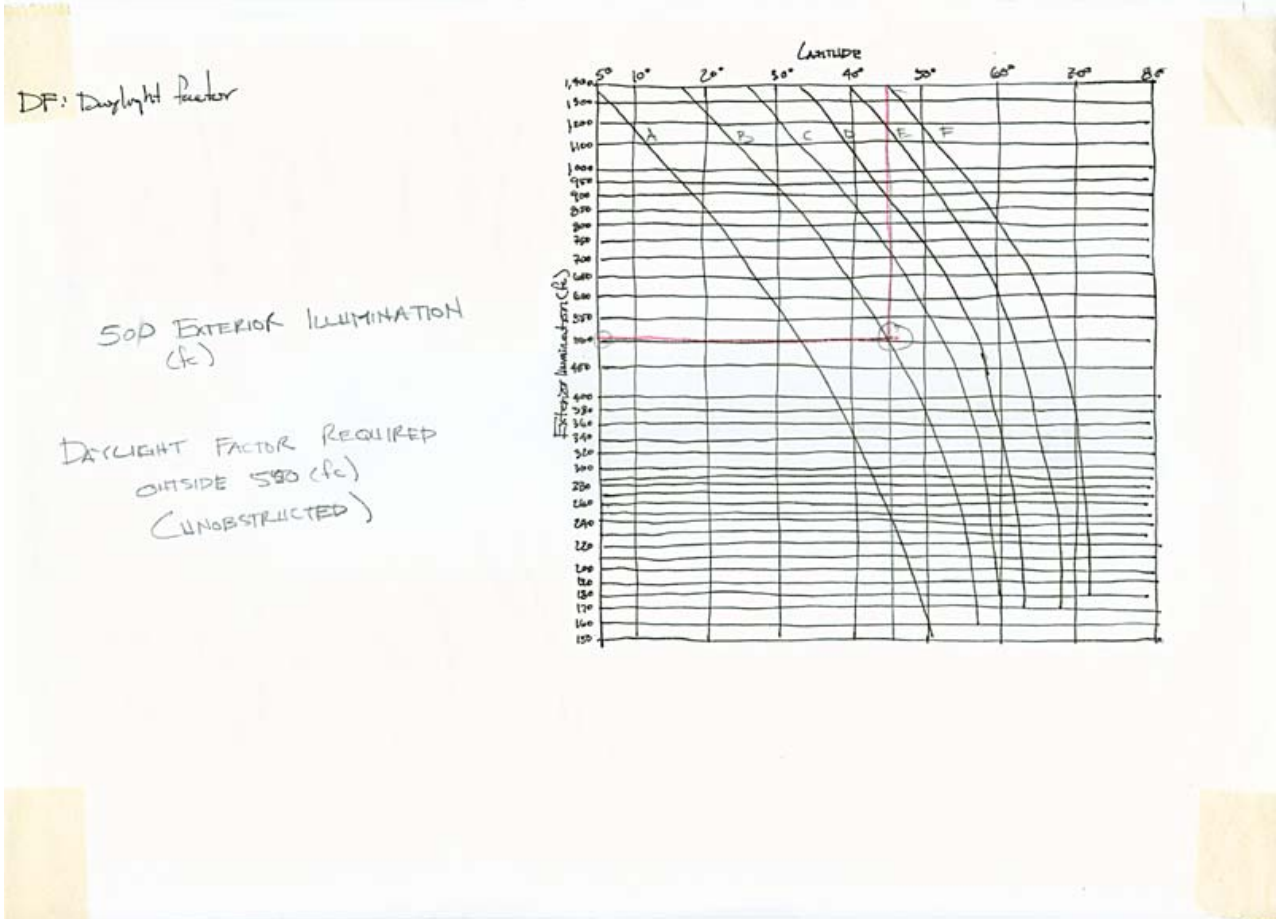
Daylight Room Depth

Lake Bountiful Ecological Retreat  
Transitions from natural to built



Direct Gain Rooms

Lake Bountiful Ecological Retreat  
Transitions from natural to built



Exterior Illumination

- > SOLAR HEAT GAIN  
= 20 Btu/hr, ft<sup>2</sup>
- 250 SHGF. solar heat gain factor
  - 15% SHW glazing
  - .6 shading coefficient

> BALANCING PT = 50°

### NEW HOTEL INFO

> WATER HEATER

105,000 ft<sup>2</sup> Collector Size

1,010 ft<sup>3</sup> Storage tank

30,000 KL/yr Hot WATER LOAD

> SKY LIGHT WALL

75% efficiency

> THERMAL MASS

◦ 250 Mass Area/solar Glazing (x.100%)

- using SSF 65%

- tromb 80ft<sup>2</sup> (8" conc. block w/ grouted cells)

- Sun Room ft<sup>2</sup> = 80ft<sup>2</sup>

Solar Glazing 55.2 ft<sup>2</sup>

◦ Use Rock Bed under floor (Tech 104)

◦ Vents 3% of glazing area

> Heat Flow THROUGH SKIN

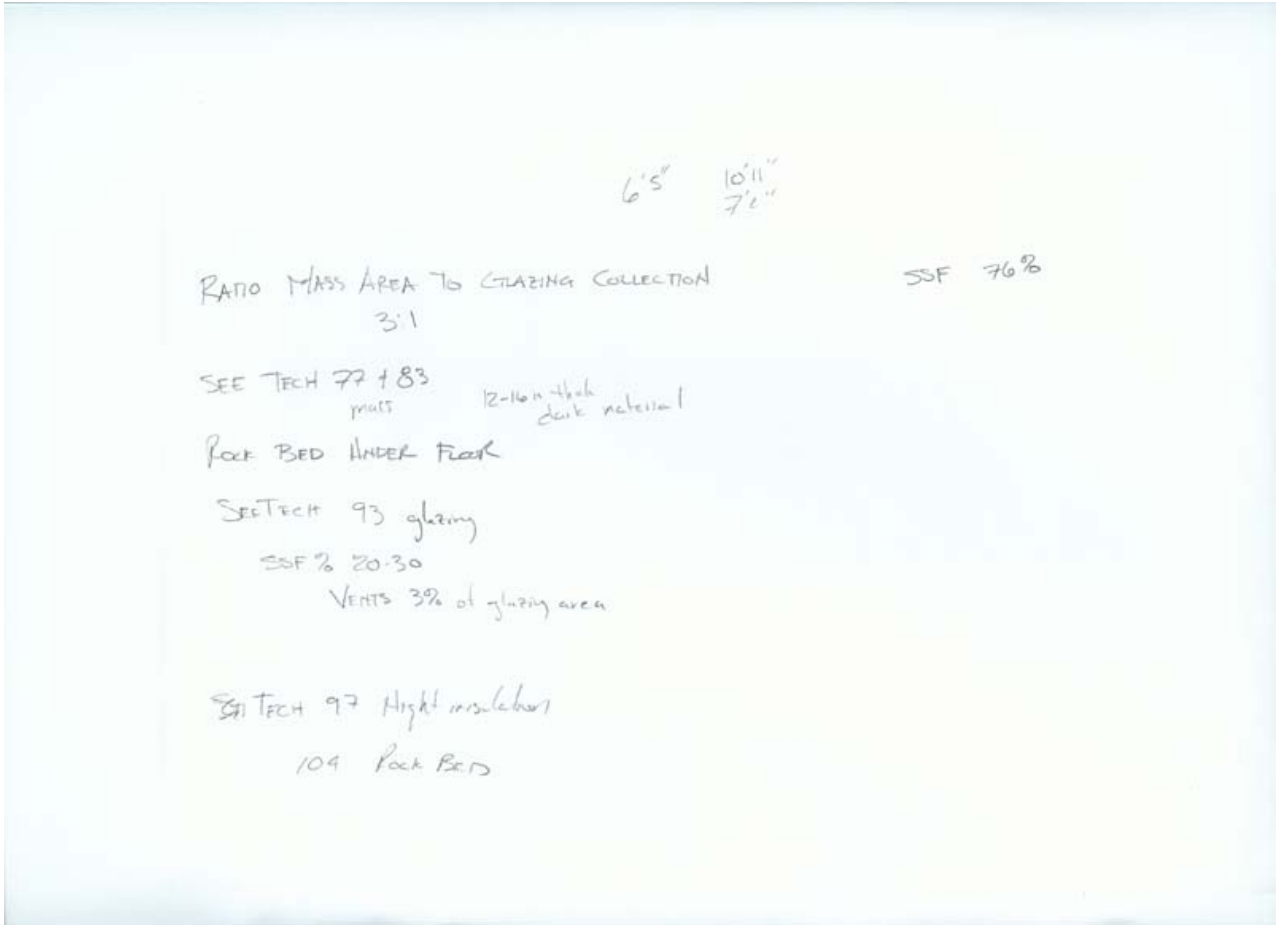
- U value skin = 0.2 Btu/hr. F, ft<sup>2</sup>

- 15% double glazing

- 2.5% skin area / Floor area

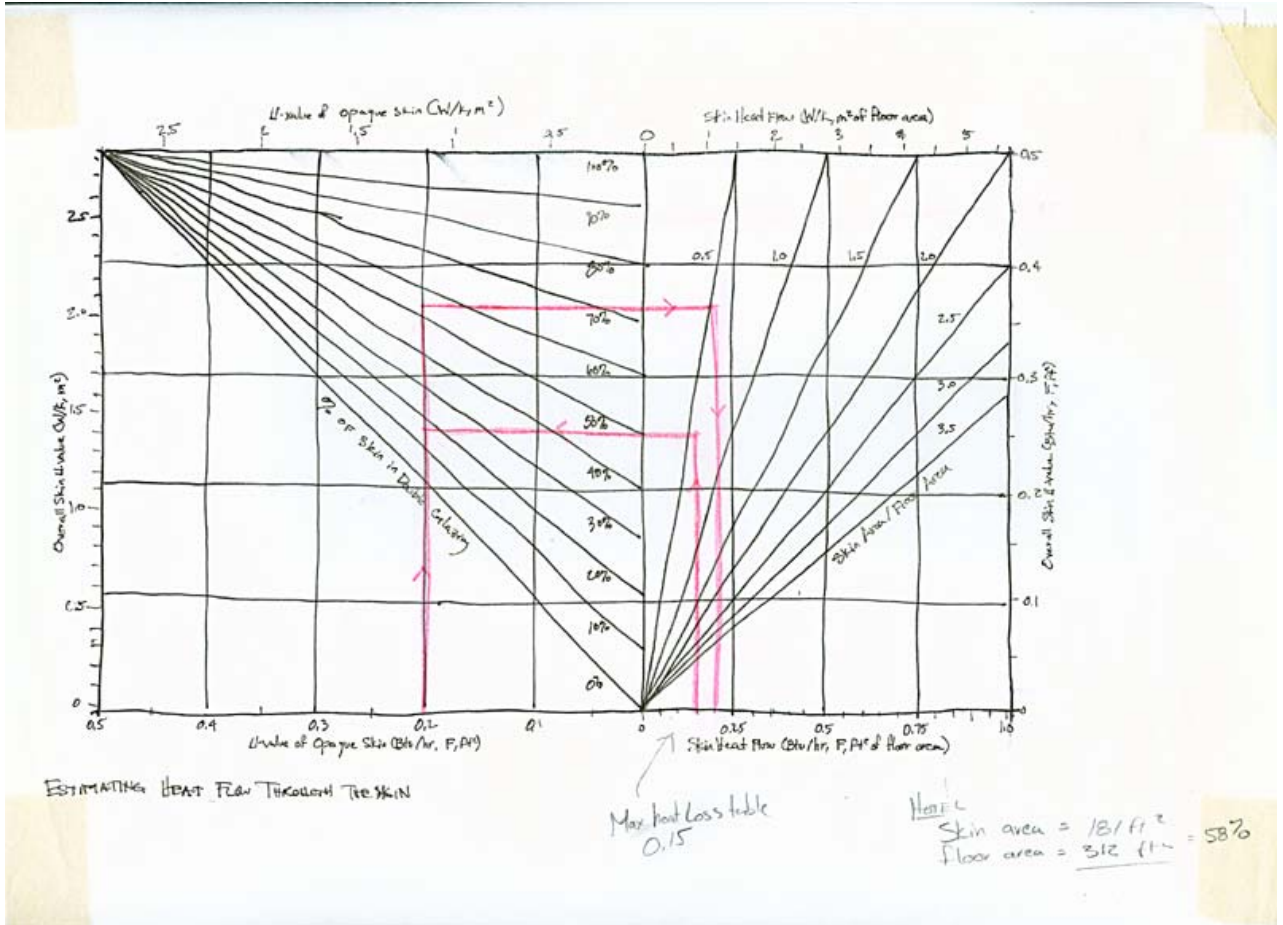
◦ Skin Heat flow 0.45 Btu/hr. F, ft<sup>2</sup>

Lake Bountiful Ecological Retreat  
Transitions from natural to built



General Information

Lake Bountiful Ecological Retreat  
 Transitions from natural to built



Heat Flow Through Skin

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Lake Bountiful Ecological Retreat  
*Transitions from natural to built*

BUILDING TYPE	Heat Gain, Btu/hr, Ft <sup>2</sup>		Heat Gain, W/m <sup>2</sup>	
	low	high	low	high
Mercantile Sales Office	3	5	10	17
Assembly Warehouse	1	2	4	7
Restaurant	2	4	8	13
Education	10	16	31	52
Grocery	4	7	14	23
Lodging	8	13	24	42
Residential	3	5	10	17
	1	2	3	6

HEAT GAIN FROM EQUIPMENT

HOTEL 3-5 Btu/hr, Ft<sup>2</sup>  
 CONF 1-2 Btu/hr, Ft<sup>2</sup>  
 REST 10-16 Btu/hr, Ft<sup>2</sup>

Heat From Equipment

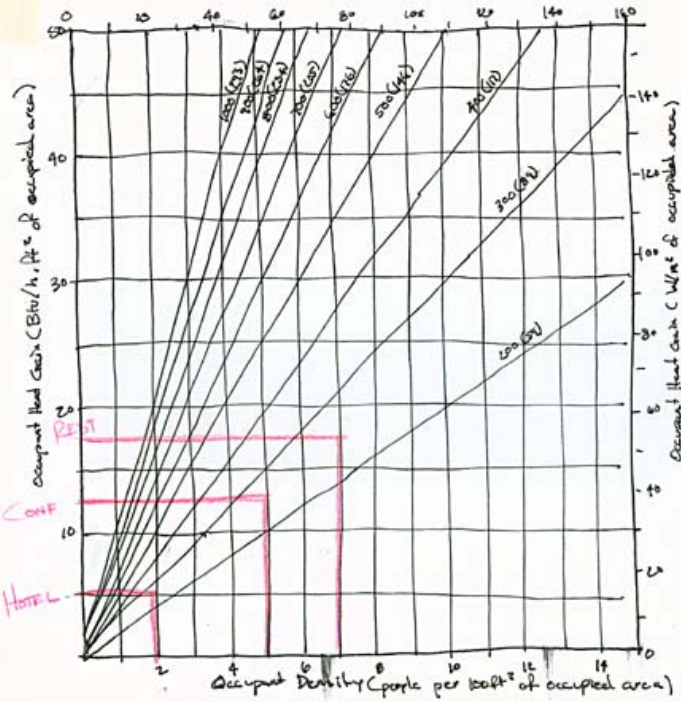
Lake Bountiful Ecological Retreat  
*Transitions from natural to built*

BUILDING TYPE	Sensible Heat Gain (Btu/hr, Ft <sup>2</sup> Floor Area)				
	People	Equip	Low Eff Equip + Ave. occupancy	Med	High Av. Equip. + Peak occ.
Conf. rooms	up to 11	35	8	12	16
Living Bldgs.	1	35	4	5	6
Sit-down	up to 16	46	12	17	22
Kit. refr	up to 6	7	10	12	13

Heat Gain Totals  
 Internal Heat Sources - People + Equipment

Heat Gain From Equipment And People

Lake Bountiful Ecological Retreat  
 Transitions from natural to built



HOTEL  
 HEAT GAIN 250 Btu/hr (200 LAT)  
 OCC DEN 2.0 people/100ft² Max

CONF.  
 HEAT GAIN 250 Btu/hr (200 LAT)  
 OCC DEN 5.0 people/100ft² Max

REST  
 HEAT GAIN 250 Btu/hr (200 LAT)  
 OCC DEN 7.0 people/100ft² Max

Heat Gain From People

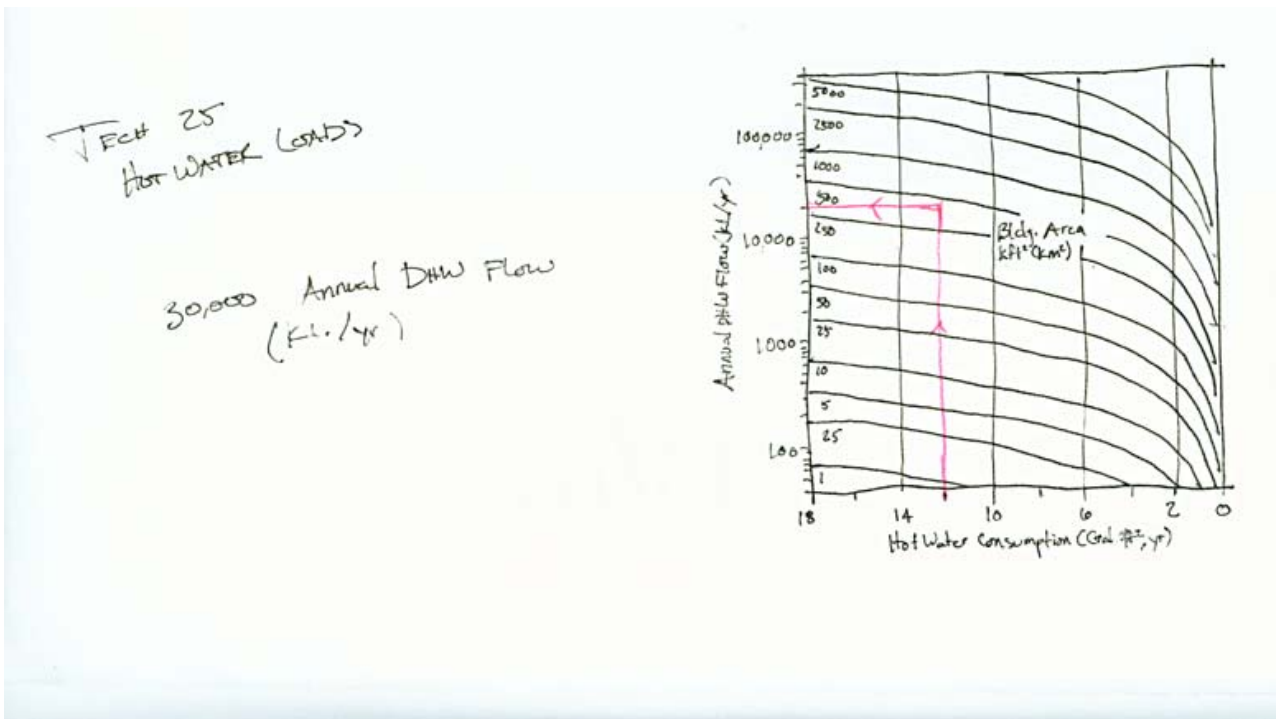
Lake Bountiful Ecological Retreat  
 Transitions from natural to built

BUILDING TYPE	LAT.	SENSIBLE HEAT GAIN (Btu/hr/ft <sup>2</sup> of floor Area)									
		Average Daylight Factor									
		DF < 1.5		1.5 < DF < 2		2 < DF < 3		3 < DF < 5		DF > 5	
		lo	hi	lo	hi	lo	hi	lo	hi	lo	hi
ASSEMBLY	40	2.3	4.0	1.6	2.6	1.4	2.3	1.2	2.1	1.1	1.8
	50	2.8	4.3	1.8	3.0	1.6	2.6	1.4	2.3	1.2	2.1
Restaurant	40	2.4	4.8	1.3	2.6	1.1	2.3	1.0	2.1	0.9	1.8
	50	2.4	4.8	1.5	3.0	1.3	2.6	1.1	2.3	1.0	2.1
Office	40	4.4	5.1	2.4	2.8	2.1	2.5	1.9	2.2	1.7	1.9
	50	4.4	5.1	2.8	3.2	2.4	2.8	2.1	2.5	1.9	2.2
Lodging	40	2.9	4.1	1.6	2.3	1.4	2.0	1.2	1.8	1.1	1.6
	50	2.9	4.1	1.8	2.6	1.6	2.3	1.4	2.0	1.2	1.8
			2.9	4.1			1.8	2.6			1.2

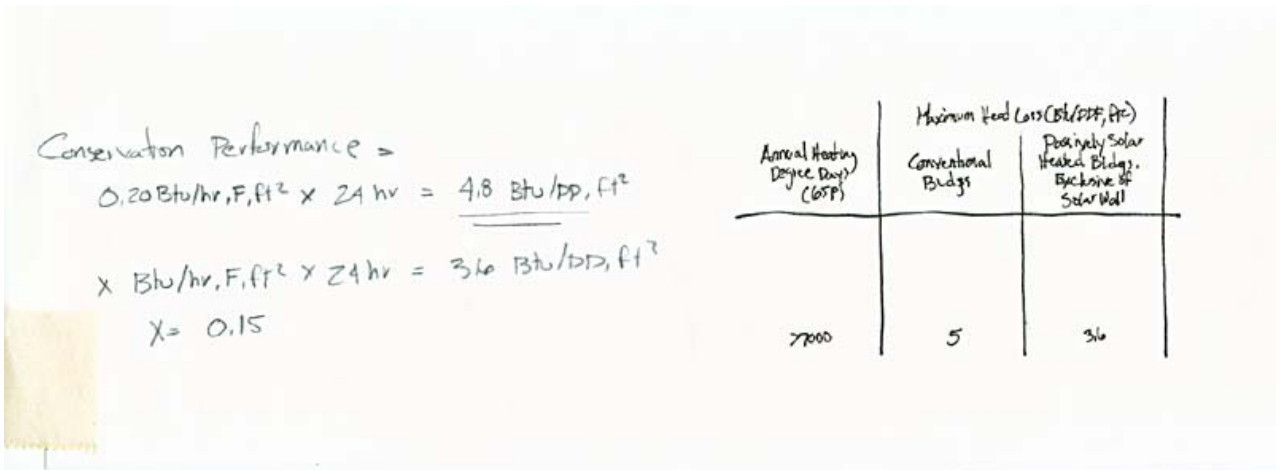
Heat Gain Totals  
 Internal Heat Sources - Electric Lighting

Heat Gain From Lighting

Lake Bountiful Ecological Retreat  
*Transitions from natural to built*

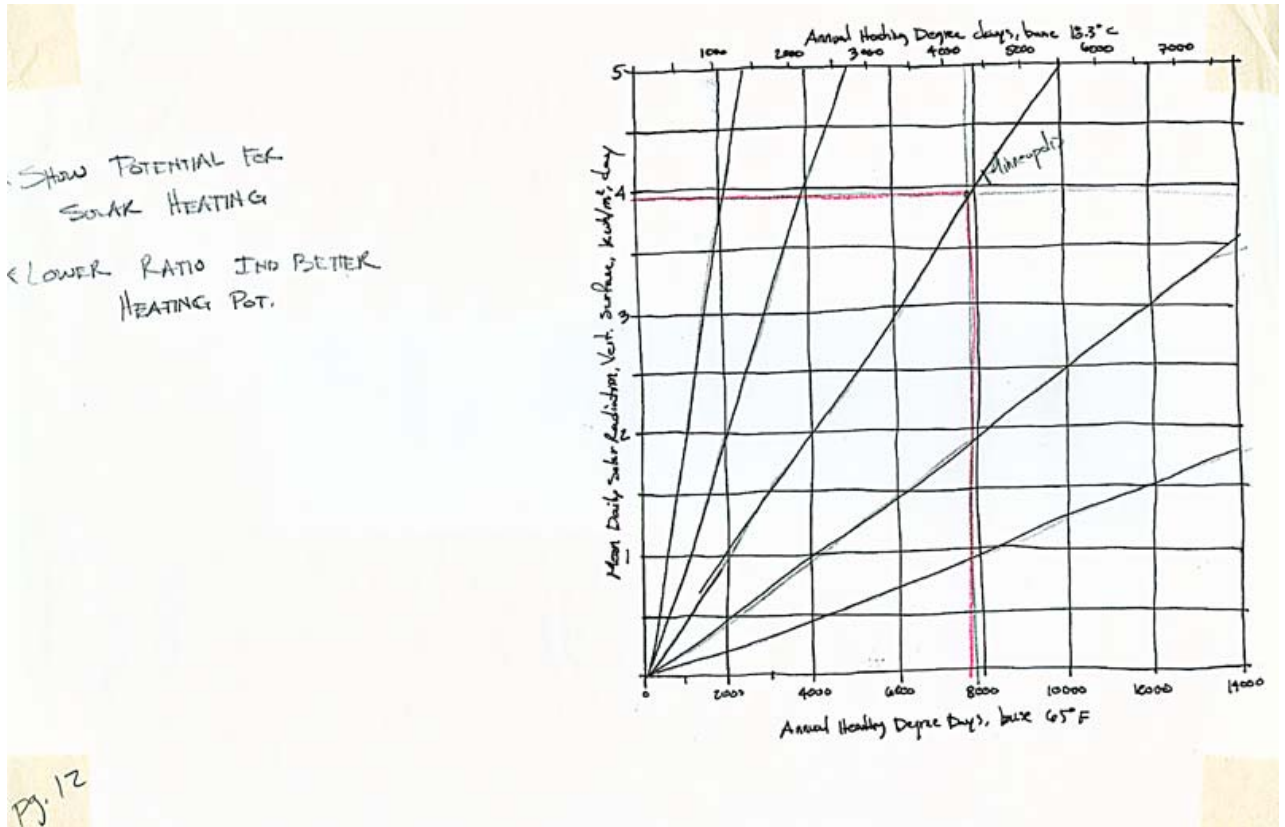


Hot Water Loads



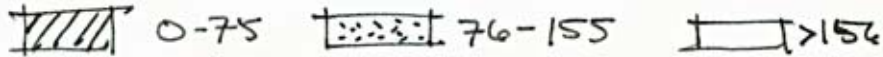
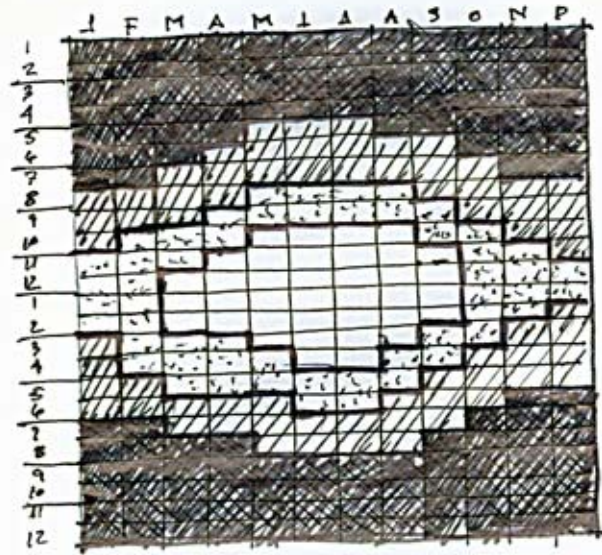
Max Heat Loss

Lake Bountiful Ecological Retreat  
Transitions from natural to built



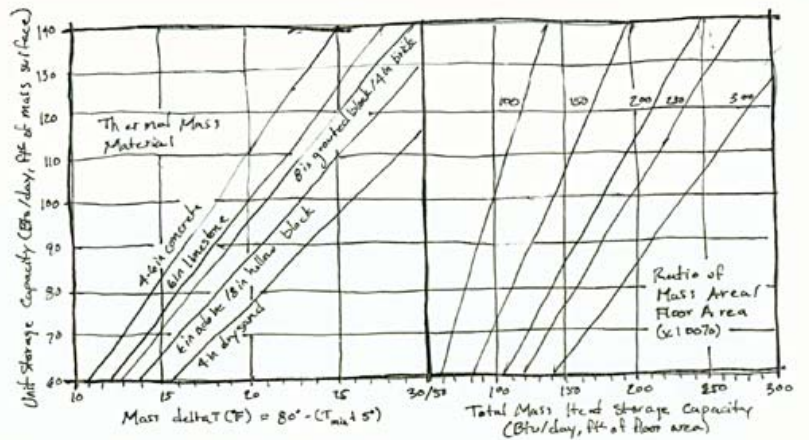
Mean Daily Solar Radiation On Vertical Surface

Lake Bountiful Ecological Retreat  
*Transitions from natural to built*



Mean Global Horizontal Radiation btu/hr/ft2

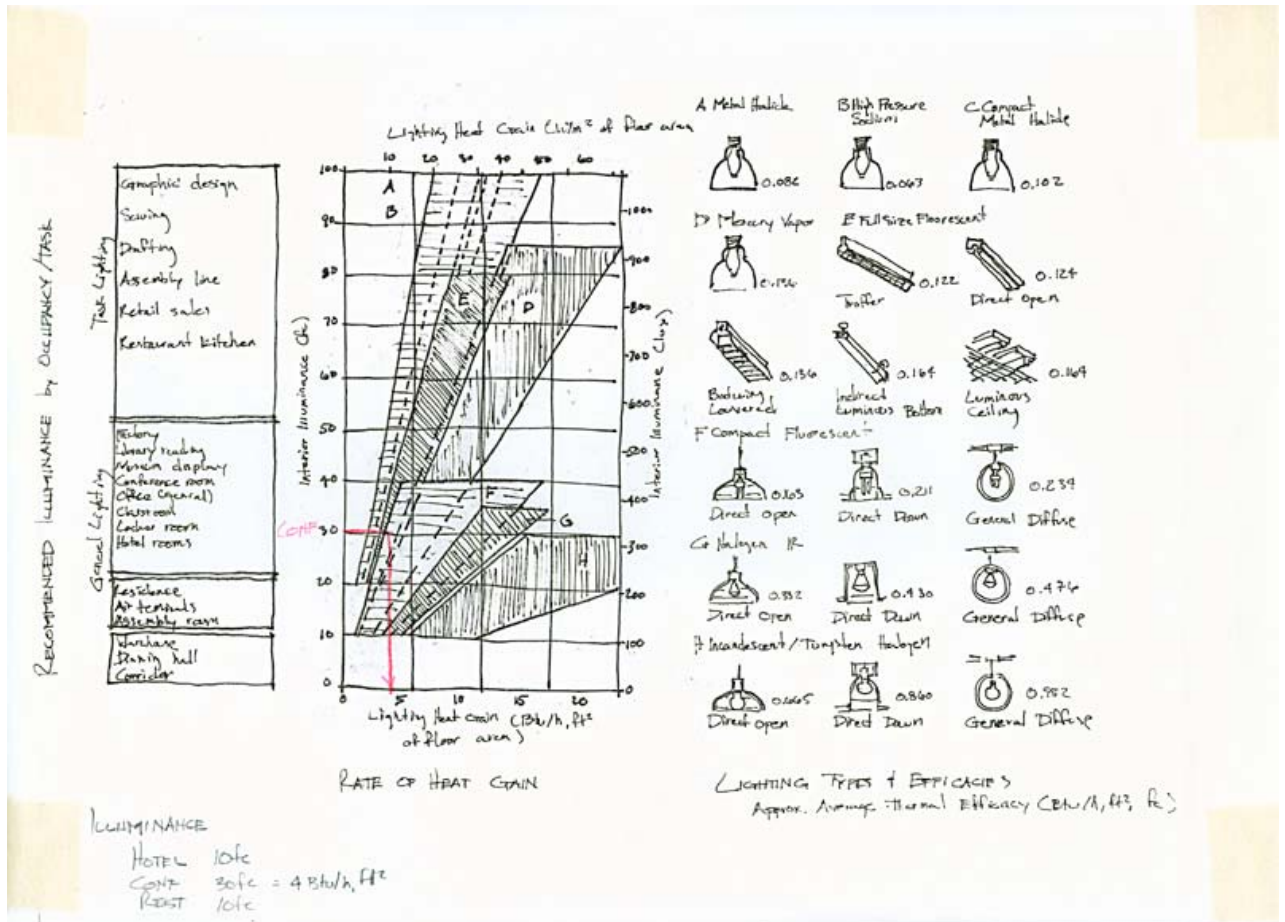
TECH 6B  
 SPRING HEAT COOLED  
 MASS



Night Cooled Mass

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Rate Of Heat Gain From Lighting

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Lake Bountiful Ecological Retreat  
*Transitions from natural to built*

TASK/USE	Ac (lum)	10°-20°	30°	45°	50°	60-70°
Assembly	20-50 (215-530)			2-6	3.5-7	
Con. Rm.	20-30 (215-530)			2-6	3.5-7	
Dining Hall	5-10 (57-108)			0.5-1	1-2	
Hotel Rms.	20-30 (215-530)			2-6	3.5-7	
Lobby, lounge, rec	10-20 (108-215)			1-2.5	2-3.5	
Restaurant Kit	5-10 (57-108)			0.5-1.5	1-2.5	
Toilet Rm.	10-20 (108-215)			1-2.5	2-3.5	

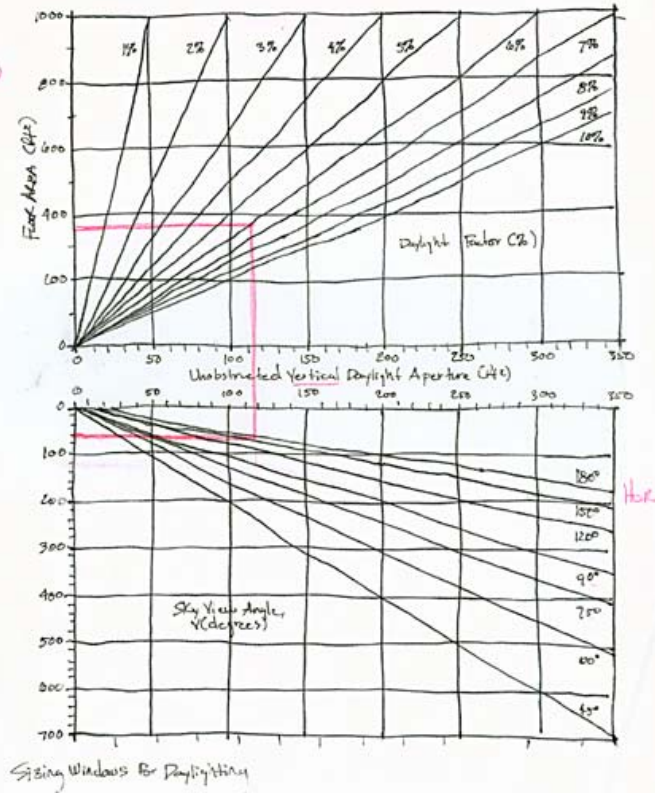
Recommended Daylight Factors by Room Use + Sit Cond.

Recommended Day Lighting Factors

Lake Bountiful Ecological Retreat  
 Transitions from natural to built

HOTEL  
 DF 6%  
 F.A. 312 ft<sup>2</sup> (per room)  
 100 ft<sup>2</sup> window x 10 rms. 55% window  
 181 ft<sup>2</sup> wall x 10 rms

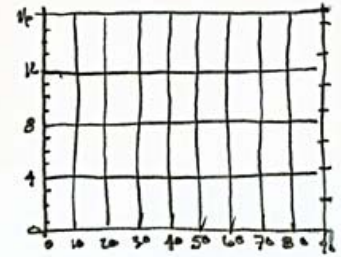
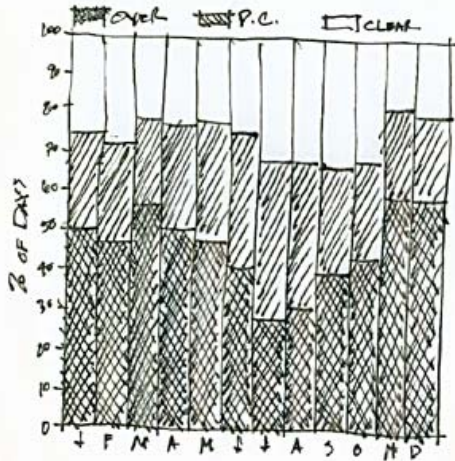
DF 6%  
 F.A. 372 ft<sup>2</sup> (per room)  
 600 ft<sup>2</sup> window per room



Sizing Windows For Day lighting

Lake Bountiful Ecological Retreat  
*Transitions from natural to built*

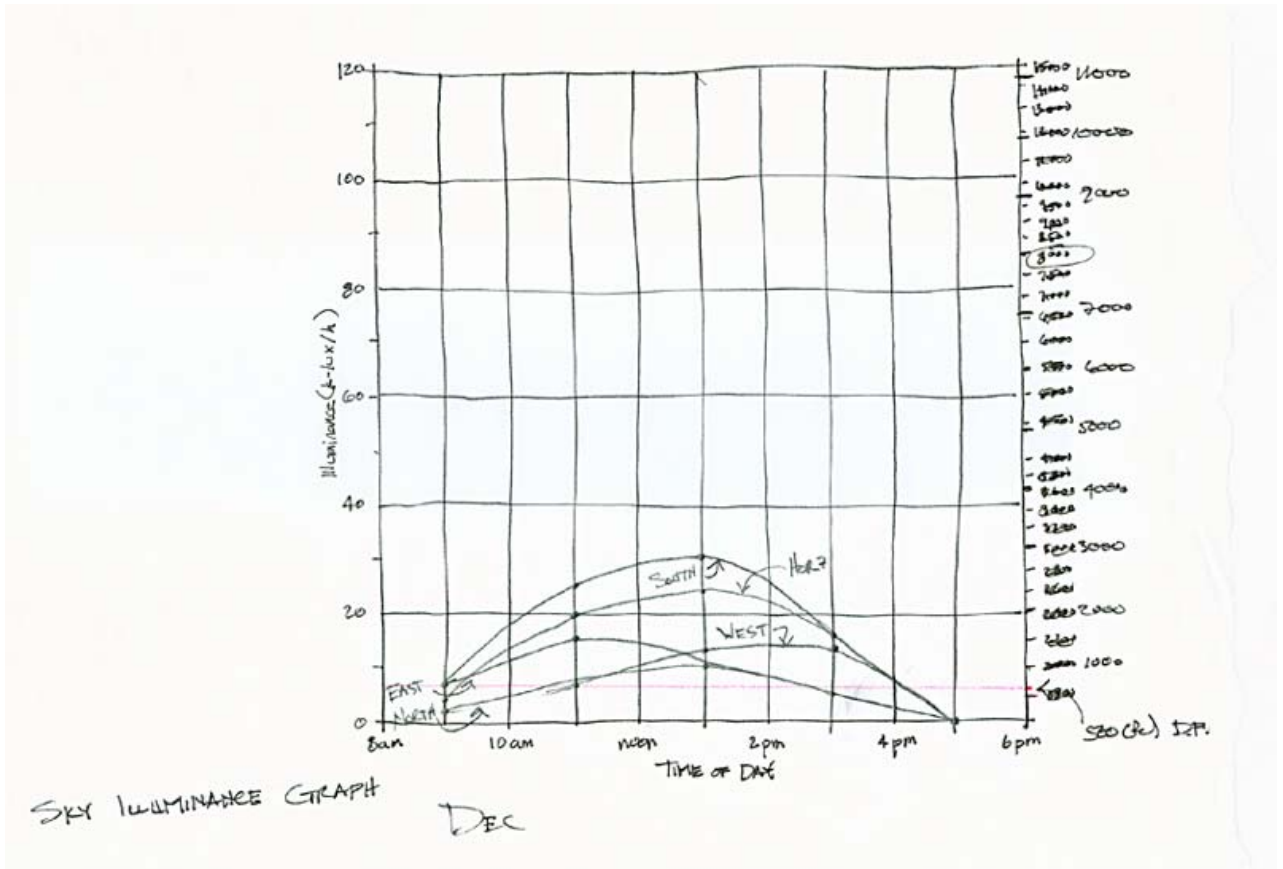
OVERCAST = SEPT - JUNE  
 PT CD - JULY - AUG



CLR 26%  
 PT. CD 28%  
 OVR 46%

Monthly Sky Cover Graph

Lake Bountiful Ecological Retreat  
*Transitions from natural to built*



Sky Illumination Graph (Dec.)

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**LAKE BOUNTIFUL ECOLOGICAL RETREAT**  
transitions from natural to built



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2004-2005 Undergraduate Design Thesis  
Michael J. Rueter

CHAPTER FIVE: PROJECT SOLUTION  
DOCUMENTATION

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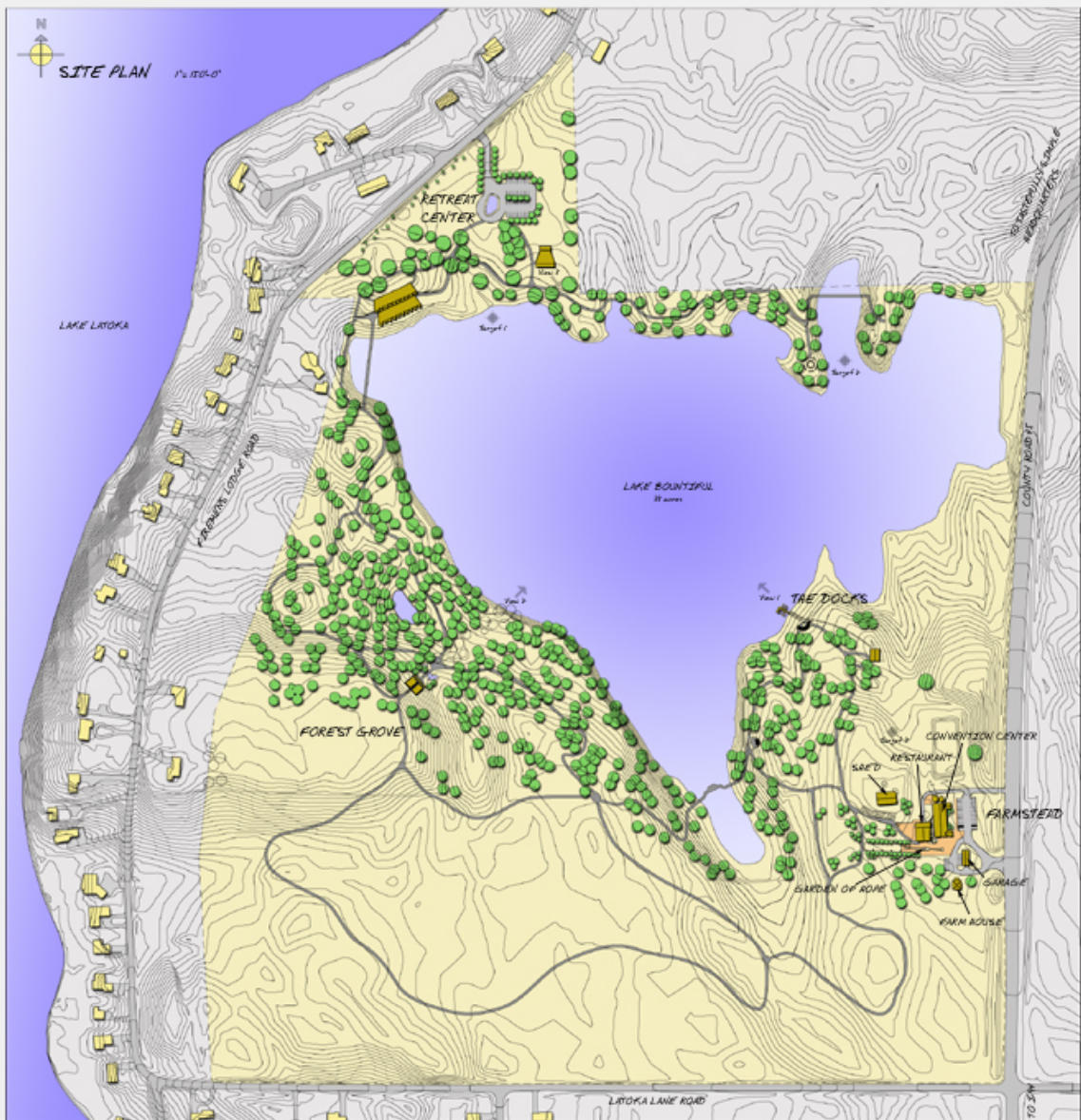
# Lake Bountiful Ecological Retreat

## Transitions from natural to built

### LAKE BOUNTIFUL ECOLOGICAL RETREAT

#### Transitions from natural to built

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2005 Undergraduate Thesis  
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#### Project Overview:

The project is a convention center/ecological retreat for TasteFuly Simple. TasteFuly Simple is a corporation that creates and distributes easy-to-prepare gourmet foods through a large group of consultants. Recently this site, which is near their corporate headquarters, was put up for sale. TasteFuly Simple decided to purchase it for preservation purposes. The site is located along one of two city bypass roads around Alexandria. Transportation companies and manufacturers are heavily developing the area around these roads. This design is intended to be much more than just a convention center for TasteFuly Simple. It is also a "active preserve" that will preserve some of the land along this road and also provide a site that the entire community can be inspired by, learn from and interact with. The term "active preserve" seems to be a contradiction in terms, but what this means is a site where the natural state is preserved as much as possible while still encouraging people to interact with the site in an effort to educate.

#### Why do all this?

TasteFuly Simple is an open-minded corporation concerned with preservation. They are excited about developing this site in a sustainable manner and what makes this exciting is the amount of people that will have interaction with the site. This will be more than an on-site building with a LEED platinum certification that the community does not learn from. Through class fieldtrips, corporate conventions and retreats a large cross section of the community will have the opportunity to pass through this site. Information will be passed through the site explaining why things were designed the way they were for education purposes and hopefully will excite visitors about sustainable practices. These people will go back to their communities and corporations and hopefully spread the word and hopefully can be transformed into a grassroots effort that will make it way from the visitors to the site to local government then to the state and finally the Federal government. Once that happens the United States might sign on to both the Kyoto treaty and pass more stringent efficiency codes.

#### Site Location

The Lake Bountiful site is located 11 miles south of TasteFuly Simple's corporate headquarters in Alexandria. TasteFuly Simple's headquarters are located about 3 miles west of downtown Alexandria. Alexandria is located roughly in the middle of Douglas County, which lies in central Minnesota.



#### Project Emphasis

The focus of the project is to design buildings that transition into the landscape similar to the way the site itself is a transition zone. To design and construct the buildings in ways that impact the site as little as possible, yet allow for interaction with the site.

- Fulfill the client's needs for the site while preserving the original sense of place.
- Adaptive reuse of the existing structures on the site.
- Blend the design of the buildings into the master plan.
- The design of the site should be made self-sustaining, both environmentally and economically. This will ensure that all aspects of the project will be able to thrive and continue being a valuable resource to the community.
- While preserving the historical nature of the site, still provide TasteFuly Simple with an use it, along with the community, can identify with.

# Lake Bountiful Ecological Retreat Transitions from natural to built



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Lake Bountiful Ecological Retreat  
*Transitions from natural to built*

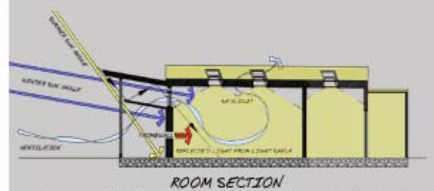


**Retreat Center Lodging**

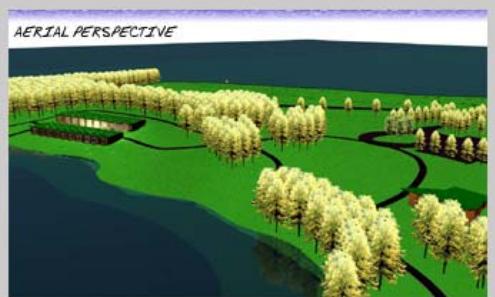
*This building has ten rooms each with two double beds. This is intended to support the convention center allowing guests to stay on-site. Staying on site will allow total immersion into the active preserve making the experience more fulfilling by attending classes, allowing morning and evening walks on the paths and providing an opportunity to truly experience the site, instead of just seeing it.*

*This building is fully designed with sustainable practices in mind. The goal was to make the building 75% more efficient. This was necessary not only to meet with the master plan but also because the building will not be occupied 100% of the time. Because of this, it would not be feasible for TasteFully Simple to pay high operating costs.*

*The building was located in such a spot that it will be sheltered from the prevailing winter winds by a small hill and trees which also hide the building upon entry to the site from the road. The shape blends with the contours of the site and also provides maximum access to day lighting, views to the lake and access to summer prevailing winds. Even the shape of the roof will collect all rain water falling on the building for a gray water retention system, preserving the quality of Lake Bountiful.*



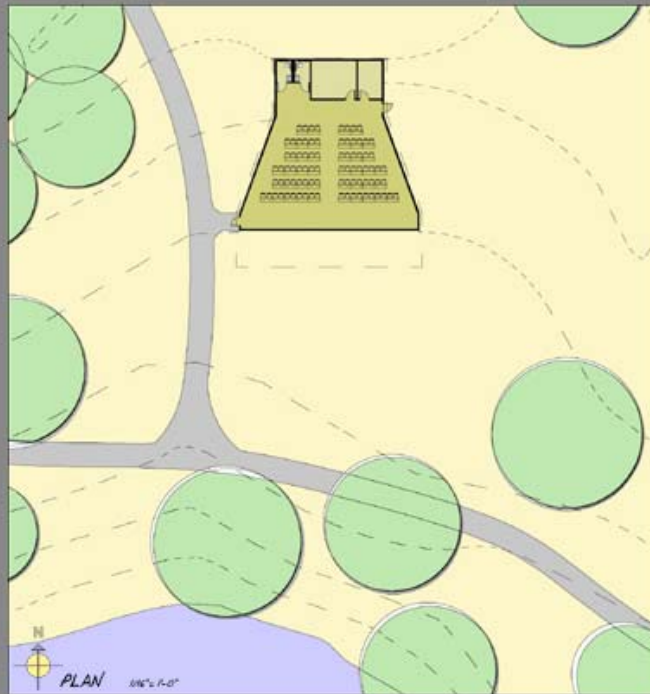
*Please see binder for development and support information on the design of passive system.*



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Lake Bountiful Ecological Retreat  
*Transitions from natural to built*



*Retreat Center*

*The retreat center is the only building visible on the site from Fremont Lodge Road. This will be the starting point for visitors to the site where they can view a presentation, orienting them to the site. Information can also be given concerning the active preserve and what the goals and intentions of the site are. For the duration of the guest's visit this space can be used for many purposes including meetings, classes and meals. The building will also provide a resting point along the trail with great views to the farmstead. Guest staying in the lodging building can also use the retreat for a general gathering space when it is*



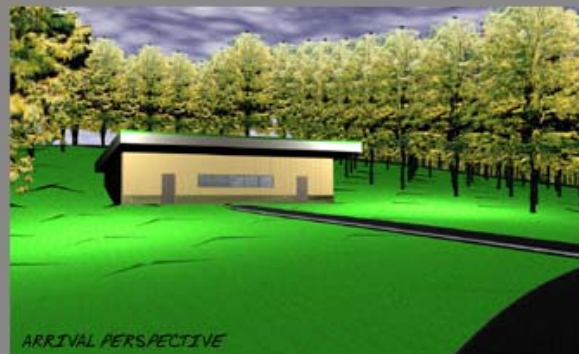
Lake Bountiful Ecological Retreat  
*Transitions from natural to built*



**Forest Grove**



*Forest grove is an interest point along the trail system. It is a dynamic space with a variety of uses from small group activities, overnight camping and a lookout. It would be to great an impact on the site to bring utilities to the building so it needs to be self-sustaining. This will provide the perfect opportunity to illustrate passive systems and show how they work, educating visitors. These systems would include, solar lighting for natural lighting, break wall for heat, straw bale construction and eco roof for insulation. This will also enhance the "camp out" nature of the building as it is intended.*



Lake Bountiful Ecological Retreat  
*Transitions from natural to built*

**LAKE BOUNTIFUL ECOLOGICAL RETREAT**  
transitions from natural to built



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CHAPTER SIX: CASE STUDIES

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## 1. IBM Palisades Advanced Business Institute Palisades.

Project overview:

Location: Palisades, NY  
Site: 106 acre

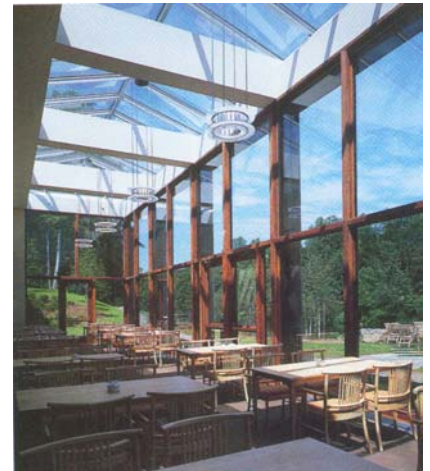
Program:

Residents: 206 room hotel  
Education  
Reception



The project was designed around “the path of least disturbance.” I think this is a very fitting quote for buildings of this nature. It shows through in the project that they took great care in orienting the building to fit the landscape.

The typology of this project is very similar to that of the Tastefully Simple project. The three major elements in the project are a reception area, education, and residential wing. The project emphasis was to blend the distinction between the landscape and the buildings. The wings were designed and placed around the groves of trees and water features of the site. There is a bridge over the water element where the reception is located, with the education and residential on either side. Another important concept that was used to blend the distinction between the landscape and the buildings is using indoor spaces to frame important outdoor elements and view corridors.



A review of the project brought attention to the fact that there might be too much glass in the project and that the scale of the project was too large for it to be the inviting space it was intended to be. The “living room” is 3 stories tall and states that people feel a bit oppressed while occupying the space.

One important part of the project was the use of local materials to help the building blend with the environment, paying special attention to hues of the colors.



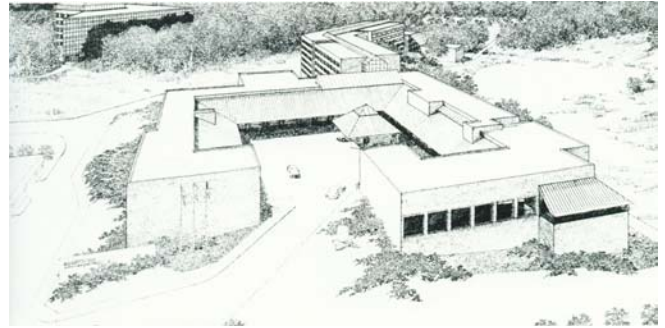
## 2. Scanticon- Minneapolis

Project overview:

Location: Plymouth, MN  
Site Size: 21 wooded acres  
Bld size: 285,000 sq ft

Program:

- 32 state-of-the art conference rooms.
- 240 deluxe hotel suites
- 2 restaurants
- 2 lounges
- Pub
- Banquet hall
- Health club



Scanticon is an international chain of corporate get-a-ways. Companies come from all around the region to use this facility. Once the guests arrive on site there is little reason for them to leave.

The designers of this project focused on keeping the scale of the building down. This seems to be a reoccurring theme since the buildings tend to get quite large to meet the requirements of the corporations.

This project was researched for the program elements. I do not feel that this particular project did enough to blend it with the site or engage it.



The project did help to bring about an important idea. I feel that the program elements are very important for this project. By using a program similar to this project it will be possible for visitors to stay on-site for a longer period of time. This is important because for this project to be a successful active preserve it is going to require people to spend more than just a 30-minute walk around the site. It takes time to relax and leave the busy world of our everyday lives behind us, which this is necessary if one is going to truly learn and experience nature.

Lake Bountiful Ecological Retreat  
*Transitions from natural to built*

## 2. UPS

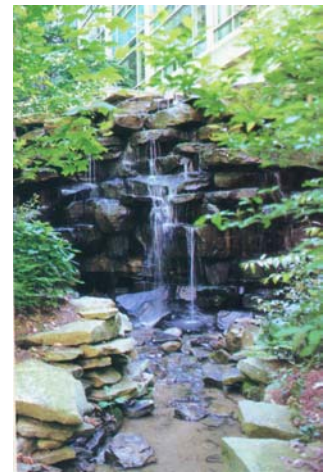
Project overview:

Completed: 1994  
Location: Atlanta, GA  
Site: 36 acres  
Footprint: 623,000 sq ft.  
Employees 2,000



This was a corporate headquarters building for UPS. They were interested in bring up there image by designing an environmentally friendly building. They viewed this as a way to make up for all the trucks that they have out on the road which are not all that environmental friendly.

An important topic discussed concerning the project is one that has been discussed in the IBM project, which is to blend the lines between the site and the building. The article began by stating, “An artisan working in charcoal or pastels knows that realism can be found in blurring the edges of the image” (O’Connell 24). To often this blurring never happens in architecture but the complete opposite. Shape edges are what seem to stand out and buildings are seen as hard extrusions from the site. Unfortunately there were not pictures of the building exterior in this article so to the extent the architects and landscape architects were able to accomplish this is unknown.



Extraordinary care was taken with this project to save the trees on the site. Over 300 trees were marked out prior to construction as specimens that must be saved, some as close as 15 ft. from the building. The contractor suspended balloons at the height of the constructed building to be able to visualize the mass of the building in the openings. The it was decided that tracks would be built on the building for construction so areas would not need to be cleared for cranes to get access to the building. After the building was complete only one tree was lost at a cost of \$3,000 to the contractor.

This is kind of commitment to the ecology of the site that should become the standard.

### 3. Automated Trading Desk Corporate Headquarters

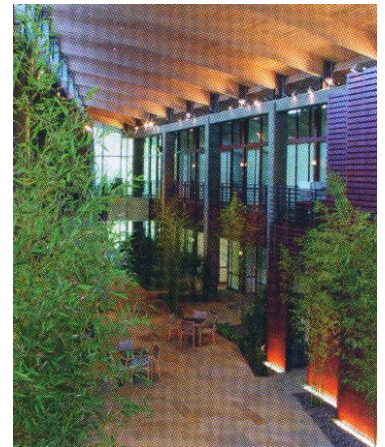
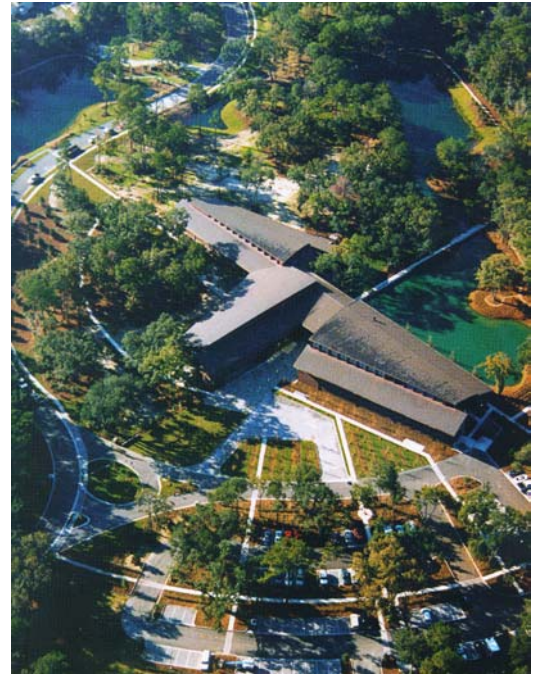
Project overview:

Site size: 23 acres  
Location: Mount Pleasant, SC  
Building size: 70,000 sq ft.

This was a collaborative project between two architecture firms and two landscape architecture firms, which went off without a hitch. Once again trees played a major role in organization and layout of the project. Mature oaks determined the location of the building and it was kept to two floors, which brought about the pinwheel effect.

Glass was used extensively to build on an indoor-outdoor interplay. This project is a great example of extending the building into the landscape and extending the landscape into the building. The buildings lines were extending into the landscape helping to form the landscape and visa versa outside materials were brought into the building, helping to form the interior of the building.

There are also some beautiful yet simple changes in materials at different stages in the landscape, which really help to blend the landscape into the building.



Lake Bountiful Ecological Retreat  
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**4. Aichi Greening Center**

There was not that much information given about this project other than the fact that it fit the topic at hand. The topic that was being discussed in Process Architecture was how designs by this particular architect blend beautifully with the environment.

This main picture shows perfectly the transitions from the natural environment to the built world. I think this is a beautiful example of the transitions that can happen in a project like this.





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*Transitions from natural to built*

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*CHAPTER SEVEN: PROGRAMMATIC  
REQUIREMENTS*

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## 5. Programmatic Requirements

### A. Spatial Requirements Description

#### ▪ FARMSTEAD:

- Farmhouse: This building is intended to remain mostly as it is currently used today for small meetings. The exterior will be redesigned to blend with the other buildings but must retain the original sense of a small farmstead.
- Large barn: The large barn is going to be possibly used for the conventions/meeting area. This is something that Tastefully Simple themselves will not need unless they start bring their consultants to Alexandria for their conventions. Tastefully Simple could utilize this during special events that they might wish to be conducted on the Lake Bountiful site instead of the headquarters. The headquarters building itself has seen multiple additions with the most recent addition finishing within the last half-year. This building can handle all meeting requirements of the company at this time. The amount of people the convention center will be able to hold will be determined by the size of the building, there is no intention for additions.
- Tall barn: The tall barn use is in question. Aaron has this building assigned as additional convention space but other uses are going to be investigated. There appears to be an opportunity to use this building for other uses such as a restaurant that could possibly have its menu comprised of Tastefully Simple foods. This restaurant could be open to the public in the evenings and be used by conventions during the day or special events in the large barn during the evening like wedding receptions.
- Silos: The use of the silos will be investigated but should remain on the site to preserve the farmstead character. Aaron's idea of using one of the silos for a lookout will be investigated further to see if it can be realized.
- Garage: the garage will be consistent with Aaron's designation of storage for garbage receptacles and other maintenance equipment.
- Shed: The shed will also be consistent Aaron's designation for storage and an attached greenhouse with some adjustments to the layout.

#### ▪ FOREST GROVE:

Forest grove is intended to be an interest point along the trail system. It is intended to be a dynamic space



Figure 5.1. Farmstead from the east.



Figure 5.2. Farmstead from the north.



Figure 5.3. Large Barn.



Figure 5.4. Tall barn and silos.

with a variety of uses.

- Lookout: The building is intended to blend entirely with the landscape. There is to be a rooftop garden that will be also used for a lookout over the lake. This is intending to be an important stop along the trail system.
- Group activities/overnight camping: This should be an extremely flexible space that can be used for small group activities during the day or picnics. If groups are not using the space it should also be possible for individual contemplation. The possibility also needs to be available for small groups to “camp out” in this structure for short periods of time.
- This building is going to be located in the heart of the site with no infrastructure located nearby. It would be to great an impact on the site to bring utilities to the building so it will need to be self-sustaining. This will provide the perfect opportunity to illustrate these systems and show how they work educating visitors of the possibilities and viability of passive systems. This will also further enhance the “camp out” nature of the building that is intended.

■ RETREAT CENTER:

Of all the program spaces the most vague is the retreat center. The location that has been designated for this aspect of the design is a small rectangular plot on the northwest corner of the site. The lot was purchased at a later date than the Lake Bountiful site itself because of its suitability for new construction based on utilities. There is a viable need for housing on site, which this building could provide along with meeting spaces for a retreat center. The housing should be proportional to that of the convention center on the other end of site. This would allow for businesses to hold conferences with out of town clients and provide them with housing on site along visitors more time to spend enjoying the preserve and also providing income to sustain the project.

The availability to a multi-use space should also be present for groups that might be entering the site from this area. If the site is indeed opened up for educational reasons this would be the most likely point of access since it would not interfere with conventions that might be happening at the same time.

**E. Functional Relationships**

All aspects of the program need to be connected according to Aaron Olson’s masterplan. Every building



Figure 5.5. Tall silo with large and tall barns.



Figure 5.6. Boathouse just west of the farmstead.



Figure 5.7. Area where the retreat center will be located.

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according to Aaron Olsen's masterplan. Every building realized in the project needs to be incorporated with the underlying premise of blending with the landscape and the masterplan and in preserving the image of an early farmstead. Each design also needs to be fitting of Tastefully Simple's image.

It would be a common occurrence for visitors to make a progression from one building on the site to every other but not necessarily in the same order. It can be imagined that large groups might first be brought to the Garden of Hope where they might attend a convention and when their meetings are over make their way around Lake Bountiful by Forest Grove and a stop at the Retreat Center.

There will also be other times when school children or other groups that might visit the Lake Bountiful site for education purposes. These groups would visit the Retreat Center first and proceed around the site from there. They would not be allowed any access to the Garden of Hope area if a convention is happening at the same time.

#### **F. ECS Requirements**

All ECS systems should whenever possible utilize passive systems. Being this is an active preserve it only make sense to use environmentally friendly ECS systems in the project. Also by using passive systems the operation cost to Tastefully Simple will be decreased allowing them to keep all the aspects of the project open at all times. By doing this the opportunity to expose more people to project will be increased dramatically.

#### **G. Structural Considerations**

There are not any foreseen major structural challenges inherent in any of the program elements of the project. There appears to be a great opportunity to use and express the structure helping to build on the concept of transitions between the built and nature.

#### **H. Envelope Considerations**

Throughout all the buildings envelope construction will be a very important aspect to the project. The use of new and innovative materials will provide interest to the project while conserving natural resources, matching Tastefully Simple's values and aspirations.

Lake Bountiful Ecological Retreat  
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CHAPTER EIGHT: REFERENCES

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CHAPTER NINE: APPENDIXES

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## **Appendix**

### **A. Statement Of Intent**

#### **Lake Bountiful Ecological Retreat:**

*transitions from natural to built*

Tastefully Simple is a food designer and distribution company with its headquarters in Alexandria, MN. Aaron Olsen did a landscape architecture thesis project last year for this corporation master planning a convention / retreat area around a lake it purchased near its headquarters call Lake Bountiful. I will work to resolve Tastefully Simple needs for the building elements and propose designs for those elements. A major part of this project will be utilizing the existing farmstead. The attempt will be to bring together building and landscape, sustainability with site, people with nature and give Tastefully Simple a new icon.

I think it is important for this company to get more ideas concerning what their needs are and the possibilities for the design of the buildings just as Aaron was able to do for them concerning the landscape and master plan.

Experiences I wish I had more opportunities for in my college career were collaborative projects with a landscape architecture student and possibly a civil engineering and interior design student. When this project presented itself I was eager to except the challenge and opportunity to further my education and attempt this architecture/ landscape architecture project. A collaborative project such as this will greatly improve my future designs and better prepare me for practice. I feel it is important for architects and landscape architects to start collaborating more on projects to prevent a building from being dropped on to a site. This is something that I feel has happened in too many of my previous studio projects.

In a project such as this I think it is necessary to have a well laid out master plan to guide the project allowing it to have the “active preserve” nature that is so vital to this projects success. How can a building meld into the landscape while still providing an icon for the company? How can a building be placed on a site, which in its nature draws people into the site but still preserve the site and its beauty? How can an environment be preserved but still allow people to come and observe it, which in this scenario is the reason for the preservation?

I intend to look intensively into the natural process of the site and try to use that as a driving force for the design. The overall intent is one I share with Tastefully Simple and this is to impact the site as little as possible but still allow for people to learn and interact with it.

The unifying idea of this design is that the natural processes of the site as they are master planned will guide and inform the Architecture which will truly make an “active preserve”.

## **B. Proposal**

### **A. Title:**

Lake Bountiful Ecological Retreat: *Transitions from natural to built*

### **B. Building Typology:**

This project overview is a convention center/corporate retreat. The design is intended to be much more than just a convention center for Tastefully Simple but also a nature preserve that the entire community can be inspired by, learn from and interact with. The term “active preserve” will be called upon many times throughout the project as a way to describe the project. The design will try and capture this term by restoring and preserving the nature state of the site but also fulfilling the functional needs of a major corporation and allowing people to interact with the site.

### **C. Conceptual Basis or Unifying Idea:**

Visualizing the natural and original sense of a city is difficult to do in even small communities. Corporate development is not traditionally viewed as being one to help with this issue. Can a company preserve a site, giving the community in which it resides a gift, while still achieving its functional necessities? Can buildings and developments truly blend into the environment, allowing people to interact and learn from it, while preserving that which is intended to be interacted with and learned from?

### **D. Project Justification:**

Tastefully Simple has already acquired this beautiful site near Alexandria. They are going to develop the land and need to achieve certain functions from the site. The question is what form the development is going to take? Tastefully Simple is an open minded corporation concerned with preservation. They are open to ideas concerning ways to gain the most from this project. Without the help from projects like this it will be far to easy to follow the footsteps of so many other corporations and develop this site in the most function and economical ways, transforming the landscape to best suit their needs. This project is intended to be an example for future companies to attempt to preserve the land that they are developing on. It will hopefully show that in preserving this land it does not need to be rendered useless to humans but can become a much more beautiful and fulfilling space. This should not be considered the exception but the norm for future developments. Corporations need to start taking a more active approach to these issues to help preserve the nature of the cities they call home. All too often the vary nature that drew corporations to an area, just like Alexandria did for Tastefully Simple, ends up being destroyed to suit functional needs. This project will attempt to prove that is not necessary.

### **E. Project Emphasis:**

To design buildings that transition into the landscape similar to the way the site itself is a transition zone. To layout the buildings, design and construct them in ways to impact the site as little as possible yet allow for interaction with the site.

- Fulfill the clients needs for the site while preserving the original sense of place.
- Adaptive reuse of the existing structures on the site.
- Blend the designs of the buildings into the masterplan.
- While preserving the historical nature of the site, still provide Tasefully Simple with an icon it, along with the community, can identify with.

Lake Bountiful Ecological Retreat  
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**F. Site Information:**

Location: Country: United States of America  
State: Minnesota  
County: Douglas  
City: Alexandria  
Township: La Grande

History: The area around Lake Bountiful is, most recently, a landscape that was carved by the advancement and retreat of the glaciers. After the glaciers receded the landscape that was carved became part of the transition zone between hardwood forests and tall grass prairies. The boundary between these two ecotypes was constantly fluctuating depending on many climatic conditions. Fire would have been one of the largest determining factors on what the dominant vegetation would have been. After settlers came in 1858 dairy and farming became the dominant activity for the area.

The site for this project is an older farmstead that surrounds a lake, typical of those formed by glaciers, named Johnson Lake (now Lake Bountiful). The land around the lake was used for pastureland but still retains many of the older oaks, maples and other hardwoods. The lake itself gets approximately 9' deep and has just recently been stocked with walleye fingerlings. There are some aquatic surveys of the biota in the lake that the Department of Natural Resources has completed.

The soils on the site are typical of soils that occur in the transition between woodland and prairie. Most of the soils are loamy or sandy loams with variable layer of organic material on the surface. These soils are moderately well drained with low to medium water capacity.

The climate of the area is typical of a mid-continental climate with hot, humid summers and cold winters. The annual precipitation is 22.8" per year. The temperature is very dynamic with summer high averages reaching 97 degrees and winter low average reaching -27 degrees. The frost line is usually between 3 and 5 feet and lasts for about 4 to 5 months out of the year.

Size of entire site: 154 acres

Size of Lake Bountiful: 32 acres

Existing Structures: 1 farmhouse (already converted to meeting space)  
2 silos  
2 large barns  
1 small storage shed by the lake

The vegetation of the site today consists of an oak and maple hardwood plant community. There is also wetland species in and around Lake Bountiful. Some of the site has been leased and is currently used for agriculture.

**G. Major Project Elements:**

Tastefully Simple has organized a committee comprised of Tastefully Simple employees and an environmental consultant. This committee has loosely defined the major project elements. I will use these elements only as a guide through the project and never view them as constraints. Project elements have also been defined from the masterplan of Aaron Olsen's landscape architecture thesis project. Not all will pertain to this design.

Convention center	Retreat Center
Interpretive center	Docks (boat access)
"Garden of Hope"	Maintenance/storage area
Parking	Adaptive reuse of structures
Trail systems	Overlooks
Picnic area	Restoration areas
Storm water management	Reflective/meditation areas
Living snow fence	

**H. User / Client Description:**

The users of this site will very greatly requiring the program and designs to be flexible.

- VI. The obvious clients are going to be Tastefully Simple employees since the site is 1.5 miles from the corporate headquarters. They will use the site for a variety of reasons like conventions, seminars, exercise and recreation.
- VII. Consultants of Tastefully Simple will be utilizing the site for multiple reasons during conventions and seminars.
- VIII. Employees of Tastefully Simple will also be welcome and encouraged to bring their families to the site for recreation and family meetings.
- IX. Local groups and organizations will be able to make special arrangements to utilize the site for conventions, meetings, recreations and education.
- X. The site will not be open to public access without prior arrangement but the site will provide a visual waypoint along what promises to be a heavily developed highway.
- XI. The preserve aspect of the project will provide wildlife a place of refuge.

**I. Design Methodology:**

I will be corresponding through the design process with Aaron Olsen, the landscape architecture student whose master plan I will be referencing and an environmental consultant that has been hired by Tastefully Simple.

I plan on researching other corporate campus/convention centers for typology research. I also need to have an understanding of the term "active preserve" and the implications it will have on the building designs. Adaptive reuse will also be researched to facilitate the use of the existing farmstead. Biomimicry will also be researched to see how natural materials and process can be utilized in the design.

**J. Realization of the Design Method in the Design Process:**

Realization of design will rely heavily on computer modeling. I plan on utilizing FormZ as the major computer program. I will also use physical models, sketches and photography throughout the development of the design.

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**K. Schedule of Work Plan:**

- Week #1 (Oct. 4-8)  
7 October Thesis proposal due  
Research
- Week #2 (Oct. 11-15)  
14 October Students and faculty return preference slips to main office  
Research
- Week #3 (Oct. 18-22)  
21 October Primary and secondary critics announced  
Research
- Week #4 (Oct. 25-29)  
28 October Last day of AR/LA 561 class  
Define the Program  
Define Case Studies
- Week #5 (Nov. 1-5)  
Research  
Refine Program
- Week #6 (Nov. 8-12)  
11 November Veterans' Day Holiday  
Refine Program  
Prepare Site Information
- Week #7 (Nov. 15-19)  
Final week of AR/LA 571 design studio/presentations  
Finalizing draft of Program
- Week #8 (Nov. 22-26)  
24 November Draft Thesis Program due to primary critic (1 copy)  
25-26 Nov. Thanksgiving Holiday
- Week #9 (Nov. 29-Dec 3)  
Start site model  
Finalize Program
- Week #10 (Dec 6-10)  
9 December Final Thesis Program due to primary critic (1 copy)  
10 December Last day of classes  
Research
- Week #11 (Dec 13-17)  
16 December Program grade due to AR/LA 561 course instructor  
13-17 Dec Finals Examinations  
Review final program
- December 20- January 10 Christmas Break-  
Professional portfolio work
- Week #12 (Jan 11-14)  
11 January Classes begin  
Conceptual and schematic design work
- Week #13 (Jan 17-21)  
17 January Martin Luther King, Jr. Holiday  
Conceptual and Schematic design work
- Week #14 (Jan 24-28)  
Schematic design  
Model building

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- Week #15 (Jan 31- Feb 4)  
form
- Week #16 (Feb 7-11)  
Design Development
- Week #17 (Feb 14-18)  
FormZ model
- Week #18 (Feb 21-25)  
21 February President's Day Holiday  
Define computer model
- Week #19 (Feb 28- Mar 4)  
Presentation drawings defined
- Week #20 (Mar 7-11)  
Mid-semester Reviews
- Week #21 (Mar 14-18)  
Spring Break  
Interviews
- Week #22 (Mar 21-25)  
25 Mar Easter Holiday  
Finalizing form in computer model
- Week #23 (Mar 28- Apr1)  
28 Mar Easter Holiday  
Finalize material choices
- Week #25 (Apr 4-8)  
Presentation Drawings
- Week #26 (Apr 11-15)  
Presentation Drawings
- Week #27 (Apr 18-22)  
Finish Presentation Models/ Boards
- Week #28 (Apr 25-29)  
25 April Thesis Projects due @ 4:30pm in the Memorial Union Ballroom.  
26-27 Apr Annual Thesis exhibit in the Memorial Union Ballroom  
28 April Final Thesis Reviews  
29 April Draft of Thesis document Due to Primary Critics
- Week #29 (May 2-6)  
2-5 May Final Thesis Reviews  
6 May Last day of classes
- Week #30 (May 9-13)  
Finals Examinations  
12 May Final Thesis Document due at 4:30pm in the Department office  
13 May Commencement at 4:00pm Fargodome

**L. Documentation of Design Process:**

Binders will be kept to organize all research and program information. If necessary different binders will be used for each topic of research. Specific sketchbooks will be used for Thesis sketches only. At the end of every week scans will be made of all sketches and photographs will be taken of all models. Computer models and drawings will be saved at each step allowing the design process to be document.

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**M. Bibliography / Resources:**

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Wald John B. (1990). IBM: A Corporate Conference Center. North Dakota State University, Department of Architecture and Landscape Architecture.

Other:

Environmental consultant for Tastefully Simple, Shelly Kae.

**N. Previous Studio Experience:**

2<sup>nd</sup> Year Fall

Professor: Philip D'Anjou

Projects:

- Architecture studio
- Ideal residence
- Non-denominational church

Professor: Vince Hatlen

Projects:

- Dentistry Complex
- Mary Baker Eddy: Christian Science Church

2<sup>nd</sup> Year Spring

Professor: Milton Yergens

Projects:

- New American Home
- Concordia Language Village

3<sup>rd</sup> Year Fall

Professor: Ronald Ramsay

Projects:

- Ancient and Honorable Hiawathian Rowing Society
- Tomihiro Museum
- Scared Heart Columbarium

3<sup>rd</sup> Year Spring

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Professor: Carol Prafcke

- Retreat for the Soul
- Streator Senior Center (Masonry Competition)

4<sup>th</sup> Year Fall

Professor: Ganapathy Mahalingam

Projects:

- Minot Urban Design Studio
- The Haven

4<sup>th</sup> Year Spring

Professor: Darryl Booker

Project:

- Mixed-use, eco-village (Marvin Windows Competition)

Professor: Frank Kratky

Project:

- Hise-Rise design

5<sup>th</sup> Year Fall

Professor: Jay Waronker

Projects:

- Olympic Gallery Charette
- United States Supreme Court Building



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CHAPTER TEN: FOOTNOTES & NOTES

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CHAPTER ELEVEN: TABLES

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CHAPTER TWELVE: FIGURE CAPTIONS

Lake Bountiful Ecological Retreat  
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Department of Architecture and Landscape Architecture  
2004-2005 Undergraduate Design Thesis  
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CHAPTER THIRTEEN: FIGURES

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Figure 1.1. Map of Minnesota



Figure 1.2. Map of Alexandria



Figure 1.3. Aerial view of the site.



Figure 1.4. View across Lake Bountiful



Figure 2.1. Tastefully Simple logo.



Figure 2.2. Tastefully Simple corporate headquarters.

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Figure 2.3. Tastefully Simple collage.



Figure 2.4. Tastefully Simple headquarters in 1995.



Figure 2.5. Tastefully Simple headquarters today.



Figure 3.1. Aerial view of site.

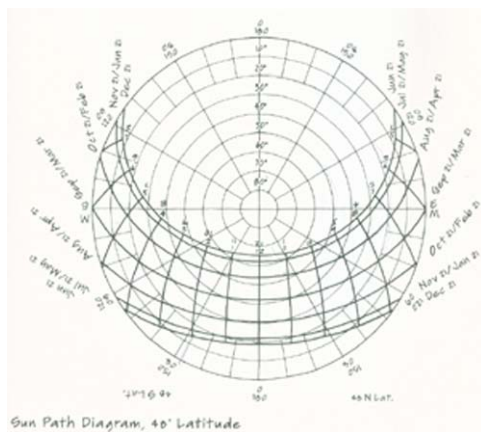


Figure 3.2. Sun Path Diagram

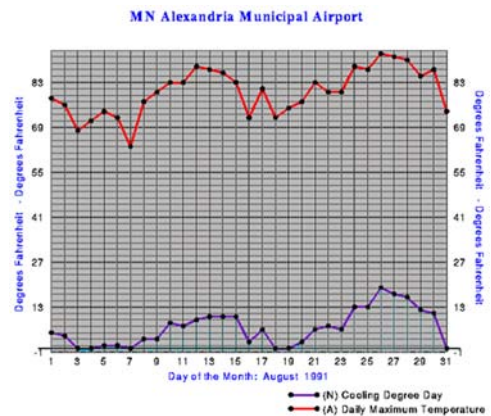


Figure 3.3. Cooling days & maximum temp for July.

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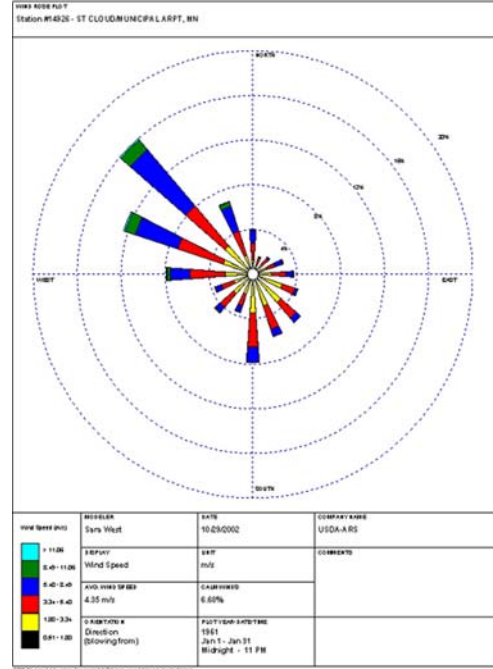
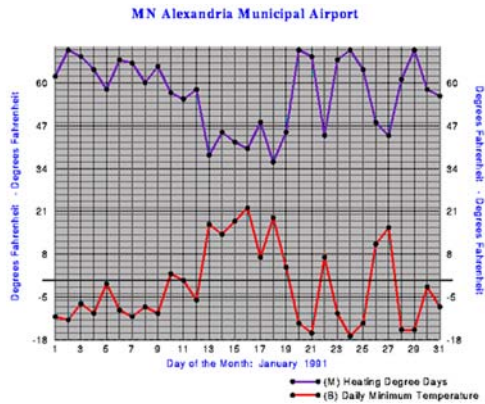


Figure 3.5. Wind rose for Jan.

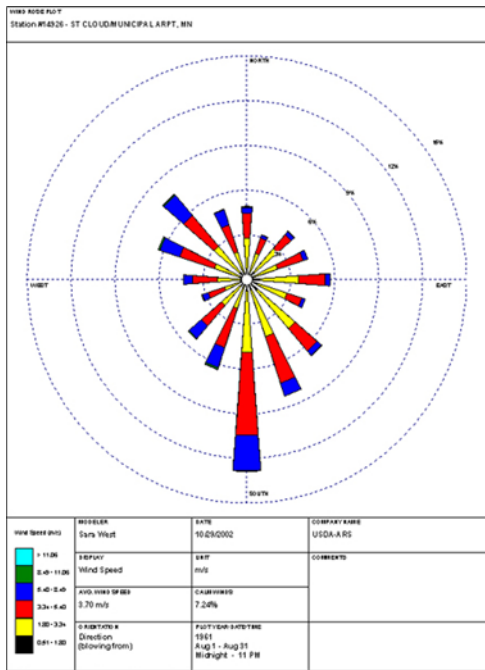


Figure 3.6. Wind rose for Aug.



Figure 3.7. Picture from north side of the site looking across the lake to the farmstead.



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Figure 3.8. Picture off the south end of the lake between the lake and agriculture field.



Figure 3.9. Picture standing on the east side of the site looking west across the agriculture field.

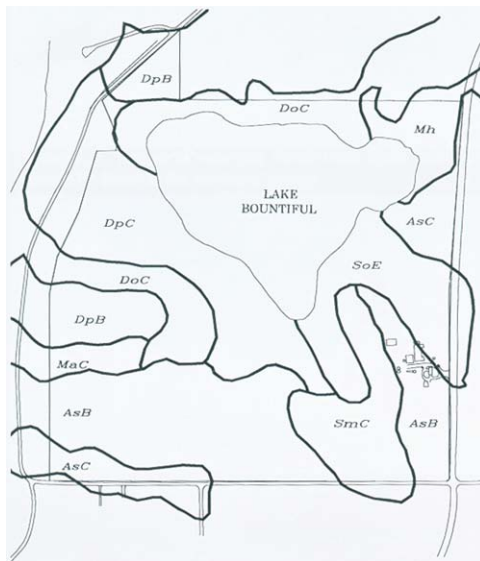


Figure 3.10. Soils map of the site.

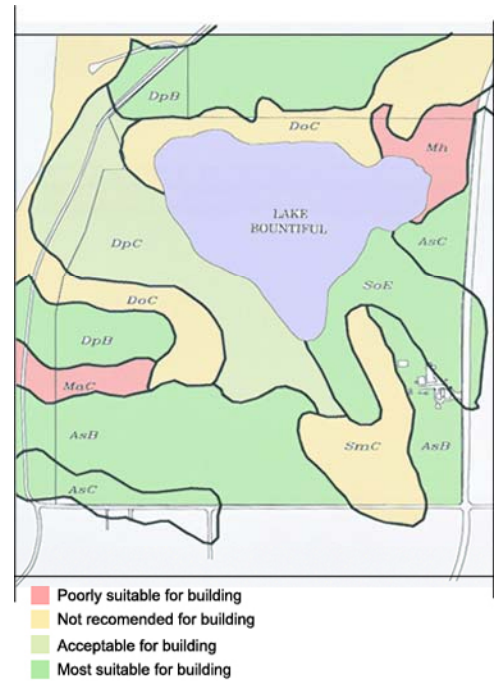


Figure 3.11. Soils analysis.

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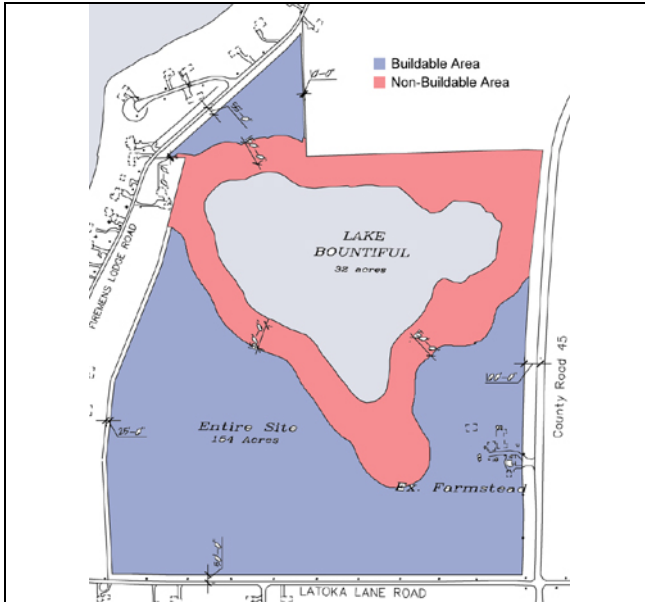


Figure 3.12. Buildable area due to setbacks.

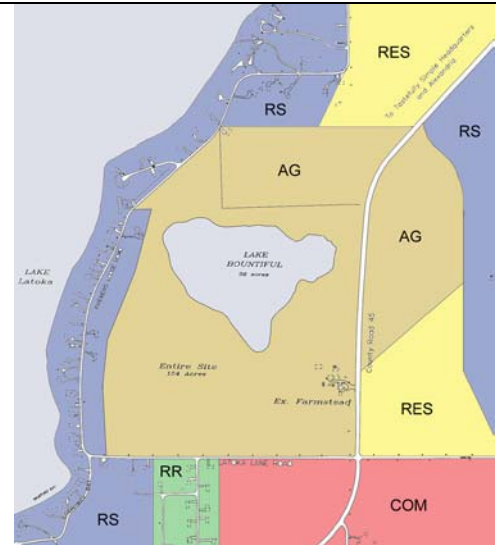


Figure 3.13. Zoning classifications.



Case Study 1.1. IBM



Case Study 1.2. IBM



Case Study 1.3. IBM



Case Study 2.1. Scanticon

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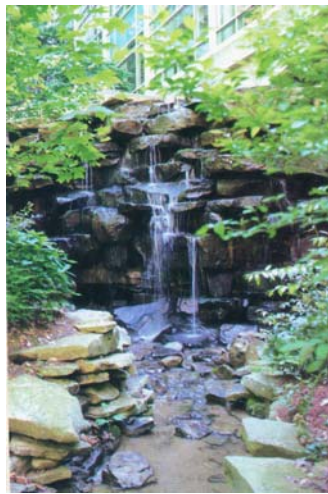
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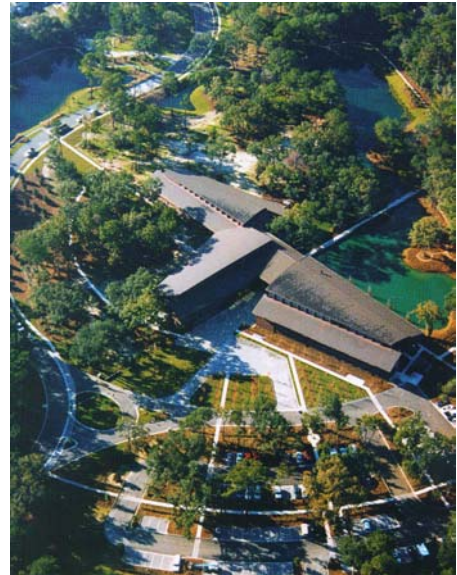
Case Study 2.2. Scanticon



Case Study 3.1. UPS



Case Study 3.2. UPS



Case Study 4.1. Automated Trading Desk



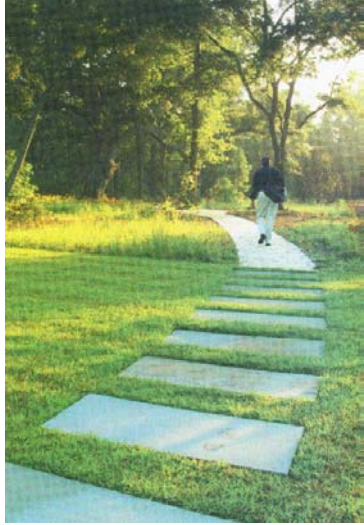
Case Study 4.2. Automated Trading Desk



Case Study 4.3. Automated Trading Desk

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Case Study 4.4. Automated Trading Desk



Case Study 5.1. Aichi Greening Center



Case Study 5.2. Aichi Greening Center



Figure 5.1. Farmstead from the east.



Figure 5.2. Farmstead from the north.



Figure 5.3. Large Barn.

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Figure 5.4. Tall barn and silos.



Figure 5.5. Tall silo with large and tall barns.



Figure 5.6. Boathouse just west of the farmstead.



Figure 5.7. Area where the retreat center will be located.



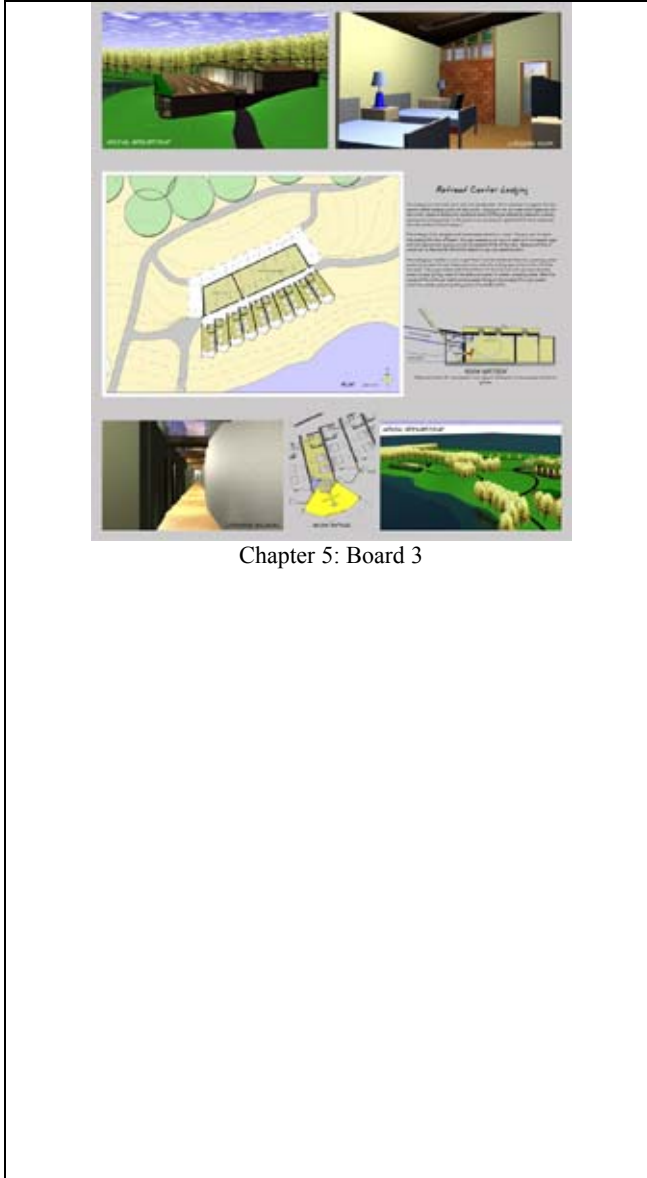
Chapter 5: Board 1



Chapter 5: Board 2

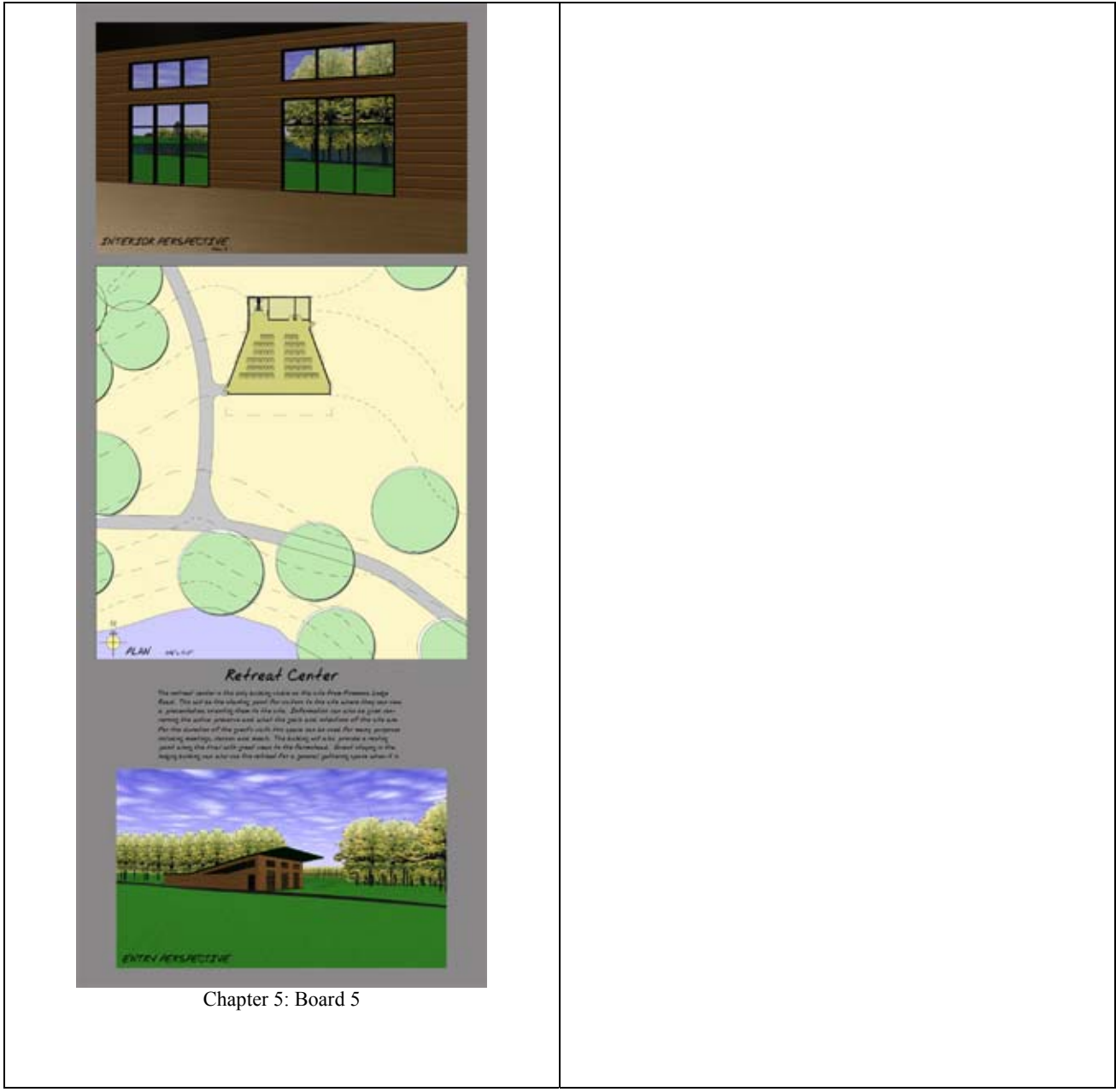
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Chapter 5: Board 5

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CHAPTER FOURTEEN: PERSONAL  
IDENTIFICATION

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Michael J. Rueter  
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“What is the difference between engineers and architects? Engineers learn more and more about less and less until they know everything about nothing. Architects learn less and less about more and more until they know nothing about everything.” Ramsay, Ronald.

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