Children:  A Place for Their Care in Suburbia…Comfort, Spirit,
Wonder and Understanding


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*Children:  A Place for Their Care in Suburbia…Comfort, Spirit, Wonder And Understanding*

**Abstract**

This project searches to develop a special place for children – a place for discovery of both themselves and their surroundings; a place to feel a level of comfort and security that allows for inner peace, leading to thought, growth and development - both physical and emotional.  To do this, this project is generated not as much from a formal architectonic viewpoint, but rather from shaping an environment based on human behavior and needs.

Such an environment for children welcomes human contact and enables a sense of community at many levels; within each home room, within the inner community of the facility and within the greater community of the suburb.  This facility situates itself in the suburban context by connecting to other components of daily life such as the recreation center, civic services, and commerce, aiding in "place making" for people.  The project looks at models from other countries to better understand how the architecture and design of the facility can enhance the learning for the children.  This project looks at the facility at many scales and creates an environment of learning.

The following objectives and design opportunities were considered when designing this project:

1.  Connection between the facility and the surrounding community: nature, street life, community activities

2.  Experiential qualities as they enhance the learning experience for both children and adults; light, space, time

3.  Tectonics which enhance the experience of learning; construction detail, the window, the door, gravity, material, surface, texture

4.  Human behavior and child development as it shapes the plan, section and detail

This 12,000 sq. ft. Child Care Facility is located in the suburb of Lino Lakes, Minnesota.  The site is within the proposed town center currently under development by the City.  In a previous exercise a master plan and zoning diagram were established.  Locations for civic and community oriented uses were denoted.  The site for the facility is adjacent to the city park and a regional nature reserve and is adjacent to community services and recreation.

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## The Project: A Suburban Child Care Facility

The issue of day care in the United States is a growing concern as the number of dual income families continues to increase. Child care has become a vital part of our society. In this light, it is my goal to explore how the way in which these facilities are considered and designed may be improved.

In the United States the full potential of day care facilities has not yet been addressed. They could be much more. As our young families disperse from the central city, as suburban sprawl creeps farther and farther out from the central core of our cities, these families find themselves searching for identity, community spirit and a connection with where they live. Community based day care facilities could help to bridge the gap between home, work and community.

On another level, by looking into alternate day care options day care may be viewed in a new way - not merely as a place for children to be safe while parents are working, but as a place to enrich the life of the child. The quote "it takes a village to raise a child" has meaning when child care facilities grasp their important role in the life of a child and when society respects and supports this role.

This design will afford the opportunity for people to become engaged in human connections. Care will be taken to provide places for people to partake in conversation through spaces to retreat from traffic-ways. It will afford places for people to take advantage of chance meetings along pathways or at points of daily rituals.

Maslow states that every individual has an innate set of human needs that must be met to conduct life in a comfortable way. These needs include:

1. Food & Drink Needs
2. Security & Safety Needs
3. Need for Affection
4. Need for Self-Actualization

The behavioralist, Deasy sees the individual striving for the following:

1. Group Membership
2. Personal Space
3. Personal Status
4. Territoriality
5. Communications
6. Cue Searching
7. Personal Safety

In designing an early childhood care facility, it seems that theses issues need to be carefully taken into consideration. Layers of territoriality will be denoted to offer inhabitants a sense of place, privacy and territory.

Visitors will know through design features when they enter a more private zone.  When designing at the urban scale a similar method is used, Newman used terms such as private, semi-private, semi-public and public to describe layers of privacy denoted when designing.  This facility will be designed with similar goals of privacy, security and ownership.  Designing in this way helps to breakdown the enormity of a large facility to a more understandable, human scale.

The facility will address the need for understandable territorial boundaries.  Many behavioral studies show that people develop deeper friendships in small group settings.  This is true of children as well as with adults.  Studies have also proven that children respond better to smaller classrooms settings.   This leads to breaking down the size of components of the facility along with the number of children within groups.

Today, the design for day care facilities is typically derived either from the image of an enlarged home or a reduced institutional environment.  I intend to strive for a place which combines the best of both approaches.

## Project Philosophy

One of the most important issues to address when designing for the care of children is the emotional well-being of the child.  Designing for children's care requires more than surrounding them with cartoon characters and vivid colors.  It means creating a place for them to feel secure in themselves and in their surroundings.  It also means creating a place that supports their creative spirit.

Day care facilities in the United States are based on two different models; the single family home and the scaled-down institution (schools based on various educational theories).  Each setting offers particular opportunities and limitations for a child's growth and development.

Many U.S. day care facilities are set in private homes, which accommodate multiple ages of children within one group.  Strengths of this type of facility are many;

- •Children have the opportunity to bond with one care provider rather than changing care provider from year to year.
- •Siblings can spend more time together, regardless of their age difference.
- •Multiple ages of children within one group allows for learning from older and younger peers.

In this setting, as opposed to many of the institutional philosophies, children do not make a progression from age group  to age group, changing environment and care provider every year, but are in a stable situation for many years.  They are allowed to make intimate social bonds with both the care provider and children of their group.  In these centers, children are allowed to be with their siblings throughout the day.  Children are within a group of mixed ages, both younger and older than themselves.  They are given the opportunity of seeing themselves in a new way by gauging their progress and mastery of skills in comparison to others.  The older children can assume teaching roles, where they may be looked up to by the younger children, and can develop self confidence.  In the same way the younger child can aspire to greater things than if they were restricted to a group of similar aged and skilled peers.  By watching those that are older and more skilled they may see what lies ahead and strive for greater possibilities.

The other predominant type of child care facility is a more institutional setting.  In these facilities larger groups of children are divided into peer groups of similarly aged children.  This setting offers many positive attributes;

- Large number of similarly aged children within the facility in which children can test friendship skills.

•Opportunity for parents to meet each other and develop bonds and networks.

•Potential for more extracurricular activities, trips, and outside guests (story telling, craft workshops, musical and drama performances).

•A greater presence in the larger community by making connections with the neighborhood of which it is a part.

Within the institutional setting there is an emphasis on placing similarly aged and skilled children within the same group.  Most examples are organized around the theory that children should be among same aged children for most of their day.  This philosophy is based on the concept that same aged children share more common skills and developmental stages.  It is noted that children with similar skill levels play "better" together and have more similar interests and abilities.  Children are able to participate in group activities that require a uniform level of skill.  Children that are going through the same developmental stage can share in each other's experiences.  Many of these parents would share similar situations and phases in life, thus would have much to offer one another. Extracurricular activities create a setting which brings together parents, children and care providers.  These facilities have issues of scale

against them, for it is far more difficult to make a 10,000 to 15,000 sq. /ft. facility feel comfortable to a child than a 1,500 to 2,000 sq. /ft. home.

This facility will be considered a compilation of both of these methods.  It will strive for the comfort, security and familial bonding that the home care centers provide.  It will also take into consideration the skill and behavior development opportunities afforded by grouping similarly aged children as in the institutional setting.

The facility will provide children with a place that they can develop caring relationships between parents, siblings, care providers and other children in an environment that stimulates creativity and developmental growth.   The focus of the project will be to create an environment that *enables* social connectivity.  Both within the group home room, within the *inner community* of the day care within the *facility* as a whole and also encompassing the *site* in this mission.  The facility will enrich the soul and the spirit of those who dwell there.

# Behavioral Study/Programmatic Assessment

This program will define the spatial qualities and environmental conditions that the day care center should provide rather than specific uses or programmatic elements.  Areas of interaction are indicated instead of square footages.  The program will assess daily rituals, personal interaction, social patterns and personal environment considerations which eventually define spaces and the interstitial fabric that weaves those spaces together.

The program will evolve throughout the design process.  The following is a list of priority concern areas to consider for this project.  Additionally, there are activities and behavioral observations for which provisions shall be made.



**Figure 1:  Parent and child at departure time.**[1]

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[1] Free Clip art image.

## *Places to provide:*

•A place to be with parent and child when coming and leaving the center

•A place to put a child's belongings

•A place to retreat from the group

•A place to gather and participate in activities

•Somewhere to sit quietly with a friend and discover...

•Somewhere to tell a story of your day to a caregiver

### *Qualities, Abilities, Observations to provide:*

- •Dimensions of the rooms proportioned so that they do not inhibit the child
- •Some space should be scaled to a child's proportion but most will be at the adult scale
- •Acknowledgment of time and place should be made through the use of daylight and orientation
- •Connection to a greater environment should be made:
    - •to the context and landmarks
    - •to the environment
    - •to movement outside of the center
    - •to daily pattern of life:  rituals, tasks; laundry, grocery, cleaning
- •An organization where a child can find their way, without question, where they can explore and find their own activity or find their own place to contemplate and imagine...
- •An environment in which brothers and sisters grow and learn together
- •A place to develop friendships with all ages
- •Flexible schedule where children can participate when they want, if they want, and yet can find a place to be apart without being isolated

## *Greater Community Site Issues and Observations:  How can this facility be a part of the community*
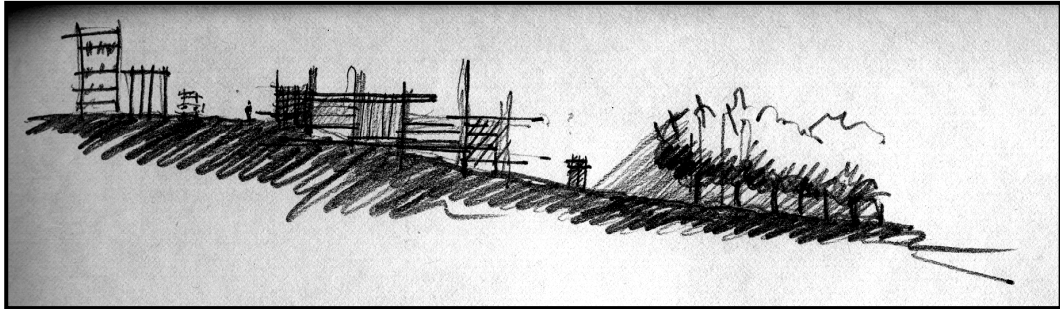


**Figure 2:  Sketch of site from town center through site to nature reserve below.**[2]

1.  Connection to the natural environment

    •visual connectivity with sky, water, vegetation, and any topographical aspects of the site
    •awareness to the diurnal patterns of the day
    •integrating the flow of drainage water as a feature of the building

2.  Connection to commercial node

    •connecting to the commercial nodes through pedestrian and automotive path and access

3.  Connection to landmarks

    •visual connection to local landmarks as a process of way finding and place making

4.  Connection to greater metropolitan area

    •address how site connects with traffic ways and with larger metropolitan areas
    •access from traffic ways

5.  Programmatic Issues

    •access for drop off
    •sequence from parking and drop off to entry

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[2] Sketch by author during design process.
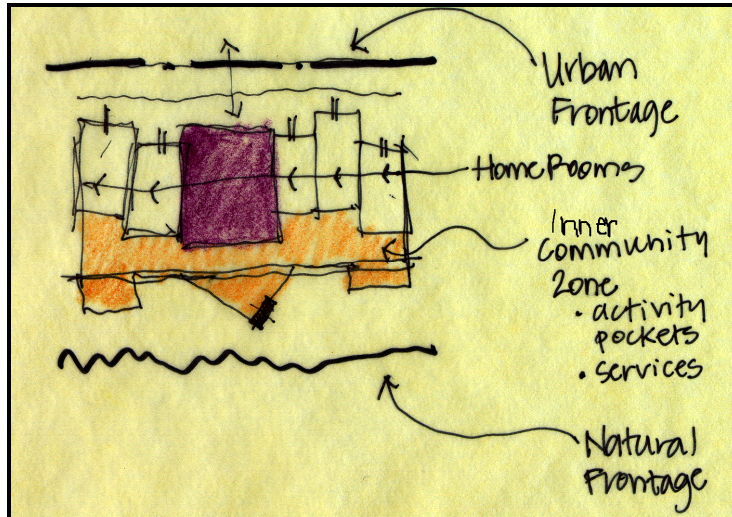
**Figure 3:  Layers of zoning within the site and facility.[3]**

## *Facility Issues and Observations:  How does the facility work*

1.  Building and site relationship

    - interior to exterior conditions - how is this connection made
    - solar orientation and day lighting
    - Visual connection from interior space to natural environment
    - Built elements and natural elements merge
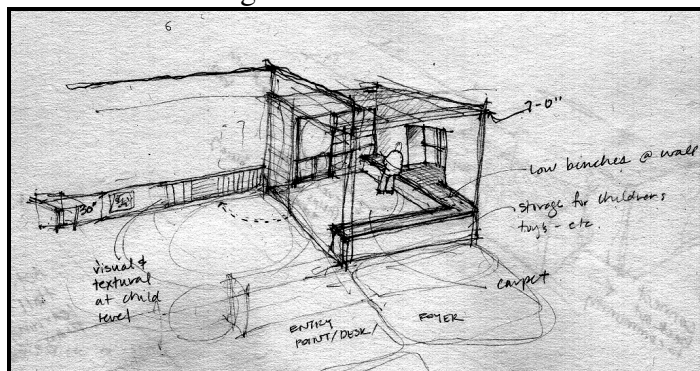


**Figure 4:  Sketch of homeroom layout and connection of spaces.[4]**

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[3] Sketch by author during design process.

2.  Security and zones of privacy

>•zones within both the site and the building
>•public, semi-public, semi-private, private
>•develop a sense of ownership of space and
>who is allowed in each zone
>•surveillance, eyes on the street concept
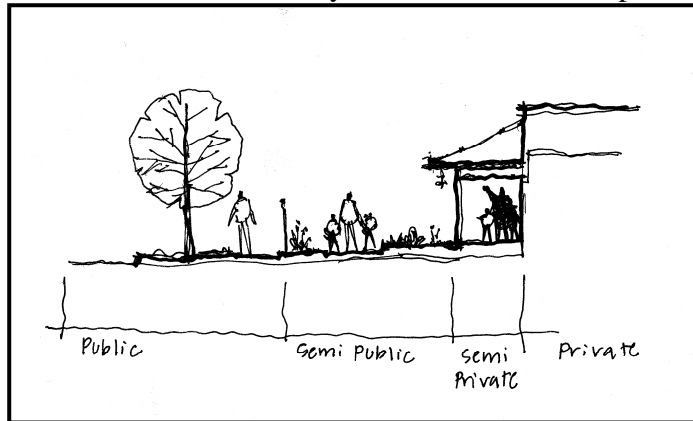


**Figure 5:  Sketch demonstrating zones.[5]**

3.  Participants and activities in each zone:

**Public zone**

>•**children**-arrival to site, departure from,
>impression
>•**parents**-arrival to site with child, departure
>from without child, arrival to without child,
>departure from with child
>•**care givers**-confronting the public related to
>security issues
>•**staff**-security issues
>•**greater community**-image of where the
>community is for the future, what role
>children play in the community

**Semi-public zone**

>•**children**-entering facility, exiting facility,
>exterior play time, large group activities
>within the facility

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[4] Sketch by author during the design process.
[5] Sketch by author during the design process.

•**parents**-entering facility with child, departure without child, arrival without child, departure with child, group activities

•**care givers**-confronting the public related to security issues upon entering facility, group activities

•**staff**-security issues within facility, group activities
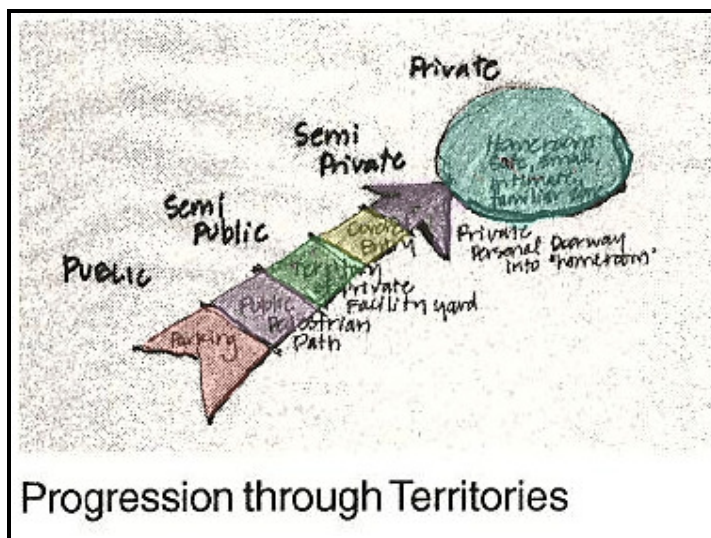


**Figure 6:  Diagram demonstrating territories.**[6]

## Semi-private zone

•**children**-daily activities within home Rooms, activities with home room group outside of their room

•**parents**-arrival to home room, departure from

•**care givers**-home room activities, administrative tasks

•**staff**-administrative tasks

### Private zone

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[6] Sketch by author during the design process.

•**children**-rituals with parents, one on one time with special friends, siblings, care giver, hygiene rituals, personal time
•**parents**-special time with child or children, conferences with care givers or administrators
•**care givers**-one on one time with children, some administrative tasks, personal time
•**staff**-some administrative tasks, personal time

4.  Codes as they relate to the facility

•child /staff ratios
•specific codes as they relate to child care and safety
•equipment and storage requirements

\* See Appendix A for additional information.

### Inner Community Issues and Observations:  What goes on within the facility and how is character defined.

1.  Participants within this zone

•**children** - interacting with others in their "neighborhood/"safe     zone"
•**parents** - making connections with other parents, children and     providers
•**care providers** - ensuring safety while interacting with parents   and children
•**staff** - ensuring safety, keeping watchful eye on children
•**visitors** - making connections from the larger community, interaction from the greater neighborhood

2.  Activities within this zone

•making connection to others within your community of the center

•making connections with those who live in your own community of the suburb

•arrival and departure of children, parents, visitors

•all-center activities such as parents days, open house, programs, field trip gathering areas

3.  Character of space which supports activities

•open and visually connected
•full of natural light and retreat zones
•visually connected with drop off area
•visually connected to the surrounding environment
•gathering place for casual seating and conversation
•both high and low spaces for comfortable group and intimate gathering

4.  Programmatic/Architectural Issues

•properties of structure that help to delineate enclosure and connectivity
•relation of this zone to those adjacent to it (home rooms, activity space...)

## *Home Room Issues and Observations: What aspects affect the design*

1.  Physical demands of this zone:

•interaction between room and facility
•separation and division of space within room
•privacy for intimate daily functions
•connection to the outdoors
•storage for toys and supplies
•natural light
•acoustical separation of functions:

•visual connection to others both in facility
and outer community
•See Appendix A for square footage
requirements

2.  Participants within this zone

•**multiple ages of children** - interacting with
each other in their "family zone"
•**parents** - comforting children during daily
ritual of arrival and departure, relating with
care providers
•**care providers** - ensuring safety while
interacting with their group of children

3.  Activities within this zone:
•reading time, older reading to younger, care
provider to small groups within zone
•small craft projects
• Educational toys
•play acting
•free play

4.  Personal Space Issues and Observations:

•separation and privacy
•connection while apart from others
•intimate scale
•intimate lighting

5.  Activity Spaces Issues and Observations:

•visual connection to home rooms
•differing volume/spatial quality from home
rooms
•allows for flexibility in group size
•natural lighting
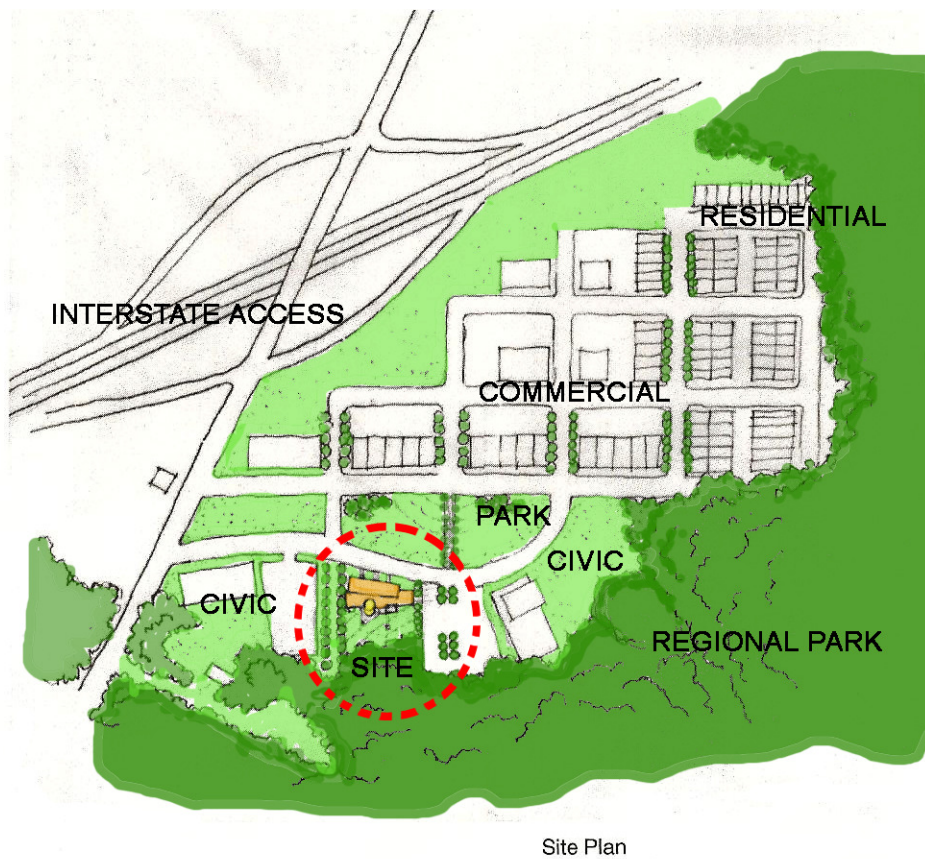
Site Plan

**Figure 7:  Site plan identifying site within proposed city center at Lino Lakes, MN.[7]**

# Site and Context

In a suburban day care facility it is necessary to
investigate a wide range of issues as they relate to site
and context.  At the regional level it is important to
assess how this site relates to the greater metropolitan
region.   At the community level integration with
community services, commercial nodes, residential
districts, and surrounding natural features need to be

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[7] Sketch by author during the design process.

addressed.  At the site level issues of natural daylight,
site access and built environment should be considered.
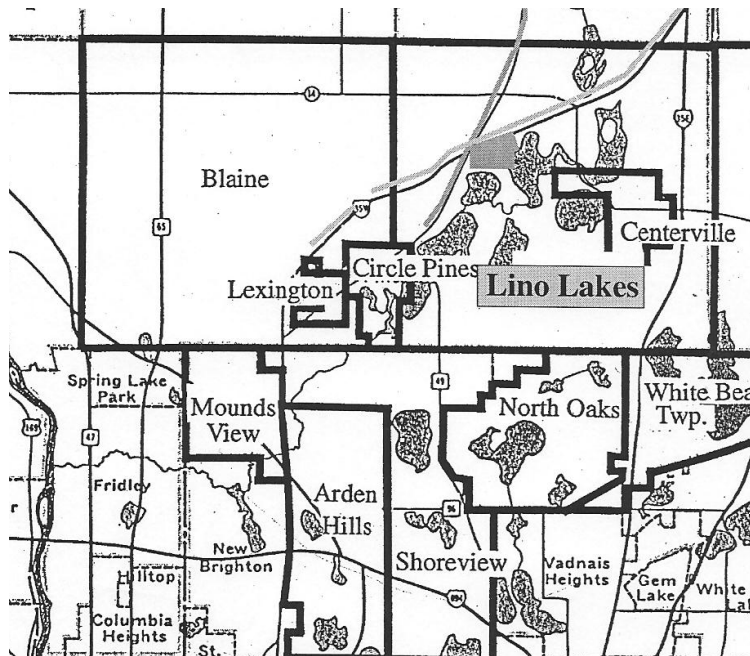


**Figure 8:  Plan of adjacent suburban areas.[8]**

## Connection to Metropolitan Areas

At the regional level it is important to assess how this
site relates to the greater metropolitan region, the access
to major freeways, and the connection to regional
amenities.

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[8]Map provided by the City of Lino Lakes. (1997)
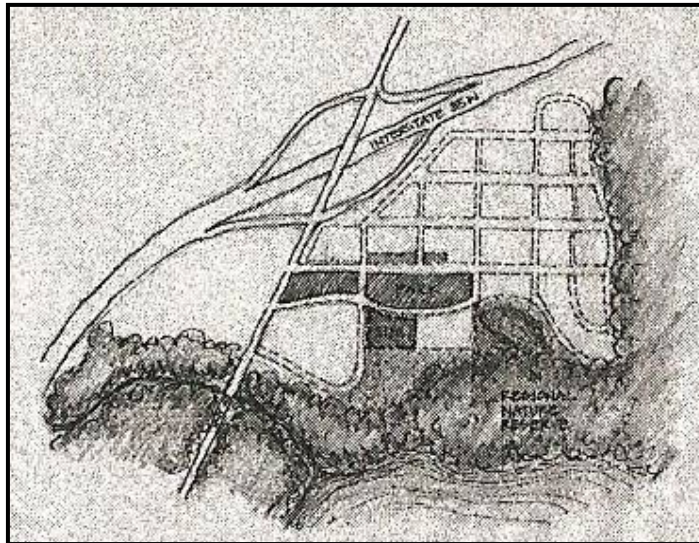
Figure 9:  Diagram showing site and natural amenities.[9]

## *Proximity to Park and Recreation*

Recreation and park facilities can add to the experience of the daycare facility.  It is necessary to understand the proximity of parks and recreational attractions and address how these amenities may be accessed by the children and care providers.   Codes dictate the appropriate distances and modes of transportation that are appropriate for accessing such amenities.

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[9] Sketch by author during design process.

**Figure 10:  Site plan shows access to nodes.[10]**

## *Proximity to Commercial Nodes*

The distance to nearby commercial activity should be addressed to understand the potential of the surrounding environment as a learning tool.  The scale, massing and setback of existing commercial node should be studied to assess the response of the new facility.

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[10] Sketch by author during design process.

# Architectural Emphasis

This building should be one that does not identity solely with the image of institution, or of home.  Instead, it should identify with the best qualities of both models. It should identify with the community of which it is a part, and also with the people who live there and with the time in which it was constructed.  These goals may be reached with careful attention to form, scale, structure, and materiality, use of daylight, topography, natural vegetation, context, and sense of spatial qualities as they relate to the users.
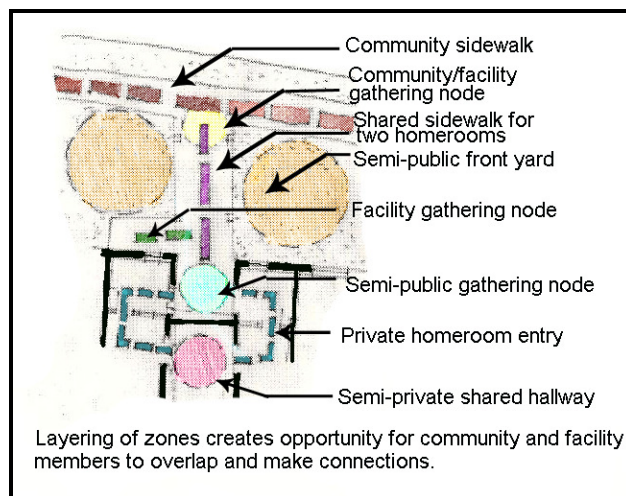


**Figure 11:  Sketch of front entry sequence.[11]**

## *Progression and Path*

The way in which the building is entered and the way that people move though should be greatly considered.

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[11] Sketch by author during design process.

It is important to understand the daily rituals and routines of the user group in order to gain the fullest potential in creating connections between those who share in this facility.  Care should be taken to provide appropriate scale and social environments for paths and corridors to allow for personal connections to be made.
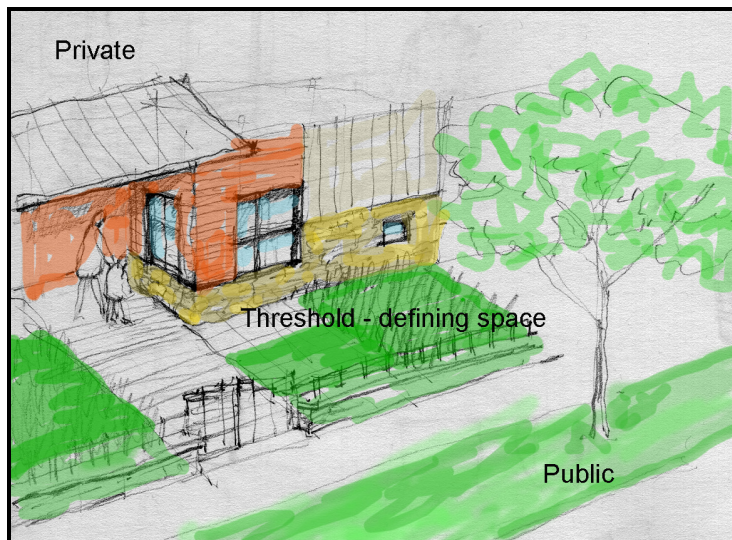


**Figure 12:  Example of layers of threshold and paths within public zones.[12]**

## *Threshold*

The understanding of entering and ownership of space, along with the layers of privacy should be demonstrated throughout the facility.  The concept of connectivity and spatial definition may be demonstrated at many scales.  There is a threshold as you enter the site, one as you enter the facility, another at the inner community scale, another kind of threshold to the home room with yet another filter that draws you down to the private zone. Each zone should be clearly defined to allow the

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[12] Sketch by author during design process.

larger facility to feel like a gathering of many smaller parts, thereby diminishing the overwhelming institutional effect and creating a scale more related to children.



Human Scale of Intimate Spaces
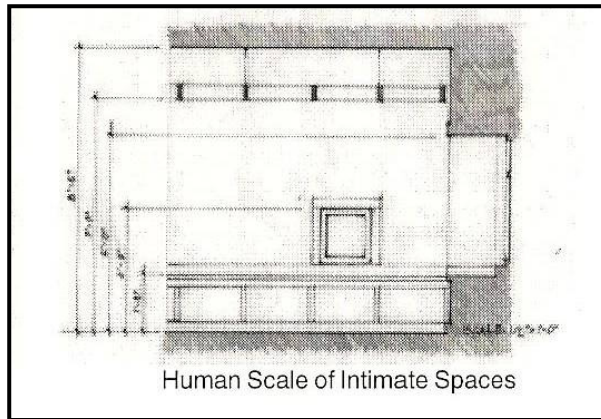


**Figure 13:  Scale of building elements within the room.**
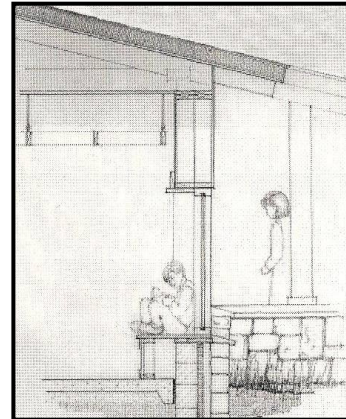
**Figure 14:  Building elements are scaled for children.**

## *Scale*

The building is not created just for children.  The scale of the building should take into account all that will inhabit it.  Staff, children, parents and community should all be considered.  Aspects of the building will be scaled to accommodate the child's sense of scale. Researchers from the University of Tennessee's Child Development Laboratories found that environments that are scaled to the child allow children to enter forms of "complex play behavior" more quickly than in environments which are not scaled down.  Studies also indicate that children play for longer periods of time in

scaled environments compared to peers in larger adult-scaled environments.[13]





**Figure 15:  Example of exposed structure.[14]**
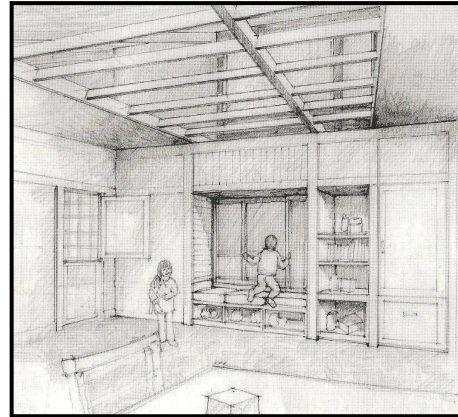
**Figure 16:  Design sketch showing building elements.[15]**

## *Structure*

This building should engage the minds of all who enter. The structure should reveal itself and make the concepts of gravity and technology easily understood and clearly an important aspect of the built environment.  Structural and HVAC systems should be revealed, highlighted as important components of the environment which children are a part.  "Open the book and allow children to peer inside."

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[13] Michael Wagner, "Day Care:  Design Matters", Interiors, June 1992, 84.

[14] "Daycare 3:  Campus Child Care", *Canadian Architect*, May 1996, pg. 29.

[15] Sketch by author during design process.
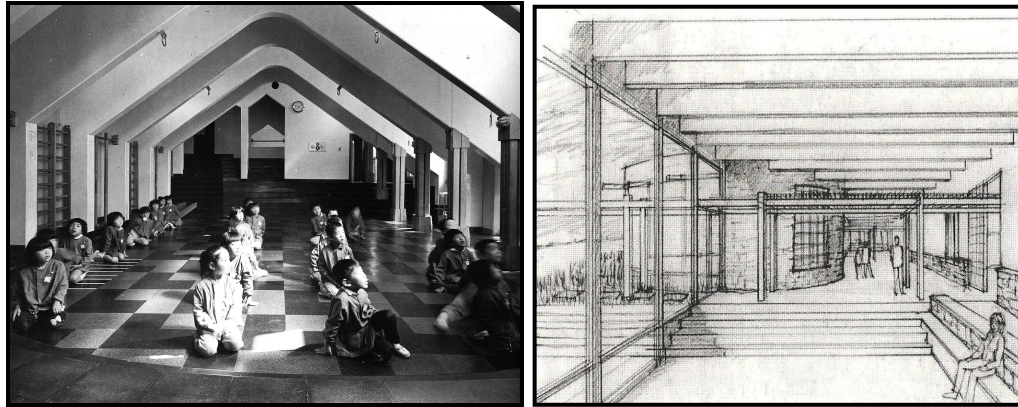
**Figure 17:  Daylight washes into playroom at Tokiwa.**[16]
**Figure 18:  Design sketch of main gathering space.**[17]

## *Daylight*

The way in which daylight enters the building should demonstrate the patterns of light and shadow, the path and direction of the sun, the heat potential of the sun's rays, the notion of the passing of time.  Consideration should be made in how this notion could be demonstrated though the design.
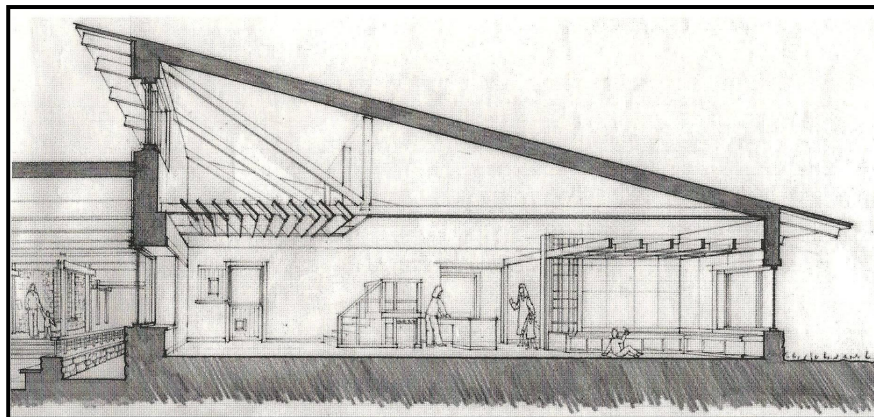


**Figure 19:  Sketch reveals clearstory windows and textural louver elements lighting homeroom space.**[18]

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[16] "Tokiwa Nursery School", *The Japan Architect*, (8404), pg.34.
[17] Sketch by author during design process.
[18] Sketch by author during design process.

## *Materials*

The materials should be of many textures, stimulating the child through touch and visual perception.  The built environment can become part of the learning environment through such means.  The materials should be easy to maintain and safe to the users.  Consideration should be made to the way that the materials will wear, their hardness, potential for splintering and their thermal capacity as it relates to safety.



**Figure 20:  Natural stone and stucco materials. [19]**

**Figure 21:  Stone, wood windows, glazing and stucco.[20]**



**Figure 22:  Stucco, stone and wood siding.[21]**

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[19] Lisa Rapoport,  "Hide and Seek:  The Daycare Game", Canadian Architect, (May 1996), pg.cover.
[20] Ibid., 23.

# Educational Method Precedent
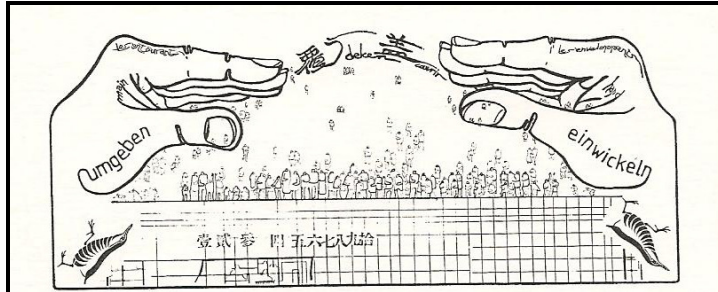


**Figure 23:   Image drawing of "Tsutaeai" concept.[22]**

## *TSUTAEAI Method*

TSUTAEAI describes not only the relationship between children, and between children and teachers, but also the relationship between children and things such as space, materials, details and ornament.  Thus the architecture of nurseries using this form of learning must embody this same spirit and message. [23]
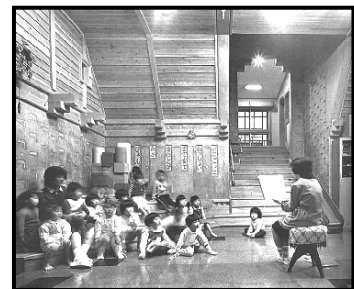


**Figure 24 :  Wakaba play room.[24]**

The building must embody a congregation of exterior, interior and portion and details which communicate to future generations and past.  The building should reflect on what has gone before, yet not be restrained in looking to the future.  By bringing the craftsmanship of past generations and materials of both the past and contemporary cultures, there is a connection for both children and community that makes this place connected.  It creates a place that feels comforting and secure.   The building is created from the culture of

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[21] Lisa Rapoport,  "Hide and Seek:  The Daycare Game", Canadian Architect, (May 1996), pg. 23.
[22] Kinya Maruyama, "Architecture of TSUTAEAI," *The Japan Architect,* April, 1984, 39
[23] Ibid., 39.
[24] Ibid., 38.

which it is a part.  Children, teachers and crafts people all partake in its creation.

## *Home Room system*



**Figure 25: Photograph of homeroom in Wakaba Nursery School.[25]**

In the home room system particular places are provided for particular activities.  A place for joining in, and a place for retreat.  From each home room children can move to arts and crafts rooms, dining hall, romper room, book corner or to private cubicles.  This "Home Room" arrangement allows children freedom to take part in activities when they feel comfortable doing so and allows them the choice in their social environment. It provides for a mix of ages of children meeting and participating in activities together while also allowing the flexibility to be with peers of their own age.  [26]

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[25] Kinya Maruyama, "Architecture of TSUTAEAI," *The Japan Architect*, (April, 1984), pg. 39.

[26] Kinya Maruyama, "Architecture of TSUTAEAI," *The Japan Architect*, (April, 1984) 35.

The home room system offers the child more independence as compared to a one room system in which most of the day is either spent in a single room, or on a playground.  The one room system by its nature and built environment segregates children to their own age divisions and confines them to one spatial quality for most of their day.

# Architectural Precedent

## *Tokiwa Nursery School*

Location:  Mizusawa, Iwate Prefecture
Architect:  Team Zoo, Atelier Mobile
Date of construction:  March, 1983

The facility carefully incorporates connections to the greater community through its treatment of the street facades as well as a connection to natural environment through exterior terracing, and a welcoming treatment of natural light.  The exterior play areas are physical extensions from the building itself.  Children are able to view the outdoors from large interior spaces.
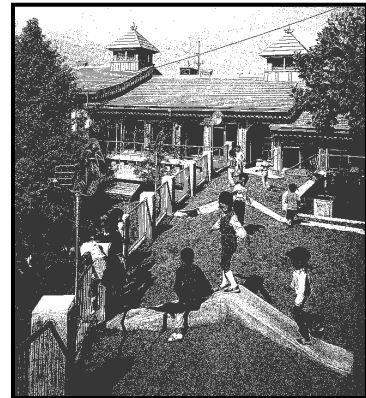


**Figure 26:   Integrated play area.[27]**
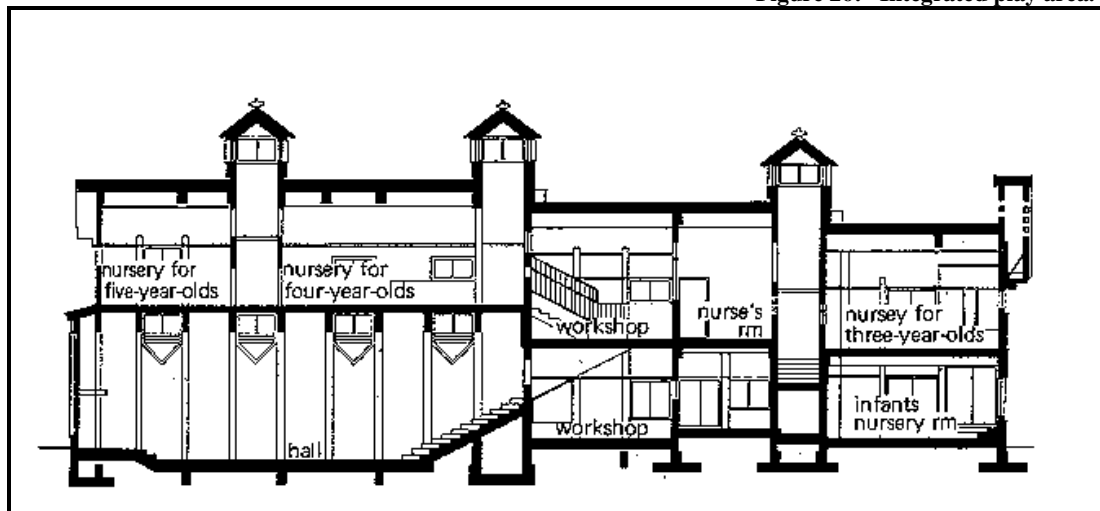


**Figure 27:  Section of building demonstrating the variety of volume of space and natural light cores.[28]**

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[27] Kinya Maruyama, "Architecture of TSUTAEAI," *The Japan Architect,* April, 1984, 32.

[28] Ibid. pg. 33.

Attention was paid to the sectional qualities of the spaces.   Light is filtered from high windows down through the building core.

The larger volumes of multi-purpose spaces are paired with smaller scaled alcoves, thus allowing a dynamic texture to the space and diversity to the settings.



**Figure 28:  Photograph showing the playful use of light and volumes.[29]**

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[29]  Kinya Maruyama, "Architecture of TSUTAEAI," *The Japan Architect,* April, 1984, 35.

**Figure 29: Exterior play area as extension of facility.**[30]

## Integration of Building with Exterior Play areas:

Tokiwa Nursery School contains a play area at the rear. A roof top terrace overlooks the play zone and enhances the connectivity of the site.  Children are able to peer down below and watch others play, learning by watching.  This allows for self reflection on their own abilities, friendship groups; it allows the child a way to observe situations and prepare for new experiences and to learn from memories of previous abilities.

The arrangement of this building on this site creates a front and a back face to the building.  This creates a public connection with the street and a private safe zone at the rear of the site.  This allows for a transformation both on the interior as well as on the exterior. Arrangement of the interior spaces can respond by

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[30]  Kinya Maruyama, "Architecture of TSUTAEAI," *The Japan Architect,* April, 1984, 33.

creating layers of public to private spaces within the building as it transitions from the street to the rear play zone.  Children can sense this transfer from the public zone to the private zone by the amount of freedom they are given from front to rear, and also the sense of security as they move into more privatized zones.

## *Wakaba Nursery School*

Location:  Hanamaki, Iwate Prefecture
Architect:  Team Zoo, Atelier Mobile
Date of construction:  March, 1982

Designed specifically for children under the age of three, this center is an arrangement of many small interconnected rooms.  Beautiful choices of materials were made along with special attention to detailing. The structure of the facility is exposed and beautifully enhances the aesthetic while revealing its composition.   The  section  expresses  a  playful character.   Clearstory  window  enliven  the  section. Whimsical elements like a slide incorporated into a stair express movement and play.
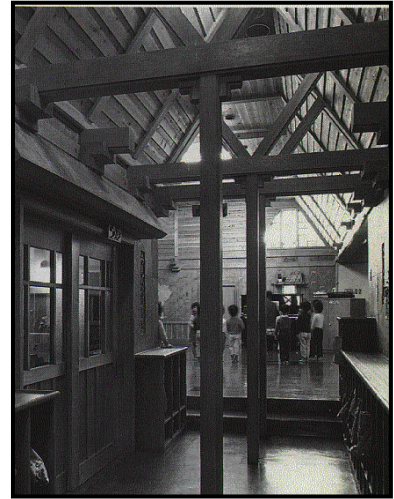


**Figure 30: Exposed structure tells story.[31]**
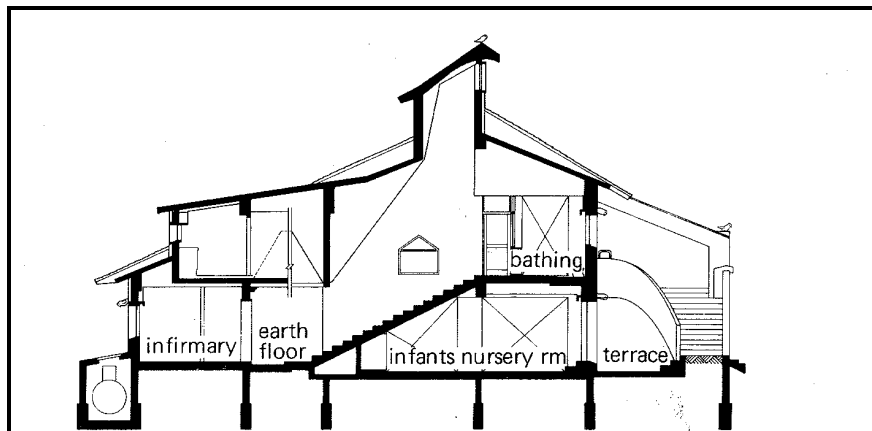


**Figure 31:  Sectional qualities of the facility.[32]**

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[31]  Kinya Maruyama, "Architecture of TSUTAEAI," *The Japan Architect,* April, 1984, 37.

[32] Ibid. pg. 37.

Materials are used for their quality, texture, natural character and visual weight. These are physical opportunities for interaction with the building.



**Figure 32: Use of traditional materials and details speaks to their heritage.**[33]

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[33] Kinya Maruyama, "Architecture of TSUTAEAI," *The Japan Architect,* April, 1984, 38.

### *Squirrel's Nest Child Care Centre*

Location:  Scarborough, Ontario
Architect:  Stephen Teeple
Date of construction:  October, 1995



**Figure 33: Façade of Squirrel's Nest Child Care Centre.[34]**

**Figure 34:  Entry path demonstrates scale details and materiality.[35]**
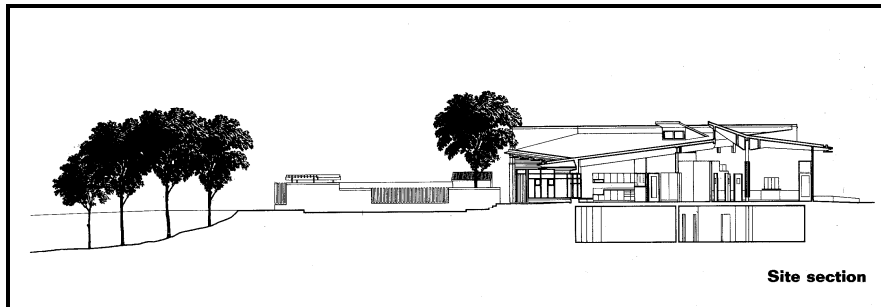


**Figure 35:  Site Section of Squirrel's Nest Child Care Centre.[36]**

## Structure, Light, Materials, Detail:

The materiality and structure of this care center is
striking.  The way that the materials meet, connect and
define themselves is of interest.  The structure reveals
itself both in the interior and on the exterior.  Materials

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[34] Lisa Rapoport,  "Hide and Seek:  The Daycare Game", Canadian Architect, (May 1996), pg. 22.

[35] Ibid. pg. 22.
[36] Ibid.pg. 26.

are recognizable and are very textural.   Many of the
senses are stimulated by this subtle use of light,
structure, material and detail.
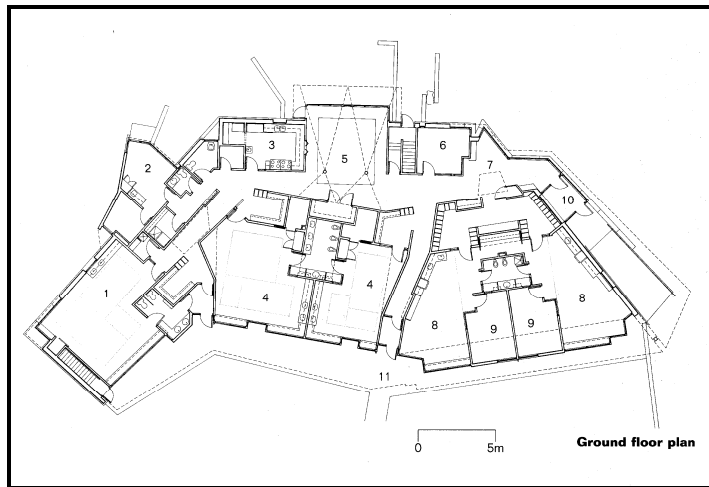


**Figure 36:  Squirrel's Nest Child Care Centre, Scarborough, Ontario:
Stephen Teeple.[37]**

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[37] Lisa Rapoport,  "Hide and Seek:  The Daycare Game", Canadian Architect, (May 1996), pg. 26.

# Final Project:

The following figures and diagrams are taken from thesis boards by author.
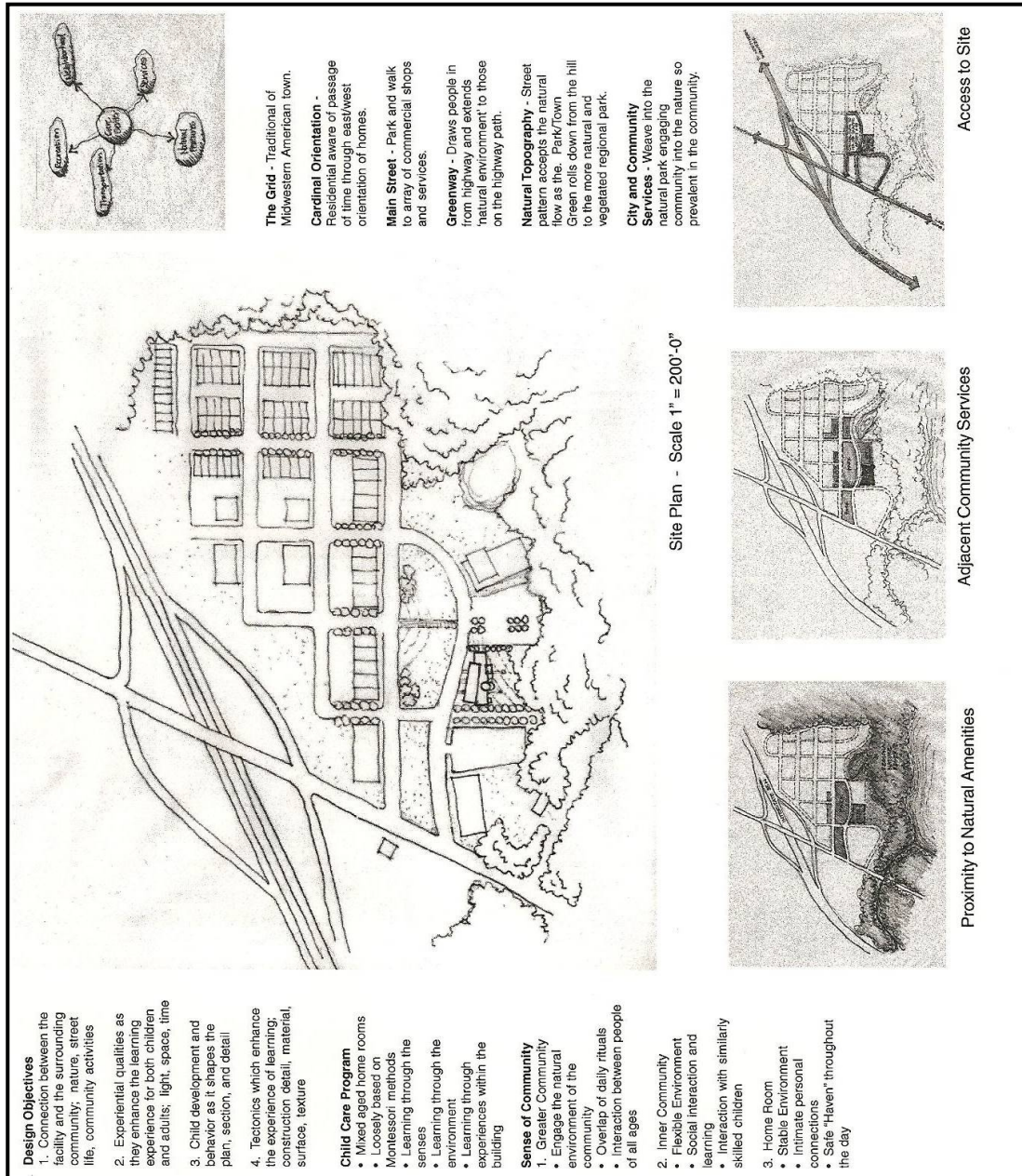


**Figure 37:  Site issues thesis design board by author.**

## *Design Objectives*

1. Connection between facility and the surrounding community; nature, street life, community activities
2. Experiential qualities as they enhance the learning experience for both children and adults; light, time
3. Child development and behavior as it shapes the plan, section and detail
4. Tectonics which enhance the experience of learning; construction detail, material, surface, texture
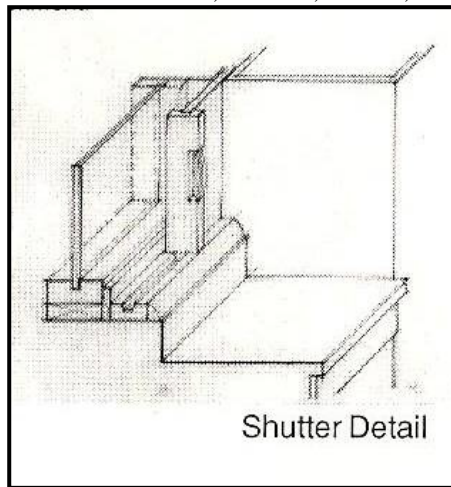


Shutter Detail

**Figure 38: Home room shutter detail by author.**

## Child Care Program

- Mixed aged home rooms
- Loosely based on TSUTAEAI methods
- Learning through the environment and senses
- Learning through experiences within the building

## Sense of community

1. Greater community
   - engage the natural environment of the community
   - Overlap of daily rituals
   - Interaction between people of all ages
2. Inner community
   - Flexible environment
   - Social interaction and learning
   - Interaction with similarly skilled children
3. Home Room
   - Stable environment
   - Intimate personal connections
   - "Safe Haven" throughout the day.
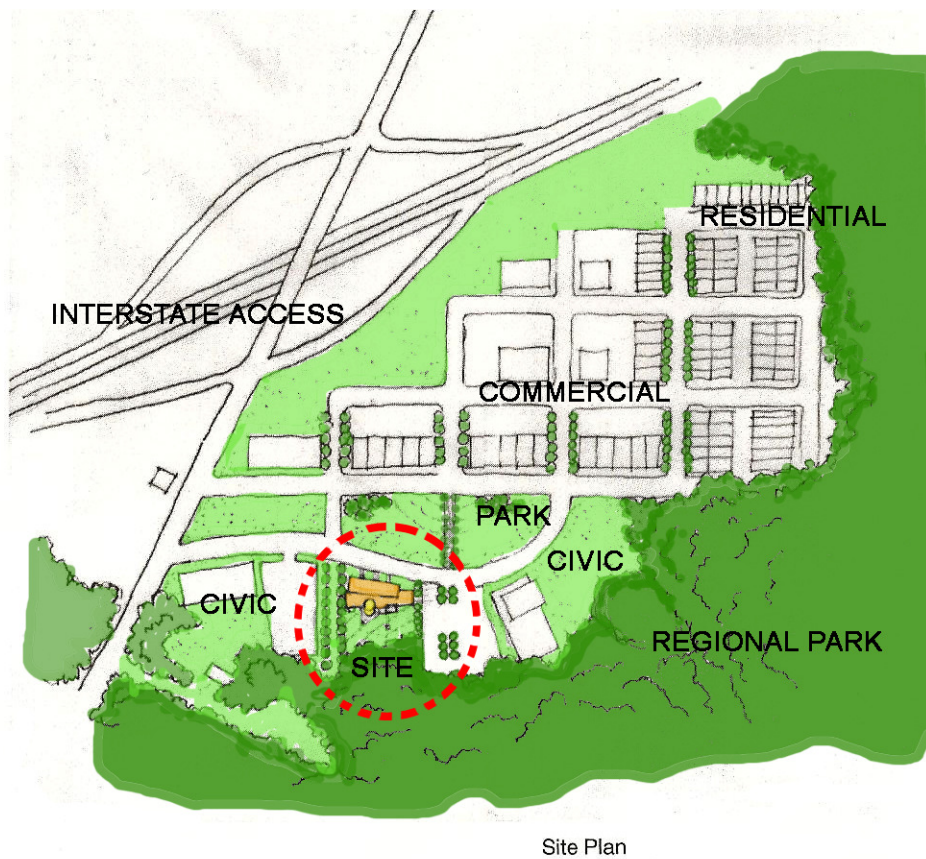
Site Plan

**Figure 39:  Site Plan showing proposed town center layout by author.**

## The Grid –

Traditional of Midwestern American town.
Cardinal Orientation
Residential aware of passage of time through east/west
orientation of homes.

## Main Street

Park and walk to array of commercial shop and services

## Greenway

Draws people in from highway and extends "natural
environment" to those on the highway path.

## Natural Topography

Street pattern accepts the natural flow as the Park/Town
Green rolls down from the hill to the more natural and
vegetated Regional Park.

# City and Community Services

The city and community services are woven into the natural park engaging community into the nature so prevalent in the community.
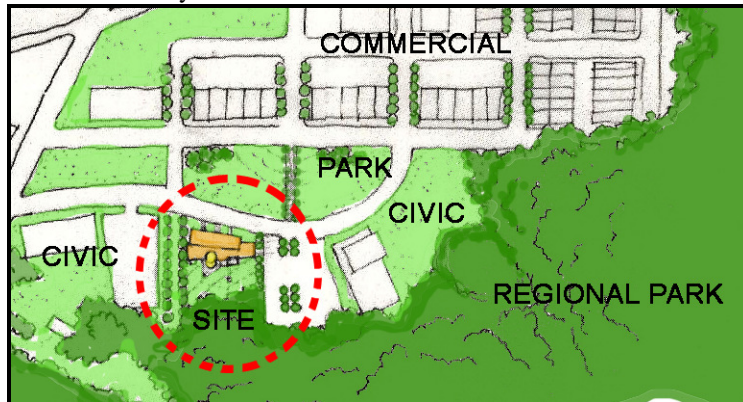


**Figure 40:  Close up of community service locations – site plan by author.**

Children: A Place for Their Care in Suburbia…Comfort, Spirit, Wonder And Understanding

Plan and Site Plan - Scale 1/16" = 1'-0"

East and North Elevations- Scale 1/16" = 1'-0"

**Path as connector of various people -** Path from parking to home room entries is shared by many people of the community. Overlap of path creates opportunities for familiarity of people within the community.

**Territories:  Public to Private-** Public path transitions from the unfamiliar to the most intimate zones.  Layers of territory are established through layers of privatized zones.

**Identity and Personalization of Space-** The front yard provides a place for each home room to personalize and gain ownership of the zone between the private home room and the public street.

**Shared Walk and front porch -** Shared sidewalk within the semipublic zone allows connection between children and parents of adjacent home rooms.

Shared Path

Entry "Porch"

**Figure 41:  Plan development thesis design board – by author.**

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## *Physical Implications of Behavioral Objectives*

### Path as connector of various people

The path from the parking to the home room entries is shared by many people of the community.  The overlap of path creates opportunities for familiarity of people within the greater community.
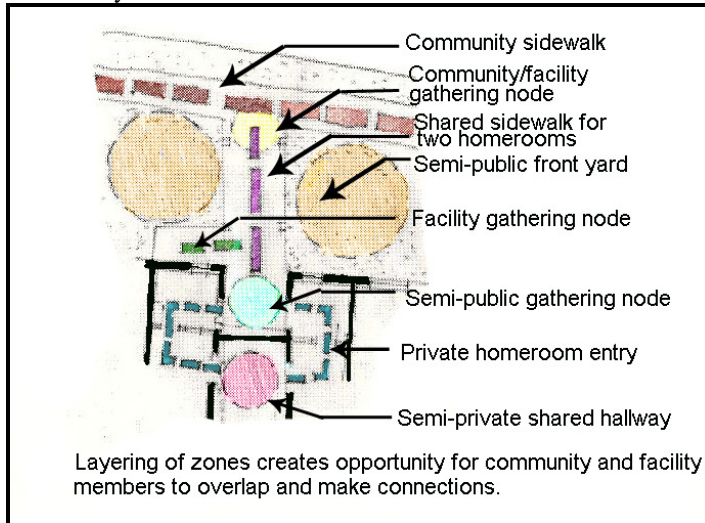


**Figure 42:  Zones diagram – by author.**

### Territories:  Public to Private

Public path transitions from the most public to the most intimate zones.  Layers of territory are established through layers of privatized zones.
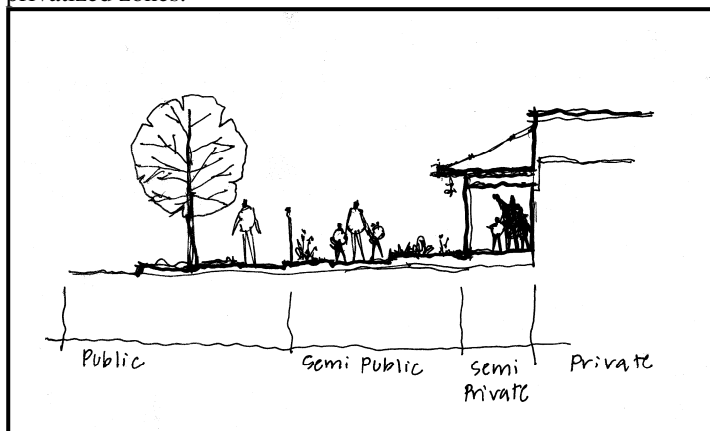


**Figure 43:  Territories diagram – by author.**

44

## Identity and Personalization of Space

The front yard provides a place for each home room o personalize
and gain ownership of the zone between the private home room
and the public street.



**Figure 44:  Sketch of front entry sequence – by author.**

## Shared Walk and front porch

Shared sidewalk within the semipublic zone allows connection
between children and parents of adjacent home rooms.
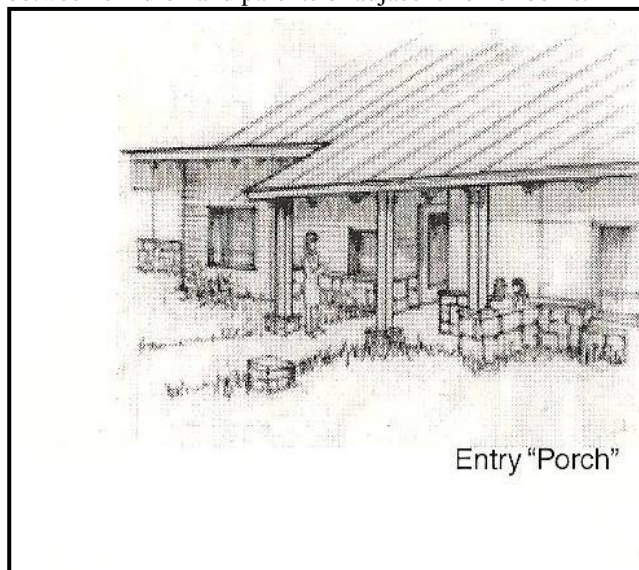


**Figure 45:  Front porch sketch – by author.**

**Inviting entry- Entry** is configured to provide a security check point while and the welcoming face of the child's care provider upon entering the home room. Scale of counter considers child's eye level. Children's art at child eye level provides a connection of "place" for child and a way for the parent to see into the daily routine of the center.

**Connections at transition zone -** Foyer/entry area is visually connected with each home room allowing the child to become again familiar with this place and aid in transition between "real" home and child care facility. This visual connection allows for connection from inside to path and path to inside.

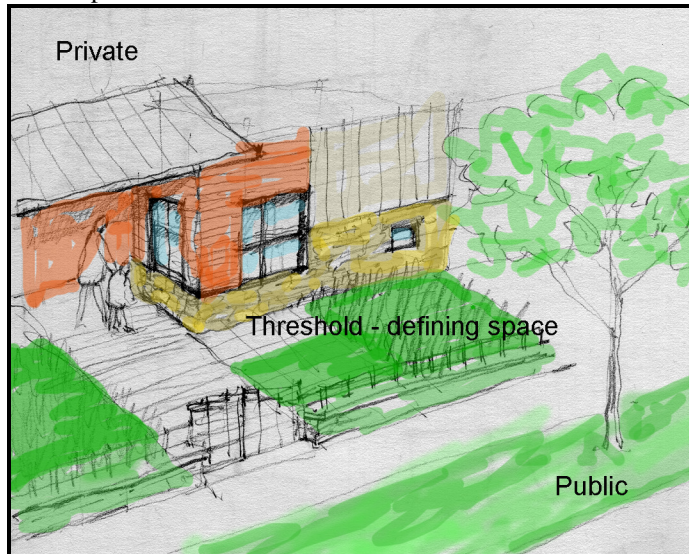**Interaction of people - Connection between Home Rooms -** Movement threads afford opportunities for interaction between parents, children and staff of adjacent home rooms throughout their daily rituals.

**Vertical Dimensions -** Scaling elements of the section provide environments for different behavior. Quiet more reflective personal spaces have a more intimate ceiling height, while more active areas of the facility have a higher vertical scale. Layers of structure bring these more active zones to a more human relationship.

Detail of Home Room Play Cave

Human Scale of Intimate Spaces

Home Room Plan - 1/4" = 1'-0"

Lateral Section - 1/8"=1'-0"
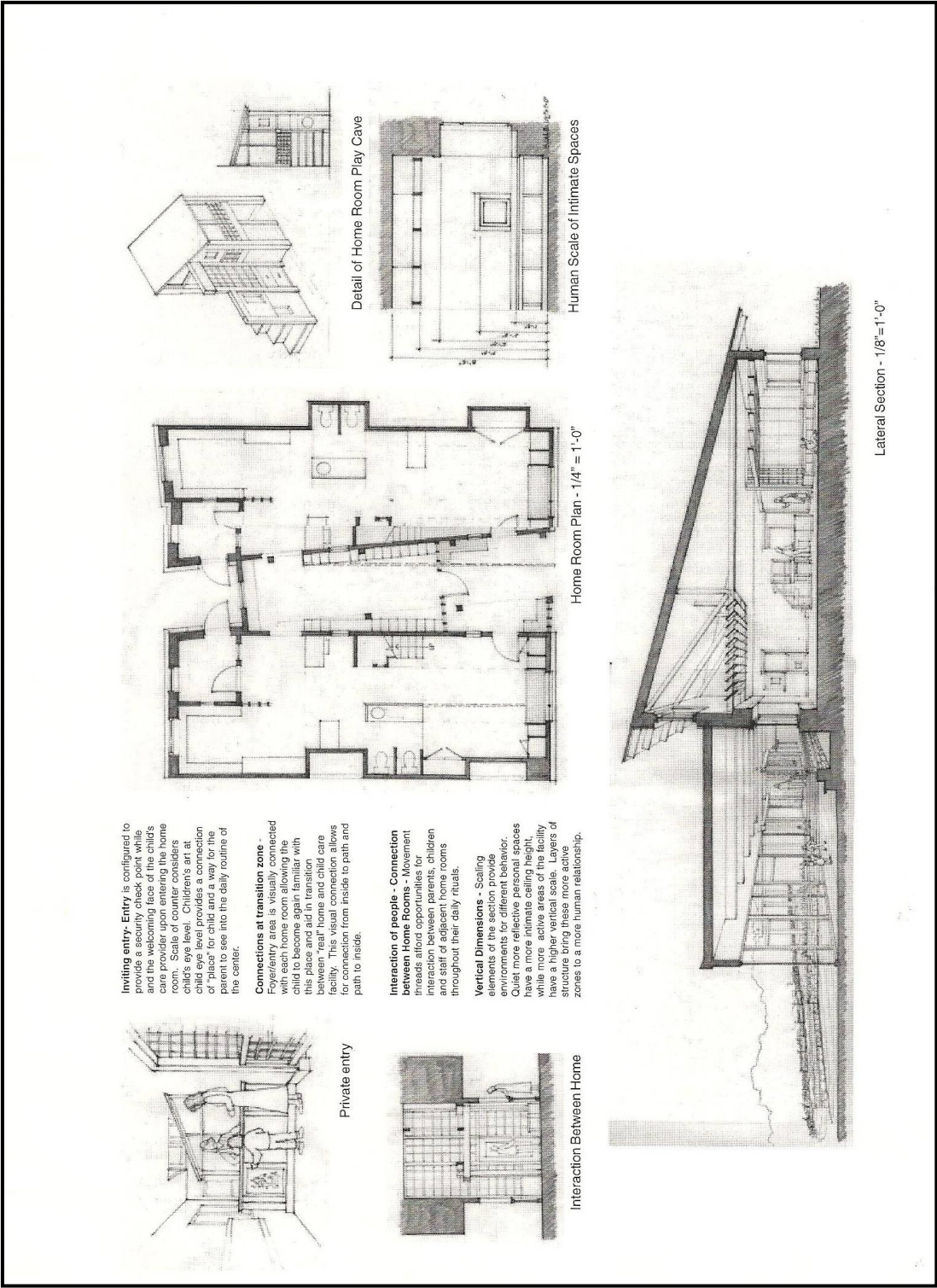
Private entry

Interaction Between Home

**Figure 46: Detailed plan, interior development thesis board – by author.**
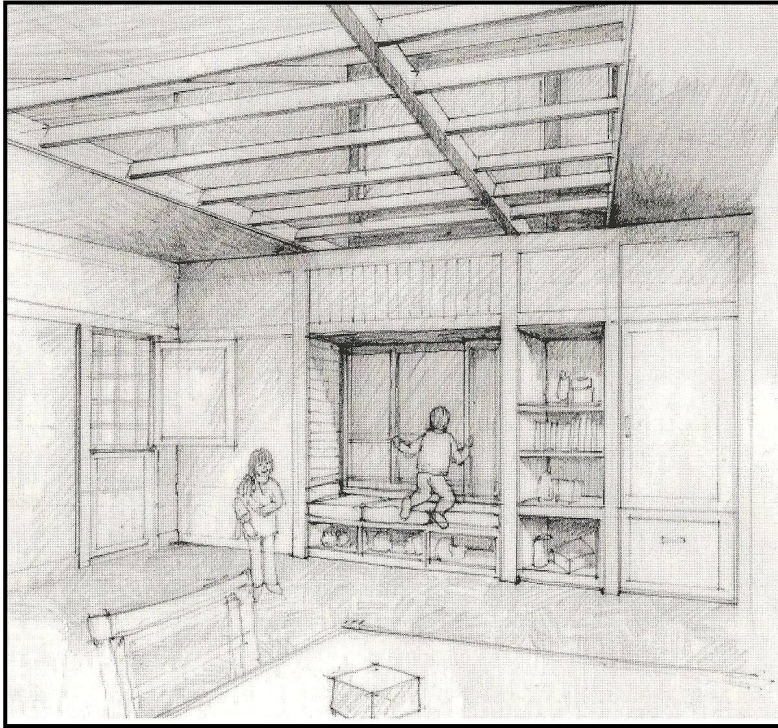
46

## *Design Elements*



**Figure 47:  Interior development of homeroom sketch – by author.**

## Inviting Entry

Entry is configured to provide a security check point and the welcoming face of the child's care provider upon entering the home room.  Scale of counter considers child's eye level. Children's are at child eye level provides a connection of "place" for child and a way for the parent to see into the daily routine of the center.

## Entry

Foyer/entry area is visually connected with each home room allowing the child to become again familiar with this place and aid in transition between "real" home and child care facility.  This visual connection allows for connection from inside to path and path to inside.

## Interaction of people – connection between Home Rooms

Movement threads afford opportunities for interaction between parents, children and staff of adjacent home rooms throughout their daily rituals.

## Vertical Dimensions

Scaling elements of the section provide environments for different behavior.  Quiet more reflective personal space have a more intimate ceiling height, while more active areas of the facility have a higher vertical scale.  Layers of structure bring these more active zones to a more human relationship.
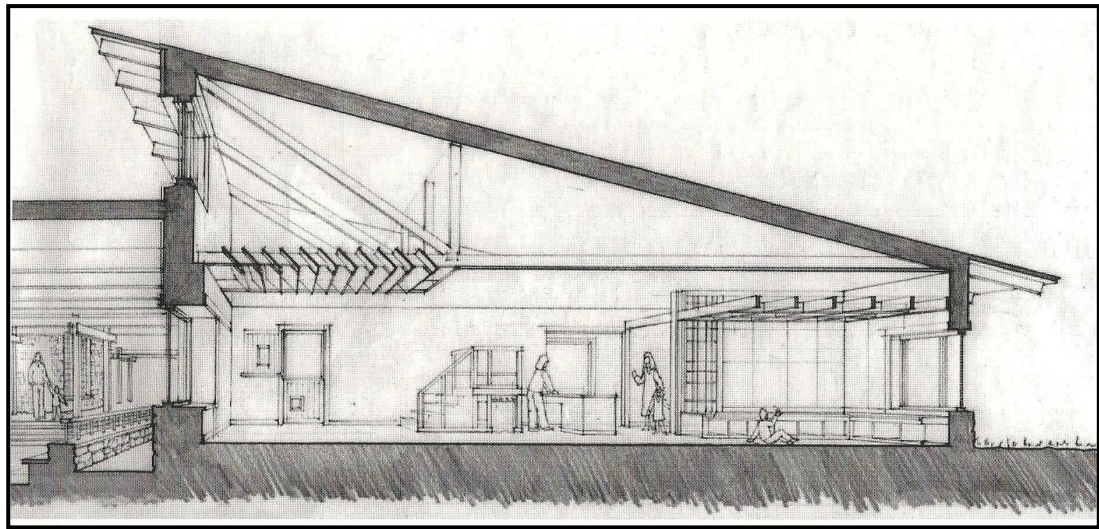


**Figure 48:  Building section detail of homeroom – by author.**

## Behavioral Cues

The built environment provides cues for human behavior.  Scaling components, spatial dimensions and adaptable building components shape behavior.  The movement of louvers, shutters and Dutch doors signal appropriate times for either quiet or active behaviors.  Low gates signal boundaries.  All aid in learning from the environment.
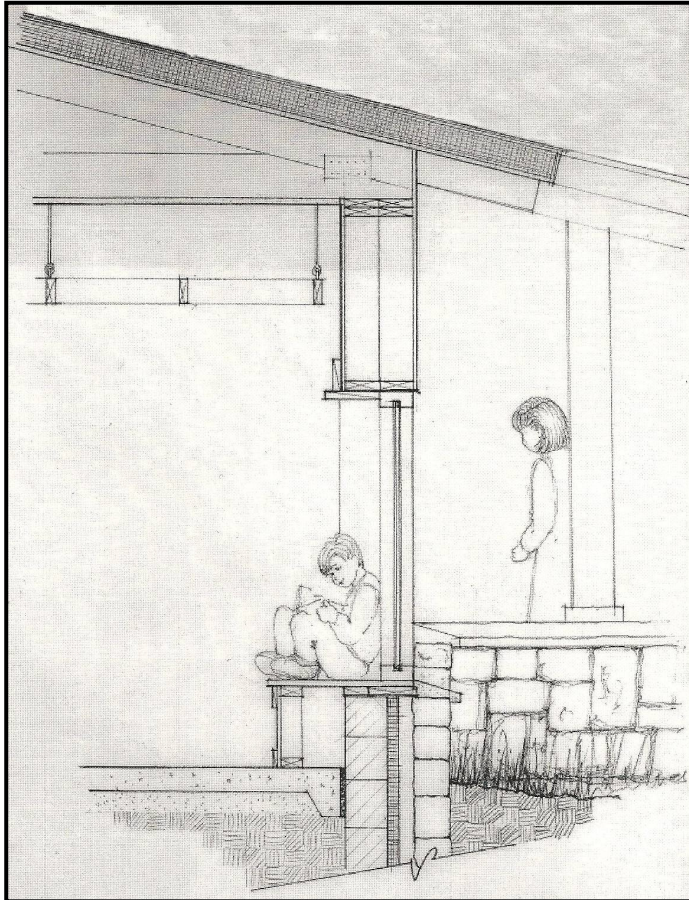
## *Interior Design Elements*



**Figure 49:  Detail – wall section demonstrating scale modifiers – by author.**

## Connection from Quiet Cove to Outdoors

View to the outdoors aids in the transition from home to child care facility.  This connection allows for children to participate as an observer in street activity as cars and pedestrians pass.  This also allows for visual connection from the public to the private realms.

## Points to Gain Perspective

Throughout the facility there are retreat zones where activity can be watched before engaging in active participation.
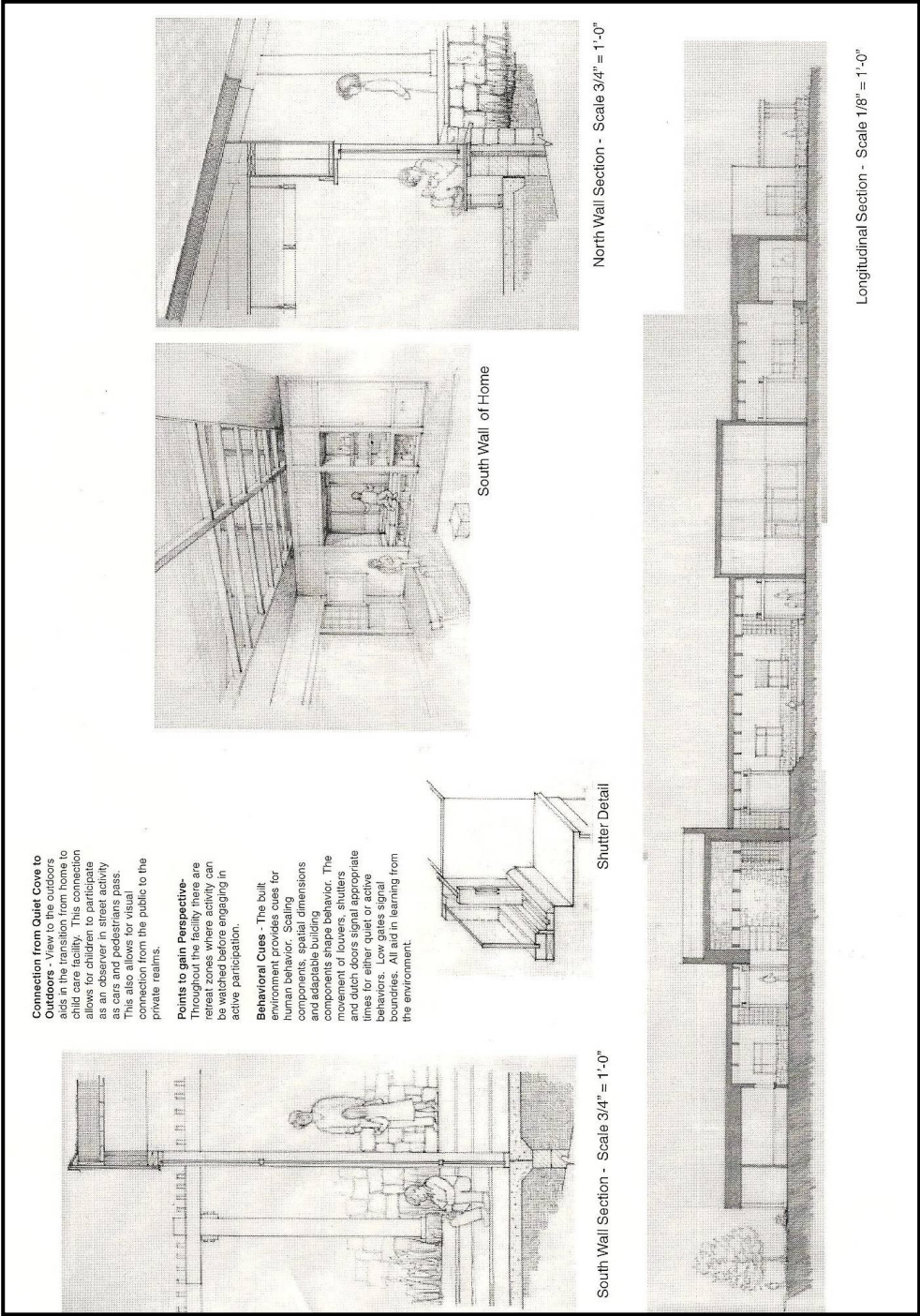
## *Exterior Design*



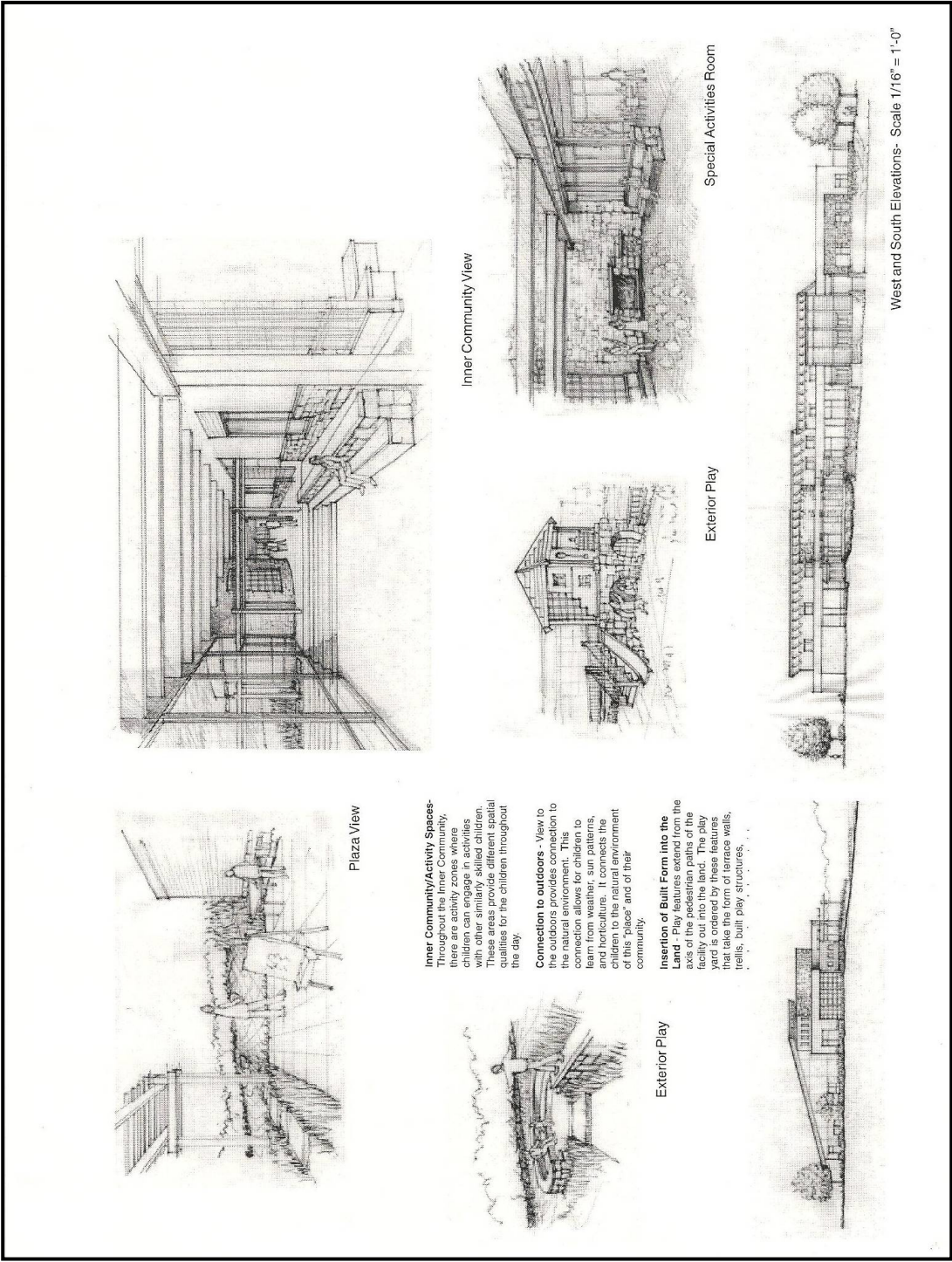**Figure 50:  Building section thesis board – by author.**

**Figure 51:  Interior and exterior development thesis board – by author.**
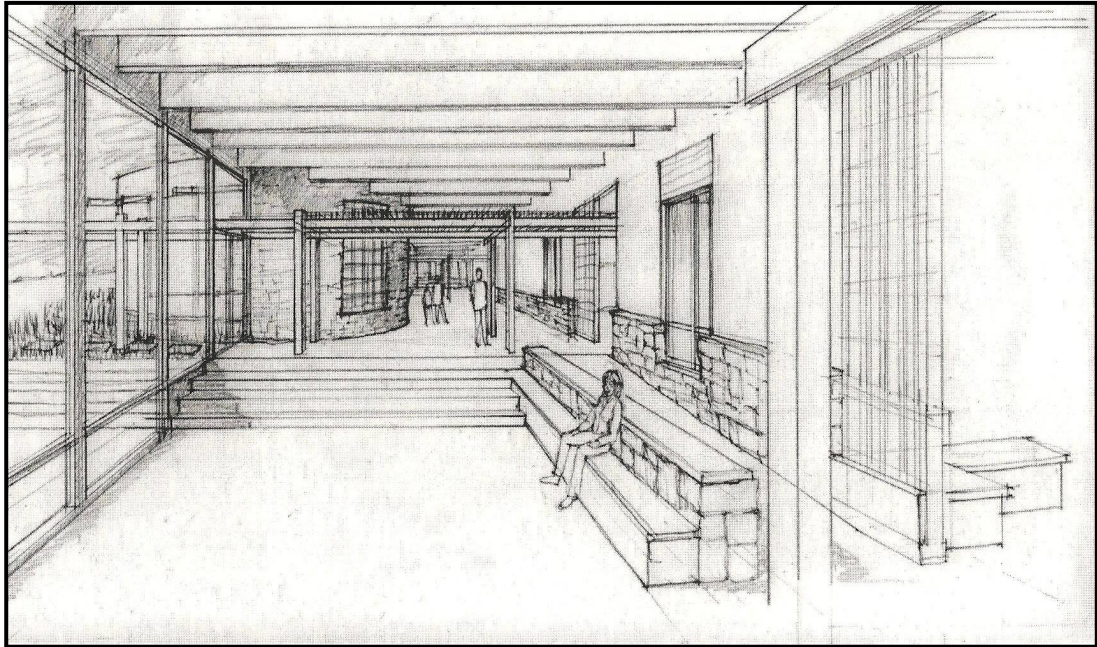
**Figure 52:  Interior development sketch – by author.**

## Inner Community/Activity Spaces

Throughout the Inner Community, there are activity zones where
children can engage in activities with other similarly skilled
children.  These areas provide different spatial qualities for
children throughout the day.

## Connection to outdoors

View to the outdoors provides connection to the natural
environment.  This connection allows for children to learn from
weather, sun patterns, and horticulture.  It connects the children to
the natural environment of this "place" and of their community.

## Insertion of Built Form into the Land

Play feather extend from the axis of the pedestrian paths of the
facility out into the land.  The play yard is ordered by these
features that take the form of terrace walls, trellis, and built play
structures.

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## Appendix A

### *Child Care Ratios & Regulations*

Regulations from Chapter 9503

Department of Human Services

Child Care Centers[38]

## Age Categories

Infant            6 weeks - 16 months

Toddler          16 months - 33 months (1 3/4 years)

Preschooler    33 months - no kindergarten

School-aged    at least kindergarten less than 13 years.

## Staff Ratios

Age Category/Min.Staff:Child Ratio/Max.Group Size

| Age Category | Min.Staff:Child Ratio | Max.Group Size |
|---|---|---|
| Infant | 1:4 | 8 |
| Toddler | 1:7 | 14 |
| Preschooler | 1:10 | 20 |
| School-aged | 1:15 | 30 |

## Guidelines as related to Ratios

A.  36 month or less separation in age within group

B.  infants cannot be mixed with other age groups

C.   the lowest number ratio must be maintained in group setting

D.  staff to child ratios, group size and staff distribution applied are for the youngest child present

F.  ratios do not apply to the following activities:

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[38] *Minnesota Department of Human Services Child Care Center*, Chapter 9503, Revision. 1991.

meals, outdoor activities, field trips, naps and rest, special activities including films, guest speakers and entertainers and holiday programs.

## Definitions of Equipment Needs

A.  "Cognitive development equipment and materials"

B.  "Dramatic play equipment" or "Practical life activity equipment"

C.  "Large muscle equipment"

D.  "Manipulative equipment"

E.  "Sensory stimulation materials"

## Area Requirements

Child's personal storage space

- no sq. ft. requirements; must be height appropriate to child

Outdoor space

- min. 1500 sq.ft.
- 75 sq.ft. per child
- must be within 2000 sq. ft. or provide transportation not further than 1/2 mile
- must be enclosed unless it is a public park or playground

Indoor space

- min. of 35 sq. ft. per child in attendance (hallways, stairways, closets, utility rooms, lavatories, water closets, kitchens and space occupied by cribs may not be counted as indoor space)

Toilets and hand sinks

- 1 sink and toilet for each 15 children
- 1 training seat for every 15 toddlers

Place for sick child

- Separated from activity area of other children
- cot and blanket must be provided
- Space must be within sight and hearing of a staff person and supervised by a staff person when occupied by a sick child.