
Designing for Children's Needs:



Creating an Outdoor Play Environment for the Polo Crisis Nursery

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Designing for Children's Needs: Creating an Outdoor Play Environment for the Yolo Crisis Nursery

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Table of Contents

Table of Contents	i
Abstract	ii
Acknowledgements	iii
Dedication	ix
Preface	x
Significance of Study	xi
List of Figures	xii-xiii
Chapter 1: Children and the Outdoor Play Environment	1
Importance of Outdoor Play	2-3
Physical Development	4
Cognitive Development	4-5
Social Development	5-6
Emotional/Mental Development	6
Chapter 2: Emotional Disturbed Children and Autism Children	7
Emotional Disturbance in Children	9-10
Autism in Children	10-11
Chapter 3: Types of Play for Infants, Toddlers, and Preschoolers	12
Infant Play	14
Toddler Play	14-15
Preschooler Play	15-16
Chapter 4: Case Studies	17
Sacramento Crisis Nursery, Sacramento, CA	19-24
UCSF Child Day Care Center, San Francisco, CA	25-28
Early Childhood Lab, Davis, CA	29-33
Chapter 5: Yolo Crisis Site Inventory	34-43
Chapter 6: Design Concept	44
Preliminary Design Concept	45
Design Concept	46-48
Final Master Plan	49
Plants Suggestion List	54
Cost Estimate	58
Conclusion	59
Bibliography	60-62

Abstract

The Yolo Crisis Nursery, a program under the non-profit organization called Families First, is a place where eligible families can place their children when they are undergoing life crisis situations that might be prone to harming their children. Although many people may know about these organizations, children who are placed in this safe-home environment may not always have the opportunity to experience and interact in a safe and well designed outdoor play area.

The purpose of this senior project is to redesign the outdoor play area for the Yolo Crisis Nursery located in Davis, CA. The project will emphasize in creating an outdoor play area which can revitalize the physical and mental growth of children at the nursery. The goal is not only to improve the social, physical, mental, and necessary personal skills of these children through the outdoor play space, but also to provide insights for future designs of outdoor play areas especially for crisis nurseries and children's home.

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Dedication

*This project is dedicated to GOD,
who chose this project for me,
who walked me through the obstacles I had,
and who helped me completed the project !*

Preface

During my childhood years, I did not have much connection with nature due to the limited space and high density in Hong Kong. Therefore, I really enjoy seeing children playing in a vast open space. It is a pleasure to see them running, laughing, and doing all sorts of activities in an outdoor play area. Besides my love for children, I also have a passion for helping special groups and organizations in the community. Although some groups and organizations might be known by the community, people might not pay too much attention to their needs. Given the chance to pick my own topic for my senior project based on my own interest, I chose to work with the Yolo Crisis Nursery. The Yolo Crisis Nursery was opened in 2001 and the main goal of the nursery is to prevent child abuse and neglect. Whenever I think of child abuse issues, my mind is flooded with many thoughts. I wonder how parents can mistreat their own children while they know they are innocent. I am so glad that there are groups like the Crisis Nursery to provide help for these children and their families. This is a very meaningful project to me. With the knowledge that I obtained in the past four years in landscape design, I hope to help the children in the nursery. I hope this project will also help me to better understand how children use outdoor space and provide information on future children's landscape design.

Significance of the Study

Today, people have been paying a lot more attention to landscape design for children than ever before. We see more schools not only provide playgrounds for children, but also outdoor learning areas where children can learn about the environment and connect with nature. However, this attention has not yet been paid to places like children's homes, crisis nurseries, etc. where they often lack budgets to create a safer and better play and learning environments for their children. Through this project, I hope to provide insights for future landscape architects in designing play areas that can ensure safety and also enhance children's physical and mental development especially for places like crisis nurseries. I hope to not only help children in this generation, but to also benefit children in the future generations.

List of Figures

Fig. 1.1- Children Playing at Conventional Playground.-----	2
<Source: Child Place learning Center, http://www.childspace.ca/Outdoor%20play.JPG >	
Fig. 1.2- Riding tricycle is one of the ways that fosters children's physical development. -----	4
<Source: Association of Play Industries, http://www.api-play.com >	
Fig. 1.3- It is important for children to build up social relationships with others. -----	5
<Source: http://www.ilovemybaby.org/entry/ogo-sports-disk-for-outdoor-play/ >	
Fig. 2.1- Psychotherapist is employing Play therapy on this young child. -----	9
<Source: http://helpautismnevada.com/images/callierpatientweb_sm_n7vj.jpg >	
Fig. 2.2- Outdoor play allows emotional disturbed children to release their built up energy through physical activities. -----	10
<Source: http://ts11.brightqube.com/images/1/000/463/000463382.jpg >	
Fig. 2.3- One of the characteristics of Autistic children is the inability to communicate with others. -----	11
<Source: http://static.oprah.com/images/tows/200709/20070918/20070918_104_350x263.jpg >	
Fig. 3.1- Sand play can stimulate infant's five senses simply because it gives a texture for infants to touch. -----	14
<Source: http://a1.vox.com/6a00cd9783fa83f9cc00fad69487610004-500pi >	
Fig. 3.2- Toddler are more interested in Manipulative/Constructive play because now they have better fine motor skills to grasp objects. -----	15
<Source: http://www.toddler-activities-at-home.com/image-files/toddler-activities-blocks.jpg >	
Fig. 3.3- Preschooler play encourages children to interact with others. -----	16
<Source: http://www.essentialestrogen.com/gfx/play.jpg >	
Fig. 4.1- Children's Bedroom -----	20
Fig. 4.2- The infant play area is fenced off from other areas. -----	21
Fig. 4.3- The concrete tricycle pathway is about 3.5 ft wide and color arrows are used to indicate direction. -----	21
Fig. 4.4- The wooden bench table with built in chair is for children to have snack when they are outdoors. -----	21
Fig. 4.5- Sand play can stimulate infant's five senses simply because it gives a texture for infant to touch. -----	22
Fig. 4.6- Sitting area is provided for caregivers. -----	22
Fig. 4.7- Sand boxes are provided in all play yards for different ages. -----	26
Fig. 4.8- The sensory play area is full of pot plants. -----	27
Fig. 4.9- The sand pit in the infant play area. -----	30
Fig. 4.10- The toddler play yard: tree stumps and boulders are used to natural play. -----	31
Fig. 4.11- Pattern walk: An example of play activity using low cost materials. -----	31
Fig. 4.12- Sensory garden allows young toddlers to take care of plants and get a feel of nature. -----	31
Fig. 4.13- Bamboos along the fence is used for screening and private space for children. -----	32
Fig. 4.14- Dry creek bed: a natural feature in preschooler playground. -----	32
Fig. 5.1: Looking from the Grass area to the trellis area at the playground entrance. -----	36
Fig. 5.2: Looking from the Trellis to the play house area. -----	36
Fig. 5.3: Looking from the concrete pathway to the storage area. -----	36
Fig. 5.4: Two of the three plastic playground structures currently on site. -----	40
Fig. 5.5: The current plantings on the site, include Pansy, Euonymus, Potato bush, Bradford Pear tree. -----	40
Fig. 5.6: A Close-up to the grass on site, which does not grow well and always causes the backyard to be very muddy during rainy days. -----	40

Fig. 6.1: Bubble Diagram 1. -----	45
Fig. 6.2: Bubble Diagram 2. -----	45
Fig. 6.3: Preliminary Design -----	45
Fig. 6.4: Looking from the tricycle pathway. -----	51
Fig. 6.5: Looking from the entrance area. -----	51
Fig. 6.6: Sand pit will provide sand buckets, shovels, wood cookies, and sand water table for children to play. -----	51
Fig. 6.7: Looking from the tricycle pathway. -----	52
Fig. 6.8: Looking from infant play area. -----	52
Fig. 6.9: The two additional activities are Tree Stumps and pattern walk. -----	52
Fig. 6.10: Looking from the tricycle pathway. -----	53
Fig. 6.11: Looking out from the sensory play area. -----	53
Fig. 6.12 a) Children can experience the 5 senses in a sensory garden. -----	53
b) Wind chime bells will be hung on a tree to create sounds. -----	53
Fig. 6.13: The Existing Storage area. -----	56
Fig. 6.14: The proposed storage area will include a small shelter where it can be used for bike storage and can make kids feel like their little bike parking area. -----	56
Fig. 6.15: The proposed free play area, looking from infant play area, -----	56
Fig. 6.16: a) The art wall will be used for messy art activities. -----	56
b) The Free play area will be able to accommodate group play activities. -----	56
Fig. 6.17: Wood Chips will be the playground surfacing material for the Preschooler play area. -----	56
Fig. 6.18: Zoysia, the grass that will be used in all grass areas on site. -----	57
Fig. 6.19: The two choices for tricycle pathway are broom finish concrete or decomposed granite. -----	57
Fig. 6.20: Small concrete plates will be used for the pathway in the sensory garden. -----	57
Fig. 6.21: Wooden Bench for adult sitting area. -----	57
Fig. 6.22: Bamboo edging will be used along all planting beds. It gives a natural feeling for the area. -----	57
Context Map -----	35
Location Map -----	35
Existing Conditions -----	37
Site Analysis -----	38
Master Plan -----	49
Plants Suggestion List -----	54
Cost Estimate -----	58

Chapter 1



*Children and the Outdoor Play Environment:
Importance of Outdoor Play*

The importance of Outdoor Play

The word - play - is not simply a word to describe action and activity, importantly, it also highlights the children's work whereby they can develop normally. Playing entails a vivid expression of the joy of life. According to Barbara Hendricks in her book called "Designing for Play", play is about the pleasure of functioning, the joy of being alive and able to do things (Hendricks 10). Playing is the art of finding out "what I can do with this?" (Hendricks 46). Through play, children can learn and gain insights of the physical world around them. It is also a physical and intellectual and emotional necessity for the children demonstrating an instinct which drives him to tax and strain all his powers to master himself and his world (Lucas 165). Play is therefore an important part of children's life and outdoor play, in particular, is a crucial and integral part of the play that children involve in because it is a totally different experience from playing inside. There are indeed more opportunities for children to explore and discover when they play outside.

One of the experiences that children gain from outdoor play is the understanding and appreciation of nature. The concept of appreciation of nature has become more important nowadays because of all the environmentally related changes the world is undergoing. We are not only facing the increasing depletion of natural resources, but also the climatic changes such as global warming. By connecting children to the natural environment, we, as adults, can educate them and let them



Fig. 1.1- Children Playing at Conventional Playground.

know how important nature is and how they should take good care of it when they grow up. Simultaneously, playing in the outdoor environment, children can be stimulated through their five senses: explore various materials in the outdoor setting, learn about wildlife etc. They can also gain knowledge in the sizes, shapes, and volumes through different materials such as sand, bricks, water etc. All of these activities are very essential for a healthy early childhood development.

Secondly, outdoor play also allows children to play more freely and creatively than indoor play. In indoor activities, they are largely contrived, closely supervised by their parents and are mostly restricted to certain activities such as reading, puzzles, drawing, video games, table tennis, etc. While these activities are valuable for them but in the outdoor play, they can play whatever they want to play and sometimes they can

even invent their own games to play outside. The activities, such as tricycle riding, kicking balls, jumping, and running etc., that they are prohibited or unable to do indoor can easily be accommodated in an outdoor play environment.

Moreover, outdoor play is also beneficial to the health of children and can reduce the number of children being diagnosed with obesity. In the U.S., children are exposed to fast/junk more often than children in other countries. If children do not have the chance to exercise, they are likely to become overweight with attending health problems. Outdoor play provides them with the necessary spaces and opportunities to be more energetic. Moreover, research has shown that children should be outside for at least two hours everyday because children who are outdoors for longer periods of time everyday in all weathers have fewer days of illness and less serious allergy reactions than their contemporaries who are indoors most of the day (Hendricks 73). Children are also in better physical condition and are more able to concentrate.

Playing outside is inevitably an important part of children's life with many more different benefits which have not been mentioned here such as having more interactions with peers, being more physically active etc. In brief, as recognized by early childhood educators, outdoor play for young children provides opportunities for their social, cognitive, emotional, and physical development (Resources for Outdoor Learning Environments).

Physical Development



Fig. 1.2: Riding tricycle is one of the ways that foster children's physical development.

Physical development refers to the progress of a child's control over his body and this includes control over muscles, physical coordination, and the ability to sit and stand. These are the very initial developments in a child's growth. During the first few years, the physical growth for young children is very obvious, they go from largely immobile to a point where they can manage to move around and explore their immediate living space by themselves. They become

able to walk, to run, to jump, to climb, to pick things up etc.

When the opportunity arises for them to play outside, children have greater freedom of movement around the spaces. Furthermore, in comparison with indoor activities, outdoor activities not only provide more opportunities for children to exercise their bodies, but also provide them with more materials which they can explore. An outdoor space can also strengthen both children's gross motor skills and fine motor skills. Gross motor skills refer to the use of large muscles of the body to perform functions such as walking, running, kicking, lifting, throwing, climbing, balancing etc (Shirley). As children begin to gain more control over these motor skills, they will start to

develop their fine motor skills characterized as the skills to use of small muscles of the body to perform functions such as writing, drawing, grasping small objects, touching, holding, feeding themselves, etc. Also, the outdoor space makes it possible to have the activities that can improve children's motor skills such as throwing a ball, jumping a rope, climbing a tree of playground equipment, running, riding a bike, and playing on a balance beam etc. For walking and running, children would enjoy in participating in games where they take turns being chased and chasing others. Climbing and Jumping would allow them to utilize the strength of their arms and legs to maintain their position and pull themselves up. For fine motor skills, activities will involve grasping a toy car, picking a leaf, digging the sand, pouring water etc. These activities will allow them to strength their small muscles and improve their writing and drawing skills in school. In order to accomplish different activities, both gross motor and fine manipulative movements are necessary (P. L. Miller 6). Outdoor play not only allows them to exercise their bodies, it can also help them to develop skills that can foster them a sense of self confidence and accomplishment.

Cognitive Development

Cognitive development is defined as thinking, problem solving, concept understanding, information processing, and an overall intelligence (Harris-Schmidt). This development has demonstrated to have a strong relationship with outdoor

play. According to Piaget, a Swiss philosopher whose renowned scholarship is in child socialization, specifically the children's stages of cognitive development, suggested that play is an assimilation which the child makes efforts to make environmental stimuli to match his or her own concepts (Hummel). However, another scientist named Lev Vygotsky suggested that play does not reflect children's thoughts much but create new thoughts in their mind. Even though the theories have different views, they both agree that play can affect children's way of thinking in some way. In 1993, an observation study on young children's cognitive development during outdoor play was done by a scientist named Fox. In his study, he found several examples of how during outdoor play, children can improve their problem-solving skills, creative thinking, social competence, language use.

How does this cognitive development being fostered by outdoor play? First of all, children utilize their creative thinking skills often by creating new games and environment during outdoor play. When they are outdoors, they have the opportunities to make full use what are available to them to make their play more interesting. For example, they might find trees and bushes to be an effective and strategic place for hide and seek game: use bricks or blocks to build a rocket, a car, or a house; use sand to make a shape of a castle etc. All of these activities require children to think before they actually engage in the activities. While these all might sound like simple games to adults, it can indeed help children to develop better problem solving skills and language skills when they communicate with other children. Moreover, through outdoor play, children can learn to

be attentive to their surroundings enhancing them to develop a healthy attitude towards the environment. Undoubtedly, children can improve their cognitive development through indoor activities; outdoor activities can be reasonably argued as playing a more significant role in it.

Social Development

Social Development refers to the development of interaction with the human world around us, including relationships with others and also the relevant social skills we need to have to lead a meaningful life in our culture or society (Quisenberry).

Along with physical and cognitive development, outdoor play is an important part fostering the children's social development. During the childhood years, children develop their social skills stage by stage. They change from having stranger anxiety as a newborn to being able to feel comfortable to explore independently even when their parents are not next to them when they get older (Lucas 46). They also start to imitate the things around them when are being placed in a playground with other children. They imitate one another and stay close together.



Fig. I.3: It is important for children to build up social relationships with others.

By the age of four through five, children will generally make an important transition from being primarily self-centered to others-centered, i.e., shifting from focusing on themselves to becoming more engaged in interaction form of play with others (Lucas 61). When putting into a group with other children, they will learn about cooperation and sharing because now they are less self-centered. In an outdoor play environment, children will have an opportunity to occupy a bigger space, making it possible for them to engage in large projects which require teamwork. In addition, children learn gradually how to read and respond appropriately to the actions and the behaviors of their playmates who might not be their own siblings as opposed to what they do in an indoor setting, i.e., usually playing with their siblings. In the article, “The Importance of Outdoor Play for Children” written by Andrea Flint, it said sharing, negotiating, and communication are all important aspects of social development that children learn while playing with other children (Flint). In addition, the development of friendships also helps to build confidence in their abilities. As relationship and interaction with others in our society is imperative for it to function normally, it is of critical importance to let our children to develop their social skills in a most conducive setting, i.e., outdoor play.

Emotional/Mental Development

Emotional development is the development of a full array of emotions such as sadness, happiness, anger, fear, shame,

excitement, disappointment, etc. The crucial question here is: How does one learn to deal with them appropriately. Children too have emotions. We might think young children know only how to cry when they are craving for things. However, depending on the environments where they are placed or persons they are with, they do show their sense of comfort and safety or their sense of being unsafe. Newborn babies form close attachment to their parents and might develop anxiety when they are around people that they are not familiar with. They will also express worry and unhappiness if their playmates or parents look sad and uncaring. This is why when parents are undergoing crisis, their expressed emotions will affect how their children feel. In an outdoor environment, children get to explore familiar as well as unfamiliar things and from time to time, to interact with their familiar and unfamiliar peers in the playgrounds. This exposure will lead them to develop a sense of comfort, wonder and/or bewilderment with the environment. A sense of comfort is especially important for children who might display acting out behaviors and feel unsecured in an unfamiliar space. Outdoor play environment serves as a place where they can relax and feel comfortable and may reduce their emotional stress and strain. Through outdoor play, children are likely to have the opportunities to express their emotions and feelings by ways of shouting, running, joking, teasing, etc. Giving them the outdoor playing space, children can create their own things to express their emotions and this is an integral part for them to develop healthy sense of self-esteem and self-accomplishment.

Chapter 2



Emotional Disturbed Children and Autism Children

Emotional disturbance and autism are both commonly and frequently identified and diagnosed by health professionals as suffering from psychological disorders in children. At the Yolo Crisis Nursery, children who are undergoing family crisis have been identified as having already developed/manifested stress and depression. Among them, some may have even been showing signs of emotional disturbance relating to autism. While the number of cases manifesting a close relationship between emotional disturbance and autism varies, the Nursery has had experiences in receiving children with children manifesting the acting out behaviors and also children with speech difficulties. It is important to study the manifested behaviors of these children in order to have an informed discussion as to whether or not creating an outdoor playing environment would help them to reduce these unwanted and undesirable behaviors. Accordingly, the Yolo crisis nursery might not only be a place where children are being taken care of per se by the caregivers when their parents are in crisis, but it could also be a place where appropriate designed programs and outdoor activities could provide a safe home feeling for these children. Additionally, properly designed and implemented outdoor activities might become a place whereby these children could relax and get away from the anxiety and unhappiness that they are experiencing in their family. This part of the research is to find out what outdoor play activities might indeed help in meeting the challenge of reducing the unwanted behaviors displayed by children who are identified as emotional disturbed and with autism.

Emotional Disturbance in Children

By definition under the Individuals with Disabilities Education Act (IDEA), Emotion disturbance is a condition exhibiting one or more of the following characteristics over a long period of time that adversely affects a child's educational performance (Hannell 37).

The characteristics are:

- 1) An inability to learn that cannot be explained by intellectual, sensory, or health factors.
 - 2) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers.
 - 3) Inappropriate types of behavior or feelings under normal circumstances.
 - 4) A general pervasive mood of unhappiness or depression.
 - 5) A tendency to develop physical symptoms or fears associated with personal or school programs.
- (Hannell 38)

While the exact causes of emotional disturbance cannot be determined by specific factors, the Handbook of Serious Emotional Disturbance in children and adolescents has indicated that Serious Emotional Disturbance (SED) is associated with various risk factors such as poverty, abuse, neglect, developmental disabilities, medical problems, and family dysfunction (Fristad 323). Children who are exposed to the above factors are highly vulnerable to display emotional problems such as anxiety, depression, having strange and nightmarish thoughts, etc. The commonly used treatment as of now for emotional disturbance varies depending on the severity of the disorder.

Among the commonly used treatments is psychotherapy, in which a professional psychiatrist will implement psycho-social therapy, cognitive behavior therapy, behavioral modifications, etc. with the intended purpose of guiding the children's thinking and helping them to learn how to solve problems and deal with relationships with others. The other commonly used method is play therapy. Play therapy is generally an interaction between the therapist and a child for the purpose of relieving the child's emotional distress by using the symbolic communication of play (Terr 46). Since children's experiences are often communicated through play, this becomes an important and effective tool to deal with children who have these psychological problems.

Within the context of an outdoor play environment, there are vast amount of opportunities to employ play therapy on children. First of all, it provides a large space sufficiently adequate to accommodate group activities such as helping children get in groups and learn how to coordinate with their activities in addition to building up the necessary working



Fig. 2.1: Psychotherapist is employing Play Therapy on this young child.



Fig. 2.2: Outdoor Play allow emotional disturbed children to release their built up energy through physical activities.

with the emotional disturbed children who usually display very aggressive behaviors, outdoor play can give them the avenue to release these built up aggression and energy with activities such as bike riding, doll's play, and ball-related activities. As indicated by psychological studies by Professor Richard Coss, the mere exposure to green objects outdoors can also give a sense of comfort for people and make them feel calm. Also, through exercising, our body releases a substance called endorphin which has been proved as a contributing factor for us to feel happier than those who do not exercise (Cossaboon). Therefore, it is important to allow children with emotional disturbance to be in an outdoor playing area to exercise as a means to release their built-up energy while simultaneously let them improve their interpersonal skills through playing with other children and also the caregivers. In this particular context, play is not only a time that children enjoy, but also a time that has its attendant therapeutic purposes in it.

relationships with one another. These activities can simply be role play, story telling, singing and dancing with other children who are similarly situated. Secondly,

Autism in Children

Autism, another commonly identified/diagnosed psychological disorder in children by the health professionals, is a disorder that usually develops before the age of three and is characterized by the manifested behavioral symptoms such as impaired verbal and non-verbal communication, social interaction, repetitive and restricted stereotyped interest (NINDS). To determine the possibility of Autism, the following behaviors are being considered:

- 1) Impaired ability to make friends with peers
- 2) Impaired ability to initiate or sustain a conversation with others
- 3) Absence or impairment of imaginative and social play
- 4) Stereotyped, repetitive, or unusual use of language
- 5) Restricted patterns of interest that are abnormal in intensity of focus
- 6) Preoccupation with certain objects or subjects
- 7) Inflexible adherence to specific routines or rituals (NINDS)

The severity of autism is determined depending on the behaviors they display. In every 10,000 children, there are 8.7 children who are diagnosed with autism (Health Scout Network). The cause of autism is generally believed to be inherently genetics. It has been shown that children with autism have some abnormal formation and/or irregularities in their brains. Some of the symptoms that parents first notice are the infant's unresponsiveness to people. Autistic children tend to avoid giving eye contact to others and they have difficulty

to speak and communicate with others. The common treatment for autism is behavioral treatment which usually takes place in special education program. The use of the behavioral techniques and modifications purportedly helps them improve their verbal and non-verbal communication skills and redirect their focus to other objects instead of focusing on their own routines. According to the Health Scout Network, the behavioral treatment for autism includes giving clear instructions to children, prompting them to perform specific behaviors, giving them immediate rewards after performing instructed behaviors, increasing the complexity of reinforced behaviors, etc. (Health Scout Network). Additionally, medication is also being employed to control some symptoms of autistic children such as hyperactivity, mood changes, and self-injurious behaviors.

In an outdoor play environment, different behavioral techniques can also be employed through the use of different designed outdoor activities. There are many opportunities for children to exercise and move around in outdoors. Since movement can stimulate the verbal centers of the brain, outdoor play can be helpful in enhancing communication skills. In addition, outdoor games and play equipments can also encourage cooperative play in which social skills can be learned and practiced in a relaxed environment. Autistic children can learn how to take turns and to cooperate with others through games that have rules (Moor 144). While some autistic children also display at times very aggressive behaviors similar to children with emotional disturbances, outdoor play activities give them a needed outlet to release their excess energy. Moreover, outdoor play

environment can also help children with speech difficulties which often occurred with autistic children. In the book called “Preschool Playgrounds”, it suggested that non-talking children should be encouraged to play with water which will help him relax and should play games that strengthen muscles used in talking (Lucas). These suggested activities which are generally available in outdoor playgrounds, can just be imitating the sounds created by different toys, or in games involve blowing. Autistic children are also very into messy art play in which they can experience color and texture in an outdoor environment without worry about mess (Moor 148).



Fig. 2.3: One of the characteristics of Autistic children is the inability to communicate with others.

Outdoor playing space is commonly seen as a place where children can run, play, and move around and doing things that cannot be done in indoors. However, there is more than just that: it should also be viewed as a therapeutic setting where it can address that diverging needs of different children. An outdoor place has many different opportunities and well designed outdoor activities for children can be a place where children not only can find enjoyment, but can also feel relaxed, learn and improve the different skills that they inquire, and heal their emotional needs.

Chapter 3



*Types of Play for
Infants, Toddlers, and Preschoolers*

During the developmental stages, infants, toddler, and preschooler learn how to manipulate certain parts of their body and engage in different activities. There are different types of play and activities that each age group engages in are differed in some ways. Broadly speaking, the two main categories of play are structured play and unstructured play. Structured play basically refers to a guided play in which adults are actively involved in either initiating and planning the play, controlling the available resources, intervening, or participating during the course of play (University). The research done at Yale University, researchers found that “children who take part in organized activities benefit developmentally” (Morris). The benefits of structured play include introducing children to new ideas and knowledge, enhancing their development and learning abilities, providing experience in cooperation, self-discipline, building team skills and developing self image (Morris). These acknowledged benefits probably underscore why, during play time in school, children cannot do whatever they want. Rather, teachers are taking charge in instructing them to perform certain tasks so they can learn new things and also learn how to listen and follow the rules. Structured play is also especially important for autistic children because it gives them the opportunity to learn to listen and communicate with others. It can subsequently lead them to step out from their own world.

Unstructured play, also called free play, refers to play activities that are initiated largely by children’s own creativity without the much intervention of adults. Free play allows them to think independently and to learn how to make decisions by

themselves. Like structured play, free play is also an essential part in children’s development. The benefits of free play include enhancing children’s decision-making skills, learning self-advocacy skills, knowing how to solve problems by themselves, and increasing children’s interest in and awareness of things around them through self discovery (Lench). Moreover, free play also allows children to have more peer interactions. However, both structured play and free play can have negative effects on children’s development if one is more often done than the other. What is important here is how to make a healthy balance the two types of play for the children. Besides these two major types of play, there are also other kinds of play such as physical play, social play, constructive play, pretend play, etc., and each one has its benefits and also has its own significance to each particular age group.

Infant Play



Fig. 3.1: Sand play can stimulate infant's five senses simply because it gives a texture for infant to touch.

Infant typically refers to very young baby from newborn through about 18 months-old. During the first 12 months, an infant grows a lot physically, from largely immobile to be able to crawl and grasp objects. Infants learn very quickly and are curious about the surrounding environment (Ann Henderson 50). They can easily be distracted by very simple objects. As an infant is about 18-month old, he has already learned how to walk, with or without a walker. He is able to climb, to pull and push things and to lift things up, etc. Over time, this physical growth allows them to involve in more different activities while they still like to play things with their hands more than other parts of their body. According to Barbara Hendricks in her book “Designing for play”, she stated that children at this age like to move around and touch things, to move, to explore, and to discover things (Hendricks). Therefore, the first type of play typical for a young infant is object play. Object play is a kind of play in which children learn by touching, throwing, reaching the objects provided for them. A very simple object can be very fascinated for a young infant. When an infant sees a small toy car that he is interested in, he will first look at it, reach out and hold it, and

then examine with his hands or his mouth.

then examine with his hands or his mouth.

Another type of play that is important for this age group is sensory play. Sensory play is a type of play that can stimulate children's development through the use of their five senses, touch, sight, smell, taste, and hearing. Young children learn best when they can experience new things with all of their senses (Melitsa). Young children first learn about the world by seeing and their attention can easily be captured by smiley faces, bright colored objects, etc. When they grow older, they start to touch things, taste things, smell things, and hear sounds of things.

In an outdoor play environment, there are vast amount of opportunities where young infants can learn through object play and sensory play. For instance, infant can get hold of a natural object such as a stick and examine it. Moreover, they become fascinated by the different color palette that an outdoor play area usually provides, such as plants, colorful play equipments etc. They observe different things that happen around them in an outdoor play area such as birds, insects, and pets. They touch things that have different textures, such as grass, sand, water, stones. As well, they can also hear the sounds of nature, such as wind blowing, bird singing, etc.

Toddler Play

Toddler generally refers to children who are 18 months to 3 years old. The name toddler basically means walking un- stably, a key feature of this group of children. The children of

this age group are all beginning walkers for they need to hold on to some objects to balance themselves. This is also the time when they started to develop their language skills and temper tantrums (Ann Henderson 57). They generally involve in more activities since now they have better control of their own body. In addition to walking, albeit unstably, also begin to run and they can even climb up on a chair and walk up steps. They have greater energy to throw and kick balls. They also show surprising competence with their hands. Besides motor skills, they also like to mimics other people's behaviors. For instance, they will pretend to be somebody and take the role of a caregiver, for instance, caring for their dolls. Nevertheless, children in this age are still very self-centered and they tend to play by themselves more often than in groups even though other children are around them.

The types of play the toddlers play are very different from that of an infant. One of the very typical types of play for toddler is imaginative play. Imaginative play is a kind of play which children imagine some objects to be something completely different (Ann Henderson 206). For instance, they will see a stick as a broom, a group of blocks to be a building. They show signs to be able to think creatively. Another type of play that they toddler usually do is manipulative play (Sheridan I6), i.e., activities where they move, order, and turn items to make them fit. With better fine motor skills to grasp objects, they engage in constructing and building things using blocks such as Legos. While these two types of play can both happen in indoor and outdoor space, children can make use of other

kinds of materials in an outdoor play space to construct objects than in indoor space. For example, they can stack up bricks, mould sand into different shapes. For imaginative play, they can see a toy car as a shopping cart for them, small dolls can be seen as their little brothers and sisters, play house can allow them to imagine they are in their private house, etc.



Fig. 3.2: Toddler are more interested in Manipulative/Constructive play because now they have better fine motor skills to grasp objects.

Preschooler Play

Preschooler refers to children who are at the age of 4-5 and are still considered not old enough to attend kindergarten. In comparison with toddlers, preschoolers function and more skillfully in the physical-based activities and they also have acquired better language skills. They engage in more social interactions with others and they start to think independently. Children at this age will be able to throw and kick a ball using just their arms and legs instead of their whole body (Ann Henderson 61). They also achieve better balance and can play pedal and steer wheeled toys with great skills. With better fine motor skills, they enjoy different kinds of activities such as drawings and paintings.

The types of play that preschool age children like to do best are pretend play and competitive play. Competitive play refers to games that involve rules (Sheridan I7). At this

age, with their ability to think and process language, they can actually understand how to play the games that have rules that usually has a clear winner at the end of the game. This kind of play can give children the opportunity to have more interactions with their peers and to develop friendships with their play-mates. It also fosters their creativity and self-esteem through the game. Moreover, competitive play will also involve collaborative play because children will learn to take turns, to share with others, and to follow the rules.

While the pretend play begins when children were toddler helping them to think and experiment with their social and emotional life with the characters they are pretending to be, it helps the preschoolers further strengthen their language skills by frequently talking to their toys and dolls. This kind of talking reflects what words and phrases they have learned in real life. In order to accommodate the needs for the preschoolers, an outdoor play area for this age group usually has features such as a tricycle path, in which they can ride their tricycles since they are now more skillful in pedaling. Another feature is an open space where it can accommodate group games or some other group activities that allow them to interact, collaborate and co-operate with their peers. Like infant play and toddler play,

preschooler play should always be as essential as the other two and the skills that preschoolers acquire in outdoor play will be instrumental in getting them physically and mentally prepared for their kindergarten years.



Fig. 3.3: Preschooler play encourages children to interact with others.

Chapter 4



Case Studies

Methodology:

The following case studies were conducted in the following three places: the Sacramento Crisis Nursery in North Sacramento, the UCSF Child Care Center at Mission bay in San Francisco, and the Early Childhood Lab in Davis. I visited each site to collect relevant information about their respective program, the age groups of the children and their daily indoor and outdoor activities. I examined and also analyzed the outdoor play area. In addition to these field observations, I interviewed at least one staff member in each site to find out from them about the children in their care and how they think and evaluate their respective outdoor play area by asking them to complete a questionnaire with questions such as how they rate the play area, things that they like and do not like about the outdoor play area, and also what improvements are necessary given the current condition and needs. By doing so, I expect to have all the relevant information to make an informed and unbiased evaluation of what seems to work and what does not and importantly, what Yolo Crisis Nursery can learn from these places. Another part of my case study is interviews with caregivers and also observations on children. Also, the case study help me better understand how children use the outdoor space and what specific design elements and types of play that would be successful and useful for young children.

Case Study 1.



Sacramento Crisis Nursery

Program:

The Sacramento Crisis Nursery, located in North Sacramento under a program called the Sacramento Children's Home, provides a safe home-like environment to youth child during times of stress in their families. The first Sacramento Crisis nursery was planned in 1989 and with continuing support of the community; the first crisis nursery was finally opened in 1996 (Sacramento Children's Home). With high demands for this type of service, the nursery was up to its full capacity almost daily. Some families, in urgent need of help, were not being timely served. Therefore, responding to this shortage, the Sacramento Crisis Nursery North was created and opened in 2002 to provide help for families who live in the Sacramento Region. The Sacramento Crisis Nursery gets their funding from Sacramento Housing and Redevelopment Agency (SHRA), First 5, and donations from community groups. The nursery opens seven days a week from 7 a.m. to 7 p.m. and it provides both day time and overnight services for families in need. It houses children from new born to age five. Families who come to seek help and support at the crisis nursery are usually single-parents who do not know how to cope with crisis and stressful events in their daily lives. Some of these single parents are mothers who are themselves oftentimes victims of violence and abuse. Some are suffering from drug/alcoholic addiction and are undergoing treatments. Mental health problems, poverty, homelessness are also exacerbating stresses and strains faced by some of these single parents. Providing services timely to these single parents is very important so as to save the children from

becoming their parents' stress release substitution. The Sacramento Crisis Nursery is licensed to house up to 24 children at one time and the maximum number of days that children can stay is up to 30 days. The maximum number of children that can stay overnight is 14. The nursery provides rooms for the 2-5 years old and also infant rooms. The total number of bedrooms there is 7. Besides taking care of children, the Crisis nursery also provides counseling service, stress management seminars, parenting workshops, community resources, transportation, etc., to help the families deal with stress and provide them what these families are wanting.

The Indoor Environment:

The Sacramento Nursery has a total of seven bedrooms, a visitor room, a baby boutique room, a storage room for donated products, 3 staff offices, one kitchen, an infant indoor area, and an area designated for older kids. There are a total of 25 staff working in the nursery also volunteers who come in to help.



Fig. 4.1: Children's Bedroom

The ratio for caregivers to children is 1 to 2 for infants, and 1 to 4 for kids older than 2 years old. There are also day care directors who are responsible in coordinating various functions of the nursery daily. Chil-

dren stay indoor most of the time. They are outdoors about two hours daily. Each day, children will have free play time, snack time, nap time, group time in which they gathered together and have instructed lessons, circle time for story telling, meal time, and outdoor play time. Their daily schedule is explicitly set and all the children's activities are carefully guided by caregivers.

The Outdoor Play Environment:

The outdoor area was recently built in 2002 and it was completely re-landscaped. The size of the outdoor area is about 5 times bigger than that of the Yolo Crisis Nursery. At this Nursery, the outdoor play has two separated play areas, one for infant and toddler, the other one is for preschooler. The playground areas are covered by a playground surfacing material called "Pour-in-Place". It has a texture that is really soft and it has a little bit of bouncing feeling when you step on it. The Director told me that the surfacing for the two playground areas comes with a price tag of some \$30,000. While it is expensive, it is an excellent playground surfacing that can ensure the safety for the children. The play area has a curvilinear tricycle pathway surrounding the playground area and each playground area has a number of play equipments for the children.

In the preschooler playground area, there is one big



Fig. 4.2: The infant play area is fenced off from other areas.

plastic playground structure which is solidly secured to the ground. The infant and toddler play area is being fenced off from the preschooler play area. The reason given for this separation is that caregivers afraid that preschoolers, who are more mobile than infants and toddlers, might accidentally run to an infant or toddler causing injuries to them. Another reason is that in a fenced off area, they can easily keep their eyes on them. The infant and toddler play area has a swing that is securely installed to the ground, a few plastic slides equipments, a play house, little tables and chairs, a painting area, and a seating area for caregivers.

There is also a playhouse area located on the sides of the two playground area. Around the playhouse area, there is a small wooden table with built-in chairs where children can have snack when they are outside. Moreover, the open space in front of the playhouse area can also be used as a painting area where the caregivers can have painting equipments for children to do drawing activities. The Director



Fig. 4.3: The concrete tricycle pathway is about 3.5 ft wide and color arrows are used to indicate direction.

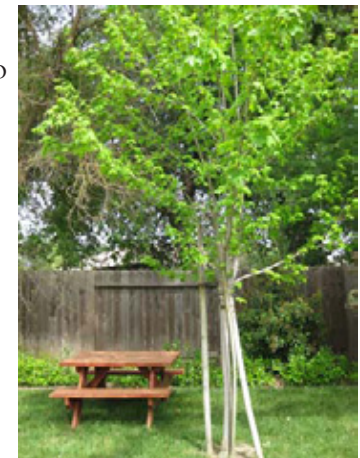


Fig. 4.4: The wooden bench table with built in chair is for children to have snack when they are outdoors.

told me that plants were selected by a licensed arborist when it was built in 2002 and the plant selection is professionally selected to ensure that they are non toxic and also they are not fruits trees such as berries so as to prevent the children from picking and eating them. As observed, most of the outdoor play area is covered by lawn grass and the pathway is paved with concrete. By and large, the area is very well maintained by a certified gardener who usually comes in once a week to take care of the planting area.

Analysis of the Outdoor Play Area:

Based on my observation, it is fair for me to say the outdoor play area at the Sacramento Crisis nursery provides sufficient space for the children to move around and to engage in different outdoor activities. The area is well-



Fig. 4.5: Sand play can stimulate infant's five senses simply because it gives a texture for infant to touch.

designed with the specific needs and the purported relevant activities of the children under their care. While the space is mainly used for children, it is commendable to see that some sitting areas are there in the outdoor area for the caregivers who might have to take a short break but are still in close proximity with the children. In my view, the outdoor play area is adequate in providing sufficient space for the children to take part in physical activities and group play activities which are both very important for their physical and

mental development. Also, I am favorably impressed by the tricycle path in the play because of its curvilinear shape which makes it possible for the children to explore and experience the entire outdoor play area which makes it a very interesting activity for them.



Fig. 4.6: Sitting area is provided for caregivers.

What works?

- The curvilinear tricycle/bike path is good in guiding children through the whole play area and so they can exercise their motor skills;
- Playground surfacing is excellent in ensuring safety for children in the playground;
- Separation of infant/toddler play and preschooler play may help in preventing injuries when two groups of children play at the same time;
- Adequate sitting area for both children and caregivers;
- Sufficient playground equipments for children; and
- Play house location creates a private space for children.

What doesn't work?

- The fencing of the infant play area might restrict and limit the space where the infant and toddler can move around freely and in some cases, if there are brothers and sisters in different age groups, it would make the interaction between and among siblings impossible;
- The concrete paving on the pathways might increase the risk of injuring children when they fall;

- Lack of sensory play is a result of selecting relevant plants for the playground area because they don't have any flowers with color and the children are not being given any opportunity to learn how to take care of the plants;
- Lack of natural materials, While the whole space looks well designed, it does not have much materials from the natural environment, allowing these young children to get a true feeling of what "nature" is; and
- Shades are only provided on the sides of the play area but not anywhere in the main playground area.

Interviews:

On my visit, the nursery director, Suzanne Bonk gave me a tour of the nursery. She introduced me to Donna, one of the full time caregivers working there for 7 years, and I got a chance to interview her to talk about how she thinks about the children under their care and also the outdoor play area. She told me that during these seven years, she has met and worked with children having different behavioral problems, from autistic children to some very acting out children. She told me that when dealing with these children, first and foremost, they need to take care of them on a one to one basis and only after the children get used to the people around them and also the environment, they can then blend together with other children. In addition, I asked her what some of the indoor and outdoor activities are for the children and which one that the children like to do the most. She told me that when children are indoors, they would have activities such as writing, reading books at the

library, dressing up dolls, etc. Other activities include listening to music, playing with toys especially puzzles, and also the circle time in which they sing songs and play together. For the outdoor activities, there are bike riding, lots of running, looking for light corns falling off from trees, bubbles, and balls, etc. In general, she said most of the children like to play outside more than inside. During each day, weather permitting, children spend approximately two hours in the outdoor play area, once in the morning and once in the afternoon.

Besides interviewing with Donna, I also gave out questionnaires to caregivers to elicit their assessment about the outdoor play area. The following are the responses from three caregivers:

Caregivers rated their outdoor play area as good and excellent. The reported best thing of their outdoor play area is the play equipments, playground surfacing, and the beautifully landscaped terrain. The worst thing is standing water that makes that lawn gets a big boggy. In terms of meeting their needs, all caregivers said the outdoor play area accommodates their needs too and they did not give any comments on future improvements. All caregivers think exercise, social play, cognitive development, opportunities to explore, enjoying, learning about the environment, and health are very important for children in an outdoor play area.

Conclusion:

The outdoor play area in Sacramento Crisis Nursery is good in meeting the needs for both children and caregivers.

I think what the Yolo Crisis nursery can learn from the Sacramento Crisis nursery is that they can try to designate areas for infant/toddler play and also preschoolers play so the space can accommodate the different needs of children in two different age groups since the space currently available in Yolo only allows preschoolers to play. Secondly, Yolo crisis nursery should add more pathways in the play area to make area more interesting for kids and also providing them a place for bike riding. Moreover, if the Sacramento Crisis nursery can afford having playground surfacing at their outdoor play areas, Yolo should also be able to do it and it would not cost much because of its smaller space that has to do the surfacing. I have learned a great deal after visiting the Sacramento Crisis nursery. The observations, interviews and field work experiences there have led me to conclude that their outdoor play area is very effective in providing a safe and interesting area for children to play and exercise their skills.

Case Study 2:



UCSF Child Care Center at Mission Bay,
San Francisco

Program:

The UCSF Child Care Center at Mission Bay in San Francisco was opened in 2006 and the UCFS's Child Care Resources was recently added to the Centre. The Child Care center is managed by the Bright Horizons Family Solutions which is one of the providers of employer-sponsored child care services, early education, and work/life solutions. The Bright Horizons manages more than 600 child care centers including UCFS, for many different corporations and universities (Bright Horizons Family Solutions). The center opens from 6:30 a.m. to 6:00 p.m., Monday thru Friday and it can serve approximately 80 children at one time. Children there range from three-month old to five years old. Unlike the Crisis Nursery, the Centre does not provide overnight services and the children are there only during day time. Parents pick them up after work. Nevertheless, the Centre does encourage the parents to get involved in its activities and to spend more times with their children.

The Indoor Environment:

The UCSF Child Care Center provides services for infants, toddlers, and preschoolers. Each age group is placed in a different room and preschooler has two rooms while the other two groups have only one room. The ratio for caregivers to infants is 1 to 2 and for the older kids, it is 4 to 10. Activities for each age group are directed and created by a group of caregivers. Infants spend their time mostly in the indoor room area. The indoor room is full of soft mats where infants, who

are still immobile, can crawl, creep, and roll over on the mat. It also has cribs for infant to nap. The toddler room, separated from the infant room, is more classroom-like with small tables and chairs. The toddlers are encouraged to do self-directed play, small group activities and physical activity. The preschooler room, like the toddler room, is also a classroom-like environment and children there are instructed to sit at different tables with other children to work on different group projects which are also necessary for them to develop communication skills with others. They get involved in many different art projects and science activity to develop pre-academic skills in preparation for their kindergarten life.

The Outdoor Play Environment:

As observed, the outdoor play area at the Child care center is divided into four areas: the infant play, the toddler play, the natural play, and the preschooler play, with approximately the same size and being separated by a 2.5 feet tall gate.



Fig. 4.7: Sand boxes are provided in all play yards for different ages.

Each playground area has essentially a play structure that is designed and constructed by having the structures put on top of playground surfacing tiles. Another commonly seen structure in all play areas is sand pits. Some sand pits are situated on concrete and some are on artificial turf grass surfacing rugs. In

the infant play yard, the sand pit and the play structure constructed with soft futons for children to crawl and roll on. In comparison with the toddler and preschooler play area, the infant play structure is rather simple.



Fig. 4.8: The sensory play area is full of pot plants.

The toddler play area, located right next to the infant play area, has a more complicated play structure and sand pits because it includes an artificial rock climbing play and also several used tires for children to play with. Some small size picnic tables are there for the young children. The sensory garden area is right next to the toddler play and it is fully filled with pot plants that give children an opportunity to take care of the plants by watering them. Besides plants, there is also a water table which allows children to play with water as well. The preschooler play area is the one that has the most complex play structures that provide slides, and a climbing structure for children to play. A drinking fountain is located right off the fence of the preschooler room. Besides the pot plants in the sensory garden area, all the other areas are paved with concrete with no plantings in the play areas.

Analysis of the Outdoor Play Area:

In my observation at the play areas of the UCSF Child Care Center, I think the design for the play area do not really meet children's needs and as it does not ensure safety for the

children when they are out there. While separating the play area for the infant, toddler, and preschooler area is a good measure to make it safer for young children, the outdoor area does not have shade because there are almost no plants/trees planted in the playground area that gives shading function.

What works?

- Space is big enough to have group activities for children;
- Playground surfacing is good in ensuring safety for children;
- Incorporate natural play elements into play area such as sand pit and sensory garden;
- Separating play areas for each play group;
- Complexity of play structure fits the users of each group;
- Sitting area for children is sufficiently adequate; and
- Climbing activities are incorporated into toddler and preschooler play area.

What Does Not Work?

- Lack of plantings to provide shade and natural feelings for the play areas, children are not able to get the greenery feeling;
- Concrete paving are all over play area except for the area where the play structure is placed, posing a danger for children when running and jumping although it is maintenance free;
- Lack of other play equipments, only focus on play structure;
- No sitting area for caregivers; and
- No pathways for bike riding in play area, children can only randomly ride their bike in the play yard.

Interviews:

On the day of my visit to at the child care center, Madonna Stancil, the director of the center gave me a tour and allowed me to do a 10-minute interview with her about the children at the nursery and the range of activities that children do there. Madonna has been working as a director at the center for about 3 years. She told me that some of the indoor activities include creative arts, drawing with different mediums, making choco cookies, having sensory experiences, math sequencing, reading, etc. Some of the outdoor activities are bikes riding, jumping, climbing, sand play, gardening, etc. She said she noticed that the activities that children like to do the most are hands on experience and sensory play. In comparing children's interest in indoor and outdoor, Madonna has the opinion that indoor and outdoor space provides two different experiences for children and children's satisfaction derived from outdoor activities cannot be attained through indoor activities and vice versa. Children usually go out to play 3 times a day for about 30-45 minutes long each time, weather permitting. For the day that I went there, infants were not out to play because it was too cold and too windy. Besides the activities provided in the outdoor play area, the center also provides gymnastic lessons for children.

Besides interviewing with Madonna, I also gave out questionnaires to caregivers, requesting them to tell me what they think about the outdoor play area. The following are the responses from three caregivers.

Two of the caregivers rated the outdoor play area as somewhat

okay and one rated it as excellent.

The best thing that they reported is the new sandbox, the climbing structure, and the sensory garden area. The worst thing is the rubber matting around the play structure, and the sensory bins. In terms of meeting their needs, two of the caregivers did not comment on it and one of them said they would like to have more outside things like vehicles, color, and exploration area. Two caregivers think that exercise, social play, cognitive development, opportunities to explore, enjoyment, learning about the environment, and health are very important about an outdoor play area for children. The other one thinks cognitive development and learning about the environment are less of an importance about an outdoor play area for children.

Conclusion:

Although the outdoor play area in UCSF child care center has a bigger outdoor space, the area does not provide adequately a safe space for children to play. In my view, what the Yolo Crisis nursery can learn from the UCSF Child Care center is the possibility of separating play areas for infants/toddlers and preschoolers. Yolo crisis nursery can also try to incorporate a sensory play area for kids because sensory play can strengthen children's five senses and exposure to green objects can also give them a more relaxed feeling, which is especially important for children who display emotional problems. The visit to UCSF child care center was very valuable learning lesson because I get to learn how a child care center is operated and the outdoor play area also inspired me with some ideas in which I can suggest to be implemented in Yolo Crisis nursery.

Case Study 3:



Early Childhood Lab
Davis, CA

Program:

The Early Childhood Lab (ECL) in Davis, one of the programs offered by the Center for Child and Family Studies (CCFS), provides weekday program for infants, toddlers, and preschoolers. The CCFS is administered by the UC Davis Department of Human and Community Development and it is a laboratory for the development of experimental programs for children and families (Davis). The ECL, is one of the sites to do research involving young children. The program has a total of 82 children, including 10 infants, 12 toddlers, and 60 preschoolers. They are placed in four different classrooms and each age group has an outdoor space that is designated for them. The program operates from Monday thru Thursday. The infant and toddler program runs from 8:45 a.m. to 11:45 a.m. and the preschooler program run from 12:45 p.m. to 3:45 p.m. Although children stay at the lab for only three hours a day, they get involved in many activities and within the three-hour period, they spend at least 45 minutes in the outdoor space everyday. The goal of the program is to focus on children's social and emotional development in a setting that emphasizes nurturing relationships within a culturally diverse school community.

The Indoor Environment:

The Early Childhood Lab has a total of four classrooms, one infant room, one toddler room, and two preschooler rooms. The capacity for the infant room is 10 and the ratio of caregivers to infant is 1 to 2. For the toddler room, the capac-

ity is 12 and the ratio is 1 to 2 as well. For the two preschooler rooms, the capacity can be up to 30 and the ratio of caregivers to preschooler is 1 to 4. Each room provides a hand washing station, a cozy play area, a reading area, and all the rooms have installed soft mats on the floor where kids might fall. The indoor classroom provide vast amount of opportunities for learning activities and also other activities such as fruit stamping, stories telling, free play, manipulative play time, math concepts, science related subjects, etc. While the place does not emphasize in providing a formal classroom setting for children, it is effective in furnishing opportunities for them to develop language and literary skills through different activities.

The Outdoor Play Environment

The outdoor play area at the early childhood lab is divided into three areas and each area is designated for one age group. The infant play yard is used for infants from age 6-16 months old. Unlike the toddler and preschooler play yard, the infant play yard does not have a play structure that is installed to the ground. The prominent feature there is the sand pit which is located right in the middle of the play yard.



Fig. 4.9: The sand pit in the infant play area.

The infant play area support several activities. In the sand pit area, there are different sizes of buckets and shovel for children to dig and pour the sand. It is also sunken on the

ground and a little bit of mounding is created around the sand pit to allow children to roll down and climb into it. About 10 feet away from the sand pit is a sand water table area where kids can play with water and sand together. On the edge of the play area, a playhouse is blended in with bamboos to create a private play area for infants. The surface of the playground is mostly grass, with concrete for the pathway and also some concrete stones pathway in the cozy play area.

The toddler playground, located on the north side of the infant play area, is about 2 to 3 times bigger than the infant play area. The middle of the toddler play area has a big play structure installed in a sand box. The sand box is edged with wood



Fig. 4.10: The toddler play yard: tree stumps and boulders are used to natural play.

and children can use it as a balance beam to play. On the west side of the play structure is where more natural materials are placed for children to play. For example, there is an area where some boulders and branches are left there for children to move them around. There is a pattern walk with some square shaped concrete plates created for toddlers to follow the path and also to jump and hop. The most interesting feature is the sensory garden located on the south side of the play area. The sensory garden has a small playhouse, two little chairs, and a pathway marked by circle-shaped stones for children to walk on. The garden is planted with plants that produce bright color flowers and one of the activities that children do is to water them



Fig. 4.11: Pattern walk: An example of play activity using low cost materials.



Fig. 4.12: Sensory garden allows young toddlers to take care of plants and get a feel of nature.

and take care of them. The toddler area has sufficient space for children to run around and also to hold group activities.

The preschooler outdoor play area is the biggest among the three play areas. It can accommodate up to 30 children at one time. The preschooler play area also has a big play structure installed on a sand box. There are a lot more natural play activities available for preschoolers, such as the sand pit which is surrounded by wood stumps and filled with wood cookies in which children can make shapes out of; a mound of dirt where children can climb and dig; a dry creek with a bridge for children to cross; a willow hut and a planting area where children can pick flowers and look for bugs. On top of these natural play activities, there is also a sound garden where some musical instruments and bells to let children to make sounds out of. A tunnel, a play house, tricycle pathway, and bamboos are there to create some private areas for kids. The area is mostly covered by grass and only some pathways are paved with concrete.



Fig. 4.13: Bamboos along the fence is used for screening and private space for children.



Fig. 4.14: Dry creek bed: a natural feature in preschooler playground.

Analysis of Outdoor Play Area:

From my observation of the play areas in the Early Childhood Lab, while there is not really much of a design for the play yard per se, I am impressed by how they use very low cost materials to create an effective play yard for children. It also provides them with many opportunities to get a feel of nature. Together with the outdoor play area in Sacramento Crisis nursery and the UCSF child care center, the early childhood lab also has separated play yards for each age group. They told me this not only can ensure safety for children, but can also satisfy the needs for each age group since the kind of activities they can involve in is based on their age and physical limitations. Also, the size of the play yard is good in accommodating group activities and, with a genuine concern for children; it has created spaces for them to have their own private space, when needed. The area also provides sufficient plantings and shading area for kids. What is probably lacking there pathways for bike/tricycle riding in the play yard and also a sitting area for caregivers.

What works?

- Outdoor play area allows group activities to be held;
- Provide enough shade for the play area;
- The use of low cost material to create interesting play activities for children;
- Sensory garden can teach children how to take care of plants and let them learn about nature;
- Many opportunities to exercise physical skills, such as moving boulders, digging sand, climbing on dirt mound;
- Sound garden can stimulate children's sensory skills;
- Many natural play areas are provided for kids such as dry creek, willow hut, sand pit;
- Outdoor play area resembles very much like a natural area more than a designed area; and
- Many other kinds of play equipments rather than just simply a play structure.

What Does Not Work?

- Some areas does not provide enough safe surfacing for children;
- No sitting area for caregivers;
- Lack of pathways for bike/tricycle riding;

Interviews:

The tour that I had at the Early Childhood Lab was given by Janet Thompson, the director of the Early Childhood Lab School. After the tour, I had a short interview with her regarding the children at the school and also the activities they

like to do both indoors and outdoors. According to Janet, children seem to have more interest when they play outside. However, because the indoor and outdoor activities differ, it is hard to compare which one they like more or most. Children usually stay outside for 45 minutes and about 2 hours indoors each day. Some of the indoor activities they do are reading, painting, drawing, making some art work, and play with toys. When they finish playing outside, they have to clean up the area such as picking up toys and put them back in their original position. They then will have a snack time and circle time to sing songs together before their parents come to pick them up. Janet said both indoor and outdoor play should be important for children because the experiences that they get are very different and each one has its unique importance to their healthy development.

Besides interviewing with Janet, I also gave out questionnaires evaluation to caregivers, requesting them to give me their insight about the outdoor play area. The following are the responses from four caregivers; one of them works in the infant yard, one works in toddler yard, and the other two works in the preschool yard:

All caregivers rated the outdoor play area as good and excellent. The best things reported by caregivers are the access to natural materials, space for exploration, amount of space, and natural playscapes. The worst things are the water fountain, lack of storage, and not many structures to support dramatic play. In terms of accommodating their needs, all of them reported that there should be a seating area for adults. All Caregivers think that exercise, social play, cognitive development, opportuni-

ties to explore, enjoyment, learning about the environment, and health are very important about an outdoor play area for children.

Conclusion:

The Early Childhood Lab is similar with the Yolo crisis nursery in that their respective outdoor spaces are not designed by certified designers. However, the Early Childhood Lab seems to be more efficient in utilizing the natural materials in the outdoor space and more knowledgeable in the kinds of activities for children in order to provide opportunities for them to learn and grow. In my view, what the Yolo Crisis nursery can learn from the Early Childhood Lab is that they can incorporate some low-cost materials in the play yard that are effective in providing interesting play area for children. Also, as evidenced in Early Childhood Lab, what Yolo can learn and implement is to utilize more natural play materials for children. This is very important not only because natural materials can allow children to learn about nature, but also can provide a more relaxed feeling for them. The conversation with the staff who works in the Lab and their input have helped me tremendously both in design issues and also things about child development.

Chapter 5

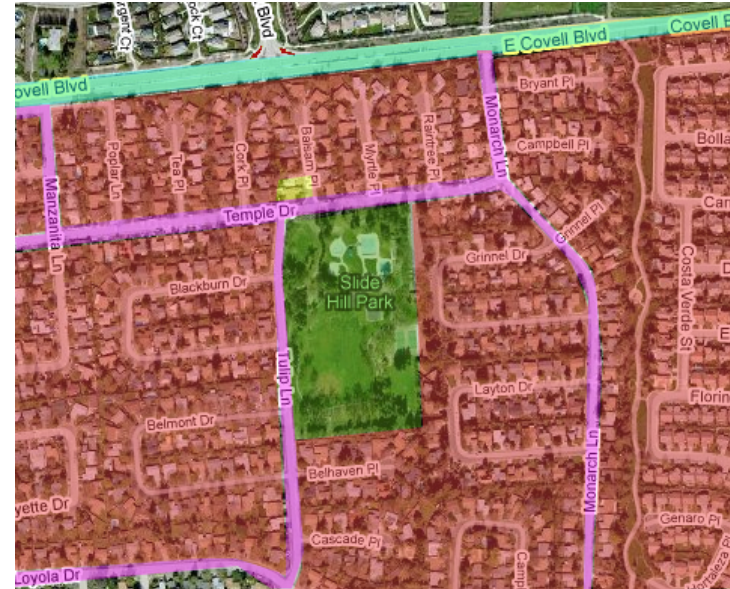


Site Context and Analysis

The Site

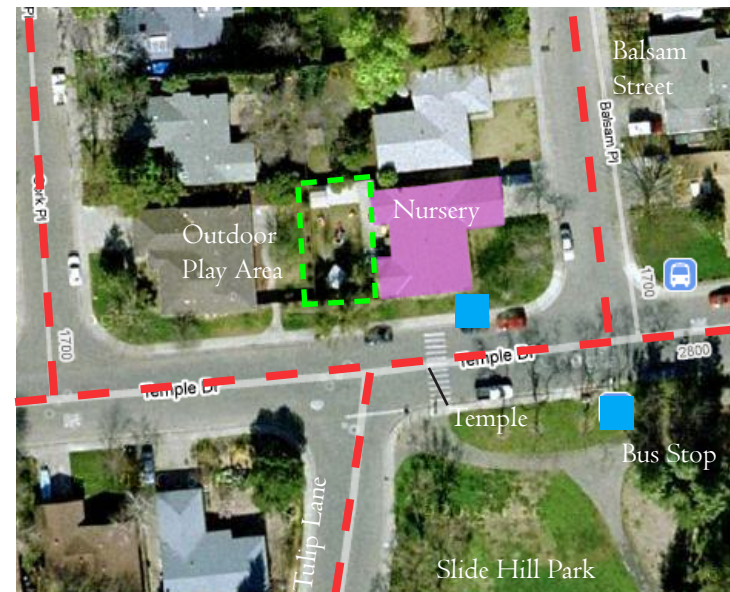
The Yolo Crisis nursery is located in a residential neighborhood in East Davis. It is about 5 miles away from the UC Davis Campus and it is connected to the P and Q Unitrans bus line which loops around Davis. The site is bound by Balsam Street and Temple Drive. Both streets have pretty low traffic and it does not pose any unacceptable level of noise problems to the nursery. The surrounding areas are all single family houses. The largest public place in the area is Slide Hill Park, which is located right across the crisis nursery. It is a 12-acre park that provides picnic area, tennis courts, basketball courts, swimming pool, and a children playground for the community. The park does not seem to be very crowded during weekdays.

Context Map



- Slide Hill Park
- Residential
- Site
- E. Covell Blvd.
- Major Streets

Location Map



Existing Conditions

The size of the play area is approximately 1,800 square feet and it is surrounded by a wooden fence. There are two entrances to the site, one from the house, and the other one from the side of the house by the garage area. The grass area, which takes up about 2/3 of the site, is the main play area. The site is surrounded by a strip of planting beds in which plants are usually planted by volunteers who come in and help at the nursery. There is only one concrete pathway on the site and it is connected from the house entrance area to the storage. In addition, there is also a trellis to shade the house entrance area of the site where caregivers usually sit to watch the children in the play area. The site currently has three small plastic and movable playground structure equipments that were donated by the community. Besides the play structures, there are also tricycles available for children to practice their motor skills. The bike storage is located right next to the unmovable utility box at the entrance area. The playhouse on the southwestern side of the play area is set on top on concrete blocks. The storage is located on the northwestern side of the site to store equipments and also toys for children.



Fig. 5.1: Looking from the Grass area to the trellis area at the playground entrance.

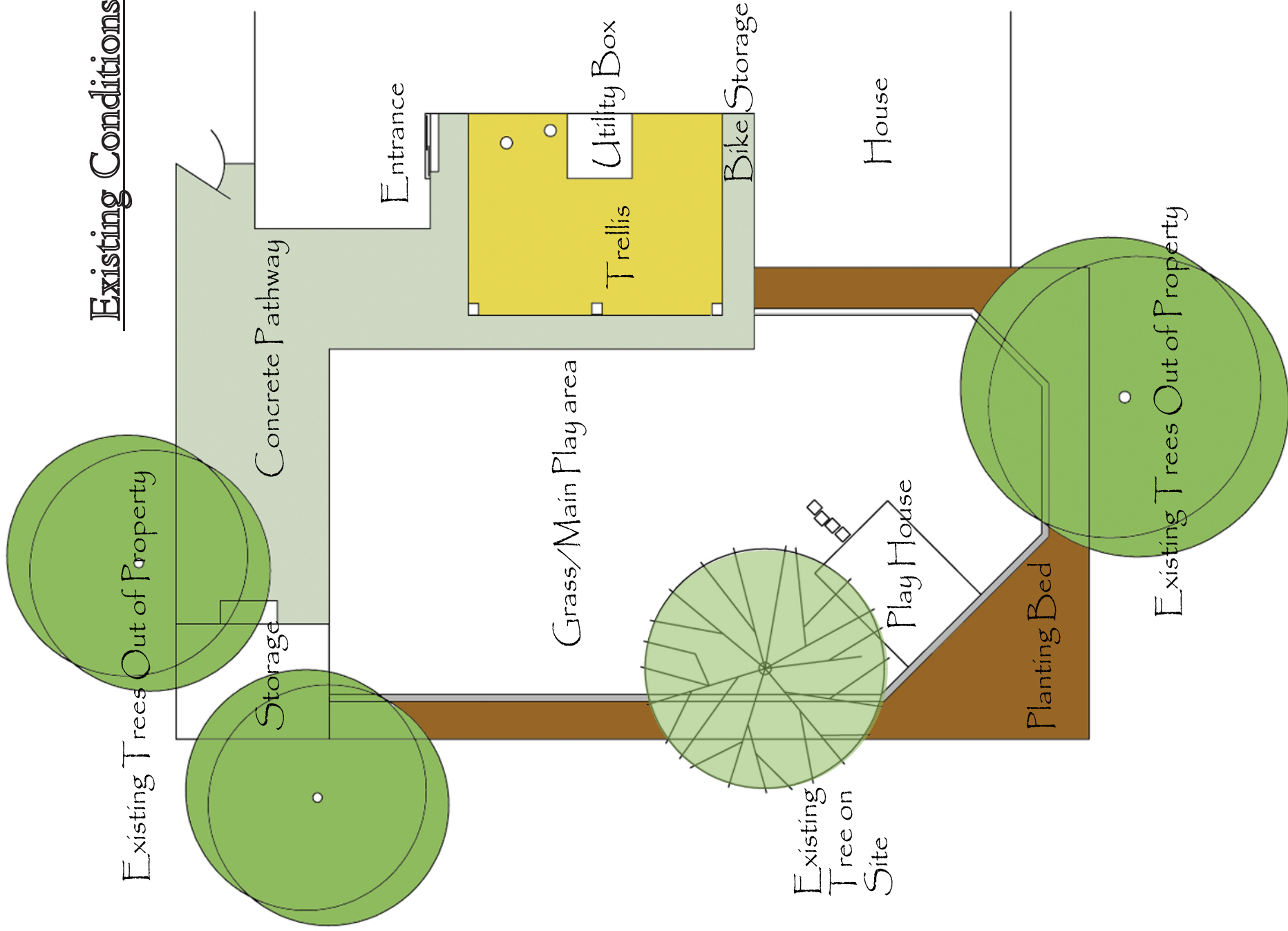


Fig. 5.2: Looking from the Trellis to the play house area.

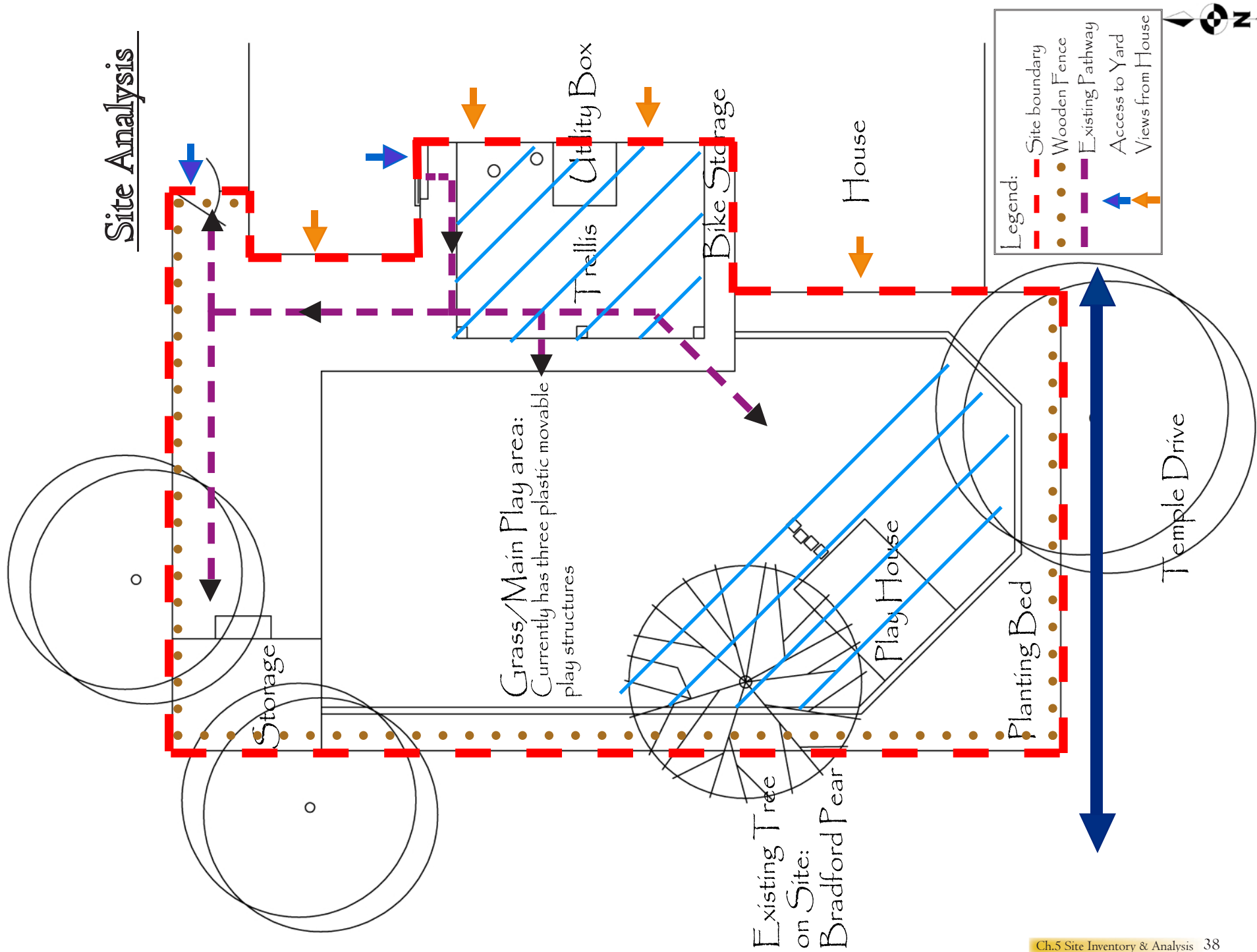


Fig. 5.3: Looking from the concrete pathway to the storage area.

Existing Conditions



Site Analysis



Legend:

- Site boundary
- Wooden Fence
- Existing Pathway
- Access to Yard
- Views from House

Scale: 1/8" = 1'-0"

Problems that I need to address:

Grass Area:

The main problem of the site, as reported by the staff at the nursery, is the grass area. The grass in the area does not grow very well. It gets really muddy once it rains and it takes at least few days to dry out.

Pathway:

The only existing pathway on the site is the 8-foot wide concrete pathway that connects to the 2 entrances and the storage. The current pathway does not support tricycle riding for children and it poses a danger for kids if they fall because the surface of the concrete pathway is very rough and uneven with cracks in certain areas.

Play area:

The play area does not support infant play. Staffs told me that this is because there is no specifically designed safe space on the site where they can bring the infants out. It is also dangerous and unsafe for infants because no place where they can crawl and older kids who ride the tricycles all around the site might run into infants causing injuries.

Plantings:

The current plantings were planted randomly by volunteers who come to the nursery. Some of the plants neither look too healthy and nor attractive to children at all because these are plants that do not produce bright color flowers. The existing plant species include: Evergreen currant, Euonymous, Potato Bush, etc.

Drainage:

The site currently has no drainage system causing the area to get soaked and very muddy when it rains.

Playground surfacing:

There is currently no playground surfacing on the site. While the existing grass area could provide a safe landing surface for children, it is still not entirely safe for children. Caregivers prefer having some softer surface which can better ensure the safety for children on the site.

Sitting area:

There is currently no sitting area for caregivers and children on the site. Caregivers usually sit on the two small plastic chairs by the entrance area. In addition, they want to have areas that can be used as a picnic area for kids to have their snacks outside.

Goals for the project:

- It is imperative to create a playful, safe, relaxed, and functional play area that could accommodate children of different age groups by diligently using low cost materials
- Designate infant and toddler play spaces in the play area
- Build a sensory place to stimulate the children's five senses and to allow them the opportunities to learn about nature
- Utilize the opportunities in the outdoor space to create activities that are useful in reducing negative behaviors of children
- Address the different problems the site currently has



Fig. 5.4: Two of the three plastic playground structures currently on site.



Fig. 5.5: The current plantings on the site, include Pansy, Euonymus, Potato busy, Bradford Pear tree.



Fig. 5.6: A Close-up to the grass on site, which does not grow well and always causes the backyard to be very muddy during rainy days.

Interviews

The interviews with two staff members who are available to be interviewed have two parts. The first part gathered information from them about indoor and outdoor activities of children at the nursery from the staff members who work at the nursery. The second part is an evaluation in which they express their opinions on the current outdoor space and also the problems that they think need to be addressed and improved. The first part of the interview will give me an idea on how children at the nursery interact in the outdoor space. The second part will provide me with information on what sort of elements I would incorporate into my design for the area.

Interview I:

Alicia Giunta, a part-time staff who has been working there for about 7 months. When asked about what some indoor activities are there for children to do, she told me that instructed lessons are led by a teacher in the nursery in the morning everyday for children who are age two and above. This is a group activity time in which children will be guided to sing songs and listen to stories told by the teacher. The other activities include arts and crafts, coloring, puzzles, etc. Besides these instructed lessons, most of the time is free play and children can choose what they want to do. Apart from the indoor activities, Alicia said that children play outside for two hours each day, once in the morning after the instructed lessons and another time in the late afternoon. When asked to compare if children like to

be inside more or outside, Alicia said that children mostly like to play outside and will invariably get very excited about it that they literally run to get their shoes whenever they are told to go outside.

Interview 2:

The second staff that I interviewed has been working as a full-time staff at the nursery for about two years. She also said that children like to be outside more than inside. Each time when children are told to go outside, they would not want to go back inside. Some would also cry when they are asked to go back inside. The indoor activities that she told me about are about the same that Alicia told me. For outdoor activities, she said children like to climb a lot and also they like to play with the play equipments provided in the outdoor space. During the summer, children would water the plants outside and use paint brush and water to paint the cement on the edge of the planting beds. When there are flowers on the plants, children also like to pick them.

For the second part of the interview, I gave out surveys for the staff to fill out requesting them to express their opinions freely on the current state of the outdoor space. The first question asks them to rate the outdoor play area in a scale from 1 (bad) to 5 (excellent). The second question asks about the worst thing they could think of the play area as of now. The third question is about what sort of things they consider to be in need of making some improvement for the children play. The last question asks what they think should be improved or addressed to meet their own needs as well.

Two staff members responded to the survey and their responses to the questions are hereby summarized:

- 1) Two staffs rate the outdoor area as bad to somewhat okay
- 2) Both staff said the worst thing of their play area is the grass area. One said that a creative play area in outdoor space is wanting;
- 3) For improvement, one of the staff wants more creative and interesting play activities and storage area for toys. The other staff hopes to improve the grass area. She suggested the use of fake grass or something softer.
- 4) Both staff wants a sitting area for both themselves and the kids so they can have snacks outside. One of them wants to install a drinking fountain.

Observation of Children:

This part provides information about how children use the outdoor space. Since the children have limited verbal ability at their age, interviewing them is impossible. As the total number of children in the nursery differs in each day, it is not possible to be precise as to how many children I would be able to observe when I was there. The first time I went there, there was only one child and in the second time, there were about 6. The observation was done on a 15 minute interval, i.e., I recorded what activities they do every 15 minutes and see what activities they tend to spend more time in. Also, I also recorded on how children move around in the space.

The two observations were done in two different days and the time: the first one lasted about 30 minutes while the second one was almost an hour long.

First observation:

- There was only one child in the play area;
- For the first 10 minutes he played with the car toys by himself in the grass area, pretending he was a driver;
- He then moved to tricycle riding for about 8 minutes;
- He didn't play any of the play structure on the site.

Second Observation:

- Two 2 toddlers and one preschooler were in the play yard at the beginning, but one of the toddlers left. Two infants were at

- the nursery that day but they stayed inside;
- Children spent almost the entire first 15 minutes on tricycle riding. They rode their tricycles all around the yard chasing each other;
 - After the first 15 minutes, one of the children went to one of the play structures and the other children followed;
 - After about 7 to 8 minutes on the play structure, they started to feel bored and they invented new techniques to play on the play structures. They started to climb on top of the play structure, sliding down the slide with head down first, moved the structure and used the play structure to climb on the tree, etc.
 - The last 10 minutes they spent their time in the playhouse.

Chapter 6



Design Concept

Preliminary Design Concept

In order to fully develop a concept, it is necessary for me to capture and highlight some of the fundamentally critical elements that I have learned from my research and case studies demonstrating convincingly and compellingly which part of the site is best suitable for the implantation of which kinds of play serving the best interest of these young children.

When developing my preliminary design concept, the idea I have in mind is to create an outdoor space that can better accommodate the current needs of children at the nursery. Moreover, I also hope the play space would be functional, relax, and playful for these children.

To go from this concept, I first started by creating a few bubble diagrams which indicate what activities should be located in which part of the site. According to the site analysis that I did, some places are more suitable for certain activities than others. For instance, the entrance area of the play yard will be best suitable for an infant and toddler play area since it is closer to caregivers, who often sit at the entrance area. These bubble diagrams will indicate how the circulation and the location of different activities will be on the site.

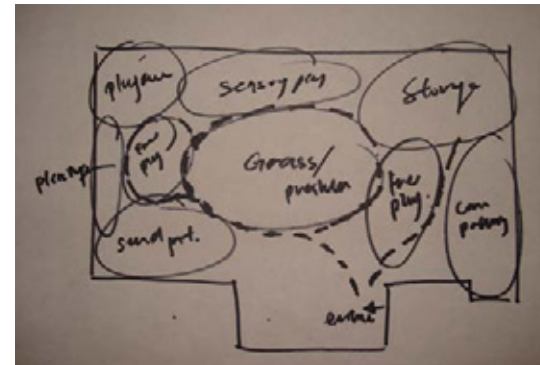


Fig. 6.1: Bubble Diagram 1.

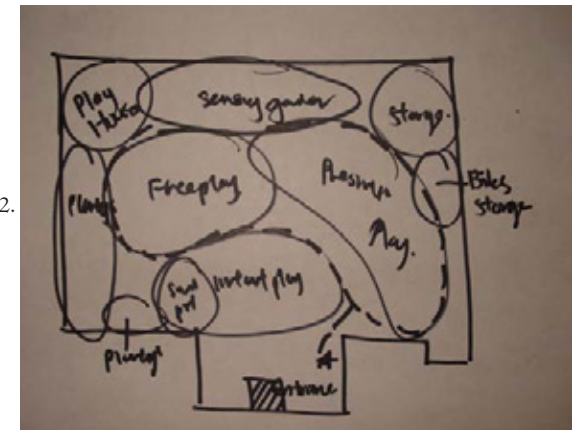


Fig. 6.2: Bubble Diagram 2.



Fig. 6.3: Preliminary Design

Design Concept:

Based on the previous studies and my empirical study with the three case studies, my design of the play space for these young children will take into serious consideration the various critically identified elements that best fit children's interest. Through studying the needs of the children at the nursery, my design concept is to create a play area which can allow children to relax and feel calm while also being able to learn and have fun. First of all, in order to address the diverging needs of different age groups such as the types of play and the outdoor play environment, I am in favor of having specific separate designated play space for each individual age group as long as the physical separation does not impede the interaction of these children who might have siblings belonging to different age group. Based on the developmental stage, needs, and skills of these young children, the play space for infant and toddler will be separated from that of preschooler.

Infant and toddler play area

The infant and toddler play area should be ideally located closest to the entrance of the house for the simple but obvious reason to assure the maximum possible safety for them who are still highly dependent on caregivers. The infant and toddler play area will contain a sand pit with a sand water table, a small open lawn area, and a sitting area for caregivers. According to my previous research, sand play is one of the kinds of sensory play that allows infant and toddler to learn and to

get a feel about nature and the natural environment through their five senses. Sand provides texture and the activities associated with it, such as pouring and digging sand, also allow them to develop their fine motor skills. The sand pit should provide buckets and digging tools for children to pour and dig the sand. Wood cookies should also be available for toddlers to engage in constructive play. The sand water table allows the children to play with water and wet sand. The open lawn area, with Zoysia as the surfacing, will provide a space where infant can crawl, lay down, and also for children to play with toys. It is also possible for caregivers to lay futons on the grass area for children to crawl. With the sitting area right next to the sand pit where a permanent bench being installed to the ground, caregivers should be able to keep a close eye on the children because they could look out to all areas of the play yard.

Preschooler Play area:

The preschooler play area will be located on the northern side of the play yard right next to the infant play area. The preschooler play area is designed to have a larger space than other areas because preschoolers are typically more active than other age groups and they need more space to move around. Moreover, a larger space will also allow the implementation of innovative play ideas, not merely the play structures. This area will be the place where the one of the three existing play structures will be located. I am suggesting that with the more creative play activities in the play yard, the one of the two big play structures should be omitted to devote more space for other

activities. In addition, it will also be comprised of tree stumps for balancing and climbing and a pattern walk for jumping and hopping. These two newly added play activities, using low cost and natural materials, will give an opportunity to the preschoolers to further develop their motor skills.

Sensory Garden

As well, it is desirable for the play area is to make room to incorporate sensory play for children of all ages. Sensory play, according to the article “what is sensory play”, sensory play can stimulate children’s development through the use of their five senses, touch, sight, smell, taste, and hearing and that young children learn best when they can experience new things with all of their senses (Melitsa). The sensory play area will be located on the southwestern side of the play yard right next to the play house. As conceptualized, the sensory play area can also provide a sense of private space for children. Hence, the sensory area is being suggested to be located further away from the main play areas, under the existing tree on the site. One of the main features of the sensory play area is to have the sensory garden. A sensory garden will be planted with children-friendly plants, ranging from 1-3 feet tall. Plants are selected based on their textures, colors, and smells which will allow children to touch, to see, and to smell. A small pathway marked by small concrete slabs will allow children to walk through the sensory garden to water and to nourish the plants, to pick leaves and flowers, etc. Also, children are very fascinated by sounds. So, the sensory garden will also have sound bells hung on the tree

so when children touch them or when the wind blows, children can hear the sound created by the bells. Moreover, the sensory play area will have small tables and chairs for children to sit on and to serve as a place for their snack and rest under the shade.

Other Play area/activities

Of similar importance to the design of the play area for the young children, a free play area located on the south side of the play yard with a built-in mound area is necessary because it allows children to have group play activities. Another feature of the play area is the art wall, which is located on the wooden fence in between planting areas. The art wall is a painting area where children can do messy art in the outdoor area. Messy art is that fit the needs of Autistic children. According to Julia Moor in her book, “playing, laughing and learning with children on the Autism spectrum”, Autistic children are also very into messy art play in which they can experience color and texture in an outdoor environment without worry about mess (Moor 148).

In addition to what being proposed in my design, the outdoor play area will also address the current problems on the site:

Grass Area:

The grass area will be replanted with a grass called Zoysia. This kind of grass creates a dense and cushiony feeling when it is nicely and fully grown. This can provide a safe surfacing for children in the play area because it is very soft giving a feel like a thick carpet. This grass requires low maintenance and it needs very little water. It can survive through heat summers and cold winters and it is an excellent grass for play areas.

Playground Surfacing:

The preschooler play area will have woodchips as its playground surfacing material. It looks more natural and it also costs less than other playground surfacing materials.

Plantings Area:

Besides the new plantings that will be planted in the sensory garden area, the other planting areas should also be planted with new plants with some planting beds reserved for volunteers who come in and plant things. The whole planting bed area will be surrounded by bamboo edging, which will give a sense of continuity as well as a natural feeling for the play yard. The bamboo edging also helps in defining the tricycle pathway for kids so they won't run into the garden.

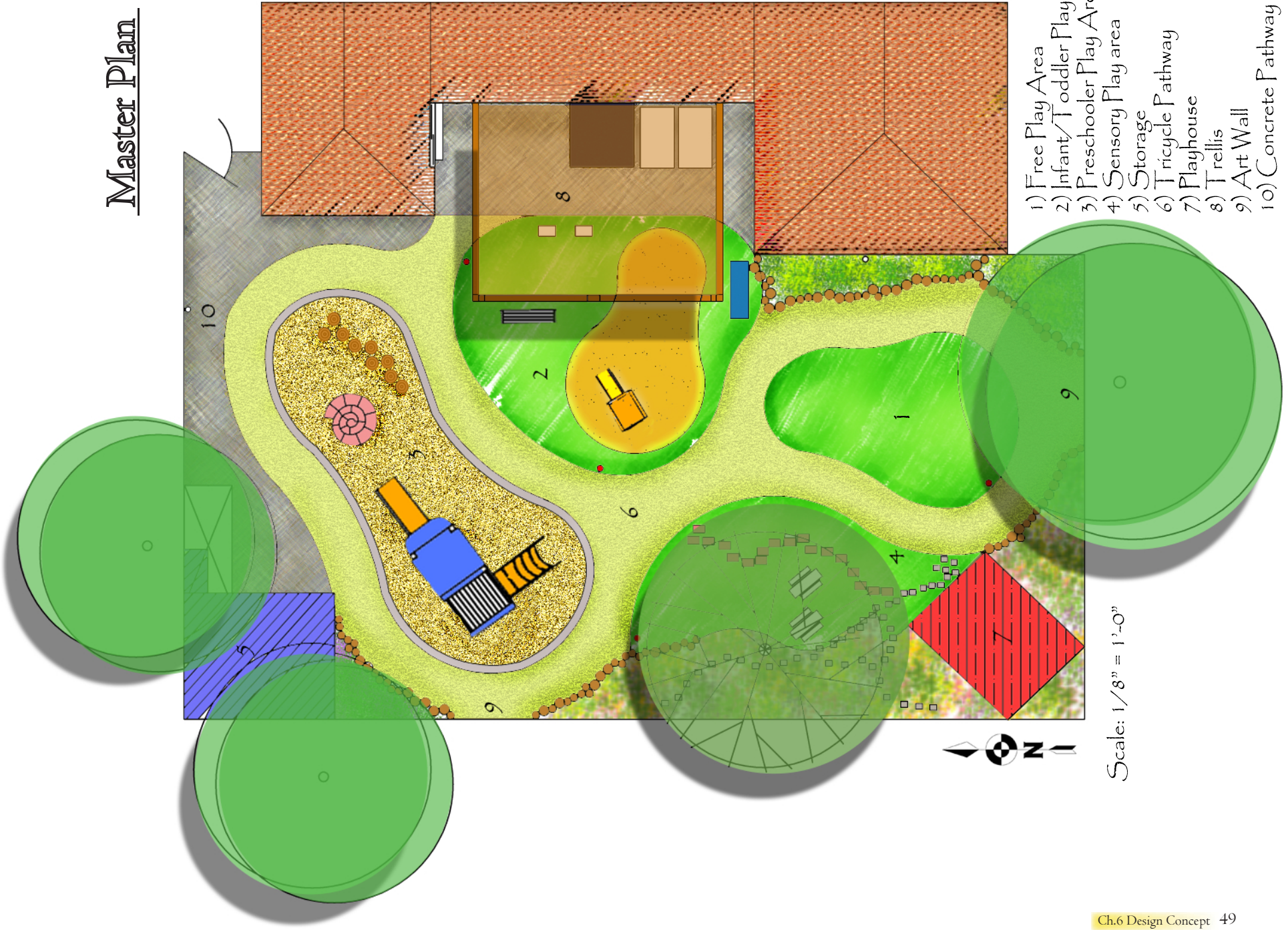
Pathway:

The newly added pathway or tricycle path will be 3 feet wide and it makes a loop around the whole play area. The idea for this is to have a designated pathway for tricycle riding activity so it will reduce the possibility of running into children, causing injuries to other children in other play areas. The first choice for the surfacing of the pathway is decomposed granite which will serve as a better choice than concrete pathway in terms of ensuring the safety of the children. The second choice is a broom finish concrete which gives a smoother texture for the surface but can still prevent the pathway to be too slippery for children.

Drainage:

The drainage problem will be addressed by putting drains along the mound area and it will be led out to the street. Another approach is to slope the pathway a little and let the water goes into the garden so plants can absorbed them.

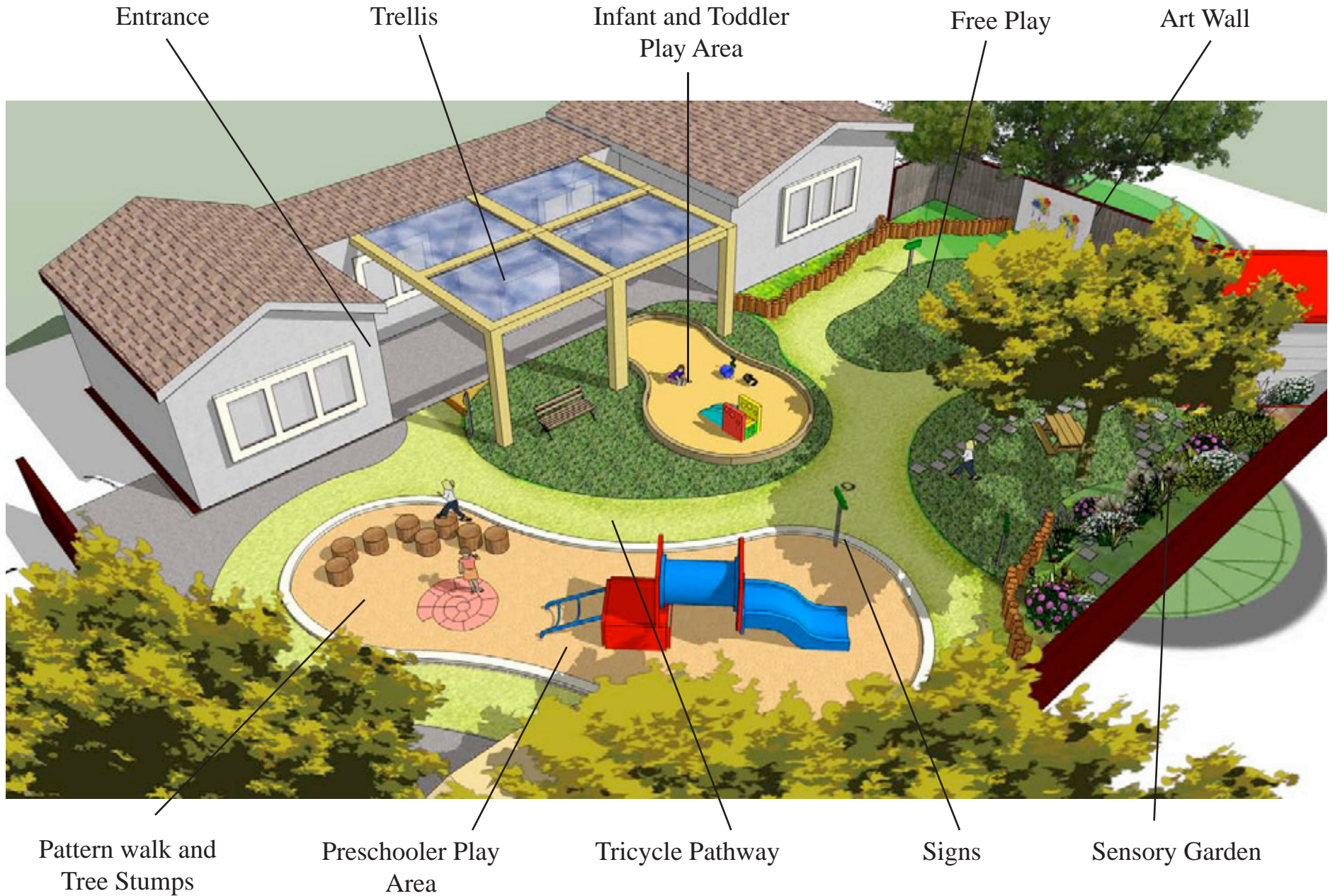
Master Plan



- 1) Free Play Area
- 2) Infant/Toddler Play Area
- 3) Preschooler Play Area
- 4) Sensory Play area
- 5) Storage
- 6) Tricycle Pathway
- 7) Playhouse
- 8) Trillis
- 9) Art Wall
- 10) Concrete Pathway

Scale: 1/8" = 1'-0"

Bird's Eye View of Play Area



The Infant and Toddler Play Area

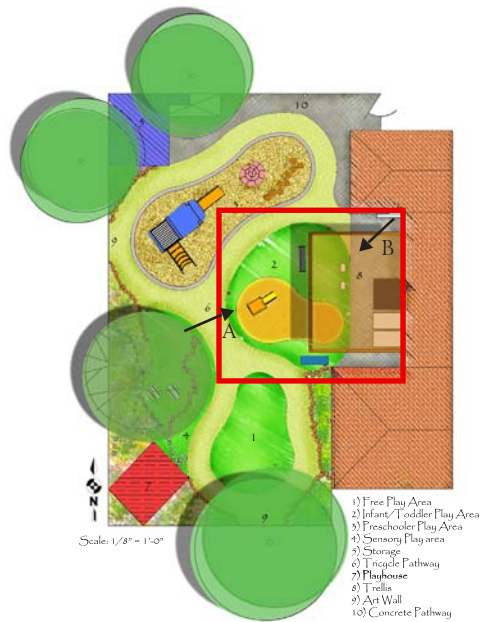


Fig. 6.4: Looking from the tricycle pathway. (arrow A)



Fig. 6.5: Looking from the entrance area. (arrow B)



Fig. 6.6: Sand pit will provide sand buckets, shovels, wood cookies, and sand water table for children to play. The image on the left is children pouring sand into the bucket. The image on the right is the wood cookies.

Preschooler Play Area

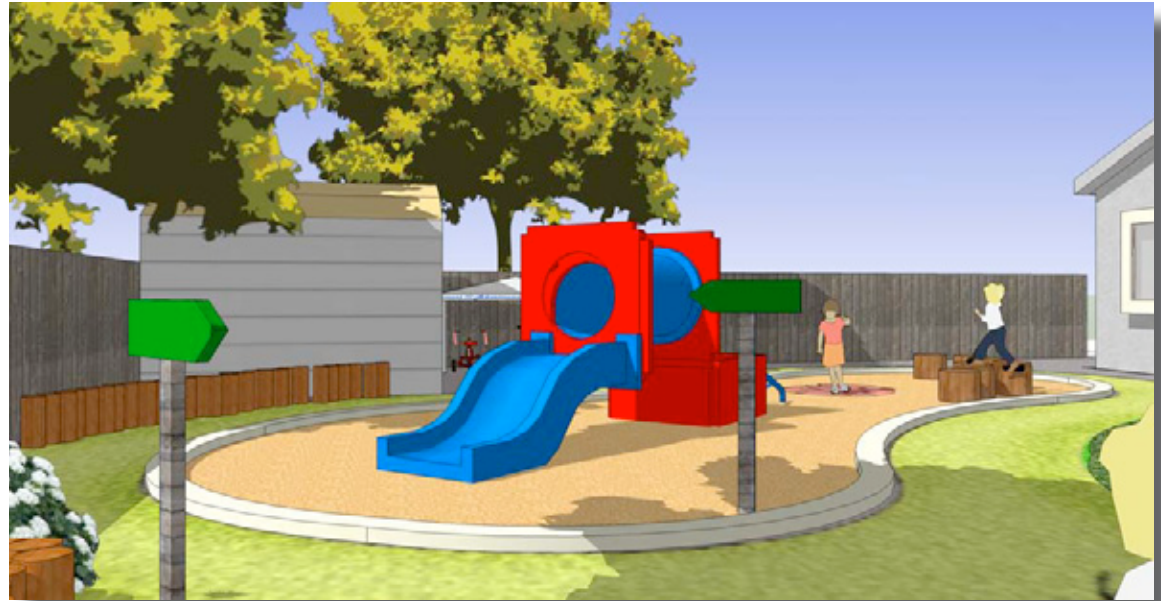
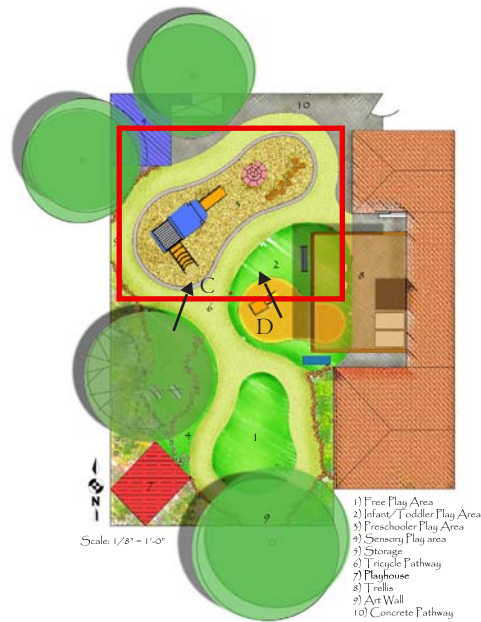


Fig. 6.7: Looking from the tricycle pathway. (arrow C)



Fig. 6.8: Looking from infant play area. (arrow D)



Fig. 6.9: The two additional activities are Tree Stumps and pattern walk.

On the left: A Girl Stepping on Tree Stumps.
 On the Top, The pattern walk in Early Childhood Lab in Davis.

Sensory Play Area

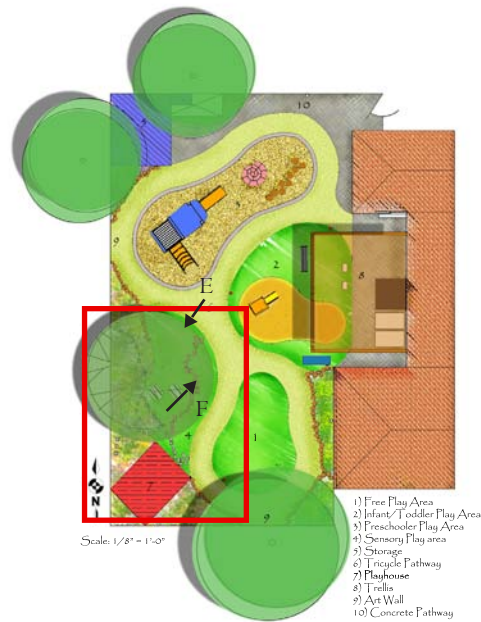


Fig. 6.10: Looking from the tricycle pathway. (arrow E)



Fig. 6.11: Looking out from the sensory play area. (arrow F)



Fig. 6.12

- a) Children can experience the 5 senses in a sensory garden.
- b) Wind chime bells will be hung on a tree to create sounds.

Plants Suggestions for Sensory Garden

Scientific Name	Common Name	Height	Sensory Function
<i>Aquilegia Desertorum</i>	Arizona Columbine	1.5ft	H, Si
<i>Astillebe x arendsii</i> "Peach Blossom"	Flase Spirea	2 ft	To, H, Si
<i>Aucuba japonica</i> "Variegata"	Japanese Aucuba	3 ft	Si
<i>Camellia japonica</i>	Japanese Camilia	3-5 ft	Sm, To
<i>Campanula glomerata</i>	Bellflower	1-2 ft	H
<i>Cerastiun Tomentosum</i>	Snow in Summer	6-8 in.	Si
<i>Cornus stolonifera</i>	Redtwig Dogwood	3-4 ft	Si
<i>Dicentra eximia</i>	Fringed Bleeding Heart	1-1.5 ft	To
<i>Fruitiliara biflora</i>	Mission Bells	6-16 in.	Si, To
<i>Gardenia angusta</i> "Kimura Shikazaki"	Four Seasons Gardenia	2-3 ft	Sm, To
<i>Hemerocallis lilioasphodelus</i>	Lemon Daylily	3 ft	Ta, H, Sm, Si
<i>Heuchera micrantha</i> "Palace Purple"	Coral Bells	2-3 ft	Si
<i>Iberis sempervirens</i>	Evergreen Candytuft	8-12 in.	H, Si
<i>Matthiola longipetala bicornis</i>	Stock	9 in. to 1 ft	Si
<i>Saxifraga umbrosa</i>	Saxifragae	1 ft	Si, Sm
<i>Thymus x citriodorus</i>	Lemon Thyme	1 ft	Sm, To
<i>Viola x wittrockiana</i>	Pancy	6-10 in.	Ta, To

To= Touch

Ta= Taste

H= Hear

Sm= Smell

Si= Sight



Touch: *Fruitiliara biflora*



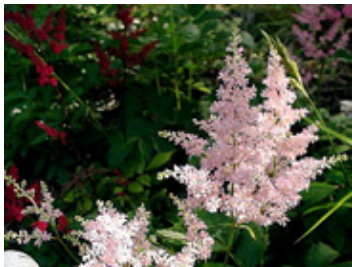
Touch: *Dicentra eximia*



Hear: *Campanula glomerata*



Hear: *Iberis sempervirens*



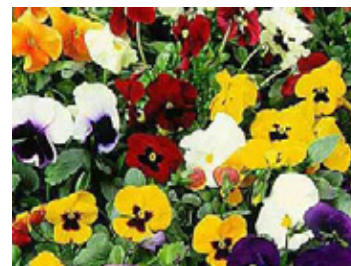
Sight: *Astilbe x arendsii* "Peach Blossom"



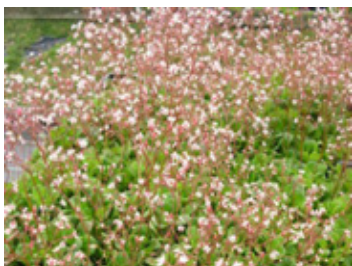
Sight: *Aquilegia Desertorum*



Taste: *Hemerocallis lilioasphodelus*



Taste: *Viola x wittrockiana*



Smell: *Saxifraga umbrosa*



Smell: *Thymus x citriodorus*

Other Activities and Areas on Site

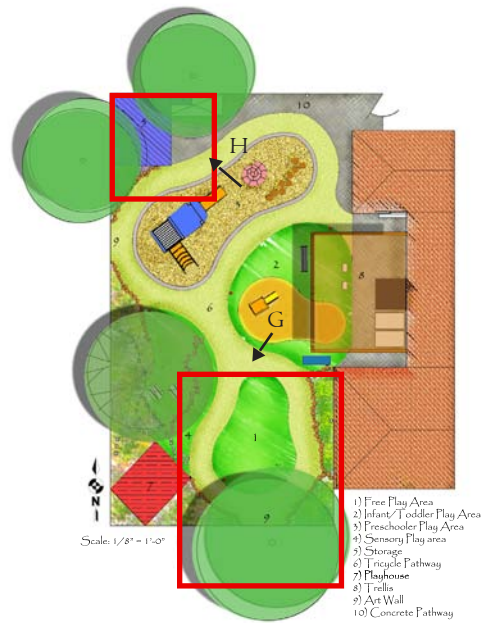


Fig. 6.13: The Existing Storage area. (Arrow G)



Fig. 6.14: The proposed storage area will include a small shelter where it can be used for bike storage and can make kids feel like their little bike parking area.



Fig. 6.15: The proposed free play area, looking from infant play area, (Arrow H)



Fig. 6.16:
a) The art wall will be used for messy art activities.
b) The Free play area will be able to accommodate group play activities.

Materials and Surfacing



Fig. 6.17:
Wood Chips will be the playground surfacing material for the Preschooler play area.
Advantages: Low cost, easy maintenance, wheelchair accessible, provides props for dramatic play



Fig. 6.20:
Small concrete plates will be used for the pathway in the sensory garden.



Fig. 6.18:
Zoysia, the grass that will be used in all grass areas on site.

Advantages: Low maintenance, can survive under heat and cold winters, need very little water, provides cushionary feeling

Fig. 6.21:
Wooden Bench for adult sitting area.



Fig. 6.19:
The two choices for tricycle pathway are broom finish concrete or decomposed granite.

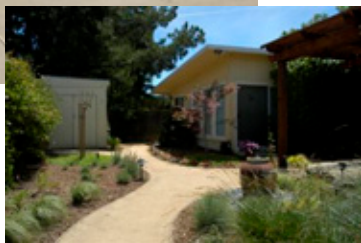


Fig. 6.22:
Bamboo edging will be used along all planting beds. It gives a natural feeling for the area.

Cost Estimate for the Design

Description of Work/Materials	Unit	Quantity	Unit Total	6% (Inflation)	Total
Concrete Paving with Broom Finish	Sq. ft	297.46 sq. ft	2.16	17.85	\$681.06
Decomposed Granite Path (Paving)	Sq. ft	475.80 sq. ft	1.00	28.55	\$501.35
Decomposed Granite Path (Edging)	L. ft	163.75 ft	2.30	22.60	\$399.23
Edging for Wood Chips Area	L ft	73 ft	2.30	10.07	\$170.20
Wood Chips Area/Play bark	Cubic Yard	94.64 cu. yard	12-16.25	68.14-92.27	\$1203.82-1630.17
Concrete Stepping Pads	Each	42	0.80	2.02	\$33.82
Drainage and Irrigation	-	-	-	-	\$600
Grass Area (Zenith Zoysia)	Sq. ft	411.29 sq. ft	18.5 per lb	1.11	\$19.61
Plantings	Gallon	80-100	20-30	96-120	\$1696-1720
Small Mounding(Top Soil)	Sq. ft	120.52 sq. ft	0.13	15.67	\$16.6
Play Sand in Sand pit	Cubic Yard	4.2 cu. yard	32.2	8.11	\$143.35
Manufactured Sand Box	Each	1	459	27.54	\$486.54
Sand Water Table	Each	1	74	4.44	\$78.44
Sandpit Play set	Each	2	19.99	2.40	\$42.40
Wood Cookies set	Each	2	109.99	6.60	\$116.6
Shelter for Bikes	Each	1	110	6.60	\$116.6
Wooden Bench	Each	1	159	18.54	\$168.54
Tree Stumps Set (2 per set)	Each	4	200	48	\$848
Bamboos Edging (62" per set)	Each	11	22.99	15.17	\$268.06

*The opinion of cost is based on the Saylor 2003 Construction Cost.
(reference: Senior Project 2007 by Willa Mui)*

TOTAL: \$7590.22

*Nexttag.com, homdepot.com
playsupplier.com, hancockseed.com
arborday.org*

**These figures are all estimates. Donations of materials and labor preferred where possible.

Conclusion

It was a great experience for me to work with the Yolo Crisis Nursery and learn about how to design a play area for young children. It was a great challenge to me at the beginning because I had never done interviews and case studies before and those were all new to me. This project has forced me to work more independently and become more self-discipline.

In addition, This project not only increased my knowledge on how young children behave, it also allowed me to achieve my goal, which is to help community groups that are in needs. As a landscape designer, I think the best thing is to work on something that can really fulfill the needs of people. Landscape design is not just about beautifying our surrounding environment, but the main goal, in my point of view, is to design a place that can meet and fit people's needs.

The completion and success of this project could not be done without they help from many people. I hope this project will not only help the children at Yolo crisis nursery, but also give insights for future landscape designers to design spaces for children in other crisis nurseries or children's home.

Considering how many children that are receiving help from the Yolo crisis nursery, I am hoping that the design with be implemented with the donations and help from the community. It is very important for children to enjoy and relax in an outdoor play area. The following are some suggestions for the Yolo crisis nursery to get fundings for the project.

Friends of The Yolo Crisis Nursery

It was established to raise funds and community awareness for the Yolo Crisis Nursery.

First 5 Yolo:

Yolo is currently receiving funds from First 5. But each year, First 5 Yolo also give out mini grants for special project each year that demonstrate innovative strategies to meet the needs of Yolo County's children and families. (250-2,500)

Local Nurseries:

Some local nurseries will donate plants for non-profit group.

Home Depot/Target:

The two places often donate free materials or furnitures to the community. Yolo crisis nurery can also take advantage of summer sale to get chapter materials.

UC Davis Landscape Architecture Students:

For labor, it is possible to get help from landscape architecture students because they often look for projects that they can do to gain experience.

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