

An Outdoor Classroom Design for the Wellspring Children's Center



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COMMITTEE FORM

A Senior Project presented to the faculty of the Landscape Architecture Department of the University of California, Davis in requirement for the degree of Bachelors of Science in Landscape Architecture.

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ABSTRACT



My project was inspired by early school instructors and parents who are committed to bringing back the physical, cognitive and psychological effects gained from experimental outdoor play and outdoor education. This project defines and then designs an outdoor classroom for an existing preschool (Wellspring Children's Center) where children use natural resources to develop and learn about their environment and their local ecosystem. The site includes areas defined by their educational and developmental purposes based on previous research and the case studies of three existing local outdoor classrooms (The United Methodist

Children's Center, Cuesta College Children's Center and The Orfalea Family & Associated Students ASI Children's Center Cal Poly).

The results from a survey also incorporate the needs of the parents and teachers into the final outdoor classroom design. It is important to note that this outdoor classroom is not a playground with manufactured playground equipment in an outdoor sterile area. This project creates an outdoor classroom design within a nature friendly space that uses nature based play tools where preschoolers can learn, develop and grow.

DEDICATION

I dedicate my Senior Project to my supportive husband Stephen and to my beautiful daughter Hannah. Their love and inspiration is what keeps my dreams alive. I would also like to dedicate my project to Jim and Susan Crook who welcomed me into their beautiful world of child development, teaching and the love of nature. I wish all teachers could be as dedicated and inspiring as Jim and Susan. Lastly, I would like to dedicated this project to all the little children and their parents, who also believe and understand the importance of nature in our lives and our development. Let us never forget the experience and wonder that nature has always offered.



fig. 1.2

“Every stage of development is complete in itself.

The 3 year old is not an incomplete 5 year old.

The child is not an incomplete adult.

Never are we simply on our way!

Always we have arrived!

Enjoy Now!!”

-J.C. Pearce

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DEFINITIONS

Classroom: A room or place especially in a school in which classes are conducted.

Education: The knowledge or skill obtained or developed by a learning process.

Environment: The circumstances or conditions that surround one.

Outdoor Classroom: Any outdoor space used for student exploration, inquiry and learning.

Ecosystem: An ecological community together with its environment, functioning as a unit.

Experiential Education: A philosophy of education that describes the process that occurs between a teacher and student that infuses direct experience with the learning environment and content.

Environmental Education: Refers to organized efforts to teach about how natural environments function and particularly, how human beings can manage their behavior and ecosystems in order to live sustainably.

Loose-parts play: Activities that involve play objects requiring plenty of full-body exertion and coordination to move. (examples: logs, branches, large waffle blocks or milk crates.)

Natural Resources: Naturally occurring materials that can be used by man.

Outdoor Education: Learning that takes place in the outdoors.

Playground: An outdoor area set aside for recreation and play, especially one containing equipment such as seesaws and swings.

INTRODUCTION

Introduction



fig.1.1

A half century ago most children grew up spending the majority of their day playing in a natural setting within neighborhood open spaces, open fields and backyards. Richard Louv author of “Last Child in the woods: saving our children from nature -deficit disorder” referred to this era as the “Second Frontier” and described it as a time of “romantic attachment” to nature. A time where family farms, although diminishing, still defined American Culture within our minds and the media. He believes that in the space of a century, the American experience of nature had gone from direct utilitarianism to romantic attachment to our current state of

*“Our children no longer learn how to read
the great book of Nature
from their own direct experience or how to interact
creatively with the seasonal transformations of the planet,
They seldom learn where their water comes from
or where it goes,
We no longer coordinate our human celebration
with the great liturgy of the heavens.”
-Wendell Berry*

INTRODUCTION



fig. 1.2

question and develop theories about how things work. It can also provide opportunities for social interactions that include negotiations, language development and cooperation. Children are also better able to understand the interconnectedness of our natural resources through hands-on outdoor learning and exploration. This project will use research and the guidelines of the CEC and the “Outdoor Classroom Project” (OCP) to design a preschool outdoor classroom for the Wellspring Children's Center.

electronic detachment. Our current generation is growing up in a hyper-structured indoor climate where outdoor play is scheduled and limited to specific play structures. The “Child Educational Center” (CEC) believes the way to combat the current generation of electronic detachment is to create and provide outdoor areas known as outdoor classrooms. This would allow children to learn from other children, with objects and natural materials found in the environment. An outdoor classroom can provided a child with valuable developmental opportunities to explore,

INTRODUCTION

Design Objectives



fig. 1.3

The objective of this project is to create a design layout and design program for a privately owned preschool outdoor classroom located in Los Osos, California. The design and program will be based on the principals and program recommended by “The Child Educational Center (CEC), a nationally accredited program of early care and education that has cultivated the concept and practice of the Outdoor Classroom since 1979. Three case studies that are also listed as “Outdoor Classroom Demonstration Sites” by the CEC, will be used to create this design and program. In

addition, a Teacher and Parent survey and a site analysis will also be used to create the final design of the outdoor classroom. This project will include a layout plan, design program , a planting plan and 3-d rendering elevations of the final outdoor classroom design. Once the project has been completed, the owner and instructors of the Wellspring Children's Center would like to submit this senior project for certification of their outdoor classroom to the Outdoor Classroom Project (OCP) Committee.

INTRODUCTION

Project Location



fig. 1.4

The Wellspring Children's Center Preschool is located in the city of Los Osos in the California central coast. Los Osos is bordered by the Pacific ocean to the west and farms to the east. The project site is 0.29 acres of land and is located at the corner of 9th street and Santa Ynez Avenue. The existing preschool is located a few blocks from the site. The site is adjacent to a residential neighborhood and across the street from various commercial properties. The site is also close to “Sweet Springs Nature Preserve”, the

“Elfin Forest Preserve” and the “Los Osos Oaks State Reserve”.

Delimitations and Limitations

This project will only focus on activity skills for children within the ages 2-5. The outdoor classroom will be limited by the 0.29 acres of space and will not include construction documents. Behavior observations and case studies will not include observations during the summer months when different activities and different groups of children will be present. The outdoor classroom will also not be used when weather prohibits safe outdoor play and learning.

INTRODUCTION

Project History



fig. 1.5

The site originally had a single story home that was demolished due to the uninhabitable conditions. The site also had some over grown vegetation that was removed in order to allow for more circulation and open space for play and new uses. The owners purchased the 0.29 acre parcel in order to expand their original home based preschool. The original plans called for a classroom structure on the site with a focus on the outdoor classroom space. The California Regional Water Control Board (RWQCB)

imposed a moratorium on all new sources of sewer discharge and increases in volume of existing sources in the town of Los Osos until the new sewer system is finished in 2016. Due to the moratorium, the owners decided to hold off building the indoor classroom until the moratorium was lifted. However after working on the space they decided to instead focus on a primarily outdoor classroom experience and not continue with the plans to build an indoor classroom at this site. The owners went ahead and added two storage structures and one port-a-potty, but kept the rest of the space open. They added a new wooden fence around the property, trellis at the entrance and signage at the corner of the interconnecting streets.

INTRODUCTION

Preschool Information



fig. 1.6

The Wellspring Children's Center is a Christian community preschool that offers a home-like atmosphere with a developmental based approach that helps preschool children and their families bridge the transition from the home to the structured Kindergarten classroom. The main school is located in a residential neighborhood located at 1228 7th Street in Los Osos, California. The school offers a “learn by doing” philosophy that is complimented by a full spectrum of hands-on activities to guide child development.

Outdoor play and learning within nature is highly

encouraged and utilized. The preschool lists its philosophy as a learning community for children and their families where:

- Children are valued for their ability to do meaningful work, their wonder & curiosity, their perspectives & their ability to play.
- Families are valued for their bonds and traditions, their commitment to work, home, community, their dreams for their children, and their ability to play.
- Staff are valued for their vision, their skill and knowledge, their heart for and their delight in children, and their ability to play.

INTRODUCTION

Site Analysis and Assessment



fig. 1.7

The project site dimensions are 100' x 125'. There is one main pedestrian entrance and gate off Santa Inez Ave. and two large gates (off each street) for vehicular access. The site has a six foot wooden fence along the property. The wood fence off 9th street and Santa Inez Ave. has a wide spacing at the top 2 feet. There are only three trees near the main entrance. One tree is large and offers shade to the southwest corner of the site. The majority of the site is sunny with little shade. There are strong winds from the west. The soil is mainly composed of sand and common for the Los Osos

area. The site is level with some minor draining toward the street. The 9th street side gets a high amount of traffic and noise. There is currently on-going construction due to the addition of underground piping for the new sewer system. The owners have covered the floor with mulch and added some natural materials such as hay and wood logs as play materials. The preschool uses the site as an outdoor classroom about three times a week with children whose ages are primarily 2-5.

INTRODUCTION

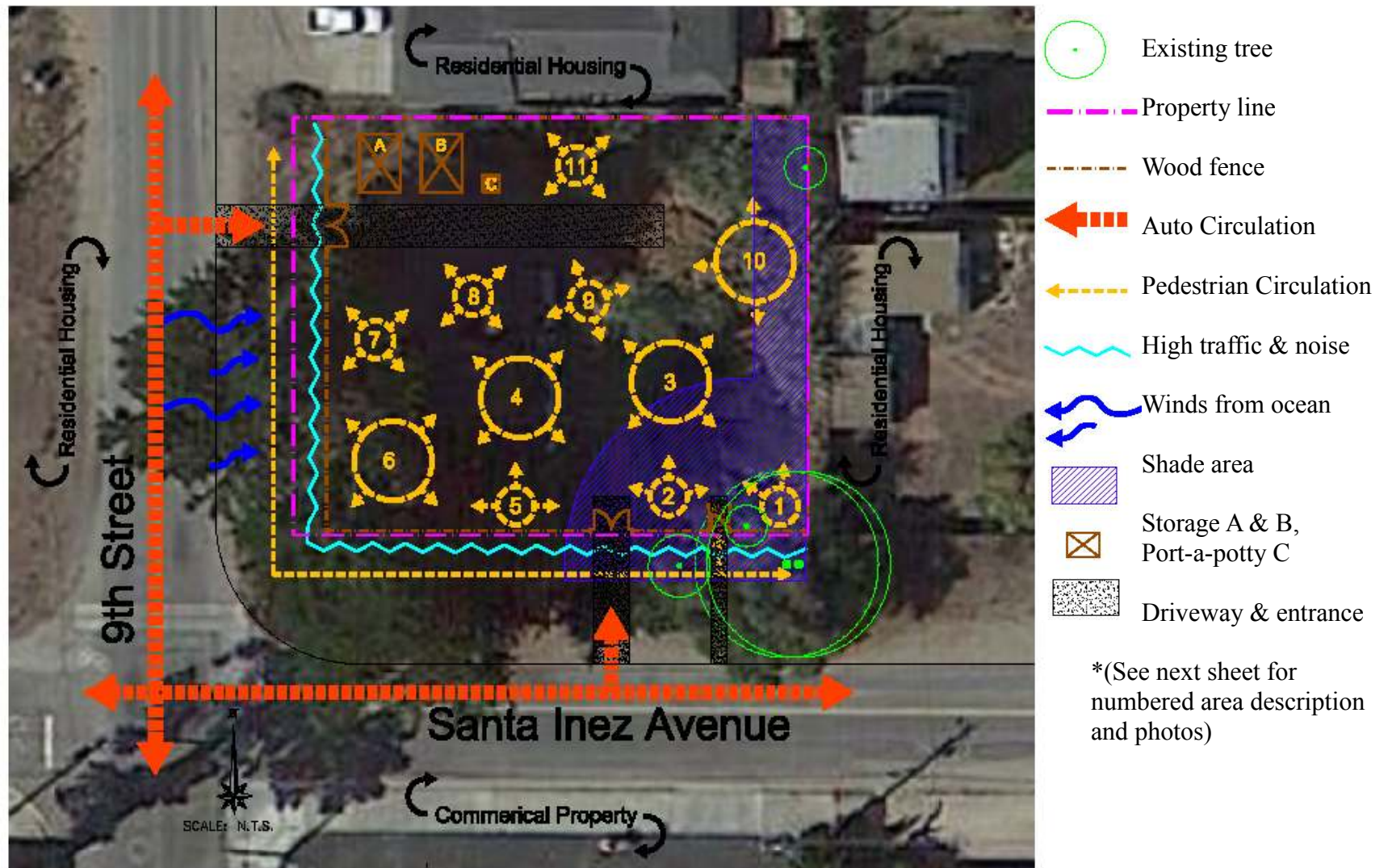


fig. 1.8

INTRODUCTION



1 – Quiet area & Reading area

fig. 1.9



2 – Welcome & Sitting area

fig. 1.10



3 – Hay stack play area

fig. 1.11



4 – Eating area (table & circular log seating)

fig. 1.12

INTRODUCTION



5 – Food Preparation area & hanging backpacks *fig. 1.13*



6 – Future gardening area *fig. 1.14*



7 – Pretend play (mailing, log seats) area *fig. 1.15*



8 – Wood saw & corn grinding area *fig. 1.16*

INTRODUCTION



9 – Tunnel & stepping stone play area *fig. 1.17*



10 – Stage area *fig. 1.18*



10 – Stage area from west side *fig. 1.19*



11 – Outdoor sink area by port-a-potty *fig. 1.20*

INTRODUCTION



Site: looking down 9th Street

fig. 1.21



Site: looking down Santa Inez Ave.

fig. 1.22

Site Opportunities

- Good visibility, no obstruction of site.
- Sunny area, no structures overshadow site.
- Easy access to main street & good vehicular circulation.
- 9th street is part of bus route with bus stop nearby.
- Adjacent to commercial land use.
- No slope or grading issues & sandy soil for drainage.
- Signage location is easily visible from street.

Site Constraints

- High traffic and noise off 9th street.
- No parking lot, only side street parking.
- No sidewalks, poor pedestrian circulation.
- Building moratorium until sewer system is in place.
- Adjacent and near property in poor condition.
- On-going construction due to sewer pipe installation.
- No bike lane on streets

OUTDOOR CLASSROOMS

What is an Outdoor Classroom?



fig. 2.1

An outdoor classroom is defined as an outdoor space used for student exploration, inquiry and learning. For this project the outdoor space will be used by preschoolers and is to be seen as an extension of the classroom, where children can gain physical, cognitive and psychological developmental skills within an interactive natural environment. It is a safe space for children to play, discover and learn from nature using natural materials found in the environment. An outdoor classroom should not be confused with a playground, which is more of a sterile environment

with manufactured play equipment. Any outdoor space where children can learn can be turned into an outdoor classroom and can include a variety of components that allow children to make up their own forms of play and learning adventure.

OUTDOOR CLASSROOMS

How to create an Outdoor Classroom



fig. 2.2

For this project I will be following the guidelines set by “The Outdoor Classroom Project” (OCP) and “The Child Education Center” (CEC). Per the OCP, the main steps to creating an outdoor classroom are as follows:

1. Creating a committee of teachers and parents who are committed to offering their input, time and energy into creating an outdoor classroom.
2. Identifying issues that the outdoor classroom can be used to resolve.
3. Creating a program list that shows how the identified issues can be resolved through the outdoor classroom.
4. Creating and filling out a survey to help narrow down and identify specific components to the outdoor classroom.
5. Designing and creating a layout of the outdoor classroom that is able to meet the goals that have been identified.
6. Building the outdoor classroom with the help of teachers, parents and the community.

OUTDOOR CLASSROOMS

Characteristics of an Outdoor Classroom



fig. 2.3

The CEC believes early childhood education needs to follow the principals that children are learning everywhere and all the time. Instead of developmentally inappropriate early academics, children need a broad variety of learning experiences and opportunities to grow in areas such as gross and fine motor development, social-emotional development, language development and creative expression. The CEC lists the “Characteristics of the Outdoor Classroom” as follows:

1. Most activities that can be done indoors can be done outdoors. Some activities occur best outdoors; some can only occur outdoors.
2. Children spend substantial periods of time outside, and it is easy and safe for them to get there; they are free to move easily between the indoors and outdoors.
3. There is a full range of activities for children to participate in, including many activities that are traditionally thought of as

OUTDOOR CLASSROOMS



fig. 2.4

needs and interest. Children experience nature in as many ways as possible.

“indoor activities”.

4. The outdoor space offers a balance of areas for physically active and less active play.
5. While outside, children frequently have the opportunity to initiate their own learning experiences and activities, with teachers available to support them.
6. The outdoor curriculum evolves from and changes with children's changing

OUTDOOR CLASSROOMS

Identifying Issues

The majority of children today spend their days indoors watching television or playing electrical games. Due to this dramatic change in childhood development the “Outdoor Classroom Project “ or OPC (an initiative of the “Child Educational Center”) has created a program list of the seven most critical issues facing children today described as the “Silent Emergency”. These are listed as follows:

1. Lack of exercise:
 - a. Leading to increase in obesity, heart disease and type II diabetes.
 - b. Children's physical development is being reduced during their first 5 years.
 - c. Children's cognitive development is directly based on their physical development. Inactivity during the first 5 years of life can be detrimental to a child's brain growth and cognitive ability in adulthood.
 - d. Lack of physical activity restricts the child's learning because they learn through engaging the world with their senses.
 - e. Lack of exercise contribute significantly to a child's emotional, mental distress and increase in “behavioral problems”.



fig. 2.5

OUTDOOR CLASSROOMS

2. Preoccupation with electronic media:

a. Kids ages 2-5 watch television for more than 32 hours a week on average. (Los Angeles Times, October 27, 2009)

b. Increase in hand held electronic devices creates mental isolation and decrease in interpersonal face to face relationships.

3. Perception of outdoors as an unsafe place to play:

a. Access to more information has increased perception of more dangers such as abductions and injuries to children.

4. Isolation from and fear of nature:

a. Media driven fears over weather related injuries and wild animal attacks.

b. Increase in theme parks and advertising for theme parks drawing parents and children away from natural settings.

5. Lack of engagement in and connection to the world, including nature:

a. Reduced understanding of cause and effect relationships and interconnectedness of nature.



fig. 2.6

OUTDOOR CLASSROOMS

6. Reductive approaches to ECE:
 - a. Increasingly narrowed the focus of education for young children to a single goal serving objective of primary school.
 - b. Limits the rich and numerous interactions gained from nature versus rigid interaction made with electronic media.
7. Epidemic use of behavior-modifying drugs on young children:



fig. 2.7

- a. Amphetamines are the most commonly prescribed medications for children. (Larson 2011)
- b. Between 2000 & 2003, psychotropic drug utilization in preschoolers increased by 49%. (Medco Health Solutions 2004)
- c. 8 million American children are on prescribed drugs for behavioral or learning issues. (St. Luke's Health Initiatives 2006)

OUTDOOR CLASSROOMS

Program List

An outdoor classroom can help restore the critical stage of childhood human development by addressing the challenges facing today's preschooler. The Early Childhood Education Program (ECE) has developed a outdoor classroom program list to address these issues. They are as follows:

1. Lack of exercise: Getting children outside and more active will increase physical activities leading to lifelong patterns of healthy physical activity.

2. Preoccupation with electronic media: Involving

children in hands-on, loose-parts outdoor play with others, leading to a deepen connection to the outdoors and a counter from the pull of electronics. Activities should include face to face interactions and group problem solving.

3. Lack of a safe space to play outside: Creating and designing spaces that offer the same opportunities of features found in natural settings. This gives children the ability to learn how to handle outdoor risks safely while being protected from risks that are not developmentally beneficial such as exposure to traffic, pollution or encounters with strangers.



fig. 2.8

OUTDOOR CLASSROOMS

4. Isolation from and fear of nature: Designing and constructing spaces that replicate nature and allows children to connect with nature on a deeper level. Encouraging children to care for at least some aspect of the space such as a garden, animal or insects.
5. Lack of engagement in and connection to the world, including nature: Teaching children about cause and effect through outdoor and interpersonal activities.
6. Reductive approaches to ECE: Providing children with a wide range of activities that support a child-centered approach



fig. 2.9

- versus a teacher-directed program. A focus on the psychological well-being and social skills that are considered as important as learning letters & numbers. This approach creates a complete foundation for school readiness & fosters the joy in learning.
7. Epidemic use of behavior-modifying drugs on young children: Due to a child-centered approach, an outdoor classroom allows children across the spectrum of behavioral styles to learn and develop with greater success and less internal and external emotional and physical conflicts. The child tends to creates a space more inclined to their learning style without the need of behavior-modifying drugs.

OUTDOOR CLASSROOMS

Optional Outdoor Classroom components



fig. 2.10

can also be used for digging pits.

Bird feeders/bath/houses Children enjoy watching birds and learning how they interact within the environment. Feeder and bird baths use little space and can easily be placed within various types of gardens. Local birds (such as pelicans, Long-billed curlews, finches and sparrows) and migrating birds from the nearby nature reserves will be drawn in to the area.

Butterfly/native garden: Various types of native vegetation can be planted to create an outdoor space that will attract butterflies and

The components and features of an outdoor classroom are what give the children the ability to full fill the program list of the issues identified. Each outdoor classroom is able to choose what component best fits within their space and matches their criteria. The following is a list of the most commonly used components for an outdoor classrooms:

Archeological dig site: Digging areas provide creative and exploration play for children. Various natural materials such as rocks, pine cones, leaves, seeds and twigs can be used to bury and dig up in pretend play. Pea gravel or plain mulch

OUTDOOR CLASSROOMS



fig. 2.11

other beneficial insects. Monarch Butterflies specifically migrate throughout the San Luis Obispo area. Butterflies feed on the nectar of native plants such as horse mint (*Agastache urticifolia*), various types of milkweed (*Asclepias* sp.), sunflowers (*Aster californicus*), black sage (*salvia mellifera*), golden current (*Ribes aureum gracillimum*), Blue lobelia (*Lobelia dunnii serrata*), ceanothus species & various types of manzanita (*Arctostaphylos* sp.). Also adding herb plants from the parsley family helps feed them during the caterpillar life

stage. Children can learn about identifying native plants and the benefits they provide.

Chicken coop: Feeding and caring for chickens can offer children the ability to learn where eggs come from. Children can also learn about the responsibility of taking care of an animal and connecting to nature.

Composting bin/center: The composting bin can offer children the lesson in the cycle of life by seeing natural items breakdown and be used to feed plants that will grow fruits and vegetables. Composting can be exciting for kids and helps them learn about the need to recycle food waste that can be turned into energy for plants.

OUTDOOR CLASSROOMS



fig. 2.12

Edible garden: Vegetable, fruit and herb gardens can teach children science skills and increase the interconnectedness of children to nature and a connection to how food grows. These types of gardens also introduce the chance to teach children about the benefits of insects within the garden, such as lady bugs, honey bees, butterflies and worms.

Fire Pit: An adult guided fire pit can provide children with respect and understanding of fire & offers a pretend camping experience.

Hills and berms: Different elevations provided by hills and beams can offer spaces for physical and creative play close to nature. Children enjoy rolling down berms, charging up hills, sledding down hills and hiding behind elevation changes. A berm or hill can also be a bump made of dirt or a longer serpentine berm covered with grass.

Log play structure: Logs are an inexpensive and a natural material that can

be used in a variety of ways for play in an outdoor classroom. Logs can be used as balance beams by laying them side by side, as forts, benches, play tables or hiding spaces for physical and cognitive child development. They can even be used to create a maze or an outdoor course. Cut up logs can also be placed in a corner to be left alone for a few days and then turned over to discover the

OUTDOOR CLASSROOMS



fig. 2.13

learning experience with plant identification labels. The stream bed can be covered with gravel and larger cobblestones where children can create dams and channels. Placing a water hose at the top of the creek is an easy way to control the water source.

Pond/fountain/water feature: Provide water from multiple sources such as a hose, a faucet, a sprinkler, a rotating sprayer, a rain barrel, a hand pump or even spray bottles. Playing with water helps with physical and emotional develop in preschoolers.

Rocks and Boulders: Small rocks can be carried in containers to practice coordination and balance. Larger smooth boulders can be used for climbing and pretend play to increase cognitive skills and creative play. Rocks can also be used as part of an outdoor ground

variety of bugs (such as ants, slugs, snails, rolie polies and worms) that has moved into the mini micro-habitat.

Mud/dirt play area: Simple spaces where dirt and water mix can offer children creative play. Any area can be a dirt play area with little to no preparation to the site.

Play Stream: A highly valued feature for an outdoor classroom is creating a small, shallow stream that flows only when the water is turned on during rain season and remains as a dry creek bed when the water is not on.

Planting can be added along the creek to create a double

OUTDOOR CLASSROOMS



fig. 2.14

play board where the movable play pieces are the rocks. They can also be used to create narrow, meandering routes through tall grass or connecting two activity areas together.

Sandbox play area: Sand can be used in a variety of ways for children to play with and can be contained by shrubs, landscape timber, old tires as planters and boards. In addition a sandbox area offers easy access to digging and building sand sculpture.

Sculpture garden: Sculptures can be made of various materials such as plants, wire, stone or wood and can create imaginary items used in pretend play and exploration. Sculptures can also be used as small structures for pretend play such as hedges that create walls for a pretend castle or a wood box as a pretend race car. Another example is to create a teepee using wood and then grow sugar snap peas as the covering.

Sundials: Learning about how time and our connection to the sun can help children see our interconnectedness to our planet and solar system. Sundials can be placed in any setting without using a lot of space or can even be made from various natural items such as simple stones placed on the ground.

OUTDOOR CLASSROOMS



fig 2.15

Tree house/tree climbing: Climbing trees can be helpful with balance and physical development. In addition, tree houses can offer creative opportunities for pretend play. Tree houses don't need to be up high and give children a different view of their play area.

Tunnel play area: Tunnels can be used in a variety of pretend play and increased physical activity. Much like sculptures, tunnels can be made of wire with growing flower vines or bean vines. Tunnels can also be made from other natural materials such as dried giant leaves or fabric wrapped around a wire frame.

Water Transport: Moving water around can provide physical activity by practicing coordination and balance. Items such as watering cans, buckets, hollow bamboo poles, plastic pipes (with curves & connections), pots and pans and recycled milk jugs. In addition, rain water collection in barrels can serve as education for a water conservation lesson.

Weather observation: Children can learn about how nature is connected and affected by weather through a weather observation area. It can be as simple as a space where weather science experiments (such as creating a sun oven from a box covered inside with

OUTDOOR CLASSROOMS



fig 2.16

descriptions of the components that are included as part of the design for the Wellspring Children's Center outdoor classroom:

Eating/outdoor kitchen: Not all outdoor classrooms require the use of an outdoor kitchen, however most have an area for outdoor eating. This space can be small and also offers additional space for seating and table space for playing. An eating space can also offer the space for other types of creative play such as painting, clay models and other learning crafts. The outdoor kitchen area can offer a variety of healthy options for children to establish healthy eating habits. Placing the kitchen and eating space outside also offers the opportunity for children to see the connection of fruits, vegetables and herbs grown close by and then used as ingredients in snacks.

aluminum or collected rain water measuring cup) can be conducted.

Wildlife habitat: By creating a small wildlife habitat children can learn more about the nature wildlife that lives around us. Children can create small spaces for frogs, bugs, butterflies or birds to visit.

Design Elements

Certain features and components of an outdoor classroom should be provided as a requirement to the site in order for the space to offer the most to its users. This is a list and

OUTDOOR CLASSROOMS



fig. 2.17

Children can also help with picking out the ingredients and creating the recipes for their own snack and meals.

Pathways: Paths can be used as guides to connect one area to another as well as adventure paths where children can explore and meander through tall grasses or boulders. The paths can be created by using rocks, log slices, wood planks or stepping stones through the site.

Restroom access: There should be access to a restroom near the outdoor classroom or a temporary restroom structure until a future one is built.

Seating: Providing a variety of different types of seating helps with creativity and socialization. Children use seating spaces for reading books, resting, socializing with friends, day dreaming and playing games. Offering benches, swings, hammocks, rockers, boulders, logs and stumps made of natural materials can full fill this need.

Shaded area: Depending on the site and how much is already provided will determine the need for shading. The site for this project only offers shade in the southeast corner and needs some more options for shade. Due to the local weather, summers are mild and require only some shade. It can come from planting trees, vines on a trellis or arbors, umbrellas, fabric canopy and other structures.

OUTDOOR CLASSROOMS



fig. 2.18

outdoor classrooms require at least one storage structure on site.

Vegetation: The types of shrubs and trees planted can offer a variety of benefits for an outdoor classroom and are the most important component to the project. Trees can be used as shade, places to climb or hide, areas to bird watch and fruit to pick. Shrubs and plants offer habitats for wildlife, food for butterflies and hummingbirds, hiding spaces for children, flowers for picking and using in crafts. Hedges can grow to become living structures used in pretend play or paths used to create labyrinths. Plants that provide vegetables, fruits and herbs offer the best way to show children how nature is connected to how we live and grow.

Signage: Signage is important within the outside of the space to identify the location and other important information the outdoor classroom needs to provide visitors and parents. Signage inside the property lines are more useful for offering children labels of areas and I.D. of plants and bugs. Signs can be made from a variety of natural materials such as wooden signs, waterproof paint on recycled materials, chalkboards, and chalk on boulders.

Storage area: Storage areas are important in order to provide a safe location for toys and play equipment. All

CASE STUDIES

The Demonstration Site Network



fig. 3.1

centers that have been evaluated and approved by the OPC. These early care and education programs are dedicated to the OCP's principals and practices and have agreed to host visitors interested in learning more about the organization and the idea of creating an outdoor classroom. The three sites chosen for this project's case studies were the “United Methodist Children's Center”, “Cuesta Children's Center” and Orfalea Family & Associated Students (ASI) Children's Center. Each site was studied to evaluate the design components chosen and how well they worked within the space.

In order to create a design layout for the Wellspring Outdoor Classroom, a case study was created for each of the three local outdoor classrooms. These sites were chosen from “The Demonstration Site Network” created by the “Outdoor Classroom Project”. “The Demonstration Site Network” is a list of participating

CASE STUDIES

United Methodist Children's Center



fig. 3.2

The United Methodist Children's Center is a privately owned Children's Center that is accredited by the National Academy of Early Childhood Program. The center is located at 1515 Federicks Street in San Luis Obispo, California and lead by co-directors, Martha Chivens and Claire Grether. It has approximately 100 children enrolled and 15 teachers. The outdoor classroom is separated into three specific area. One large space for preschool active space, another medium space for preschool passive space and outdoor teaching and a smaller space used only by

toddlers. This case study primarily focuses on the two larger spaces for the preschoolers. The site was originally updated as part of becoming a member of "The Demonstration Site Network". The first addition and main focal point was the installation of the sloped creek bed in the large active play area. This children's center was the smallest in size and the most nature focused of all the three case studies. It had a minimal of installed playground equipment, yet used the most amount of synthetic grass on site.

CASE STUDIES



United Methodist Children's Center Plan

Area A: Large outdoor active space.

Area B: Preschool indoor classrooms.

Area C: Main Office.

Area D: Medium outdoor passive space
and Outdoor teaching space.

fig. 3.3



Photo 1 – Active play area “A”, with synthetic grass area, ramp, sand play area & wooden structure on the left.

fig. 3.4

CASE STUDIES



Photo 2 - Active play area "A", with storage structure, maintenance tools, water play area & synthetic grass area.

fig.3.5



Photo 3 – Active play area "A", with restroom structure, synthetic grass area, climbing structure.

fig.3.6

CASE STUDIES



Photo 4 – Active play area “A”, with water table, swings, synthetic grass, sand area, sand toys.

fig. 3.7



Photo 5 - Active play area “A”, with tricycle paths, tire bounce play structure, tire area and sand toys.

fig. 3.8

CASE STUDIES



Photo 6 – Active play area “A”, with retaining wall, sloping creek, sand toys and wooden steps to jungle gym area.

fig. 3.9



Photo 7 – Passive play area “A”, with tricycle riding area, bunny coop, play kitchens & playhouse structure at far end.

fig. 3.10

CASE STUDIES



Photo 8 – Entrance to passive play area “D”, with edible garden area and reading area with blanket and pillows on the floor. *fig. 3.11*



Photo 9 – Passive play area “D”, with outdoor learning space, water table, storage building and shaded canopy area. *fig.3.12*

CASE STUDIES

Cuesta College Children's Center



fig. 3.13

create a toddler outdoor classroom area and a much larger preschool outdoor classroom area. The center also shares this outdoor space with the state Head Start program and the Community Action Partnership of San Luis Obispo County (CAPSLO) program, which has their own set of staff and students. The different age groups and different programs share the outdoor space by rotating the days and times the space is being used. This children's center was more typically designed as a playground with some minor additions of nature based play tools.

The Cuesta College Children's Center is a non-profit licensed Children's Center that is a part of the college's Early Childhood Education degree and serves as a hands on educational laboratory for young children ages 18 months to 5 years of age. The site is certified as an "Outdoor Classroom Demonstration Site". The center is located on the campus grounds at 4000 Chorro Valley Road, in San Luis Obispo. The center has approximately 30 students, 3 instructional assistants and 3 teaching assistants.

It has one large outdoor space that is separated by a gate to

CASE STUDIES



Cuesta College Children's Center Plan

Area A: Preschooler Outdoor Area.

Area B: Toddler Outdoor Area.

Child Development Center: Indoor Teaching Area.

fig. 3.14



Photo 1: Area "A" showing driveway entrance fig. 3.15



Photo 2: Showing west corner of area "A" fig. 3.16

CASE STUDIES



Photo 3: Area “A” showing preschool edible garden area separated by white wooden fence, off Chorro Valley Rd.

fig. 3.17



Photo 4: Area “A” showing preschool play area, with lawn, play structure & storage building (off Chorro Valley Rd.)

fig. 3.18

CASE STUDIES



Photo 5: Area “A” showing preschool play structure with tricycle/walking path and lawn space. (off Chorro Valley Rd.) *fig. 3.19*



Photo 6: Area “A” showing preschool area, with extended lawn area. (off Chorro Valley Rd.) *fig. 3.20*

CASE STUDIES



Photo 7: Area “A” showing preschool area at corner of Chorro Valley Road & parking lot with lawn play area.

fig. 3.21



Photo 8: Area “A” preschooler area, showing swing play structure and tricycle / walking path and lawn space.

fig. 3.22

CASE STUDIES



Photo 9: Area “A” preschooler area, showing tricycle/walking path, lawn space and play structure.

fig. 3.23



Photo 10: Area “B” toddler area, showing storage structure, shade area, walking path, lawn area and edible gardening area. *fig. 3.24*

CASE STUDIES

Orfalea Family & ASI Children's Center



fig. 3.25

The Orfalea Family & ASI Children's Center is a private non-profit Children's Center that is accredited by the National Association for the Education of Young (NAEYC). The center is located on the California Polytechnic State University campus at Building 113 on Crandall Way. The center has approximately 120 students and 20 care providers and teachers. The center's outdoor area is divided into six different gated spaces (an infants area, a toddler area, an area for 2 year olds, an area for 3 year olds and an area for 4-5 year olds. Each outdoor area is

filled with an age appropriate play structure, a sand play area, lawn area, paths for walking & tricycles, edible garden, a craft area and various play tools. Additionally, the entire site is planted with fruit trees and drought-tolerant grasses and vegetation. This Children's center was one of the largest areas studied and had an even mix of play structures and nature based play tools. The site was originally designed with more playground structures that have been slowly replaced or incorporated into a more nature focused approach.

CASE STUDIES



Orfalea Family & ASI Children's Center Plan

Area A: Infant Outdoor Area.

Area B: Toddler Outdoor Area.

Area C: 2 Year Old Outdoor Area.

Area D: Shared Outdoor by 2 & 3 Year Olds.

Area E: 3 Year Old Outdoor Area.

Area F: 4 & 5 Year Old Outdoor Area.

fig. 3.26



Photo 1: Entrance to Orfalea Family & ASI Children's Center

fig. 3.27

CASE STUDIES



Photo 2: Area “A” infant area, showing various loose-part play items, ball pit, slides, tunnels and lawn area.

fig. 3.28



Photo 3: Area “B” toddler area, showing sand area with rocks & water spouts in between rocks, lawn & rock climbing.

fig. 3.29

CASE STUDIES



Photo 4: Area "C" 2 year old area, shown from the street prior to addition of white fence separating toddler area.

fig. 3.30



Photo 5: Area "C" 2 year old area, showing path, canopy, play structure, canopy structure, playhouse and lawn space.

fig. 3.31

CASE STUDIES



Photo 6: Area “E” 3 year old, showing art center, play kitchen, lawn area, sandbox & building blocks area.

fig. 3.32



Photo 7: Area “D” shared by 2 and 3 year old areas, showing playground , canopy area, lawn and path.

fig. 3.33

CASE STUDIES



Photo 8: Area “E” 3 year old area, showing sandbox area, walking & tricycle path, lawn area and toy truck play area.

fig. 3.34



Photo 9: Area “F” 4 & 5 year old area, showing sandbox area with playhouse, play structure, path & crafting table.

fig. 3.35

CASE STUDIES



Photo 10: Area “F” 4 & 5 year old area, showing crafting table, play structure, path & science area.

fig.3.36



Photo 11: Area “F” 4 & 5 year old area, showing 2nd sandbox, building blocks on lawn, play structure & canopy area.

fig. 3.37

CASE STUDIES



Photo 12: Area “F” 4 & 5 year old area, showing seating, building blocks on lawn, storage sheds & tree house area.

fig. 3.38



Photo 13: Area “F” 4 & 5 year old area, showing gardening area, chicken coop and gated large edible garden.

fig. 3.39

DATA COLLECTION AND RESULTS

Teacher and Parent Survey

Using the list created of the various components that would be beneficial for a preschool outdoor classroom, a survey was created in order to narrow down the list of components. The survey was e-mailed to parents, parents of future children and instructors to decide which items they would prefer to see in the outdoor classroom. The following are the questions listed on the survey:

1. *I am filling this survey out as a (circle at least one below):*

A). Educator at this school

B). Parent of current student

C). Parent of possible future student

2. *On a scale of 1-5 (with 1 being the highest), how important is it to you that your child is involved in hands-on learning activities?*

3. *On a scale of 1-5 (with 1 being the highest), how important is it to you that your child spends more time outside?*

4. *What top ten components would you prefer be included in the outdoor classrooms? Please numerically rank them in importance with 1 being most important. (Please note that components such as seating, eating/outdoor kitchen area, shaded area, pathways, storage area and signage are to be included in addition to the ranking below.)*

sandbox play area

bug collection

rabbit habitat

edible garden

fire pit

weather observation

tunnel play area

sculpture garden

archeological dig site

tree house

art & music center

mud/dirt play area

butterfly/native garden

water feature, pond, fountain

chicken coop

amphitheater/stage

log play structure

composting bin/center

5. *What other components or themes (not listed above) do you feel would be a helpful addition to the outdoor classroom?*

DATA COLLECTION AND RESULTS

Survey Results

The survey was e-mailed by the school director to parents and instructors. An on-line version of the survey was also created through “Google drive” and then uploaded to a local on-line parental forum (SLO County Mommies). A total of 41 surveys (made up of 12 current parents, 3 teachers and 26 parents of potential future student) were collected for this project. The results of questions 2 and 3 on the survey are as follows:

On a scale of 1-5 (with 1 being the highest), how important is it that your child is involved in hands-on learning activities?

Results: 38 chose #1, 1 chose #2 & 3 chose #3)

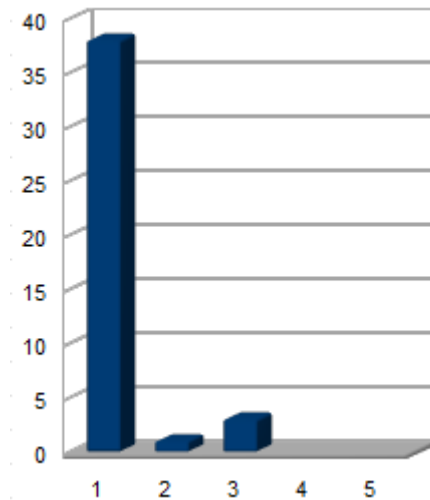


fig. 4.1

On a scale of 1-5 (with 1 being the highest), how important is it to you that your child spends more time outside?

Results: 33 chose #1, 7 choose #2 & 1 chose #3)

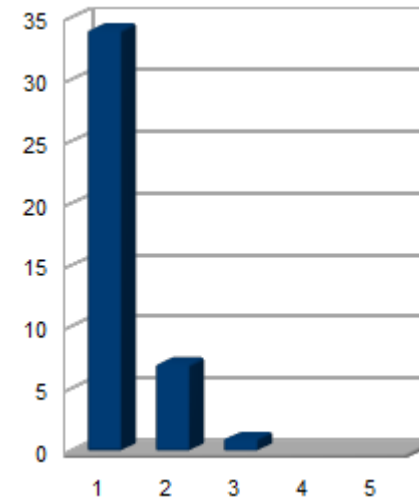


fig. 4.2

DATA COLLECTION AND RESULTS

The survey listed 18 outdoor classroom components. Survey takers were asked to choose their top ten picks and rank them by the most important being 1 and the least important being 10. The top ten components were first organized by the total number of votes received and then by the rank number they were given from the survey taker. The top ten components chosen are as follows (with the total number of votes for each component received in parenthesis):

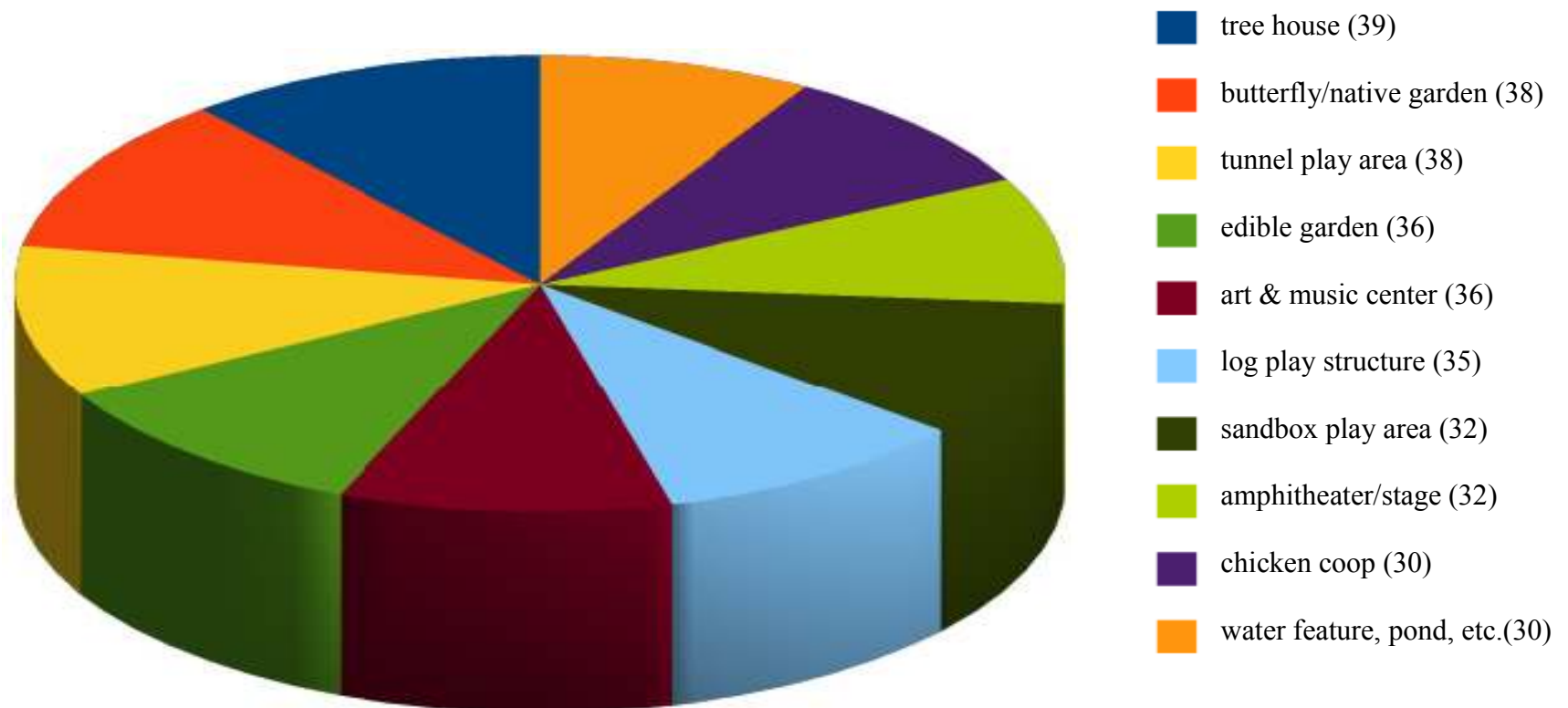


fig. 4.3

DATA COLLECTION AND RESULTS

Preliminary Design



fig. 4.4

classroom components (such as the sand box play area and the water feature) were left intentional vague to allow for the space and the instructors to finalize per the preschooler's needs. The planting was not individually labeled and only finalized into four groups: native California planting areas, herb planting area, succulent planting area and edible planting area (vegetables/fruits).

The preliminary layout design was developed by taking the survey results and the feedback from the on-going meetings with the owners/instructors of the Wellspring Children's Center. The most pivotal design requirement for this outdoor classroom layout was the need to keep the space fluid and allow the components to be continuously moved around, in the same way an indoor classroom can be rearranged for optimal learning. This translated into keeping the majority of the vegetation and structures along the edges where less mobility was needed. Additionally, the owners preferred all design and play materials to be natural and based on items found in nature. The top ten preferred components were incorporated into the layout along with vegetation designated along the fence edge to soften the site's hardscape and building materials. Certain outdoor

DATA COLLECTION AND RESULTS



fig. 4.5

DATA COLLECTION AND RESULTS



fig. 4.6

FINAL DESIGN

Final Design



fig. 5.1

preserve with less boundaries. The owners and instructors requested less planting along the fence to allow for drawings and play tools. They also requested the sand, rock and mud area to be combined into one mud play area. Using the nearby nature preserves as inspiration, the design was adjusted to create more sporadic planting locations and all planting borders along the fence were removed. All vegetation shown on the planting plan are native plants (with the exception of the ornamental and fruit trees) that are commonly found in the nearby nature preserves and open space.

The preliminary layout plan was e-mailed to all participants (an open house presentation was not possible due to the time constraints in the parents schedules) and each person was offered two feedback options. One option was to e-mail or speak directly to the owner regarding their opinion of the preliminary layout plan (including what items they would change or add). The other option was a website link where written feedback could be given anonymously. All participants opted for the first option. The most frequent request was for the space to feel more like a nature

FINAL DESIGN

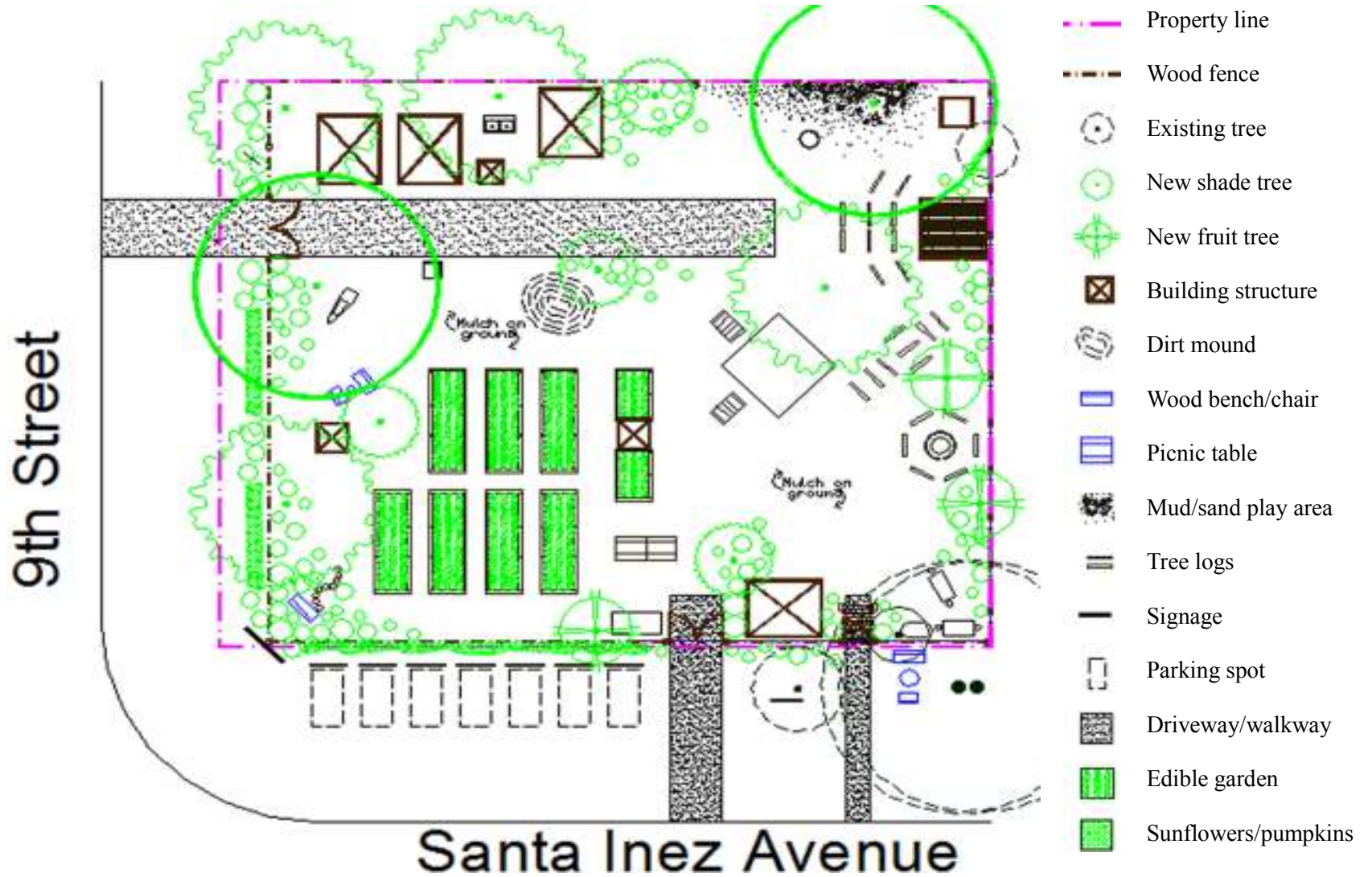


fig. 5.2

FINAL DESIGN

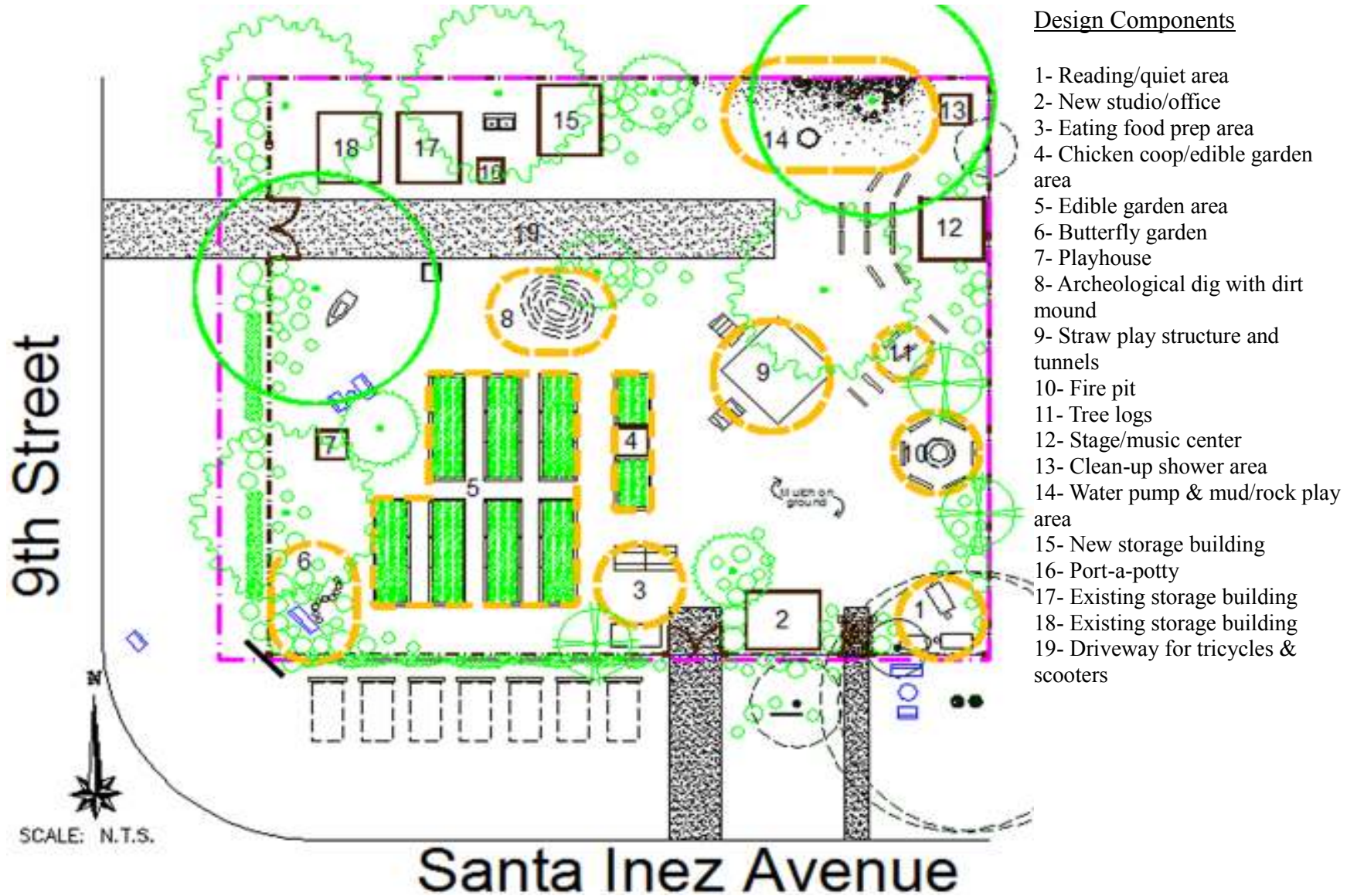
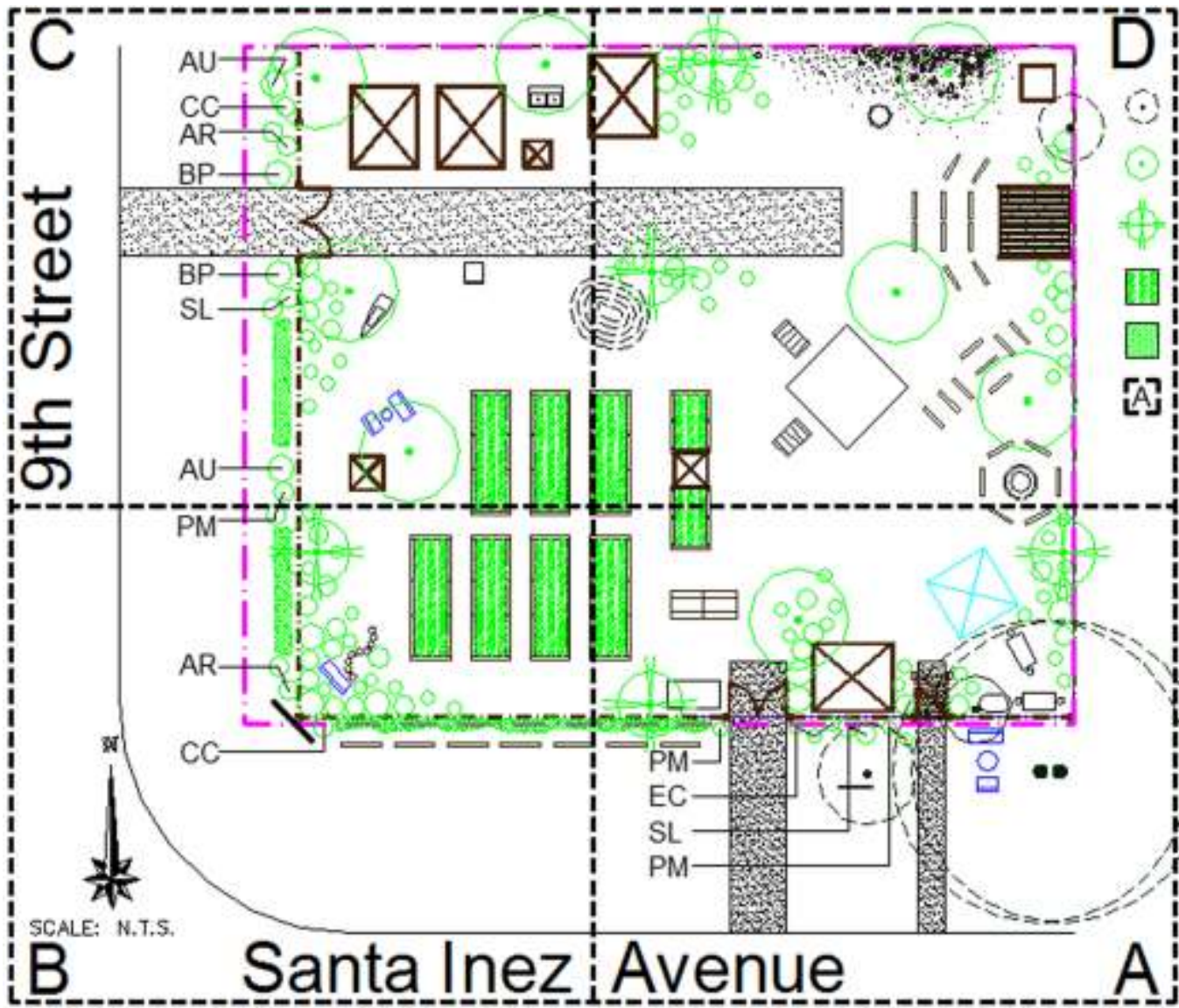


fig. 5.3

FINAL DESIGN



Border Planting Plan

- Existing Tree
- Shade Tree
- Ornamental Tree
- Edible garden
- Sunflowers/pumpkins
- Planting Plan Sections A-D
- AR**- *Arctostaphylos* sp. 'sunset'
(Sunset Manzanita)
- AU** -*Agastache urticifolia*
(Licorice Mint)
- BP**- *Baccaris pilularis* 'pigeon point'
(Dwarf Coyote Brush)
- CC**- *Ceanothus* sp. 'concha'
(California Mountain Lilac)
- EC**- *Eriophyllum confertiflorum*
(Golden Yarrow)
- PM**- *Penstemon margarita* BOP
(Margarita Penstemon)
- SL**- *Salvia leucophylla*
(California Sagebrush)

fig.5.4

FINAL DESIGN

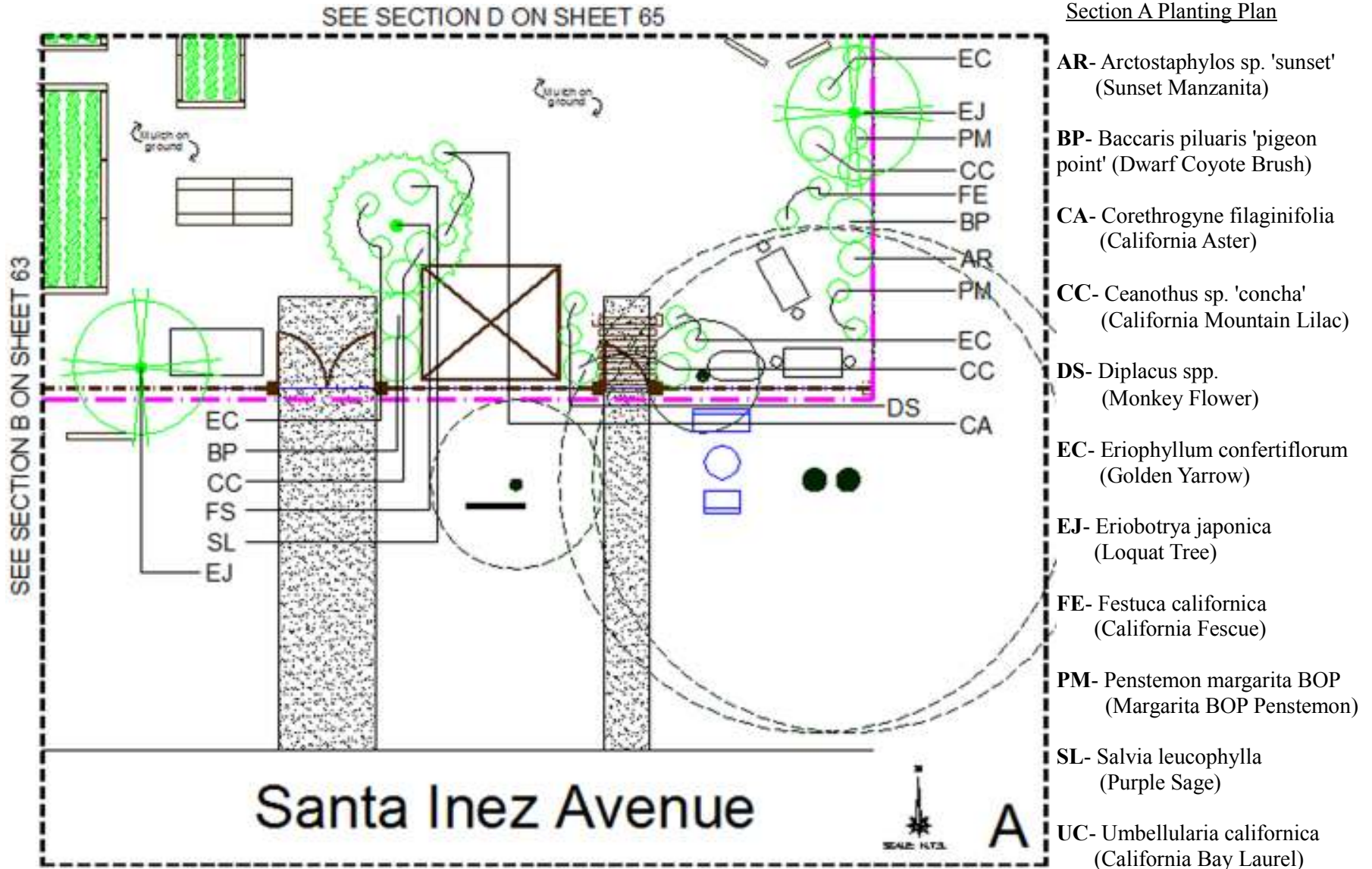


fig. 5.5

FINAL DESIGN

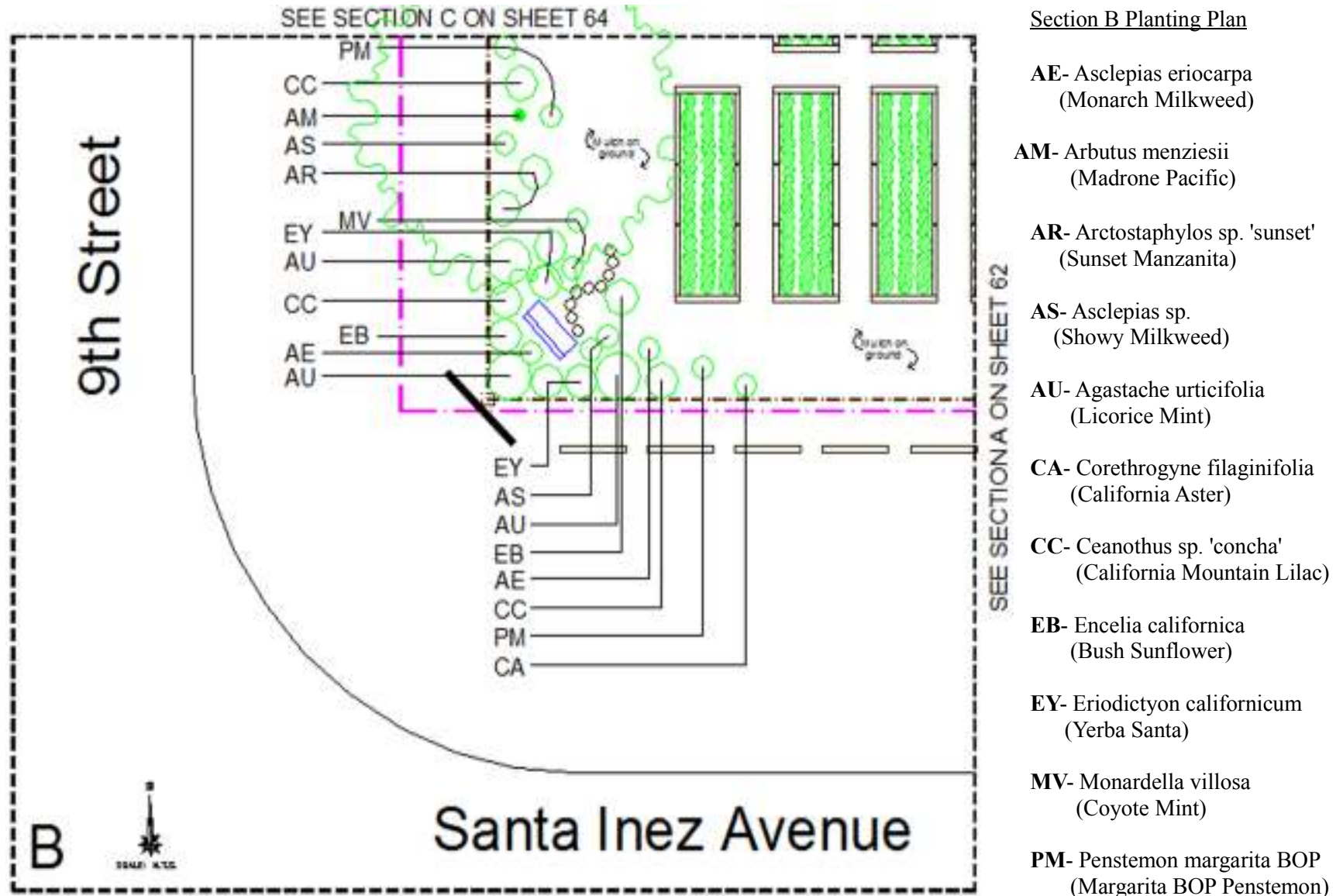
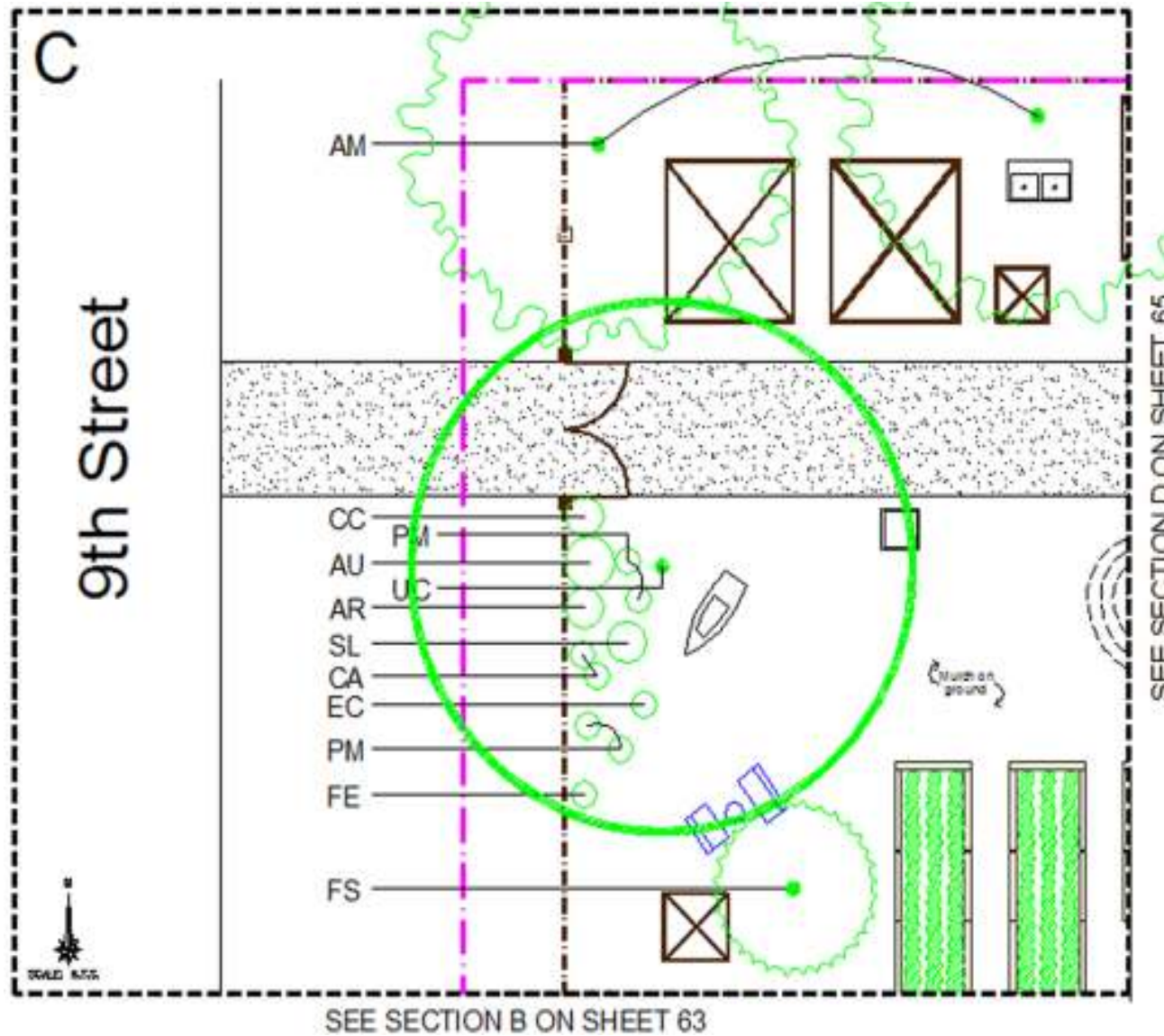


fig. 5.6

FINAL DESIGN

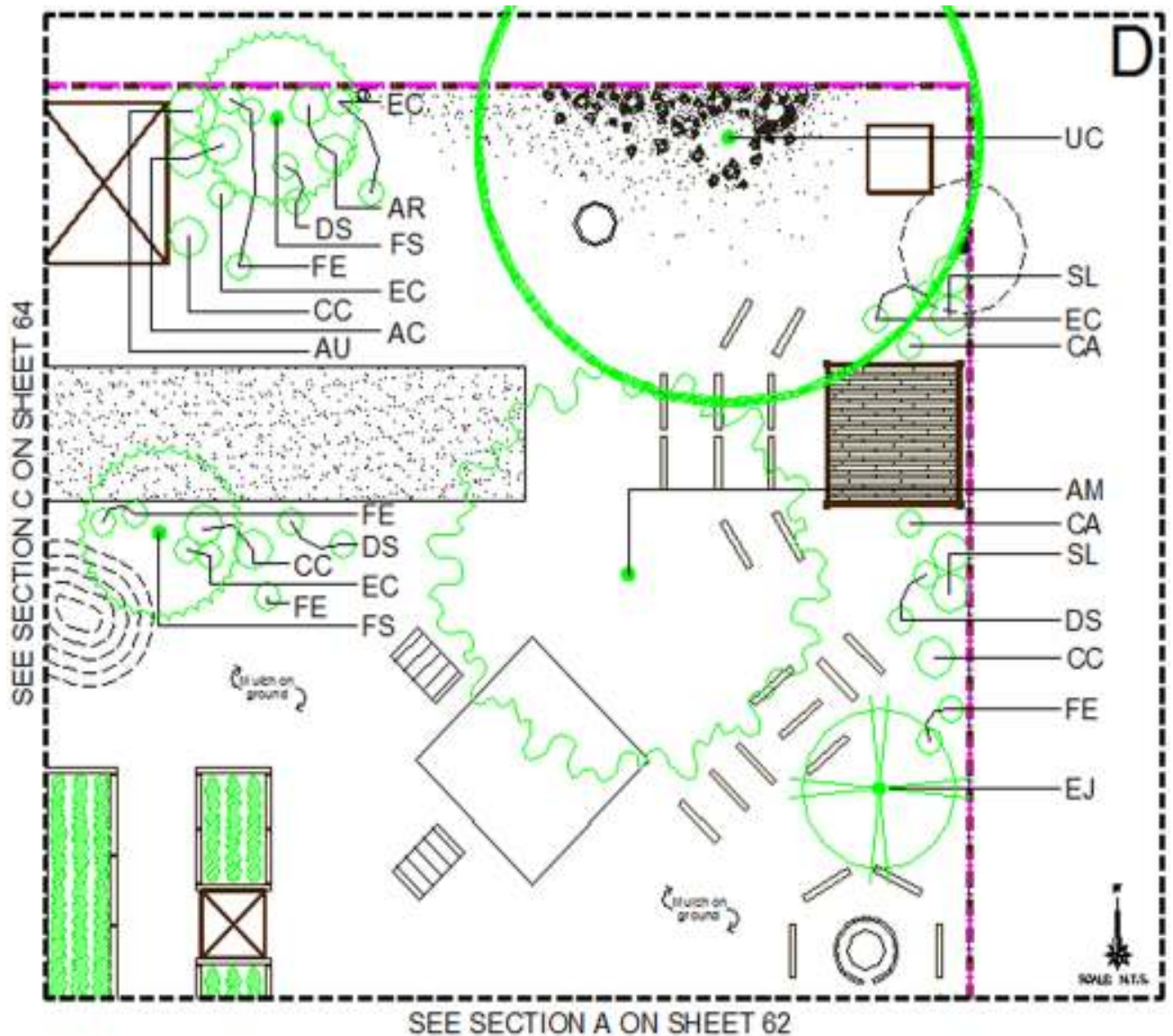


Section C Planting Plan

- AM-** *Arbutus menziesii*
(Madrone Pacific)
- AR-** *Arctostaphylos* sp. 'sunset'
(Sunset Manzanita)
- AU-** *Agastache urticifolia*
(Licorice Mint)
- CA-** *Corethrogyne filaginifolia*
(California Aster)
- CC-** *Ceanothus* sp. 'concha'
(California Mountain Lilac)
- FE-** *Festuca californica*
(California Fescue)
- EC-** *Eriophyllum confertiflorum*
(Golden Yarrow)
- PM-** *Penstemon margarita* BOP
(Margarita BOP Penstemon)
- SL-** *Salvia leucophylla*
(Purple Sage)
- UC-** *Umbellularia californica*
(California Bay Laurel)

fig. 5.7

FINAL DESIGN



Section D Planting Plan

- AC-** Artemisia californica (California Sagebrush)
- AM-** Arbutus menziesii (Pacific Madrone)
- AR-** Arctostaphylos sp. 'sunset' (Sunset Manzanita)
- AU-** Oxidation urticifolia (Licorice Mint)
- CC-** Ceanothus sp. 'concha' (California Mountain Lilac)
- DS-** Diplacus spp. (Monkey Flower)
- EC-** Eriophyllum confertiflorum (Golden Yarrow)
- FE-** Festuca californica (California Fescue)
- FS-** Feijoa sellowiana (Pineapple Guava)
- SL-** Saliva leucophylla (Purple Sage)
- UC-** Umbellularia californica (California Bay Laurel)

fig.5.8

FINAL DESIGN



AC- *Artemisia californica* *fig. 5.9*
(California Sagebrush)



AE- *Asclepias eriocarpa* *fig. 5.10*
(Monarch Milkweed)



AM- *Arbutus menziesii* *fig.5.11*
(Pacific Madrone)



AR- *Arctostaphylos d. 'sunset'* *fig.5.12*
(Sunset Manzanita)



AS- *Asclepias sp.* *fig.5.13*
(Showy Milkweed)



AU- *Agastache urticifolia* *fig.5.14*
(Licorice Mint)

FINAL DESIGN



BP- *Baccaris pilularis* 'pigeon point' *fig.5.15*
(Dwarf Coyote Brush)



CA- *Corethrogyne filaginifolia* *fig.5.16*
(California Aster)



CC- *Ceanothus* sp. 'concha' *fig.5.17*
(California Mountain Lilac)



DS- *Diplacus a. lompocensis* *fig.5.18*
(Lompoc Monkey Flower)



EB- *Encelia californica* *fig.5.19*
(Bush Sunflower)



EC- *Eriophyllum confertiflorum* *fig.5.20*
(Golden Yarrow)

FINAL DESIGN



EJ- Eriobotrya japonica
(Loquat Tree)

fig.5.21



EY- Eriodictyon alifornicum *fig.5.22*
(Yerba Santa)



FE- Festuca californica *fig.5.23*
(California Fescue)



FS- Feijoa sellowiana
(Pineapple Guava)

fig.5.24



MV- Monardella villosa *fig.5.25*
(Coyote Mint)



PM- Penstemon margarita BOP
(Margarita BOP Penstemon) *fig.5.26*

FINAL DESIGN



SL- *Salvia leucophylla* *fig. 5.27*
(Purple Sage)



UC- *Umbellularia californica* *fig. 5.28*
(California Bay Laurel)

FINAL DESIGN



fig.5.29 – Overall Rendered Plan

An Outdoor Classroom Design for the Wellspring Children's Center

FINAL DESIGN



fig.5.30 - South East Corner Rendered Elevation



fig.5.31 – South West Corner Rendered Elevation

CONCLUSION

Design Conclusion



fig.6.1

The overall final design for the Wellspring Children's Center Outdoor classroom was created as a balance between nature and the educational needs of the preschoolers. With the help and support of the parents and teachers a design for the space was created that allows for optimal mobility and learning in a safe and nature based environment. The outdoor classroom can be rearranged and educational tools can be constantly moved around the space. This allows both students and teachers to mold the space to their specific needs. All materials used for the design are nature based and all plant materials (with the exception of fruit trees) are native to California and are drought tolerant. The majority of the plants also attract local butterflies, hummingbirds and birds. Each outdoor component was specifically picked because it provided the goal of child-led activities within nature. The space gives children the ability to learn and connect with nature through various senses such as sight, touch, sound and even taste.

BIBLIOGRAPHY

Banning, W., Sullivan, G. 2011. *Lens on Outdoor Learning*, St. Paul MN: Redleaf Press.

Broda, W. 2011. *Moving the Classroom Outdoors: Schoolyard-Enhancing Learning in Action* New York, NY: Stenhouse Publishers.

Bucklin-Sporer, A., Pringle, R. 2010. *How to Grow a School Garden: A complete Guide for Parents and Teachers*, Portland, OR: Timber Press, Inc.

Carter, M., Curtis, D. 1998. *The Visionary Director: A Handbook for Dreaming, Organizing and Improvising in Your Center*. St. Paul, MN: Redleaf Press.

Chalufour, I., Worth, K. 2003. *Discovering Nature with Young Children*. St. Paul, MN: Redleaf Press.

Danks, F. 2006. *Nature's Playground*. London: Frances Lincoln.

Dannenmaier, M. 1998. *A Child's Garden: Enchanting Outdoor Spaces for Children and Parents*. New York: Simon & Schuster.

DeBord, K., Hestenes, L., Moore, R., Cosco, N., McGinnis, J. 2005. *POEMS: Preschool Outdoor Environment Measurements Scale (POEMS)*. Lewisville, NC: Kaplan Early Learning Company.

Dinger, D., Johnson, J.A. 2012. *Let Them Play: An Early Learning (Un)Curriculum*, St. Paul MN: Redleaf Press.

Eriksen, A. 1998. *Playground Design: Outdoor Environments for Learning and Developments*. New York: Van Nostrand Reinhold.

Keeler, R. 2008. *Natural Playscapes*. Redmond, WA: Exchange Press.

Louv, R. 2005. *Last Child in the Woods: Saving our children from nature-deficit disorder*, Chapel Hill, NC: Algonquin Books of Chapel Hill.

BIBLIOGRAPHY

- Moore, R., Wong, H. 1997 *Natural Learning: Creating Environments for Rediscovering Nature's Way of Teaching*. Berkeley, CA: Mig Communications.
- Nelson, E. 2012. *Cultivating Outdoor Classrooms*, St. Paul MN: Redleaf Press.
- Nelson, E. 2004. *The Outdoor Classroom: Program Development and Staff Training Guide*, La Canada, CA: The Child Educational Center
- Olds, A.R. 2000 *Child Care Design Guide*. New York: McGraw-Hill.
- Shuttlesworth, D.E. 2010. *Exploring Nature with Your Child: An Introduction to the Enjoyment and Understanding of Nature*. Charleston, SC: Nabu Press.
- Stine, S. 1997. *Landscapes for Learning: Creating Outdoor Environments for Children and Youth*. New York: John Wiley & Sons.
- Tai, L., Haque.M., McLellan, G., Knight, E. 2006. *Designing Outdoor Environments for Children: Landscaping School Yards, Gardens and Playgrounds*, New York, NY: McGraw Hill Books.
- White, J. 2011. *Outdoor Provision in the Early Years*, Thousand Oaks, CA: Sage Publications, Inc.