

Park Design: Concepts and Illustrations

*A Cape Town
Project Centre
Publication*

2013



WPI

Preface

This document was created by Lucine Bahtiarian, Tyler Collins, Katherine Connors, and Zachary Goddard as part of the Interactive Qualifying Project (IQP) at Worcester Polytechnic Institute. The project was based in the Maitland Garden Village community, Cape Town, South Africa. The project entailed working with community members and the City of Cape Town City Parks Department to redevelop a community park. The information and examples found within this catalogue were used to show the array of possibilities to the community and City Parks Department to aid in producing the final design of the park.

For a more detailed look at this project please visit: <http://wp.wpi.edu/capetown-2013/projects/2013-2/park-redevelopment/>.

In the case that the webpage link changes please visit the following webpage and the appropriate links indicated here:

<http://wp.wpi.edu/capetown> → Projects → 2013 → MGV Park Redevelopment

The content of this catalogue may be used by anyone so long as credit to the source is given.

For any questions, suggestions, or inquiries into editing or adapting this document please contact the Cape Town Project Centre at ctpc@wpi.edu.

Table of Contents

PREFACE	II
TABLE OF CONTENTS	III
INTRODUCTION	1
THE IMPORTANCE OF PARKS.....	1
A NATURAL DESIGN.....	2
A NOTE ON INFORMAL SETTLEMENTS	2
SECTION 1: PLANTS AND TREES.....	3
TREES	3
GRASS	4
PLANT LIFE.....	5
SECTION 2: SHADE	10
TREES	10
TEMPORARY SHADE OPTIONS.....	11
PAVILIONS	12
SECTION 3: SPACE CONTROL OPTIONS.....	13
CEMENT WALL.....	13
<i>Stone and Cement Walls.....</i>	<i>14</i>
<i>Mosaic / Painted Walls</i>	<i>14</i>
ENTRYWAYS.....	15
WALL PLANTER.....	15
WOODEN FENCING	16
PILLAR AND STEEL ROD FENCE.....	17
STEEL PALISADE FENCING.....	17
CEMENT BOLLARDS.....	18
WIRE FENCE	18
PLANT / NATURAL BARRIERS	19
HEDGING	19
SECTION 4: SEATING AND OUTDOOR FURNITURE	20
BENCHES	20
BENCHES WITH TABLES.....	21
NATURAL SEATING.....	22

SECTION 5: PATH OPTIONS	23
PAVING STONES:	23
RED CLAY/GRAVEL	23
ASPHALT:	24
CEMENT:.....	24
WOODCHIPS:	24
SECTION 6: PARK PLAY ELEMENTS	25
CLIMBING STRUCTURES	25
<i>Traditional:</i>	25
<i>Wooden Climbing Structures:</i>	26
<i>Rope Climbing Structures:</i>	28
<i>Rock Wall Structures:</i>	28
COMBINATION PLAY-STRUCTURES.....	29
OUTDOOR GYM EQUIPMENT.....	31
TRADITIONAL PLAY EQUIPMENT	33
<i>Swings</i>	33
<i>Slides</i>	34
<i>See-Saws</i>	35
SECTION 7: WASTE COLLECTION.....	36
REFERENCES	37
APPENDIX A.....	38
STEPPING STONES.....	39
ARCHWAYS	40
SPACE FOR TRADITIONAL GAMES.....	41
BALANCE BEAMS	42
SANDBOX / SANDPIT	43
HOPSCOTCH.....	44
DANCE FOOTPRINTS	45
TIRE SWING	46
FOUR SQUARE	47
TIRE GARDENS	48
APPENDIX B.....	49

Introduction

This document is meant to serve as an aid in park design. The various park elements are broken down by category such as shade, seating, plants, play equipment, and pathways to name a few. The items in this catalogue are from the greater Cape Town area and reflect the equipment and park design styles of the area. Not all of the items included here will suite any given park or green area. The needs of the surrounding community as well as available resources are key factors that will dictate what elements are appropriate to include in park design.

The goal of this catalogue is to provide groups or individuals with a range of possibilities to aid in the creative park design process. Emphasis has been placed on the benefits play has to early childhood development as well as promoting a natural design.

The Importance of Parks

Parks play an important role within society and even more so in the community in which they are located. One of the most important roles of a park is to promote early childhood development through play.

The impact of park play on early childhood development encompasses more than what meets the eye. Children learn and develop through play, so it is important to provide a wide range of activities for them in a play area. A variety of play activities encourages children to explore and experiment, providing opportunities for them to reach their full potential in physical and social development. Many play theorists base their work on an acronym, SPICE, which encompasses many aspects of development. SPICE stands for social interaction, physical activity, intellectual stimulation, creative achievement, and emotional stability. This acronym can be applied to the development of play areas to optimize the potential for childhood development through play. For example, SPICE can be used to assess the developmental potential of a simple activity such as digging a hole in the sand of a play space. The child can express creativity in the way he or she goes about digging. They could be digging for treasure, skeletons, or digging to the centre of the earth. As the purpose for digging evolves, intellectual stimulation can occur and result in the development of new motives for digging in creative ways. Through body language and emotion, they can send cues to other children to engage with them and even involve adults by asking them to help enlarge the hole or prevent it from caving in. The endless possibilities of motives for digging a simple hole provide opportunities for self-expression, exploration, experimentation, innovation, social interaction, and creativity, essential components of healthy development. A playground design can incorporate SPICE through a flexible environment. Flexible environments encourage the development of flexibility and creativity in problem solving within children. The level of flexibility that a child develops affects their ability to solve problems and the level of control that they are able to exercise when faced with difficult situations. In a flexible play area, children have the freedom to experiment. This leads to the development of positive feelings and self-confidence. They become more confident to take risks and their reactions to day-to-day problems become more varied. The positive feelings and experiences encountered in a play park enhance self-confidence, self-awareness, and self-acceptance (Brown & Ebrary Academic Complete, 2002).

A Natural Design

One major consideration throughout the design process is to portray an overall feel or theme throughout the park. Much research has been done exploring different approaches to park design. Our research has emphasized that a more natural, landscape based approach is the ideal design tactic. This is in favor over the more traditional based playgrounds which can be described as “consisting of a kit of fixed play equipment, with a fence surrounding it and a carpet of rubber surface—a Kit, Fence, Carpet (KFC) playground” (Woolley, 2007, 2008). Natural park design provides a creative stimulus for children and supports both physical and social development.

Evaluating the relationship between park elements and their environmental significance is another important aspect of the park design process. The questions that must be addressed during the evaluation stage include: Does the area contain a variety of possible play activities? Does the area contain natural elements that allow for movement and create the freedom to explore? Is the area intellectually or physically challenging? Do the park elements within the area provide learning opportunities? Is the area inviting for people of all ages?

A Note on Informal Settlements

The rise of informal settlements throughout the world and notably in Cape Town, South Africa, has created a need to reevaluate the way living and community space is utilized. A park is often considered to be a fixed location that contains strongly founded play equipment. However, the nature of the informal settlement does not lend itself to a formalized park design. There is often a lack of structure in space management and organization in these areas. These areas are the spaces that have the potential to benefit the most from what a park is able to provide, specifically activity that promotes the physical and social development of children

Government and non-governmental organizations have addressed the importance of upgrading informal settlements and are working to meet the concerns of these communities. Informal settlement upgrading presents a challenge and a unique opportunity in regards to parks. To create a structured park in an area that may be reblocked in the near future may not be feasible. However, it is possible to create the same benefits of a permanent play park in an unstructured area. This type of park design mainly involves moveable play structures made from resources that are available within the community. Attached to the end of this catalogue is a book entirely dedicated to creating parks and play structures with tires; a resource common to most locales. There are also many elements within this book which are designed to be moved from place to place and used in creative ways to stimulate childhood development. These types of park elements gives children the opportunity to continuously grow as the infrastructure of their community evolves.

Section 1: Plants and Trees

Trees



Planting trees is one of the first steps towards creating a green and natural environment. They not only provide shade from the harsh sun, but they also can be used to define a space. A tree can be the focal point of a small section of space in a park such as a seating or picnic area. Trees along the edge of a path can help outline the space in a natural way that can also provide shade during certain parts of the day. The planting of trees is often a long term process, as trees take time to root and grow into plants that provide sufficient shade. Some trees grow faster than others and their placement in a designated seating area may be more important than in open space areas. An even distribution of trees in multiple creates a varied landscape within the park. Different types of trees can have various colors and take different shapes as they grow, adding variety to a park space. This provides visually stimulating scenery for people in the park or just passing by.

Grass

The kind of grass placed in a park is important to consider. One option is to nurture the grass that is already in place by weeding, watering, and cutting back overgrown areas to create an ideal space. Another option is to plant new grass, giving it sufficient time to take root before large amounts of activity take place on it. There are several different kinds of grass that could be planted in Cape Town parks, each of which has different properties making it ideal for different locations and expected use patterns.



Buffalo Tough: Requires little mowing



Buffalo 'Sapphire': A softer variety of Buffalo grass



Seaspray: Good for areas that are near the coast



Princess: A drought tolerant grass which can also withstand high traffic

Plant Life



Cyperus

This is one of several water friendly plants which could find a home in a flooding prone region of a park. It is a tall plant and would look aesthetically pleasing at the edge of a fence or wall with smaller plants in front. Cyperus has the added ability to purify the water it grows in, ensuring that any standing water will be clean while the plant resides in it.



Thatching reed

This is an ornamental plant used in gardening and landscaping. It is found in many areas around Cape Town. It is a hardy plant and able to be exposed to full sun.



Carex bronco sedge

The carex sedge is used mainly as a decorative element as a way to bring out the green or bright colors of surrounding plants. It grows in tall clumps and is tolerant of dry conditions, making it ideal for an area that faces intense sun.



Dwarf mondo grass

This is another kind of plant that is well suited for damp areas. It is considered to be a half hardy plant, withstanding some dry conditions.



Bamboo

Bamboo is a quickly growing green plant which is native to southern Africa. It has many commercial uses but can be used in landscaping since it does not require much maintenance.



Cactus

Cactus plants are good for landscaping because of the small amount of maintenance required. They need very little water while still bringing color and beauty to a space. The thorns also prevent animals and people from interfering with the plant.



Aloe

Aloe is another plant that provides an added benefit to its use in landscape design. Its juices are used as a medicinal aid. The plant itself is very hardy, requiring only a small amount of water as well as being able to stay in direct sun and heat. For variation of design it also grows as a tree.



Lampranthus spectabilis

This type of plant comes in a wide variety of shapes and sizes which provides the opportunity for a high level of variation of design in a space. These plants are tolerant of direct sunlight, consume little water, and require almost no effort to maintain.



Portulacaria

A drought-tolerant plant enduring direct sun and heat. This plant also has one of the highest carbon dioxide to oxygen conversion rates, making it an environmentally friendly plant choice.



Banana tree

Banana trees are well suited for the climate of South Africa and have the added benefit of producing fruit if well maintained and cared for. The plant itself has large leaves which can provide some level of shade for open spaces.



Olive trees

Fruit bearing trees can be useful in parks as a way to provide food to the community. Olive trees are well suited for dry, sunny environments and do not require much water. The low level of maintenance require to maintain these trees would make them well suited for a park that does not have a permanent caretaker.



Rosemary, Mint, Basil

Planting herbs in one section of the park can be a good way to create an interactive environment. While requiring more maintenance than some of the other plants, community members can come in and use the plants for cooking.



Gazania

This kind of flowering plant is often used as a drought tolerant ground cover. It flowers for most of the summer producing orange and yellow flowers. It can be easily spread by dividing the plant and replanting the second half.



Scarlett ribbon

A flowering plant suitable for sandy loam soil conditions and a dry environment. This is a good plant for adding color to a park without the need for much water. It is also able to withstand full sun.



Crane flower

A native South African flowering plant. It thrives in dry and sunny conditions, producing flowers after being well established for a few years. The flowers are long lasting and the plant can flower a few times in a year. The plant provides a beautiful landscape element for very little maintenance.



Lavender

Ornamental for use in landscaping, lavender presents a sweet smell which can stimulate those passing by.



Jasmine

Jasmine is one example of a climbing plant that could be grown at the base of a shade structure. It would grow up the supports onto the structure and provide a natural way of blending the structure into the environment. Jasmine has a pleasurable fragrance which would be easily carried by the winds in the park.

Section 2: Shade

Shade is an important factor when considering the layout of elements within the park. There are two main ways of achieving shade: trees and other plant material or built structures. Trees are a natural way of achieving shade, but it may take a few years for trees to grow and provide a decent amount of shade. On the other hand, built structures may be costly, unsightly if not well designed, and may not last as long as a healthy tree.

Trees



Trees with thick leaves that grow up and out would be ideal for shade giving trees. The tree above is casting its shadow around noon so there is a large amount of shade around the entire tree. Since it has a large canopy, even in the morning or evening sun the tree will provide shade to some area of grass.

Temporary Shade Options



One option for a built structure to provide shade for seating is shown above. A wooden slat roof allows some light through, but not nearly as intense as if there was nothing overhead. A similar structure could be erected over seating placed in the park while the newly planted trees grow. An elegant enough design could be left in place to become a part of the permanent seating. The material of the structure would have to be considered since the park will be open. Wood and metal are targets for theft which does not leave many cheap options for building material, however that does not rule out these materials. Community involvement in the construction process will help give incentive to keep the structure intact and well kept.

Pavilions



A more formalized structure to provide shade is a pavilion. Whether small or large the pavilion provides a space for seating and potentially table space under a solid or slat canopy. The construction of a pavilion in a park depends greatly on the space available in the area and the need for one by the community. Even a fairly small structure may dominate a park if there is not enough open space to counter the building. The seating structure should be enhancing the park or complimenting the existing features of the park rather than becoming the focal point and the only used aspect of the park.

Section 3: Space Control Options

Cement Wall



The three images here represent the kind of wall that could be constructed along the perimeter of Perseverance Park to serve as a barrier between the park and the road. This option not only prevents small children from running into the road and balls from rolling into the street but will also provide seating. The lack of a defined seat gives people the option to look into the park or out of the park to Table Mountain or other areas of interest. This is a simple option comprised only of concrete and bricks. It will be difficult to damage or steal and provides a framework for future improvement. The concrete surfaces could hold mosaics created by people in MGV or a stone façade could be imposed to give it a more elegant look.

Stone and Cement Walls



These images show the different possibilities offered by using a concrete wall with either stone or brick surface. In either case the barrier can be curved or straight allowing for variations to be made or for the structure to fit into the environment.

Mosaic / Painted Walls



This image shows that a thinner concrete wall can be erected in the middle of the wall to provide a back for seating on both sides and also a place for art. In this example there is a mosaic, but painting or other forms could be used, depending on the available resources.

Entryways



This shows that the entrances to the park could have more defined features. Pillars could mark the entrance and serve as a place for a sign indicating the name of the park or as a place for murals or mosaics. The second image shows how concrete pillars can be incorporated into a fenced area. In this case, the pillars serve as an indication that this is the entrance and brings the focus to the opening of the park.



Wall Planter



An easily implementable option for the cement wall would be planter boxes spaced throughout the wall. Like the one shown above, there is still space for seating and it maintains the function of a barrier but adds to the aesthetics of the park. This will also provide shade once the tree has grown which will give a relaxing, cool space for seating along the edge of the park. These kinds of planter boxes will help break up the possible uniformity of the wall while providing functionality.

Wooden Fencing



Wooden fences are a nice natural option, however it is easier to vandalize and damage the fence. There are many different kinds of wooden fences available ranging from an informal design to a more formalized structure. The three images here display that range. The first is made of many small branches or sticks, the second of larger split logs and the last made of processed posts and boards.

Pillar and Steel Rod Fence



Since this option is a shorter and a more open fence it acts as a separator between the park and the street without restricting the movement or view of those in the park. It also provides the space underneath the rods in which plants can be grown without being trampled.



Steel Palisade Fencing



Steel palisade fencing is an effective, non-natural barrier between the park and the space outside the boundary. It is also a durable, low maintenance option making it more cost effective. However, it is not as aesthetically pleasing to look at because it effectively disrupts a person's line of sight in or out of the park.



Cement Bollards



This fencing option is good for preventing vehicles from driving onto the park however they act as no restraint to keep small children from running out of the park.

Wire fence



This is an example of a wire fence which is similar to the steel palisade fencing, but is more aesthetically pleasing. However this kind of fencing is more expensive than steel palisade fencing making it less ideal for a park with a limited budget.

Plant / Natural Barriers

Plant material offers an option that most may not consider to be a fence. However hedges or trees can act as a barrier without actually looking like one.

Hedging



Hedging can be used as a method for separating spaces and creating barriers. This kind of barrier is more natural than a fence and even more natural than a stone wall. Some types of hedges require little maintenance but can provide stimulation through smells and colors when they flower. A hedge is a soft barrier, restricting movement but not causing harm from running into it. Hedges still prevent balls from rolling into the street from the inside of the park. One of the downsides to using this kind of barrier on the border of the park would be the lack of seating it provides. The hedge provides only one useable function, which is to separate spaces.



Section 4: Seating and Outdoor Furniture

Benches

There are many different kinds of seating options seen throughout the parks in Cape Town. One of the most common options was the straight bench with no table. There are several different kinds of this style bench, a few of which are illustrated above. Some are entirely metal, either painted or left bare. These stand out in the park as well as get hot in the sun and could be stolen and sold for scrap if not properly observed.



The second style is a simple flat bench with no back. This provides users with the opportunity to choose which direction they are facing when seated. While this would be less important for a bench along a wall or fence, a flat bench in an open space gives people the opportunity to view their children playing or enjoy a distant view. Some of these benches are made entirely out of concrete but some have wooden tops. The wooden tops may be a target for vandalism as they could be used for firewood. The third of these style benches is a concrete bench with a back. This limits the possible seating options. Another options is the simple concrete U shaped bench. This kind of bench is inexpensive and provides a more open set of options for seating.

Benches with Tables



Picnic tables are seating options common to most parks in Cape Town. The main difference of the picnic tables is the material it is made. Wooden tables are a target for vandalism because they can be dismantled for use as fire wood or other needs. The wooden tables are often more aesthetically pleasing because they have a more natural look and match a more natural park design with trees and other greenery.

However, the concrete benches provide a more maintainable structure because concrete is not as valuable of a material to steal. These benches would also be longer lasting with the least amount of cost going in to the upkeep. The concrete tables and benches could also be painted by community children or members with bright colours or murals to add to the beauty of the space.



Besides the traditional rectangular picnic tables, there are round table options seen in other parks with different styles of seating. Some appear as flat mushrooms with disks on pedestals for the larger table and then the smaller seats. The bottom two images have a similar disk shaped top made of concrete but the seats resemble bollards which prevent cars from driving onto sidewalks or other pedestrian pathways. These tables are sturdier than the mushroom designs because they have a thicker base and the chairs are much simpler. The mushroom tables were often broken, missing either the table top or seat tops.

Natural Seating



This seating option looked as if it could have been trees already in place which were then cut down to make proper seating. A thick stump serves as the table of sorts for four (or less) smaller stumps for seats. This kind of seating blends into the park, creating a more appealing sight.

A few of the seating options represented a much more natural design which appeared to be a part of the park rather than something sitting on top of the park. The first image above has three parts which form a simple yet useful arrangement. A short concrete cylinder forms a table which can remain open or like the image above, have a chess board affixed to the surface. On either side of the cylinder are wooden posts embedded in the ground to form seats. The wood cannot be easily removed and the materials to make this kind of seating are inexpensive and not difficult to install.



Section 5: Path Options

Paths are an important part of parks because they influence the flow of movement throughout a space. For example, they can bring people to use areas that they might not have used otherwise. Paths can also help to emphasize and designate different areas and spaces. The area on one side of a path might be designed for smaller children, while the other side could target a different age group. Curving pathways intrigue the mind, and encourage exploration.

Paving Stones:



Paving stones are an attractive option for the pathway. They provide a durable surface that will resist erosion, and can be configured into many different patterns. They can be expensive to install, but can be implemented overtime over a simpler path.



Red Clay/Gravel



This pathway is simple and inexpensive, yet looks attractive when lined with brick or paving stones. This option also leaves an opportunity for upgrading in the future to a full paving stone pathway.



Asphalt:



Asphalt paths are simple and have a fairly long life expectancy of 7-15 years, but will require occasional maintenance to fix cracks. It also may not compliment a natural landscape as well as other options.

Cement:



Cement is very durable, lasting up to 25 years. However it is expensive.

Woodchips:



Compliments a natural landscape well, however it does not accommodate for wheelchair use and requires constant maintenance to keep it in good condition. They will also need to be replaced every two years.



Section 6: Park Play Elements

This section will cover the many kinds of equipment and structures which can be used for play in park. There is both traditional park equipment as well as some non-traditional equipment which reflects an emphasis on natural design and the importance of Early Childhood Development through play.

Climbing Structures

Climbing structures take many forms from the traditional metal square or orb-like structures, to more creative and unique wooden structures. These promote physical development as children climb, as well as creative development as children use their imaginations to turn the structure into a fantasy play-scape.

Traditional:

Metal Rectangular Climbing Structure



These traditional climbing structures are seen in many playgrounds and parks around Cape Town and around the world. They are often painted to prevent the metal from heating up in the sun and providing a brightly colored sight for children. These structures come in a few different styles, but most are of a standard design which does not emphasize the creative possibilities which climbing structures can provide for children.

Metal Orb Shaped Climbing Structure



Wooden Climbing Structures:

VPUU Wooden Monkey Bars



These structures represent not only a more creative design approach to common climbing play structures, but also a more natural design. Both of these structures provide more freedom to choose the kind of play that occurs while maintaining the developmental benefits.

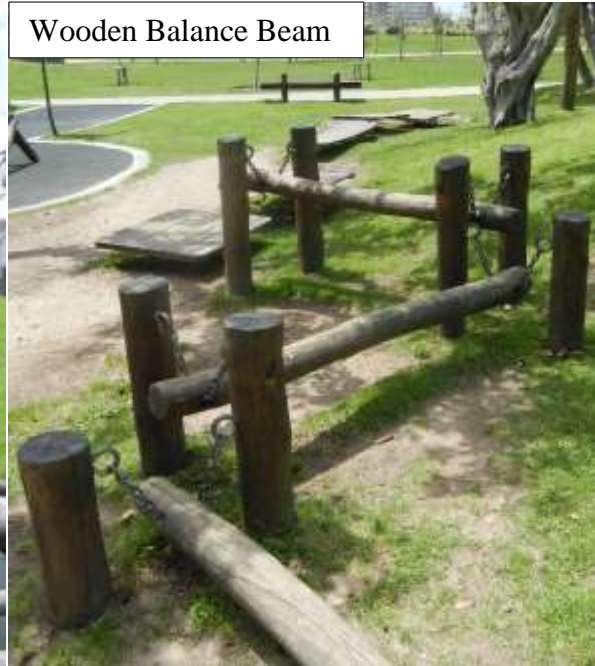
VPUU Stick Pile Structure



GPP Free Form Wooden Structure



Wooden Balance Beam



Wooden Poles w/ Uneven Steps



These Structures further show the creative possibilities for climbing structures in parks. The free form structure allows free play in the form or climbing or incorporating the structure into a more adventurous kind of play.

The balance beam and wooden poles with uneven steps allow children to move about around the play space while developing gross and fine motor skills while balancing on the structures. These kinds of structures in general address at least physical, intellectual, and creative development needs of children.

Rope Climbing Structures:

Spider Web Rope Structure



Rope Climbing Structure



Balance Ropes on an Incline



Rope is a simple material which can be used in a variety of ways to enhance or create play structures. The examples here show a few of these different ways such as a stand-alone climbable structure like the spider web, as a part of an overhead climbing triangle like a bridge, or as connections between vertical poles to be used as balance beams.

Rock Wall Structures:



Wooden Climbing Wall

Rock Climbing Wall



When space and safety considerations allow, a climbing wall may be an appropriate approach. The two major kinds of these for playground or park spaces are illustrated here. The first being one which is a part of another play structure. The other is one which stands on its own. The one which stands alone can become a space for artwork such as a mural or as a way to separate spaces without doing so in an unsightly way.

Combination Play-Structures

Combination play-structures provide a unique area that brings together a number of different playground elements. They can range from simple to complex, standard to adventurous. Children have free reign to imagine the spaces as they would like, and incorporate them into their fantasy play. These structures often have many methods of entry allowing children choose the paths they take. They also generally have wooden platforms with roofing to provide shade, and to make the structure feel more enclosed.



These play structures are constructed from wood and includes many elements including a number of slides, wooden and tyre bridges, rope netting bridges, monkey rings, and different entry points for climbing up into the structure.



Two more examples of combination play structures are seen here. One has a covering to provide shade on the platform while the other is entirely exposed to the sun.





The structure to the left was built out of wood on top of a small mound covered in rubber matting. It is composed of one large wooden platform with two rope net ladders and a plastic slide. This structure was unique because of the uneven terrain it was built on, and the way the wood beams branched up farther than necessary to emulate trees.



These images depict another combination play-structure in Green Point park. It was designed with a natural theme in mind. Again, the wooden beams continue up beyond the structure to emulate trees. The structure sits on top of rubberized matting that is slightly uneven. It is composed of wooden bridges and platforms, with numerous entry/exit points including a rope net, wooden ladder, a plastic half tube with climbing holds, three plastic slides, and a climbing wall.

Outdoor Gym Equipment

Outdoor gym equipment provides a unique way to utilize an outdoor space. Outdoor gyms are composed of all-weather gym equipment that is free to use by the general public. These spaces promote health and fitness and are a distinct way to engage older youth and adults in an outdoor area.

Sit-Up Bench



Dip Machine



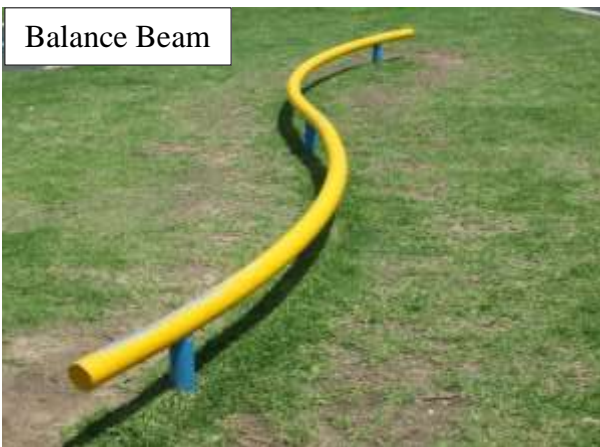
Horizontal Ladder & Pull-up Bars



Air Walker Machine



Balance Beam



Shoulder Rotation Machine



Air Skier Machine



Lat Pull-Down Machine



Oblique Raise Machine



Traditional Play Equipment

Swings



Swings are a traditional play structure which many find to be a staple of playgrounds and parks. While they can be seen in many places, there is a lot of opportunity to make swing sets unique structures, whether from materials used or adapting for the age group using them.



The large log swings pictured above represent a natural design, utilizing available material that will need little maintenance in terms of painting. There can also be differences in the type of seat used on the swings. A consideration for younger children is the basket style seat. These seats have more supports preventing children from falling out which would be an idea for a toddler swing set. The other kind of swings pictured above show a common tire seat which is more open and ideal for older children using the play structures.

Slides



Slides come in a variety and types. One end of the spectrum features a free standing metal slide which is often brightly coloured, but provides little other stimulation beyond the physical. The opposite end of the spectrum features slides that are integrated into a combination play structure that can provide far more stimulation for children. Children now have more options for play than simply going up and down a slide. The image to the bottom left features a slide built into a low hill which features the natural design by utilizing the present landscape features.



See-Saws



See-saws are a great way to promote not only physical development, but also to encourage social development through working together. Equipment that allows for more than two children to play at once would be ideal to keep more kids engaged, but if only a few can play at once they will learn how to wait their turn.



Section 7: Waste Collection



These are examples of some of the standard bins that are found throughout parks in Cape Town. The green Zibbi bins are throughout the city as an initiative to keep all of Cape Town clean. Recycling can also be considered as an option moving forward with waste management in the park.



Beautifying cement trash cans can liven up a park space. The two examples illustrate what can be done with mosaics to send positive messages. This kind of improvement could be done after cement bins have been installed as a project undertaken by the community. The mosaic, made of tiles, will last longer than paint would.

References

Stepping stone craft ideas:

<http://www.creatingreallyawesomefreethings.com/c-r-a-f-t-42-stepping-stones/>

Balance Beam Picture

http://www.yelp.com/biz_photos/steven-day-park-longmont?select=mSxTe1tpWGW1rpiRAe0kA#mSxTe1tpWGW1rpiRAe0kA

hopscotch

<http://embraceyourchaos.com/2012/12/101-ways-to-play-31-hopscotch/>

four square pic

<http://seldomred.com/mike/?p=48>

tire garden

<http://birdsandbloomsblog.com/2012/03/31/recycled-backyard-tire-gardens/>

carex bronco grass

<http://soquelnursery.com/grasses.html>

thatching reed

<http://www.emerisa.com/product.aspx?p=12754>

gazania

http://upload.wikimedia.org/wikipedia/commons/1/13/Starr_070320-5745_Gazania_rigens_var._rigens.jpg

basil

<http://www.hort.purdue.edu/ext/senior/vegetabl/images/large/basilplant2.jpg>

olive tree

<http://www.greatdreams.com/blog-2013/olivetree.jpg>

crane flower

<http://pics.davesgarden.com/pics/2007/12/09/htop/83d62f.jpg>

jasmine

http://4.bp.blogspot.com/_SptexNJx0hE/SQg63v3LtGI/AAAAAAAAAZc/7LG_g15L-x4/s1600-h/Jasmine.JPG

Appendix A

The following section is a series of park elements which have been extracted and adapted from “Early Childhood Development Emthonjeni Outreach Programme For Monwabisi Park”. This was a project done by a past Cape Town Project Centre Team in 2010.

Stepping Stones



Description:

Stepping stones will serve two purposes in the park. The first will come from the process of creating the stones with members of the community and then the formation of a path using the stones. Making the stepping stones will take about an hour from mixing the concrete to finishing a design or pattern on them. The cement needs 30mins to set in the mold which can be done before participants arrive or the time can be used for people to gather materials and plan what they would like to have on the stones.

Purpose/Development:

The activity of creating the stepping stones will be a good way of involving the community in a small improvement in the park. The stones will be small elements that people can take individual ownership of and have pride for. The sense of ownership will help with the maintenance of the stones because damage will feel personal and people will hold each other accountable. The placing of the stones in the park would be an easy way to show that it is not too difficult to make changes to the park and begin the improvement process.

Materials Required:

1. 5 gallon bucket
2. Quick set concrete
3. Trough
4. Aluminum pie tins or plastic molds
5. Chicken wire for strengthening the stones (optional)
6. Glass or beads to set into the concrete (optional)

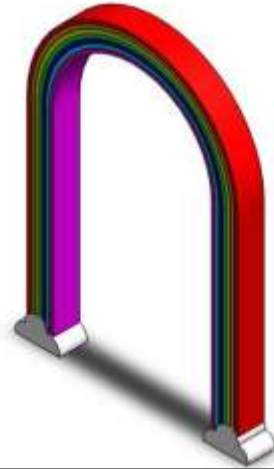
Space Requirement:

Each stone would be between 9 and 12 inches (or smaller depending on the mold).

Maintenance Required:

None after the cement has set

Archways



Description:

Clear entrances and exits will direct the movement of traffic in and out of the park. The arches themselves can be designed to attract community members of all ages. For example, a colorful arch would attract children into the park. Reading the words “Welcome” and “Good-Bye” in different languages on either side of the archway may grab the attention of older community members. The entire community can be involved in the process of painting and designing the archways to fit the culture of the Maitland Garden Village community.

Purpose/Development:

Archways promote cognitive development as children examine the themes incorporated into its painting and presentation. They also encourage emotional and social development, defining the park as a safe play environment for children.

Materials Required:

1. Wood or metal for creating the archway
2. Paint to make the arch colourful and stimulating.

Space Requirement:

An archway should occupy two 0.5 m x 0.5 m patches on the ground, 1.5 m apart from each other. They are most often found in outdoor settings.

Maintenance Required:

Little to none.

Space for Traditional Games



Description:

An open space in the park would encourage children to participate in traditional childhood games such as puzzles, chess, checkers, or marbles. The children could set up games that they bring from home on either a patch of grass or cement.

Purpose/Development:

Traditional children's board games enhance fine motor skills as those who participate engage in hands-on activity. Creativity and imagination are stimulated as children handle game pieces of various shapes and colors.

Materials Required:

The designated play area can be marked off or decorated with chalk and paint if the space allows.

Space Requirement:

No specific requirements.

Maintenance Required:

Little to none.

Balance Beams



Description:

Balance beams can be incorporated throughout Perseverance Park, taking any shape that the landscape permits. They can also be used to encourage movement within the park, leading from one area of the park to another. Balance beams can be straight beams or wind around other playground equipment. They can be painted in various colours and incorporate counting numbers and the alphabet to promote development.

Purpose/Development:

Balance beams promote physical development. They allow children to enhance gross motor skills, engaging their arms, legs, torso, and feet in one activity. Beams can also impact cognitive development through their décor elements such as colour, numbers, and letters.

Materials Required:

Many balance beams are constructed of wood and then painted for decoration and sustainability of the material.

Space Requirement:

No specific requirements, what is available.

Maintenance Required:

Little to none.

Sandbox / Sandpit



Description:

A sandbox provides an area for children to play with clean sand and toys as opposed to the dirt that may occupy the ground of Perseverance Park. The sandbox or sandpit should be large enough so that multiple children can play at the same time, opening possibilities for interaction and collaboration. It is suggested that there be a cover with a lock and key as to prevent contamination or toys from being removed from the park.

Purpose/Development:

A sandbox encourages physical development, specifically fine motor skills through using hands-on toys (shovels and buckets) and sensory awareness through being in contact with the textured sand. Cognitive development takes place as children develop methods and strategies on how to build various sand structures. Collaborating with other children in the sandbox, sharing toys, and playing together promotes emotional and social development. Their imagination and creativity are stimulated while building a variety of objects out of sand.

Materials Required:

A sandbox could be constructed with wooden boards or poles firmly planted in the ground or a sandpit could be dug. Thus, a shovel, clean sand, and sand toys are necessary materials.

Space Requirement:

A sandbox would occupy about 1.5m by 1.5m of ground space in the park.

Maintenance Required:

The sandbox would have to be cleaned weekly to remove any debris that may contaminate the play area.

Hopscotch



Description:

Hopscotch is an array of connected shapes that creates a motive for children to jump inside the shapes on one or two feet while keeping their balance. The hopscotch board can incorporate many themes such as animals, counting numbers, or the alphabet.

Purpose/Development:

Hopscotch is an ideal activity for enhancing physical development, specifically gross motor skills and balance as children jump along the shapes on either one or two feet. Cognitive development occurs as children count the shapes as they pass through and advance through the board.

Materials Required:

Hopscotch can be made from rugs or mats. They can also be painted if a concrete area is available.

Space Requirement:

A hopscotch would occupy about 3 m x 1 m of ground space in the park.

Maintenance Required:

Little to none. Repainting of the board would be done as needed.

Dance Footprints



Description:

These footprints on the ground could teach children a particular dance that is common in South African culture. The Dancing Committee of the Green Light Project can be engaged in the design of these footprints. The dance steps should be relatively easy for children to follow and colorful to grab their attention.

Purpose/Development:

These footprints can promote physical development, specifically gross motor skills through engaging arms, legs, feet, and torso in dance. Following the footsteps in number sequence encourages cognitive development in numeracy. Creativity and imagination are stimulated as children develop their own dances without the use of the footprints. Dance is also a way in which children can express themselves and can act as a means of spiritual and moral development.

Materials Required:

Depending on available space and resources, the footprints could be painted on cement surface, mat, or rug. In regards to Perseverance Park, the best use of space may entail making the footprints out of wood or metal and burying them into the ground.

Space Requirement:

A few meters of ground space in the park.

Maintenance Required:

Repainting may be necessary if the footprints fade. A dance committee member may be needed to explain how the footprints are to be used/followed.

Tire Swing



Description:

A tire swing is built into a support and can move in a circular motion as it swings back and forth. It would be ideal to use a tire that can accommodate multiple children at a time. This also requires ensuring that the support can withstand various amounts of weight.

Purpose/Development:

A tire swing has the potential to promote physical development. Specifically, coordination and gross motor skills as children push and climb into the swing. Children can also develop fine motor skills as they grip the tire and chain as they swing. Children experience cognitive development as they come to terms with how their acts of physical motion affects the way in which the swing moves. Collaboration and sharing with other children through swinging is essential to emotional and social development.

Materials Required:

The tire is to be attached to a support with chains and hooks that are able to withstand various weight distributions.

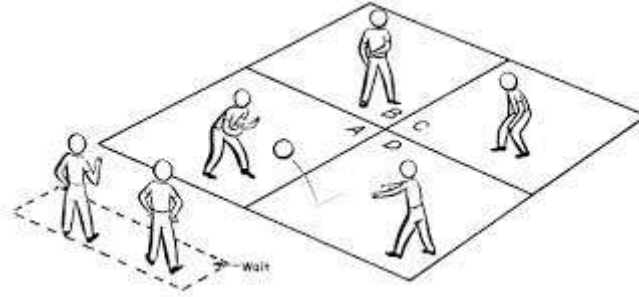
Space Requirement:

A minimum of 3m by 3m is recommended.

Maintenance Required:

None other than regular safety checks.

Four Square



Description:

Four-square is a game that consists of a board or area of land that is divided into quarters. This board can be made from a mat, other available resources, or painted onto cement. With a person occupying each quarter of the square, the object of the game is to bounce the ball into another person's square to try to get them out.

Purpose/Development:

The game enhances gross motor skills and balance, as people bounce the ball into other squares and attempting to return the ball before bouncing more than once in their own square. These activities create many opportunities for physical development. Cognitive development is promoted as children learn left from right as the ball is bounced around the circle. The game requires four people, encouraging collaboration, communication, and social and emotional development.

Materials Required:

The game requires a ball and either is composed of a mat or a painted concrete surface depending on available resources.

Space Requirement:

A 2 m by 2 m area on the ground is necessary (concrete if available).

Maintenance Required:

Repainting as necessary as the lines wear away.

Tire Gardens



Description:

One method of establishing a border around Perseverance Park is to use recycled tires. The tires can be painted and decorated by members of the community to incorporate the names of the plants that are growing within each tire. They can also act as family gardens that each child or family of the community can nourish and care for. These tire gardens can promote the social development of many children of the community and serve as a barrier between the street and the park. The Gardening Committee of the Green Light Project would have an opportunity to take a leading role in this activity by sharing gardening strategies and their knowledge with other members of the Maitland Garden Village Community.

Purpose/Development:

Cognitive development is promoted through the use of garden tires as children count and discover different types of plants that they can grow in their own garden. They can also learn about the plants that others grow in different tire gardens, as each plant name is incorporated into the decor of the tire. Language development is enhanced as children learn the names of the plants displayed. The opportunity to make connections between self and nature promotes spiritual and moral development in children.

Materials Required:

Recycled tires, soil, water, and seeds are the essential materials required to implement the dual-purpose tire gardens. Paint is also needed to decorate the tires with the name on the plants that are growing within each plot.

Space Requirement:

Along the perimeter of the park.

Maintenance Required:

Plants can grow naturally, but may need to be water during dry spells. The Gardening Committee can play a large role in implementation and teaching others how to maintain the tire gardens.

Appendix B

Tyres

Tyres are an excellent resource that can often be acquired at no cost. These salvaged tyres can then be repurposed to create numerous playground equipment structures and park elements. For a large catalogue of different tyre uses and structures, see the handbook, “Entyrelly Fun Playgrounds” by James A. Jolley.

Some of the more useful designs we found were as follows:

- Tyre Pyramid
- Tyre Cube
- Tyre Steps
- Tyre Bridge
- Tyre Balance Beam
- Tyre Net
- Tyre Ladder
- Tyre Swings
- Tyre Plantars
- Tyre Car
- Tyre Wall
- Tyre Dragon
- Loose Tyres

Jolley, James A. *Entyrelly Fun Playgrounds*. N.p.: n.p., n.d. Print.