

Overview of Play Area Upgrades

Before



After



Description:

One damaged free standing structure with some open space in front of it. A lack of features often left the children bored and unoccupied. The women were using the space for drying their clothes. One set of dryer lines was damaged and the other was broken by the children, leaving a sharp and dangerous pole protruding from the ground. There was minimal color in the entire area and trees branches overtook some space.

Needs of the Children:

- Structure Repairs
- Standing and Sitting Swings
- Challenges for All Ages
- Stimulating Obstacles
- Colorful Features
- Social Development
- A Safe Play Area

Gathered through conversation and observation

Accomplishments:

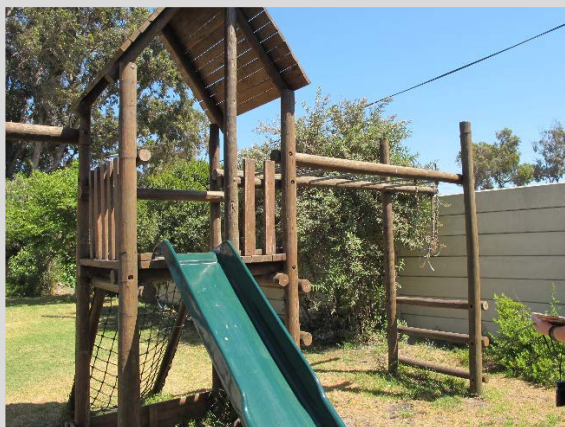
- Implemented (2) Tire Balance Beams
- Implemented a Tire Ladder
- Replaced (2) Sitting Swings
- Implemented a Standing Swing
- Implemented (5) Stepping Poles
- Installed a Climbing Rope
- Filled the hole at the landing of slide
- Painted all features
- Removed dangerous dryer lines
- Pruned back trees where necessary

Recommendations:

Keep elements connected whenever possible to create a continuous game throughout the play area. Be sure to have obstacles tailored toward all age groups, or dedicate areas to prevent a monopolization of space by older children. Incorporate the habits of the people who will use it.

Play Structure

Before



Description:

Mid-sized free-standing jungle gym. It includes a covered cubby, slide, climbing net, monkey bars, rings, and a broken swing (see image below). There were two swings and a climbing rope missing from the structure. The playground was the only main outlet for the children to play, but unfortunately many pieces were missing due to lack of maintenance of the structure. The destruction is in part due to pent-up frustration of the recovering children.

Needs of the Children*:

- Standing and Sitting swings
- Climbing Rope
- Colorful Structure

*Gathered from conversation and observation

Standing Swing

1. Sand and waterproof gum pole
2. Drill hole 0.15m from the end of the gum pole
3. Thread rope through hole and tie knots on the bottom
4. Tie opposite end of the rope to the U-bolt
5. Attach U-Bolt to the existing eye-hook on the end of the play structure

Materials:

Waterproofing	U-bolt
1.5mx10mm marine rope	Wrench
0.3m gum pole	Drill
Eye-hook	

After



Climbing Rope

1. Wrap rope around protruding structure pole
2. Secure with a knot
3. Staple the rope to the structure
4. Tie a knot every 0.4m of the rope

Materials:

1.75m Climbing Rope	Hammer
(4) Large Staples	

General Upgrades

1. Paint the structure with various bright colors
2. Attach swings to the existing eye-hooks
3. Drill drainage holes through the bottom of each swing

Materials:

Paint	Brushes
(2) Swings	Wrench

Structure Improvements

- Painted the structure
- Replaced (2) Sitting Swings
- Replaced Climbing Rope
- Implemented Standing Swing
- Filled hole at landing of the slide

Observations & Recommendations:

Climbing ropes and sitting swings made from tires require occasional replacement depending on use. Standing swings secured with marine rope can be an alternative to the traditional tire and chain swing. The standing swing can utilize a thicker rope and be knotted to allow for an easier mount and dismount. Multiple swings and different types prevent conflict caused by the children waiting for their turn. Bright colors create a happier, more playful atmosphere.

Tire Ladder

Needs of the Children:

- Challenging element for older children
- Engaging for all ages
- Vertical climbing obstacle
- Safe play

Gathered from conversation and observation

Steps

1. Paint Tires
2. Sand and waterproof poles
3. Mark where structure will be implanted
4. Dig 0.65m deep hole the size of the entire structure
5. Secure an unpainted tire between the bottom of the poles
6. Temporarily secure another tire between the poles about 1m from the top of structure (This pole is used for spacing during cementing)
7. Cement poles and bottom tire into the hole
8. Remove the temporary spacing tire
9. Hold the top painted tire between the posts 2m off the ground
10. Use 2 screws and 2 washers per pole to screw through the inside of the tire
11. Repeat step 10 for a tire 1.5m off the ground
12. Repeat step 10 for a tire 1m off the ground
13. Repeat step 10 for a tire .5m off the ground
14. Drill 3 equally spaced holes in the bottom of each tire for drainage



Materials

Spade
 Outdoor Paint
 Waterproofing
 (5) Tires
 (3) 3m gum poles
 (27) Washers
 (27) 100mmx6.3mm Timber screws
 (1) Bag of Cement
 (3) Bags of Builder's Sand
 (2) Bags of Rocks
 Drill

In Process Temporary Spacing Tire



Observations & Recommendations:

Cement or concrete for the poles is necessary. 2.35m tall is an optional height, but higher can be dangerous. The number of tires can vary, usually between 3 or 4. Many different sizes of tires made spacing difficult, make sure all tires being used have the same outside diameter. Sturdy tires are required because the force acts in a different direction than the internal supports are meant to handle. Only having one tire on the bottom and one temporary spacing tire made leveling the poles difficult during cementing. Purchased structures can cost the same as constructing one from scratch. Long screws are required and hex heads allows for the easiest fastening. Large outside diameter washers are required.

Tire Balance Beam

Needs of the Children:

- Connecting elements
- Obstacles for younger children
- Motor skills development
- New features

Gathered from conversation and observation

Constructed Balance Beam



Steps

1. Paint 2 tires
2. Sand and waterproof all boards
3. Stand up the 400mm board and place the 2000mm beam on top
4. Ensure the corners are flush with each corner of the 2000mm beam
5. Pound 3 nails through the 2000mm beam into each 400mm board
6. Insert the bottoms of the 400mm board into the flanges of each tire
7. Slide the beam into the tire until the end is flush with the inside of the rear flange
8. Using 2 chipboard screws and washers, screw through the top rear flange into the end of the beam
9. Using a chipboard screws and washers, screw through the bottom rear flange into each board
10. Dig holes so the tires sit half buried in the ground
11. Cement the tires
12. Repeat steps for the second balance beam

Materials (for 2 Beams)

- | | |
|----------------------------|-------------------|
| (4) 63cm OD Tires | Outdoor Paint |
| (8) 0.4m 50mmx152mm | Spade |
| (2) 2m 50mmx152mm | (12) Washers |
| (12) Chipboard Screws | (2) Bags of Rocks |
| (24) 75mm Wire Nails | (1) Bag of Cement |
| (3) Bags of Builder's Sand | Waterproofing |

Installed Balance Beam



Observations & Recommendations:

Cementing the tires is necessary to hold the tire and supports. Tires are only for padding on the end of the beam and aesthetics, they are not required. Padding the corners of the beam is necessary. Paint chips off of the tires quickly where the tire folds. The vertical supports can be made out of anything strong enough to support the weight. The effective length of the beam was a good distance, but can be adjusted. It was strong under the weight of many people even at the middle of the beam. The width of the beam was too wide to be challenging even for the youngest children. Painting footprints and the alphabet on the beam excited the children and encouraged running along them. Two beams connected by another element helps create a continuous game.

Stepping Logs

Needs of the Children:

- Element to connect balance beams
- Obstacle requiring decision making
- Feature tailored toward all ages
- Multi-leveled steps

Gathered from conversation and observation

Materials:

- (3) 900mm gum pole
- (6) 800mm gum pole
- (6) 700mm gum pole
- (3) Bags of Builder's Sand
- (1) Bag of Cement
- (2) Bags of Rocks
- Waterproofing
- Rope
- Spade

Installed Stepping Logs Connecting the Balance Beams



1. Sand and waterproof all gum poles
2. Dig 5 holes 0.4m deep in desired locations
3. Temporarily tie rope around each set of poles to hold them together
4. Cement (3) 700mm gum poles into the first hole ensuring the tops are even
5. Cement (3) 800mm gum poles into the second hole ensuring the tops are even
6. Cement (3) 900mm gum poles into the third hole ensuring the tops are even
7. Cement (3) 800mm gum poles into the fourth hole ensuring the tops are even
8. Cement (3) 700mm gum poles into the fifth hole ensuring the tops are even

Observations & Recommendations:

Cement is necessary to keep the poles secure. Three gum poles together is effective, but not ideal. The size of the stepping face was good, but one solid log would be easier to construct and better for the children to step on. They were arranged to allow the children to choose between several different paths. The height difference between each was extremely good. The height difference between the lowest posts and the balance beams was good, but if the lowest posts did not connect to another raised element, they would have been too high off the ground. The space between each pole was a little bit too far. Painting the alphabet was an additional educational piece that encouraged activity and learning.