Recreational Programming for Children's Interaction with Nature in Rosemount City Parks

Prepared by

Students in LS 5100: Revitalizing Environmental Reform:
Reimagining the Arts for Public Parks
University of Minnesota
Instructor: Roslye Ultan

On behalf of

The City of Rosemount

With support from

The Resilient Communities Project

Resilient Communities Project

UNIVERSITY OF MINNESOTA
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This project was supported by the Resilient Communities Project (RCP), a program at the University of Minnesota that convenes the wide-ranging expertise of U of M faculty and students to address strategic local projects that advance community resilience and sustainability. RCP is a program of the Center for Urban and Regional Affairs (CURA).

This publication may be available in alternate formats upon request.

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Introduction

This report is a compilation of work produced by students in LS 5100: Revitalizing Environmental Reform—Reimagining the Arts for Public Parks, taught by Roslye Ultan during fall semester 2014 at the University of Minnesota. The project was part of the 2014–2015 Resilient Communities Project–City of Rosemount partnership, which included work on 29 community-identified projects.

One of the projects proposed by the City of Rosemount focused on providing nature-based recreational opportunities for children. Many recent studies have shown the beneficial effects of nature-based play for children. This topic is the basis for the highly respected and often quoted book by Richard Louv, *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*. Louv and others have shown that nature-based play and connections with nature improve children's social skills, problem-solving abilities, and interpersonal relationships, and help decrease the incidence of childhood obesity. In healthcare settings, nature connection has been shown to speed healing and promote physical and emotional wellness.

The goal of the project was for students to help the City of Rosemount identify opportunities for introducing nature-based play options to city parks and recreational areas.

Nature-Based Play in the City of Rosemount

By Rachel Burand, Department of Landscape Architecture
College of Design | University of Minnesota

Introduction

As technology lures today's youth toward digital screens and away from the outdoors, the need for creative and engaging parks and playgrounds becomes increasingly crucial. Safety has also changed the way children use city parks. Playground equipment in the U.S. is more regulated than ever, and parents are increasingly hesitant to let kids venture outdoors unsupervised. Video games have even transitioned into more physically active and social activities, making it easier for many to justify indoor play. Despite these trends, interaction with nature is essential to health, well-being, and proper development. In a recent Minneapolis Star Tribune article, Cathy Jordan, Associate Professor of Pediatrics at the University of Minnesota stated, "when kids have exposure to nature, they reap physical and emotional benefits, improve their attention and focus, and learn social skills through playing in a calming environment that has relatively little cost or risk" (Goetzman 2014). In other words, nature is truly irreplaceable, and it is a necessity for healthy children.

The City of Rosemount is a suburb of Minneapolis and St. Paul with a standard, suburban park system. Acreage and distribution of parks, playground, and green open space is plentiful in Rosemount, but nature-based play opportunities are almost nonexistent. The City is interested in assessing its park system with the lens of the nature-based approach in order to introduce nature-based play opportunities to its residents. By rethinking and reimagining suburban parks, the City of Rosemount has the unique opportunity to engage local youth and reintroduce them to the benefits of the outdoor environment. Creating active and engaging outdoor spaces has the

potential to inspire Rosemount children of all ages to form a relationship with nature and stewardship to the environment. Getting children to play outside has physical, social, and mental health benefits as well. A healthy youth population is a critical component of a healthy community, and the City of Rosemount is taking an active role in meeting this goal.

In this project, I assess three of Rosemount's existing neighborhood parks for their assets as well as gaps or missed opportunities. I then examine two suburban nature-based play precedent examples that are locally relevant and show innovative design ideas. Lastly, I offer design recommendations tailored to the three existing parks examined as case studies, with the notion that these design ideas could be applied to any of the parks within the City of Rosemount's system. These design recommendations will offer nature-based play opportunities focused on promoting health and interacting with nature in creative and engaging ways. With the case study analysis, precedents, and design recommendations, I hope to inspire the City of Rosemount to prioritize the implementation of nature-based play in their park system for the good of their children and the community as a whole.

Case Studies

The City of Rosemount has 27 parks covering 515 acres. Of these, there are 19 neighborhood parks. The City classifies neighborhood parks as the "core building block of the Rosemount park system…designed to provide the day-to-day recreation facilities for a 125 to 500-acre neighborhood…serv[ing] approximately 300 to 650 households" (City of Rosemount 2008). Because neighborhood parks are daily spaces, they are likely to have a higher impact on the daily lives of residents, especially youth. Of these 19 neighborhood parks, I assessed their size and play amenities, finding that 17 of the parks featured playgrounds, but only three of the

parks offered nature areas. The three parks offering both nature areas and playgrounds are Connemara Park, Innisfree Park, and Meadows Park. To follow the concept of building upon existing assets, these three parks were chosen as the focus of the assets and gaps analysis.

Connemara Park is 4.79 acres located in a backyard, neighborhood setting. The park offers a little league field, nature areas, and playground among other non-play related amenities. Its assets include a playground nestled under mature oak trees, wooded areas, a large open field, space to play baseball and soccer, and a safe and family-friendly atmosphere. The missed opportunities at Connemara Park are a lack of walking paths or trails and the playground equipment is uninspired and not representative of all age groups. Additionally, the "natural areas" are pushed to the edges of the park, acting as a boundary or as scenery to be viewed from the inside and not interacted with.

Innisfree Park is 55.82 acres and its natural areas are slightly more integrated into the park when compared to Connemara. The assets of Innisfree include lakes, hills, ponds, wetland areas, walking trails, playground equipment, a variety of trees and plants, and wildlife viewing opportunities. Despite natural areas feeling slightly more integrated, they are still viewed from afar in this park instead of offering interaction opportunities. This park also has potential for all-ages outdoor fitness equipment along its walking trails or in addition to its playground, which is another missed opportunity.

Meadows Park is 26.44 acres and is known for its "fire engine" themed playground. Meadows' assets include a playground situated within natural planting areas, walking trails, space to play a variety of sports (baseball, soccer, basketball, and volleyball), and a variety of trees and plants. Once again, the natural areas at Meadows are pushed to the edges. The wooded, more "wild" areas are used to define the park boundaries while the "tamed" grass lawn serves as

the active landscape. Much like Innisfree, this park has also missed an opportunity to integrate options for individual physical activity near its playground or along its walking trails.

Precedents

The first precedent example is Core Valley in Eagan, Minnesota. Core Valley is a custom-designed fitness area that opened in June 2014 and encourages outdoor natural play for all age groups. The park features large logs that are placed at varying angles and heights in order to fulfill the needs of many different outdoor workouts. The City of Eagan created this outdoor fitness zone to serve general fitness, athletic development, or training for an obstacle course. The outdoor natural play and fitness area is the first of its kind in the state, and offers an excellent example of incorporating both natural elements and health/fitness elements into a suburban park (City of Eagan 2014).

The second precedent is the Tamarack Nature Center located in White Bear Township, Minnesota. This park is large in scale, but offers elements that could be applied to any smaller scale city park. The focus of the Tamarack Nature Center is on nature discovery and play in innovative ways. The park features a Discovery Hollow and Garden, with elements that allow children of all ages to "build a tree fort in The Wood, climb the cliffs to The Overlook, make a dam in The Stream, get growing in The Garden, and get muddy in The Mud Table" (Tamarack Nature Center website). This example also includes year-round accessible trails to each of its outdoor play spaces. Using natural elements has proven wildly successful in getting children to be actively engaged in the outdoors at Tamarack.

Design Recommendations

Visual design recommendations can be seen on the attached images. At Connemara Park, there exists an incredible opportunity to add a looping trail within the wooded area. This trail can serve all ages and would connect to each end of the north parking lot, offering easy access for users traveling by foot or by car. There is also room in this park for a climbing rock structure, similar to the example at Tamarack Nature Center. This could serve both elementary and middle school aged children. Space for a butterfly garden is available at Connemara, as well as space for a mud play zone. A butterfly garden engages all ages, and playing with mud engages the youngest age group not yet ready for the existing playground.

At Innisfree Park, the trail could be enhanced through the addition of all-ages outdoor fitness equipment constructed from local tree logs. Stations could be placed along the trail in this larger scale park to encourage multiple forms of fitness. Water is a major component of the experience at Innisfree Park, and a terraced dock area within the lake for seasonal water interaction could be a beneficial addition.

Meadows Park has space near the water and visible from the sports fields for a mud play pit and/or a wildlife garden. Each of these examples offers new experiences for age groups that are in need of more park programming. With its wooded edges and topography, Meadows Park also has the opportunity for a wood fort play area, which would be a unique draw to this neighborhood park. Meadows is heavily focused on team sports, but has space that could potentially feature an outdoor all-ages natural fitness station for individual health and wellness.

Conclusion

By examining the precedents at Core Valley in Eagan and at Tamarack Nature Center in White Bear Township, the City of Rosemount can begin compiling ideas and inspiration to take their parks forward for the youngest generation. By thinking beyond the realm of standard plastic playground equipment and manicured open lawns, Rosemount has the opportunity to introduce unique and innovative concepts into the city park system. Mud play zones, fitness equipment, and gardens are just a few examples of how this suburb can engage diverse age groups and inspire more consistent interaction with nature. With these design recommendations as a starting point, I hope the City feels inspired to continue on their track toward nature-based play and transforming their neighborhood parks into active, engaging spaces for youth.

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NATURE-BASED PLAY *in the city of* Rosemount

Rachel Burand | LS 5100 | Fall 2014

{thesis}

“When kids have exposure to nature, they reap physical and emotional benefits, improve their attention and focus, and learn social skills through playing in a calming environment that has relatively little cost or risk.”

- CATHY JORDAN
Associate professor of pediatrics at the U of M
Member of the Minnesota Children and Nature Connection, an organization that promotes outdoor play and natural environments for children

via http://www.startribune.com/sports/outdoors/278706351.html
Nature play areas: The next big thing in Minnesota parks (Oct 9, 2014)

1 *Rosemount Neighborhood Parks:*
3 CASE STUDIES *(Assets & Gaps Analysis)*

2 *Suburban Nature-Based Play* **PRECEDENTS**

3 **DESIGN RECOMMENDATIONS** *to implement Nature-Based Play Opportunities in Rosemount to promote health and interaction with nature*

{19} Neighborhood Parks in Rosemount

SIZE & PLAY AMENITIES

*Not including Community Parks or Conservancy Land

PARK	ACRES	PLAY AMENITIES
BIRCH Park (2181 Birch St)	3.52	Basketball, Playground, Trails
BISCAYNE Park (2420 145th St W)	3.08	Playground
BLOOMFIELD Park (14225 Bloomfield Path)	13.75	Basketball, Little League Field, Playground, Ice Skating, Soccer, Tennis, Trails
BROCKWAY Park (13660 Bronze Pkwy)	14.36	Basketball, Little League Field, Playground, Trails, Disc Golf
CAMFIELD Park (14795 Canada Ave)	3.10	Little League Field, Playground, Ice Skating, Volleyball
CHARLIES Park (3155 144th St W)	1.26	Playground, Tennis
CHIPPENDALE Park (14876 Chrysler Ave)	2.11	Basketball, Little League Field, Playground, Ice Skating
CLARET Park (15130 Claret Ave)	2.63	Playground, Tennis, Trails
CONNEMARA Park (13930 Connemara Tr)	4.79	Little League Field, Nature Areas, Playground
DALLARA Park (4175 147th St W)	1.04	Basketball, Playground
FAM. RES. CTR Park (14521 Cimarron Ave)	1.24	Basketball, Playground
INNISFREE Park (4270 Evermoor Pkwy)	55.82	Nature Areas, Playground
JAYCEE Park (15425 Shannon Pkwy)	14.66	Basketball, Playground, Skating, Soccer, Trails
KIDDER Park (3652 146th St W)	2.13	Little League Field, Playground
LIONS Park (15155 December Tr)	1.94	Playground
MEADOWS Park (13960 Azalea Ave)	26.44	Basketball, Little League Field, Nature Areas, Playground, Volleyball, Trails
PRESTWICK Park (14238 Ailesbury Ave)	13.81	Basketball
TWIN PUDDLES Park (14884 Dodd Blvd)	5.40	Little League Field
WINDS Park (15675 Chippendale Ave)	7.09	Basketball, Little League Field, Playground, Trails

{19} Neighborhood Parks in Rosemount

*Not including Community Parks or Conservancy Land

SIZE & PLAY AMENITIES

17 PLAYGROUNDS

PARK	ACRES	PLAY AMENITIES
BIRCH Park (2181 Birch St)	3.52	Basketball, Playground, Trails
BISCAYNE Park (2420 145th St W)	3.08	Playground
BLOOMFIELD Park (14225 Bloomfield Path)	13.75	Basketball, Little League Field, Playground, Ice Skating, Soccer, Tennis, Trails
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{19} Neighborhood Parks in Rosemount

*Not including Community Parks or Conservancy Land

SIZE & PLAY AMENITIES

3 NATURE AREAS

PARK	ACRES	PLAY AMENITIES
BIRCH Park (2181 Birch St)	3.52	Basketball, Playground, Trails
BISCAYNE Park (2420 145th St W)	3.08	Playground
BLOOMFIELD Park (14225 Bloomfield Path)	13.75	Basketball, Little League Field, Playground, Ice Skating, Soccer, Tennis, Trails
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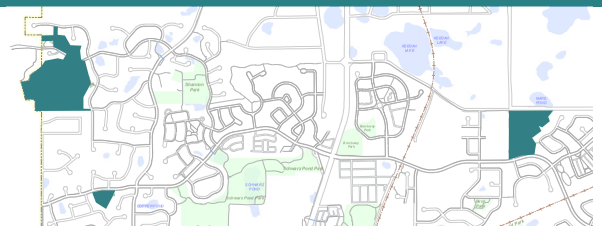
Concept:

Build upon existing assets



PARK	ACRES	PLAY AMENITIES
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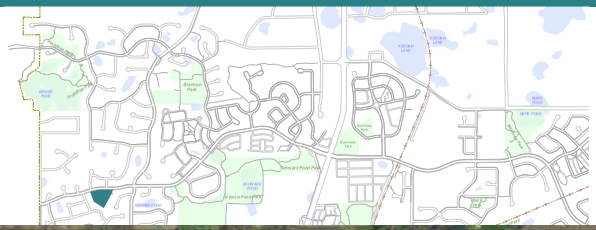
1. Connemara Park

13930 Connemara Trail (4.79 acres)



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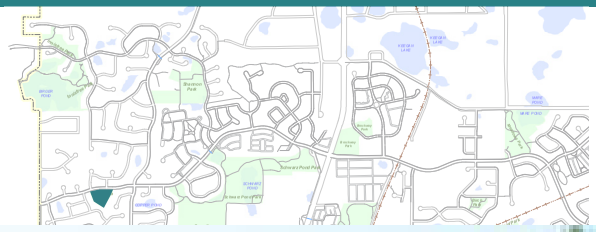


ASSETS

Playground nestled under mature oak trees

Natural areas

Large open field

Serves variety of sports (baseball, soccer)

Backyard feel, nestled into neighborhood

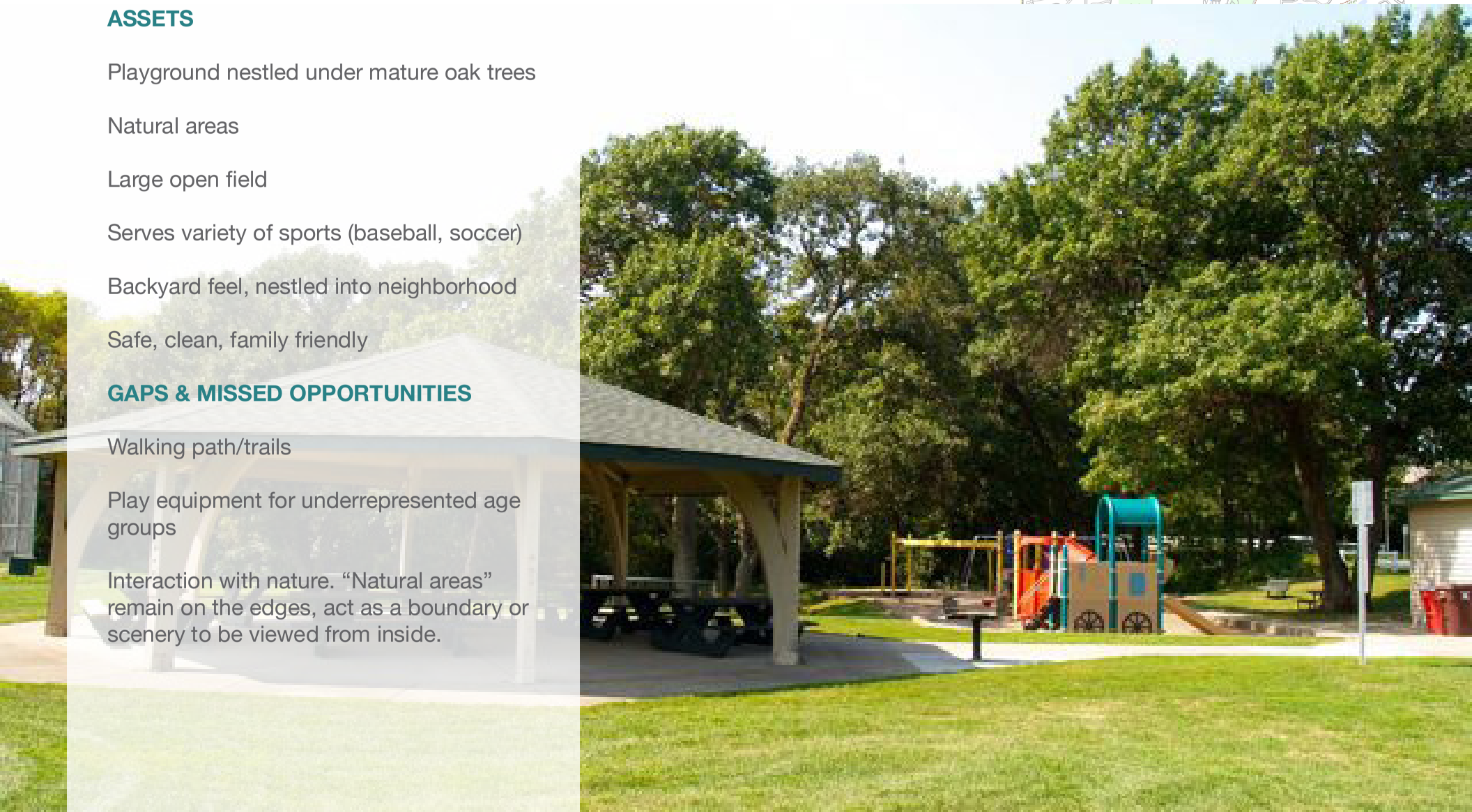
Safe, clean, family friendly

GAPS & MISSED OPPORTUNITIES

Walking path/trails

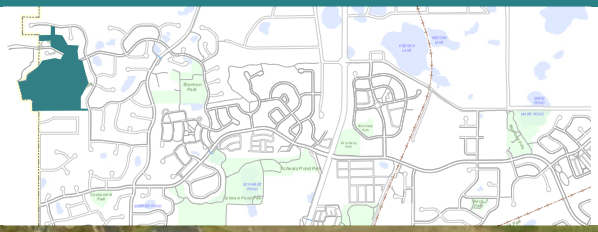
Play equipment for underrepresented age groups

Interaction with nature. “Natural areas” remain on the edges, act as a boundary or scenery to be viewed from inside.



2. Innisfree Park

4270 Evermoor Pkwy (55.82 acres)



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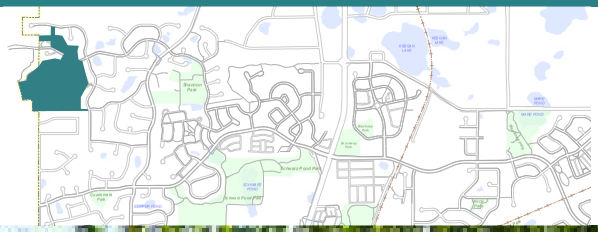


ASSETS

Natural areas integrated into the park

Lakes, hills, ponds, wetland areas

Walking trails

Playground equipment

Large enough for wildlife viewing

Variety of trees and plantings

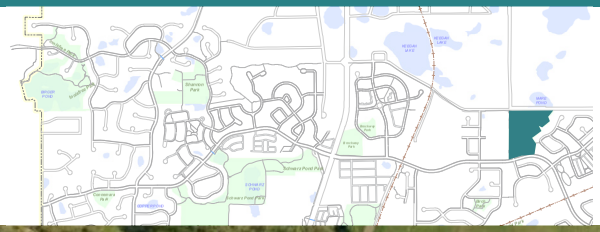
GAPS & MISSED OPPORTUNITIES

Interaction with nature and its health benefits. Natural areas are more integrated, but still viewed from afar instead of close interaction.

All-ages outdoor fitness equipment in addition to walking trails and playground

3. Meadows Park

13960 Azalea Ave (26.44 acres)



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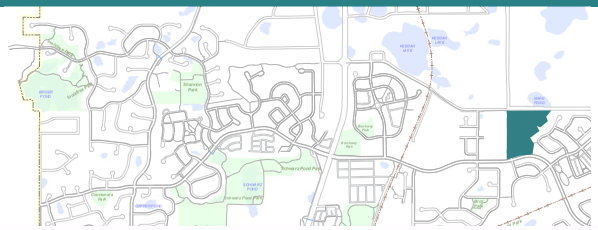


ASSETS

Themed playground (“fire engine”)

Playground situated within natural planting areas

Walking trails

Serves variety of sports (baseball, soccer, basketball, volleyball)

Variety of trees and plantings

GAPS & MISSED OPPORTUNITIES

Natural areas pushed to the edges/ boundary instead of integrated within

Serves team sports and play for young children, but offers limited options for individual physical activity

Core Valley (Eagan, Minnesota)

Outdoor natural play & fitness area for all ages

Custom-designed fitness area that encourages outdoor natural play for all ages.

A series of large logs, placed at angles and at varied heights, are designed to encourage one-of-a-kind workouts on a unique course.

Serves general fitness, athletic development or training for an obstacle course run. The Core Valley equipment keeps your workout fun.

"Climb over, crawl under, or swing on the equipment - the sky is the limit for what you can do at Core Valley"

CORE VALLEY
COMMUNITY OUTDOOR RECREATIONAL EXERCISE

Core Valley (Eagan, Minnesota)

Outdoor natural play & fitness area for all ages

Core Valley (Eagan, Minnesota)

Outdoor natural play & fitness area for all ages

Tamarack Nature Center (White Bear Township, MN)

Nature Discovery & Play

"DISCOVERY HOLLOW AND GARDEN

Play, dig, plant, learn, create and explore Ramsey County's best nature play area.

- **Build a tree fort in The Wood**
- **Climb the cliffs to The Overlook**
- **Make a dam in The Stream**
- **Get growing in The Garden**
- **Get muddy in The Mud Table**

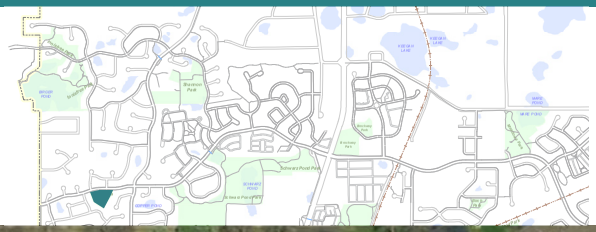
Tamarack Nature Center is a 320-acre preserve within Bald Eagle-Otter Lakes Regional Park in White Bear Township. More than four miles of turf trails, paved trails and boardwalks provide year-round access to forests, prairies, ponds and the Discovery Hollow and Garden natural play area."

Tamarack Nature Center (White Bear Township, MN)

Nature Discovery & Play

1. Connemara Park

13930 Connemara Trail (4.79 acres)



2. Innisfree Park

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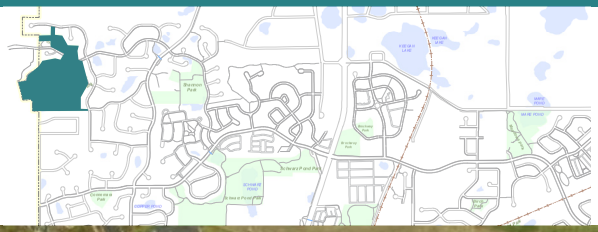


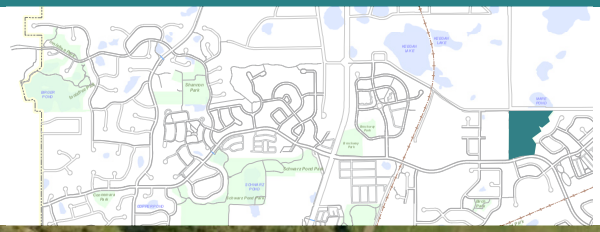
All ages outdoor fitness equipment made from tree logs

Smaller natural fitness stations along existing trail

Terraced dock area within lake for seasonal water interaction

3. Meadows Park

13960 Azalea Ave (26.44 acres)



RESOURCES

Rachel Burand
bura0037@umn.edu

Nature play areas: The next big thing in Minnesota parks (Oct 9, 2014)
http://www.startribune.com/sports/outdoors/278706351.html

Trails and Parks Map (City of Rosemount)
http://www.ci.rosemount.mn.us/DocumentCenter/Home/View/95

City of Rosemount Wetlands Protection
http://rosemount.govoffice.com/vertical/sites/%7B9EB5E841-C29C-4154-8A28-AC41E049797A%7D/uploads/%7B52003C95-B81B-4E99-ACAE-84A0AE7D24F0%7D.PDF

2008 Rosemount Parks, Trails, and Open Space System Plan
http://www.ci.rosemount.mn.us/DocumentCenter/View/7

Rosemount Parks photos:
http://ci.rosemount.mn.us/images/Facilities/3/Connemara%20Shelter%20and%20playground.jpg
http://ci.rosemount.mn.us/images/Facilities/3/both%20shelters.jpg
http://ci.rosemount.mn.us/images/Facilities/3/Wide%20view%20from%20the%20top.jpg

Core Valley in Eagan
http://www.cityofeagan.com/index.php/community-center/core-valley

Tamarack Nature Center:
https://parks.co.ramsey.mn.us/tamarack/Pages/tamarack.aspx
http://extras.mnginteractive.com/live/media/site569/2014/0731/20140731__140803TAMARACK.jpg
http://m5.paperblog.com/i/61/616020/tamarack-nature-center-engages-kids-in-creati-L-vP6B5E.jpeg

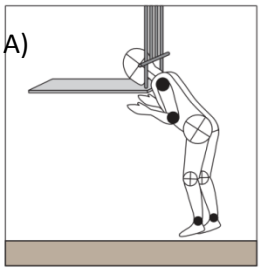
“Natural Playgrounds”: Active, Healthy, Happy

By Karen Criales, Department of Landscape Architecture
College of Design | University of Minnesota

In the last few decades, there has been a decrease in the number of children playing in playgrounds while the number of kids staying indoors and being inactive has increased. Why is this happening? Are the playgrounds that are being designed not appealing to kids anymore? In reality, the age range that can be found playing in playgrounds is usually limited to younger kids. In the desire to protect children from injuries, park designers have lost the liberty to create interesting and inspiring playgrounds because of the large number of regulations and limitation imposed on them. One type of playground that can be really successful in bringing kids back to parks and encouraging them to be active, while at the same time teaching them about nature, is the natural playground. This report provides a typology for Natural Playgrounds that the City of Rosemount can use to consider possible improvements to their park system to increase the number of visitors and their age range.

I started my research by looking at the list of what is consider hazardous for a playground in the "Public Playground Safety Handbook" provided by U.S. Consumer Product Safety Commission. It was identify as dangerous: Crush and Shearing Points, Entanglement and Impalement, Head entrapment, Partially bound openings and angles, Sharp Points, Corners, and Edges, Suspended Hazards, Tripping Hazards and Used Tires. Furthermore, images such as A, B and C can be found in the handbook, it is surprising that even clothing can be dangerous while playing in a playground. After looking at this book it feels that for them everything is dangerous and kids should just stay indoors. However, kids learn by falling down and standing back up, if we protect them from everything they won't learn to continue working hard even if you fall down.

A)



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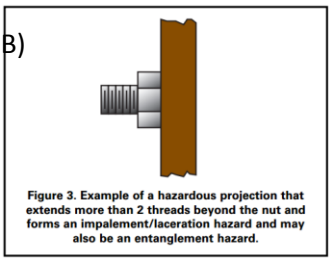
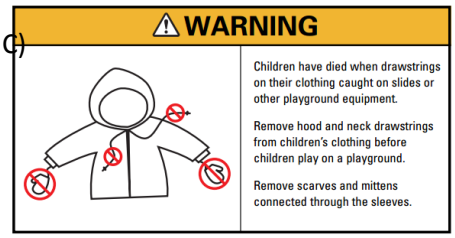


C)



D)

As a result of large number of regulation, the image D shows the standard playground design used in Rosemount and everywhere else in the U.S. The design and materials are considering safety and precaution over anything else, the selection of material and shape is also dictated by it. However, kids can find ways to alter this “safe playground” into a more dangerous thing, for example climbing over the tunnel or climbing up the slide. Children want an adventure, so why not allow them to play in a place that stimulates their imagination and inspires them to be more active, like a nature playground. Further, this kind of design, that appears to have no integration to its landscape, appeals to a younger age group, so what are the other kids to do? Sit down at home and play videogames.

After analyzing the current playground design, I found the book “Design for Children’s Play Environment” from Mitsuru Senda, which talks about the integration of playground and nature as an element to teach children of things that can be easily perceived. He explained that designing playground “Gave me the opportunity to begin developing play structures designed to help children learn about the environment while playing, about the working of the environment which are not obvious to the eye, for example, by sensing light, sound and wind and listening to sound which have been magnified”. In his two playground designs “Fortress of Winds”, seen in images E, F, G, H, I, and “Running Circuit”, seen in images J, K and L, Mitsuru uses nature as a base for the development of his playground, allowing topography, light, wind and materiality, to connect and teach children about nature. Furthermore, these kind of design not only appeals to younger age groups, but all children, attracting the reclusive kids at home to be more active. Finally, the scale and obstacle style design provides a challenge and attracts children to play and run in this kind of playground. I can say it will work because even I want to run through it at my age.

E)

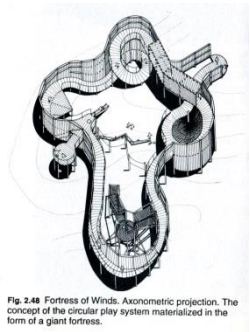


Fig. 2.48 Fortress of Winds. Axonometric projection. The concept of the circular play system materialized in the form of a giant fortress.

F)

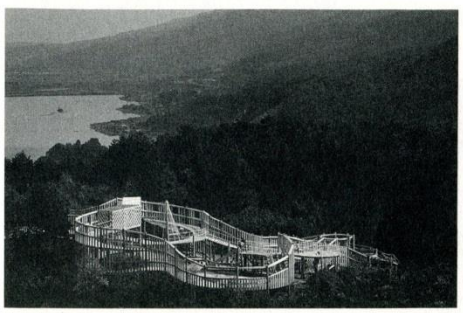


Fig. 2.50 Fortress of Winds. The 360-m-long wooden fortress with a view of Lake Suwa in the background. (*Photo: Fujitsuka Mitsumasa.*)

G)

Fig. 2.51 Bridge of the Fortress of Winds. (*Photo: Fujitsuka Mitsumasa.*)

H)

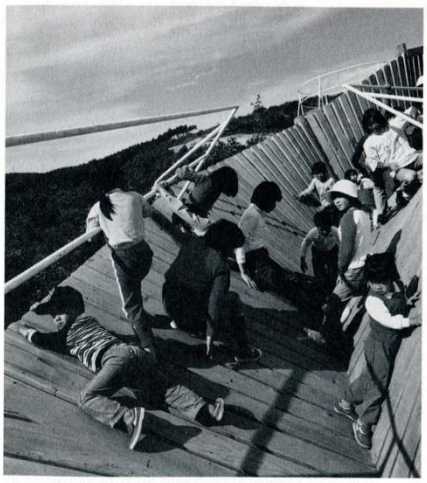


Fig. 2.49 Sloping floor of the Fortress of Winds. (*Photo: Fujitsuka Mitsumasa.*)

I)

Fig. 2.52 Fortress of Winds. Floor for children to run around on. (*Photo: Fujitsuka Mitsumasa.*)

J)

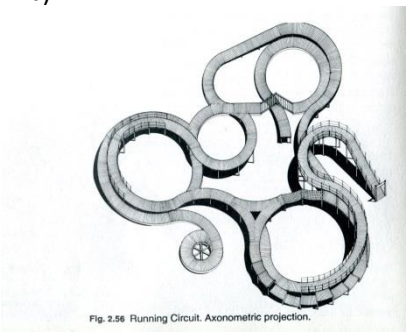


Fig. 2.56 Running Circuit. Axonometric projection.

K)

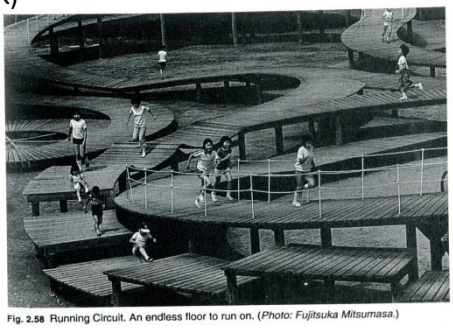


Fig. 2.58 Running Circuit. An endless floor to run on. (*Photo: Fujitsuka Mitsumasa.*)

L)

Fig. 2.57 Running Circuit. You cannot stay on the floor unless you keep running. (*Photo: Fujitsuka Mitsumasa.*)

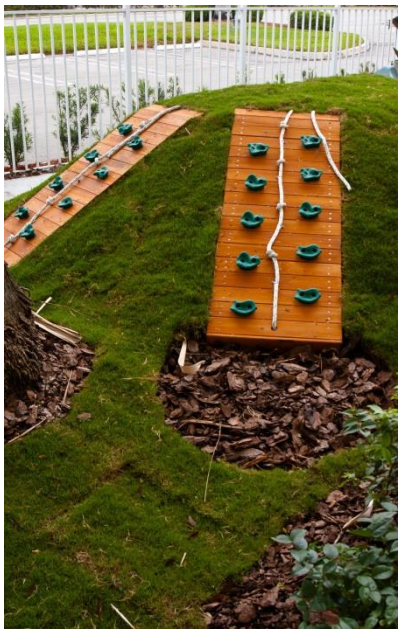
After understanding how nature and playground can be combined to create an experience and a lesson for children, I found typologies for nature playgrounds that can be used to create such an experience in the city of Rosemount.

My first typology is “Playing with the Landform”, is integrating the playground elements into the landscape allowing for variation of its used and for it to be part of the land rather than an afterthought element. Images M, N, O and P show how classic elements found in playgrounds right now can be integrated into the landform, furthermore, how the landform itself turn into a playground element. This kind of design allow kids to exercise running up and down, there is less hardscape material for injuries and open green space for resting, running, rolling and different kinds of games.

M)

N)

O)



P)

My second typology is “Natural Materials”, with the use of elements such as wood, stone, soil, vegetation and even water; it helps the playground to be part of the landscape. Furthermore, with the use of local materials it teaches children what is native to their landscape. It can be seen in images Q, R, S, that this kind of elements can be use in different ways to stimulate children imagination and increase the amount of time playing outside. Furthermore, it provides a sustainable resource to recycle local material that may have ended in a landfill.

Q)

R)

S)

My third typology is “Forests as an Asset”, it means not to only imitate the forest in a playground but bring the playground into the forest. Integrate the play elements with nature to create a unique experience for the users. Move up and down with the land and the trees to produce multilevel experience. Rosemount has a good edge of forested area around its designated park zones, however is not integrated into the park is rather use as a separation buffer between community and park land. Images T, U and V shows how this can be implemented in addition to the past typologies that can also be part of this type of design.

T)

U)

V)

My final typology is “Art & Nature”. All of the previous elements can be combined and adapt by an artist to create art pieces that represent nature, allow children to learn while interacting with them. These pieces can be permanent or for a limited time, attracting kids with the new pieces but still keeping their favorites. Images 1,2,3,4,5 and 6 show the possibilities of how these kinds of elements can be interactive for children, also, how they not only teach by pushes children to think of nature and its different systems.

1)

2)

3)

4)

5)

6)

As a final part of my research I found that it was also important to understand the benefits that nature parks and playgrounds have in children. Researchers working at The University of Tennessee, Knoxville examined how children at UT's Early Learning Center used traditional plastic-based, brightly colored playground equipment, like the one found in Rosemount park system, and how they respond to Nature base playgrounds. The results favored the nature playground because once children were exposed to less plastic and more nature, some amazing results occurred. Kids became more active overall, they appeared to use their imagination more while playing, large number of kids more than doubled the time they spent playing overall, spending time jumping off logs, watering the plants around the creek, and more, the spent more time engaged in aerobic and bone-and muscle-strengthening activities, and as a result were less sedentary and spent a lot less time sitting down. These results show the large positive effects that the introduction of nature into the playground can have in children.

To conclude, nature playgrounds present a large opportunity to not only educate children about nature but also to invite them to be more active. This kind of park transcends a specific age group, allowing kids from all ages to come and play with nature while learning. I believe that the city of Rosemount can take the typologies and ideas presented in this project and implement them in their park system to address the health concern that the children's inactivity is presenting.

Resources:

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http://lindenlandgroup.com/blog/wp-content/uploads/2013/04/branch-huts.jpg
http://lindenlandgroup.com/blog/tag/natural-play-spaces/
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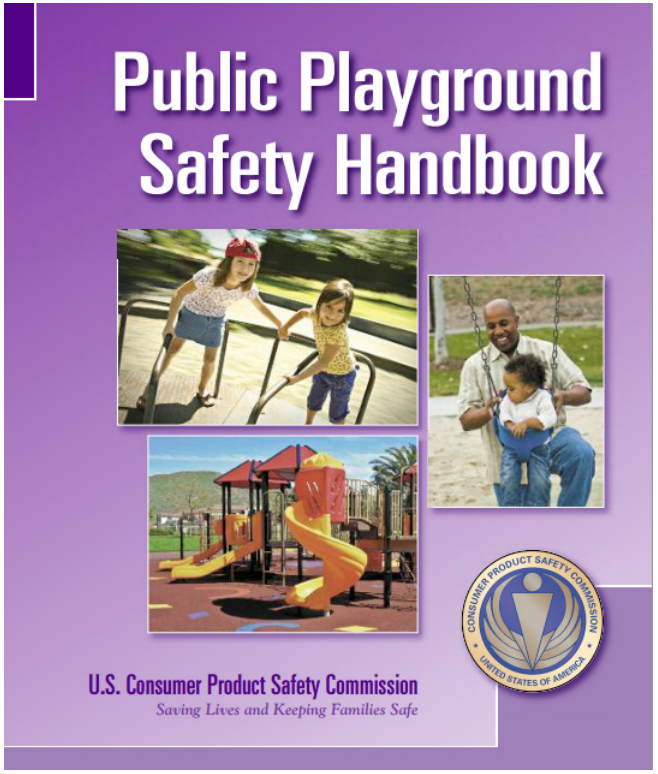
http://www.inhabitots.com/playgrounds-with-natural-elements-offer-more-benefits-for-children-than-traditional-parks/

Natural Playgrounds

Active, Healthy, Happy

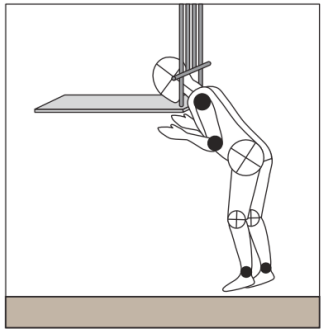
Karen Criales
12/09/14

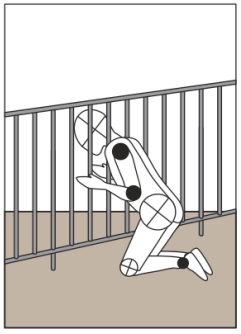
U.S. Regulations

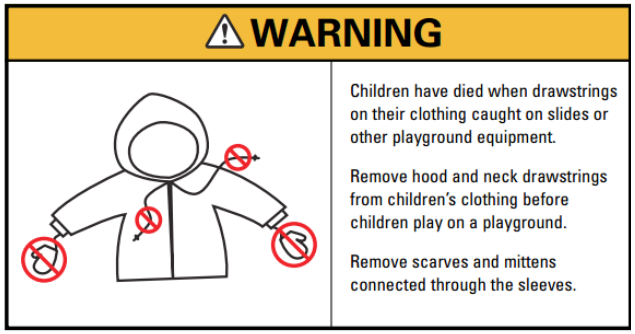


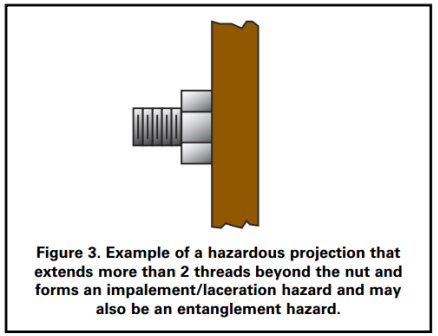
3. Playground Hazards

- Crush and Shearing Points
- Entanglement and Impalement
- Head entrapment
- Partially bound openings and angles
- Sharp Points, Corners, and Edges
- Suspended Hazards
- Tripping Hazards
- Used Tires









Images taken from the Safety Handbook

What is Standard

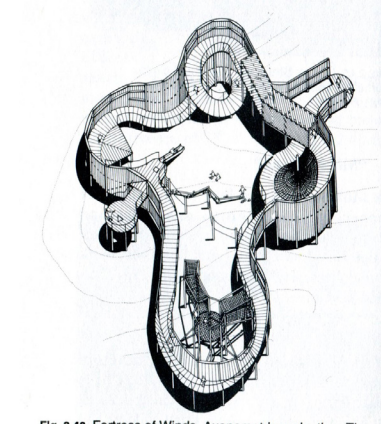
Bloomfield Park, Rosemount

Mitsuru Senda

"This gave me the opportunity to begin developing play structures designed to help children learn about the environment while playing, about the working of the environment which are not obvious to the eye, for example, by sensing light, sound and wind and listening to sound which have been magnified"

Design of Children's Play Environments

Fortress of Winds



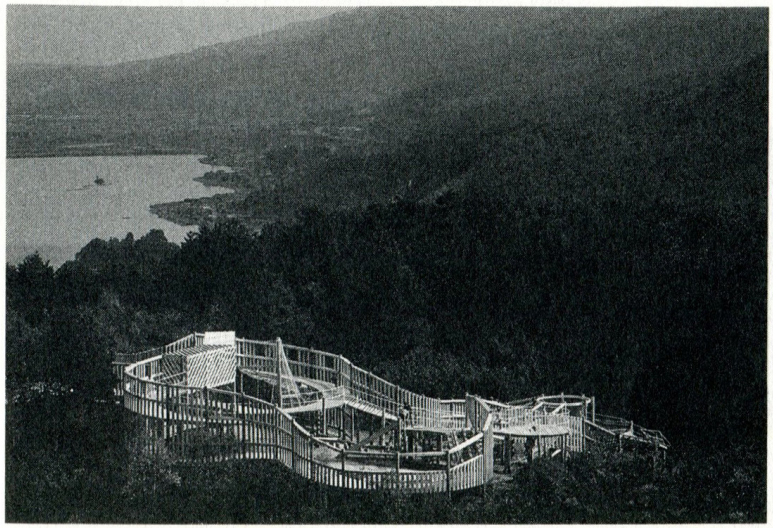


Fig. 2.50 Fortress of Winds. The 360-m-long wooden fortress with a view of Lake Suwa in the background. (*Photo: Fujitsuka Mitsumasa.*)

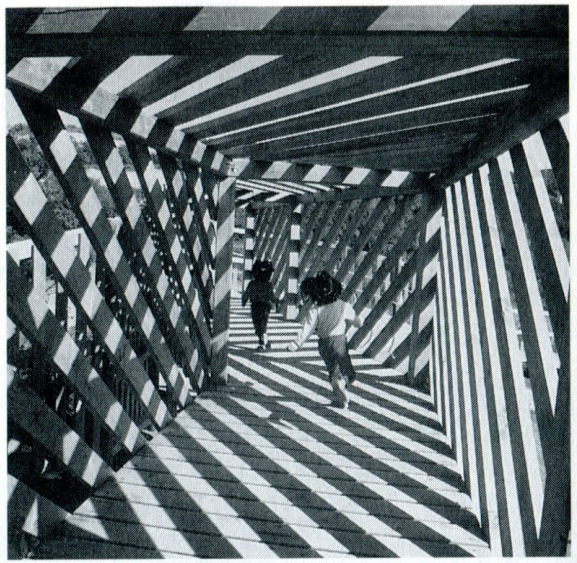


Fig. 2.51 Bridge of the Fortress of Winds. (*Photo: Fujitsuka Mitsumasa.*)

Fig. 2.49 Sloping floor of the Fortress of Winds. (*Photo: Fujitsuka Mitsumasa.*)

Running Circuit

"A play structure designed to allow children to run around to their hearts' content. The slope, varying in height from 2.5 to 3.5 m above ground, forms and endless road where childrens can run."

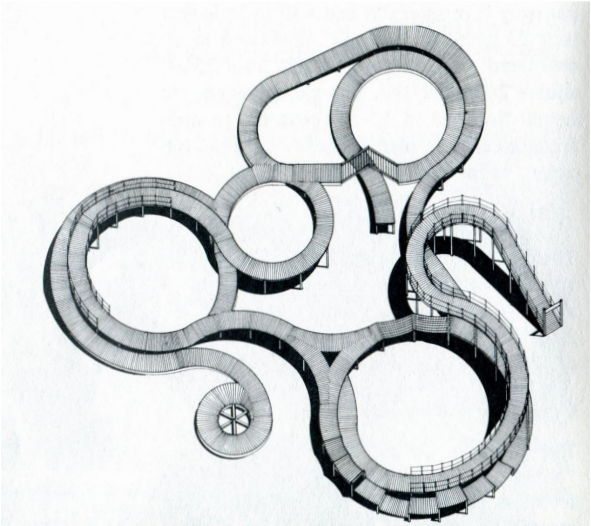


Fig. 2.56 Running Circuit. Axonometric projection.

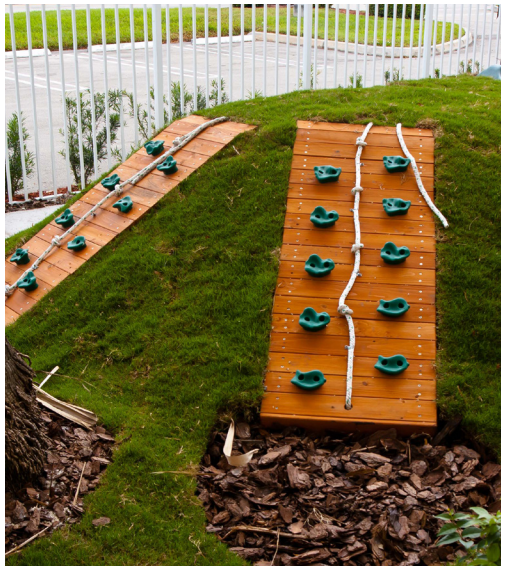
Fig. 2.57 Running Circuit. You cannot stay on the floor unless you keep running. (*Photo: Fujitsuka Mitsumasa.*)

Fig. 2.58 Running Circuit. An endless floor to run on. (*Photo: Fujitsuka Mitsumasa.*)

Playing with the Landform

Integrating the playgrond elements into the landscape allows for variation of its us and for it to be part of the land rather than an after thought element.

- Exercise running up and down
- Landforms as play elements
- Size and shape variation
- Less hardscape materials for injuries
- Open green space for resting, running, rolling, playing



Natural Materials

Natural materials such as wood, stone, soil, vegetation and even water, help the playground to be part of the landscape. Furthermore, with the use of local materials it teaches children what is native to their landscape.

Forests as an Asset

Not only imitate the forest in a playground but bring the playground into th forest.
Integrate the play elements with nature to create an unique experiece for the users.
Move up and down with the land and the trees to produce multilevel experience.

Art & Nature

All of the previous elements can be combine and adapt by an artist to creat art pieces that represent nature, allow children to learn while interactin with them. This pieces can be permanente or for a limited time, attracting kids with th new pieces but stil keepping their favorits.

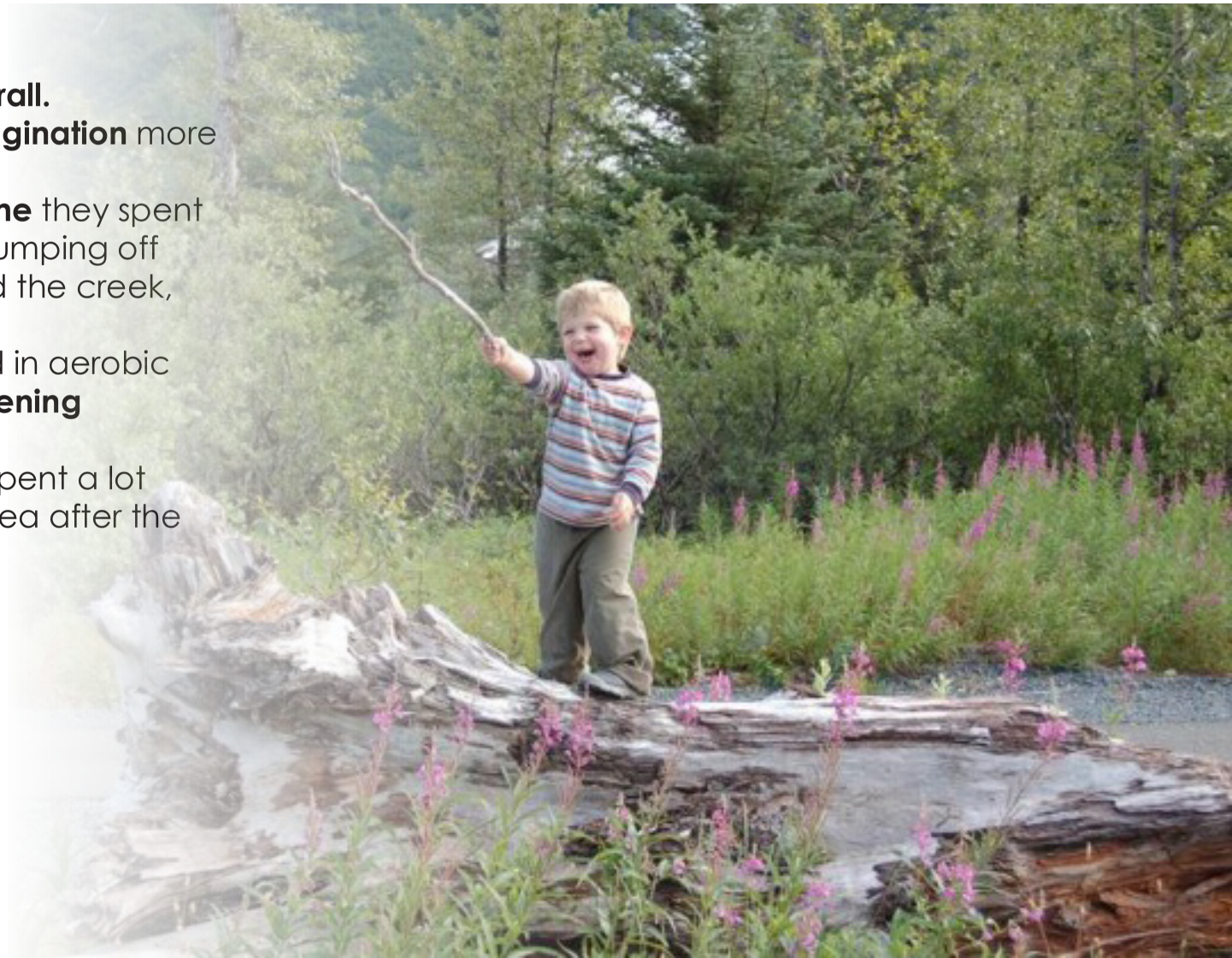
Allow children to imagen
and be part of Nature

Health Benefits

Researchers working at The University of Tennessee, Knoxville examined how children at UT's Early Learning Center used traditional plastic-based, brightly colored playground equipment, and how they respond to Nature base playgrounds.

Once children were exposed to less plastic and more nature, some amazing results occurred:

- Kids became more **active overall.**
- Kids appeared to use their **imagination** more while playing.
- Kids more than **doubled the time** they spent **playing** overall, spending time jumping off logs, watering the plants around the creek, and more.
- Kids spent more time engaged in aerobic and bone-and **muscle-strengthening activities.**
- Kids were **less sedentary** and spent a lot less time resting on the porch area after the renovation.



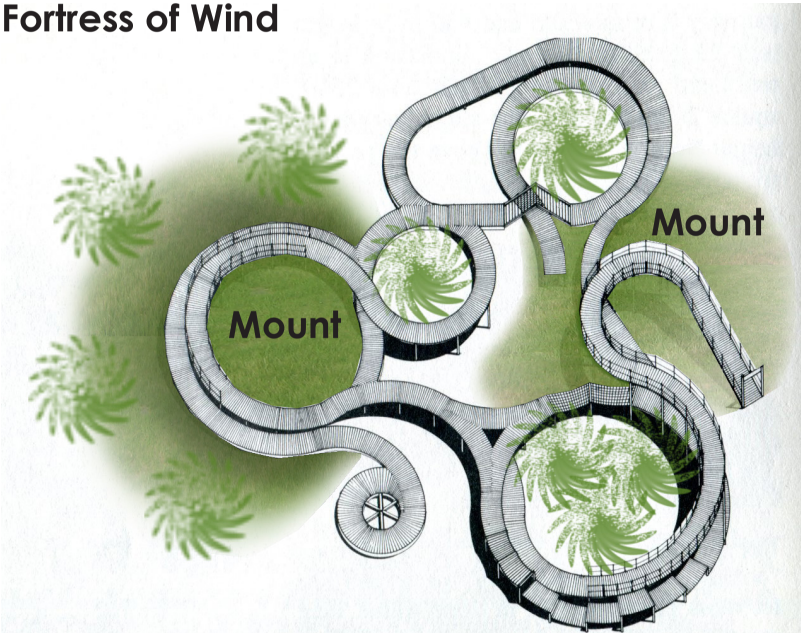
Brooklyn Prospect Park

New Nature Playground made from **salvaged trees**.
Is an excellent place for children to have a little time for supervised recreation in the woods.

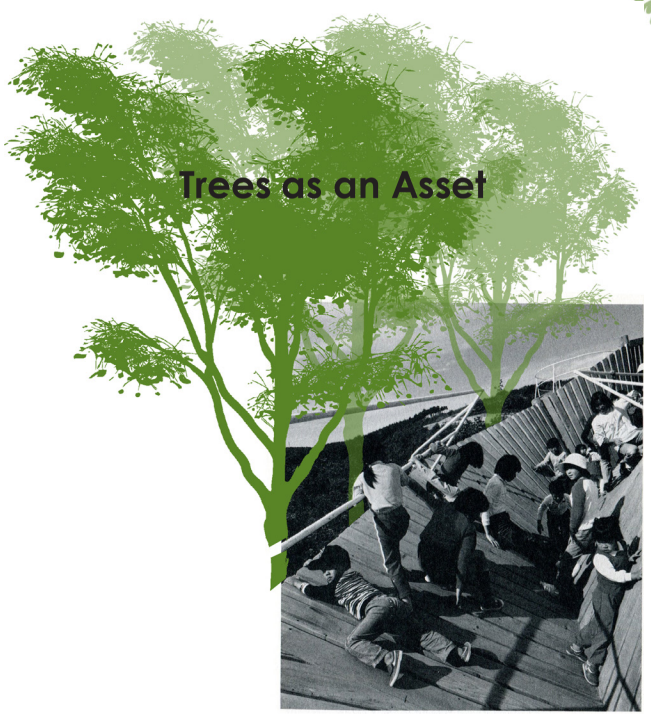
http://www.inhabitots.com/brooklyns-prospect-park-has-a-new-nature-playground-made-from-trees-damaged-in-recent-storms/zukcer5/?extend=1

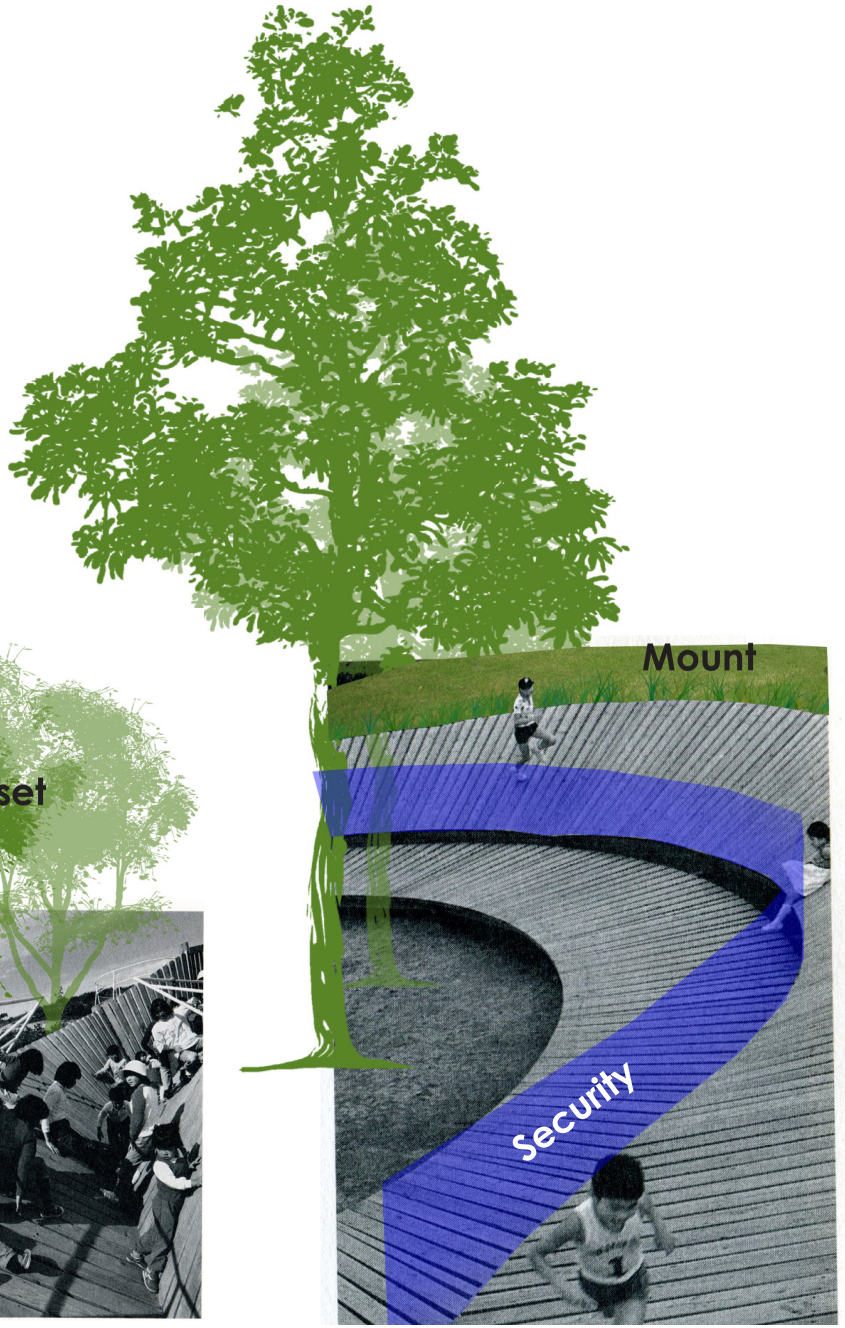
Conclusion

Fortress of Wind



- Integrate the play elements into the land to create an active and evocative natural playground.
- Allow flexibility for its use, which will allow the children to image their own adventures.
- Integrating local natural elements and art pieces to teach about local materials and ecology.





Resources

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