

EXAMINING PLAYGROUND PLAYTYPES

Research of current trends in U.S. and abroad

Boston Schoolyard Initiative
Prepared by Gregory Foti
August 2010

OVERVIEW

This report stemmed from different discussions between Young Achievers Science and Mathematics Pilot School, Boston Schoolyard Initiative, and the design architect. The meeting determined that the progressive Young Achievers School was hoping to create a playground that would meet their needs for physical activity and integration with classroom lessons. During this meeting it was clearly evident that a “normal” playground wouldn’t suffice. The ideas and playgrounds trends that were presented were nature play, adventure play, imagination play and the question of how to integrate sand back into Boston playgrounds. As no one could finitely define these play types it was necessary to pull together research on all of the topics.

The following information is intended as a general summary of the important points. First, there are overall descriptions of the types of play used for comparison; after the summaries there is additional information about important features of the various types of play. Next are precedent studies for the fore mentioned types of play. It is highly recommend to look at the web links listed because many included vital information on how the spaces are used or offer insight into the design methodology behind the spaces. Lastly, there are final precedents of great middle ground solutions between the different trends.

NATURE PLAY

This is the play that people are most familiar with, because it was the play that had when they were children. In the past much more freedom was given to children and their access to nature was much better than the children of today. This freedom and exposure to nature were their only materials for play; forcing children to use their imagination and resourcefulness to create play, such as “digging the center of the earth”, self made tree houses, constructing forts with friends, hiding in piles of leaves and making snowmen. The cognitive and physical benefits of playing with nature have been extensively published and noted that the current generation of children are not exposed to enough natural environments. It wasn’t until recently that this form of play was given a specific name to create a niche type of play.

IMAGINATION PLAY

Imagination play is not exactly a defined type of play. It’s a mixture of all different types of play, such as manipulative play, play equipment and exploration. To have a successful play space that employs “imagination play” there must be a choice in play. Choice can include various play elements and objects but also includes access to seating for socialization, relaxation and intellectual play such as board games. The choice in play allows the children to use their imagination and creativity to create and define their own play. In many ways it embodies all of the same aspects of nature play but substitutes nature when it can’t be replicated in certain contexts or is deemed unsafe.

ADVENTURE PLAY

Adventure play is an offshoot of both nature play and imagination play but focuses almost exclusively on manipulative play. Adventure play originated in cities during World War II, like Amsterdam and Copenhagen, where bombings and ground fighting destroyed large portions of the city. Since most public spaces were destroyed and no provisions for children were around, the children played in the rubble heaps and used this debris to create their own playgrounds. The adaption of this type of play are employed in the U.S., U.K. and Europe where children have access to materials and supervision to build their own structures where they can play. However these playgrounds have a stigma of being dangerous and have a “trashy” look resulting in the closing of almost all of these playgrounds, however the benefits of constructing their own play space is invaluable.

Simply put these current play trends are essentially the same. They all have slight differences but the main points are that children should be exposed to nature, be able to manipulate and shape their environment and offer freedom of choice. Their niche-style names only confuse users about their benefits and market an idea to sell. Each of the fore mentioned play types have their own strengths and weaknesses, so the logical solution is combine them into one. Lets forget the niche names and specialized play types created by designers and researchers and focus on just making play spaces, that incorporate all the strengths of each play type and address their weaknesses.

RESOURCES

Nature Play

Resources:

<http://www.naturalearning.org> - Research, Professional Development and Design - Robin Moore

Articles:

<http://www.zinio.com/reader.jsp?issue=416118104&o=int&prev=si&p=64> - Article detailing Paul Friedberg's view on play and the importance of adventure (nature) play

<http://naturalplaygrounds.com> - Design firm based out of Concord, NH specializing in Natural playgrounds

<http://www.good.is/post/adventure-playgrounds>

Adventure Play/ Imagination Play

History:

<http://adventureplaygrounds.hampshire.edu/history.html>

Articles:

<http://weburbanist.com/2007/11/27/urban-adventure-playgrounds-the-coolest-places-you-probably-never-played-as-a-kid/>

http://www.nycgovparks.org/sub_your_park/historical_signs/hs_historical_sign.php?id=11939

<http://www.good.is/post/nature-playgrounds>

<http://www.ci.berkeley.ca.us/contentdisplay.aspx?id=8656>

http://www.archpaper.com/e-board_rev.asp?News_ID=4009

<http://playgrounddesigns.blogspot.com/2010/05/kolle-37-berlin-self-constructed-and.html>

http://www.salon.com/life/feature/2010/05/17/war_on_childrens_playgrounds

PLAY ELEMENTS TYPICALLY INVOLVED IN NATURE, IMAGINATION OR ADVENTURE PLAY

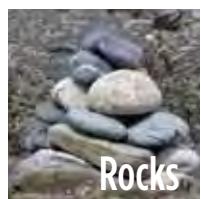
A. Manipulative Play

One form of play that is becoming increasingly popular is manipulative play. Reasons for this is that manipulative play has the ability to adapt to build motor skills and encourage imaginative play. As the play is object operation based the more objects and operations available greatly varies play and can create more interesting outcomes that can sustain children's interest longer. Manipulative play also has the ability to transcend age differences by the varying scales of objects and the introduction of more complex operations. The following are examples of possible objects, operations and materials that could be used for play. Keep in mind that this play is a "mix and match" type of play, where children can find new modes of play that were not foreseen by designers.

Objects



Blocks

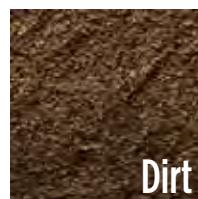


Rocks

Materials



Sand



Dirt

Operations



Dig



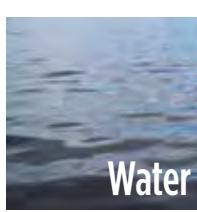
Fill



Rope



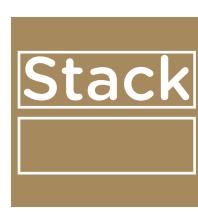
String



Water



Stone



Stack



Roll



Sticks



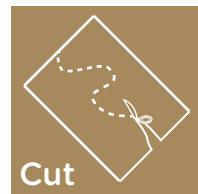
Scissors



Branches



Leaves



Cut



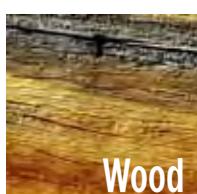
Tie



Shovel



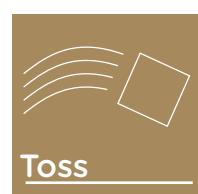
Pails



Wood



Flowers



Toss



Rake
Rake
Rake
Rake



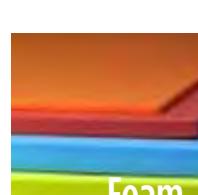
Balls



Planks



Fabrics



Foam



Cover



Pour



Rake



Tarps



Metal



Plastics

B. Sand

A classic of any playground built in the US. Sand is one of the best play materials for its abilities to be manipulated, control speed of play, define areas and link play elements together. Its most valuable feature is its malleability and constructive qualities based on water content. Sand is also a great medium for play because of its relatively cheap cost, high play value and its appeal to both children and adults. While we only associate sand play only with children, we forget that older children and adults use sand for play the beach, to build castles or sculptures, “dig to China”, bury friends or play typical sporting games.

Health Issues - Possible issues

Toxoplasmosis

Issue: Transmission via exposure to cat feces

Source: <http://www.cdc.gov/toxoplasmosis/>

Truth: [people] much more likely to become infected through eating raw meat and unwashed fruits and vegetables than from handling cat feces.

Source: <http://www.cdc.gov/toxoplasmosis>
<http://www.vet.cornell.edu/fhc/brochures/toxo.html>

Crystalline silica

Issue: Silica is classified as a carcinogen by the CDC. Fine traces of crystalline silica are present in sand used at playgrounds, in sandboxes and at the beach.

Source: <http://www.cdc.gov/niosh/topics/cancer/npotocca.html>

Truth: No documented cases of silicosis (condition cause by excessive inhalation of crystalline silica) have ever been attributed to exposure to silica via a sandbox or playground. The most common cases are occupational which occur at mining operations or from sand blasting. Typically silica in playground sand is too large (trace amounts are tiny enough) to cause any damage to people.

Source: <http://www.cdc.gov/niosh/topics/silica/>

Maintenance Issues

- On going maintenance: such as regular raking and turn over
- If feces or urination has been detected - simple procedures to clean sand with readily available cleaning supplies already used at schools.

Source: http://www.ehow.com/how_4885697_sanitize-sandbox-sand.html

C. Other Play Elements

Current play equipment has begun to overtake playgrounds as the sole elements for play. The colossal forts and plastic mega-structures that dominate playgrounds are typically one-dimensional and are designed with tightening interpretations of the safety and liability laws, which results in boring play. New approaches to play talk about “linking” series of smaller play elements that can produce longer more imaginative play sequences. However there is no one answer for the correct equipment for every playground. Different sites and different contexts will determine which of the two will be the best solution.

Playground Resources

Goric - small scale play elements
<http://www.goric.com/>

PlayEngland - Highly Recommended
Document cataloging new English playgrounds and their design principles.
PDF - www.playengland.org.uk/resources/design-for-play.pdf
<http://www.playengland.org.uk>

D. Safety and Risk

Few studies have been done in relationship on how risk can be managed at a playground. Most current data available is extremely misleading and doesn't analyze or come to conclusions about this data. The data only tells us that "x" amount of children are hurt and little else. The following resource, Playgrounds - risks, benefits and choices, by David J. Ball is invaluable as tool to rethink how we approach risk in relationship to playgrounds. Emergency room and scientific data was collected from the U.S., England and Europe, and then analyzed. The results question how we currently manage risk in playgrounds and if we are protecting children too much.

Risk Management Resources

Highly Recommended

Playgrounds - risks, benefits and choices
Professor David J Ball
Middlesex University
School of Health & Social Sciences
Centre for Decision Analysis
& Risk Management
www.hse.gov.uk/research/crr_pdf/2002/crr02426.pdf

PRECEDENTS

The following precedents are in no particular order, such as importance, cost or other ranking system. Each separate example has something different to offer to play, whether it's about nature, play systems or creative ideas. The last three precedents represent a middle ground between all of the other precedents. The cost for the playgrounds is relatively inexpensive but the quality of design and materials doesn't suffer. The common problems of safety and maintenance were addressed in very simple and smart methods such as topography, appropriate play equipment and extensive use of natural materials.

67th Street Park - Central Park

New York City, New York

M. Paul Friedberg and Partners

Client: New York City Department of Parks & Recreation

The creation of this play environment replaces an obsolete Moses playground and **integrates it within the vocabulary of Central Park**, a national landmark designed by Olmstead. The hallmark of the park is the use of the natural setting to express the nature of play. The design concept builds upon the notion of the play environment as an extension of the Olmstead design rather than an intrusion upon it. The use of natural elements; **wood, stone and water** introduces the concept of **play as an activity of nature**. The activities in the play area include child operated water sluices, team swings, and a 30' carved granite slide which all interact to stimulate the physical, mental and social aspects of play activities.

-M. Paul Friedberg and Partners



Video of park in action with interview of Paul Friedberg

<http://www.youtube.com/watch?v=qN2QlRTaOg8>

Paul Friedberg article about adventure (nature) play

<http://www.zinio.com/reader.jsp?issue=416118104&o=int&prev=si&p=64>

Teardrop Park

New York City, New York

Michael van Valkenburgh Associates Inc.

Client: New York City Department of Parks & Recreation

Experiencing natural environments is widely recognized as an important part of early childhood development and most urban playgrounds have banished plants in favor of equipment. ... **offering adventure and sanctuary to urban children** while also engaging their minds and bodies. **Site topography, water features, natural stone, and lush plantings** contribute to an exciting inner world of **natural textures, intense scale differences, and intricately choreographed views**.

-Michael van Valkenburgh Associates Inc.



Burling Slip Park

New York, New York

Rockwell Group

Client: New York City Department of Parks & Recreation

Cost: \$4 Million + \$2 million staffing fund



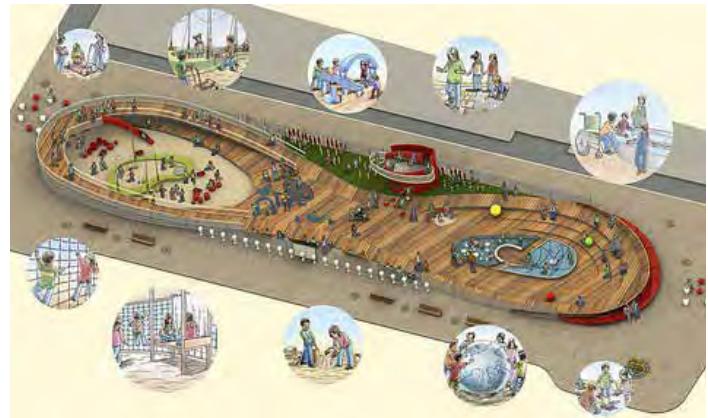
The park is located close to the waterfront in the financial district in lower Manhattan. The neighborhood has almost no residential housing, which means that **this playground's success is directly related to its connection to public transportation and its ability to be seen as a destination.**

Commonly known as 'Imagination Playground' and is the poster child of the new direction in play based around **object manipulation**. The manipulative play largely consists of **large blue foam blocks that can be used in concert with the large sand area and wading pool**. The park also has play facilitators that organize play and ensure safety of the children. The entire area is contained by a "figure-eight" ramp that lifts itself to create connections with the existing context.

The material selection for the playground directly relates to its physical and historical relationship to the waterfront as the site was originally a boat slip. These connections translate to nautical materials such as wood, rope, sand, water and limited use of metal.

Notes: **Hired play staff is funded by a \$2 million dollar grant given by the designer, Rockwell Group.**

\$2 million funded by New York City Department of Parks & Recreation remainder funded by private fundraising by the designer, Rockwell Group



Alexander W. Kemp Playground

Cambridge, Massachusetts

Rob Steck, Landscape Architect

Client: The Department of Cambridge Community

Development

This playground is the product of a renovation to the existing playground on Cambridge Commons in Cambridge, Massachusetts. **The existing playground contained pressure treated woods and wasn't completely ADA accessible.**

The playground design is a landscape of hills, valleys, sand, wooden branches and stumps, living plant material, and loose wooden blocks to build with. It is a place where kids can invent their own forms of play. Many features are made from naturally decay-resistant wood. Slides are embedded into hills. Turning a crank sends water cascading down a series of tables into the **sand area**. There is a **swing set** for toddlers, a **multidirectional dish-shaped swing** that can be used by several children at once, a **see-saw with multiple seats** at each end for groups of children (or adults), and a **"merry-go-round"** that is at ground level to provide wheelchair access.

Notes: Primarily funded from Urban Self-Help Grant, Alexander W. Kemp Foundation and an "Accessible America" prize awarded by the National Organization on Disability.



Unconventional Playspaces

Pole Dance

MoMa P.S. 1 Young Architects Series
Long Island City, New York
SO-IL, Solid Objectives – Idenburg Li
Client: MoMa P.S. 1 Young Architects Series
Cost: \$85,000



The installation consists of a simple grouping of 25 foot tall fiberglass poles (100 total) and 9000 square feet of netting that transforms into a kinetic sculpture by the simplest of touches. To add more fun to this installation is the introduction of large rubber balls on top of and below the net. Producing games for children and adults to try and get the balls down holes or into a small wading pool.

<http://vimeo.com/12828284> - Must see video of the intallation.



Martime Youth Center

Copenhagen, Denmark
PLOT + JDS
Client: Kvarterløft Governemental City Renewal Project, Lokale og anglagsfondern, The Urban Development Fond



The **youth center and sailing club combine forces** to build a **new center for children in a trouble area of Copenhagen**. The site was then found to be toxic and needed to be cleaned; however, analysis of the soil was determined not hazardless to people the project was developed to sit on piles. A **wooden deck is layed over the site and then is lifted in portions to provide storage for boats or pieces of program**. The resulting undulating form is **used by the children as slides** and provides a **great place for adults and children to hang out**.



Chapelfield Play Area Cowie, near Stirling

Client:	Stirling Council
Location:	Cowie near Stirling
Designers:	Judi Legg, Play Space Designer, and Mike Hyatt, Landscape Architect
Project timescale:	Planning started 2000. Opened 2006
Capital cost:	Approximately £110,000
Funding:	Section 75 (Scottish equivalent to Section 106) housing developers' contributions; BBC Children in Need; Stirling Landfill Tax Trust; Cowie Play Areas Group fundraising

In 2000, a child drowned in a farmer's pond in Cowie, an ex-mining village near Stirling. This tragedy prompted residents to campaign and fundraise for a local play area.

A suitable site was identified – the site of a neolithic settlement that was of archaeological significance and therefore not available for housing. Although children already played there, the site was contentious because it was adjacent to the pond where the child had drowned. It took time to work through painful feelings about the drowning and to achieve design solutions that addressed safety issues, without compromising the children's need for independence and to experience challenge and risk.

Ideas from a visit by local children to a pre-history park and information about the site's history have been built into the park design including shelters, cooking and seating areas, and a raised beach, along with mounds, tunnels, slides and a climbing wall. The design contains elements which feel familiar to the children who were involved. Relatively few pieces of equipment are set in a succession of carefully inter-connected spaces. Quite dramatic changes in level have radically changed the previously flat site. Although the site is quite small, the feeling that 'there's always something round the corner' encourages visitors to explore. The routes through the site invite the use of bikes and wheeled toys. The natural elements include ditches which can hold rainwater for a short time.

The site was originally treeless. Local children were involved in planting rowan, birch, Kilmarnock willows and Japanese maples. These planting sessions included environmental games, explanations and discussions about the importance of trees to wildlife and to people, the reasons for including native species, and how the children could help to look after them. The hedge that reinforces and will eventually hide the fence between the play area and the farmer's pond includes blackthorn, hawthorn and dog rose. There are also attractive shrub areas of witch hazel, holly and honeysuckle.

Some initial problems with misuse/over enthusiastic use of the site in the evenings by teenagers were dealt with firmly and constructively by local residents who have taken responsibility for locking the park at night.

For more information, contact:

Children's Services – Play Services, Stirling Council, Unit 12, Back O'Hill Industrial Estate, Back O'Hill Road, Stirling , FK8 1SH, tel 01786 430120, play@stirling.gov.uk
Sue Gutteridge, Play Consultancy, tel 0131 662 9984, suegutteridge@btinternet.com.



General view from site entrance.



Semi-circular walls set into the mould are climbable on the inside face.



Plenty of room to ride a bike too.



Balance features alongside the footpath draw the visitor into the site.

Darnley Park Stirling

Client:	Stirling Council
Location:	Stirling
Designers:	Judi Legg, Play Space Designer, and Page and Park Architects, Glasgow
Project timescale:	Planning started 2001. Opened 2004
Capital cost:	£280,000, including paths, steps, lights, infrastructure, etc.
Funding:	Stirling Council housing, environment and children's services; Stirling Local Community Development Fund

Darnley Park was created on a formerly neglected city centre site. With dramatic views over Stirling to the River Forth and the Ochil Hills, it forms a serene and interesting space for people living in the immediate area of high density housing, for the many visitors to Stirling's historic Old Town, and for those using it as a through route between the upper and lower parts of the town

In developing this site, the main aim was to create a space that encouraged imaginative and child directed play, in a landscape that held local significance and meaning. The distinct but connected play spaces contain grit and sand providing safe surfaces and good play material at the same time. All actual play structures and equipment (for climbing, sliding, balancing, swinging, ball games and much else besides) have been built or chosen specifically for the site, to integrate with, complement and enhance the landscape. The site includes an unconventionally shaped ball court cut into the woodland on one side of the site.

Natural wooded areas on the embankment bordering the long flight of steps connecting the site to the town centre below and surrounding the ball court have been left wild but not neglected, and are managed in such a way as to encourage children to explore and use these areas.

Local residents, who had first raised the need for the park were involved throughout, participating in all project meetings during the construction period and visiting the site regularly. Local children worked with playworkers, a sculptor and an artist/blacksmith to design, make and site special boulder features.

Since the site opened it has been the focus for numerous events. Stirling Council Play Services work with local children on a regular basis, and children themselves have been involved in the organisation and hosting of community events in the park, including working with playworkers and a pyrotechnician to design their own fireworks display. They have most recently been involved in planning and executing a new phase of planting on the site – the edible area – including raspberries, currants and pear, plum and apple trees.

The park has won wide acclaim, being the sole Scottish winner of an International Architecture for Children Award in 2004.

For more information, contact:

Children's Services – Play Services, Stirling Council, Unit 12, Back O'Hill Industrial Estate, Back O'Hill Road, Stirling , FK8 1SH, tel 01786 430120, play@stirling.gov.uk
Sue Gutteridge, Play Consultancy, tel 0131 662 9984, suegutteridge@btinternet.com.



The play space has a panoramic view over Stirling.

© Stirling Council Play Services



Artist-made play sculpture.



© Stirling Council Play Services



The play space is on the doorstep of a large housing estate.



Children bring their own toys to use in the sandy areas.

© Stirling Council Play Services

Waverley Park Stirling

Client:	Stirling Council
Location:	Stirling
Designer:	Judi Legg, Play Space Designer, and Mike Hyatt, Landscape Architect
Project timescale:	Planning started 2003. Completed 2005
Capital cost:	£50,000
Funding:	Housing developers' contributions relating to three different developments

Waverley Park consists of a football pitch and play area. It is long established and, as the only play area for this expanding neighbourhood, is an important neighbourhood facility that is well used by a wide range of children, young people and carers. It is also used regularly by the nearby primary school, nursery, playgroup and out of school care project. The site boundary is fenced as it is completely surrounded by roads.

An earlier re-design of the site in 1993 had, importantly, re-sited the football pitch to one side of the site, rather than in the centre, and reduced it to a seven-a-side size. At this stage much of the existing old play equipment was removed, and what remained was relocated, with new equipment and a sand play area on the rest of the site.

Among the aims of the most recent re-design were to introduce changes of level and planting to this completely flat and treeless space. The detailed brief for the design was put together slowly and was drawn from a number of sources. These included the Play Space Designer's long-term observation and use of the park as a local resident; discussion and observation sessions with relevant local groups; discussion with park users in the context of staffed 'play in the park' sessions.

The design sought to incorporate the priorities identified by users: to extend the sand play, to introduce more challenging climbing opportunities, and to introduce shade and wind breaks. Mounds, ditches, logs, boulders, bridges, reeds, trees and areas of long grass were introduced incorporating all of the existing equipment to create an interesting and challenging play landscape. Very little new equipment was bought, but all of the existing equipment was refurbished and repainted. During the very rainy construction period, the mud was greatly enjoyed with sponsored mud fights taking place as part of Comic Relief. This resulted in requests to keep a mud area – which has been done (rainfall allowing).

The planting, in which local children were involved, is very important in giving seasonal interest, and includes hazel, rowan, birch, amelanchier and willows as well as an embryonic rhododendron den. In 2007, a tree that was being felled at a nearby construction site was brought to Waverley Park, adding a new focus of interest.

For more information, contact:

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Sue Gutteridge, Play Consultancy, tel 0131 662 9984, suegutteridge@btinternet.com.



© Stirling Council Play Services

New mounds transformed this previously level site and made the equipment even more exciting.



© Stirling Council Play Services

Mounding helps sub-divide the site and create individual places for the different items of equipment.



© Aileen Shackell

Sand and grit surfacing at Waverley Park offer different play experiences.

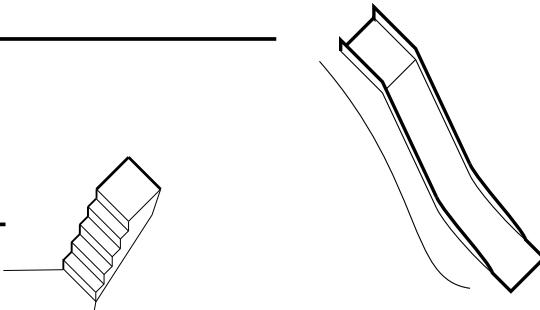


© Stirling Council Play Services

Maintaining grass at different lengths creates more play opportunities.

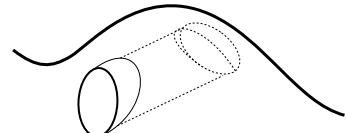
Important features

Chapelfield Play Area, Cowie, near Stirling, Scotland

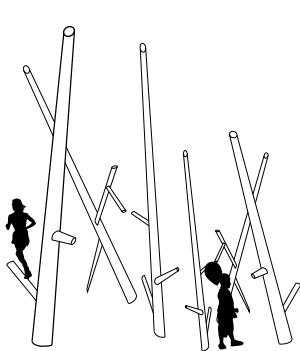


Simple landscape mound

- Play elements are integral parts of landscape
- Avoid spaces for entrapment
- Durability of mound cover
- Awareness of fall heights



Darnley Park, Stirling, Scotland



Fallen Trees

- Vertical orientation give appearance of sculpture
- Fall heights/impalement addressed with limited climb height
- Much easier to maintain than laying horizontal

Waverly Park, Stirling, Scotland



Wild areas/ Grass

- immersion into nature
- attracts nature
- Softens areas and gives environmental benefits
- Varying heights can be used for defining space

