



## **RISK ASSESSMENT**

For

### **Cramond Primary School Playground**



**Undertaken on 3rd August 2016  
on behalf of  
The City of Edinburgh Council**

RoSPA inspections are an independent safety assessment of the site and are produced for RoSPA by

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<b>CONTENTS</b>	<b>Page</b>
Introduction	3
Client Instructions	5
RoSPA Actions	6
About Risk Assessment	7
About the Risk Assessment Tables	11
Risk Assessments	12
About British and European Standards	33
Compliance with Standards	35

## **INTRODUCTION**

The owners or operators of playgrounds have a duty of care to the users. Employers have a legal responsibility to undertake an assessment of the risks presented to those affected by their undertakings [Management of Health and Safety at Work Regulations 1999]. In this case this means that The City of Edinburgh Council and/or Cramond Primary School (whichever is the employer) has a legal duty to undertake a suitable and sufficient risk assessment.

This report has been commissioned by The City of Edinburgh Council to assess the risks presented to users by the playground at Cramond Primary School, 4 Cramond Crescent, Edinburgh, EH4 6PG. It sets out some risk assessments that give an understanding of the hazards, risks and existing control measures, and residual risks in connection with children playing on the school's playground. Recommendations for additional control measures are also made where applicable. It also indicates compliance or otherwise with applicable British and European Standards. Typically, such standards stipulate safety requirements and test methods.

The site owner should consider the recommendations for control measures contained within this report and it is recommended that they be approved and programmed into future budget and development programmes as deemed to be appropriate.

Risk assessments should be reviewed in the light of experience or the passage of time.

When determining the risk of various facilities due account is made of the activities likely to take place, as well as the age and abilities of the users. Due account is made for reasonable misuse, as may be expected by children.

This report has been produced by David Yearley, Head of Play Safety for The Royal Society for the Prevention of Accidents.

It is important to note that the legal responsibility for conducting a risk assessment vests with City of Edinburgh Council and/or Cramond Primary School (whichever is the employer) as the employer. It is the employer who must legally make a judgement about the risks and what control measures are deemed to be necessary to control those risks. The content of this report provides some information upon which the employer can make such an assessment and judgement for itself, or it provides an assessment which the employer may decide, upon due consideration, to adopt as its own.

The playground at Cramond Primary School is a recently developed space, providing a mixture of open grass space, planting, landscaping, commercial off-the-shelf playground equipment and bespoke-designed playground features using natural elements, such as timber, gravel and boulders.

The playground space includes features such as: fences, paths, grassed slopes, hedges, steps, willow tunnel, seating and picnic tables, decking, planters, a pond, trees, walls, open grassed areas, slopes, logs, gravel beds, climbing boulders, playground equipment, a traversing wall, open macadam space with playground markings, play houses and an outdoor classroom.

## CLIENT INSTRUCTIONS

The City of Edinburgh Council, through its Play Development Officer Margaret Westwood, has commissioned the report author to undertake the following work:

- Undertake a comprehensive health and safety risk assessment for a natural built playground, in a primary school (for children aged 4 to 12 years). This to include:
  - The identification of hazards and an assessment of the inherent risks,
  - A review of existing controls, and an assessment of the residual risks,
  - Recommendations to ensure risks are controlled to a tolerable level.

The above should include a review of conformance to all relevant ENs (European Standards), and guidance from authoritative bodies.

The health and safety risk assessment is to take into account the nature of the activities in the playground and the adjacent areas (for example, running spaces) and its users.

A risk benefit assessment has previously been conducted on this site. This assessment is a health and safety assessment and is not a risk benefit assessment.

## RoSPA ACTIONS

I visited Cramond Primary School on 20th July 2016 to view the site, to meet with school staff, to meet with the report's commissioner Margaret Westwood and to inspect the playground.

I met with the following school staff members:

Helen Donaldson, Head Teacher,  
Lyndsy Adam, Business Manager

Additionally, the following documentation has been supplied to me:

- Cramond Primary School Risk Benefit Assessment, prepared 18<sup>th</sup> August 2014, revised 16<sup>th</sup> June 2016,
- Cramond Primary School Risk Assessment, dated 22<sup>nd</sup> June 2016,
- Play Area Safety Inspection Report of 25<sup>th</sup> February 2016 undertaken by Bob Wallace for RoSPA,
- Cramond Primary School Action Plan, updated 22<sup>nd</sup> June 2016,
- Daily Visual Check Weekly Check updated may 2016 (blank checklist),
- Our Place Supervision, dated 2<sup>nd</sup> June 2016,
- Superseded Original Maintenance Schedule (undated).

I assessed the equipment installed in the children's playground for compliance with the relevant British Standards by non-dismantling, non-destructive inspection and testing.

## **ABOUT RISK ASSESSMENT**

A risk assessment is an important step in protecting workers and users of a site as well as complying with the law. It helps to focus attention on the risks that matter – the risks that have the potential to cause harm. The law does not expect the elimination of risk, but employers are required to protect people as far as is 'reasonably practicable'.

A risk assessment is a careful examination of what could cause harm to people so that a decision can be made as to whether precautions need to be taken to prevent harm.

The Health and Safety Executive (HSE) suggest a straightforward method of conducting a risk assessment, sometimes called the 'Five steps to risk assessment'. This will form the basis of the risk assessment in this report. The five steps are:

- Identify the hazards,
- Decide who might be harmed and how,
- Evaluate the risks and decide on precautions,
- Record your significant findings, and
- Review your assessment and update if necessary.

This report undertakes the first three steps, plus the recording listed in step 4. Implementation and review is the responsibility of the site operator.

It is important to note that the legal responsibility for conducting a risk assessment vests with the employer. It is the employer who must legally make a judgement about the risks and what control measures are deemed to be necessary to control those risks. The contents of this report provide some information upon which the employer can make such an assessment and judgement for itself.

HSE's advice is 'don't overcomplicate the process'. This is the approach taken here.

The steps are further described here, to give an indication of what is being recorded in the risk assessment and why,

STEP 1 - Identify the hazards. It is important to identify accurately the potential hazards.

- A site visit has been undertaken by the report author,
- My experience of playgrounds and how children play on them allows me to gauge the likely hazards,
- Consultation with the school representatives has been undertaken,

STEP 2 – Decide who might be harmed, and how

- For each hazard the person or group of people who might be harmed has been considered,
- Consideration has been given to different users as identified in the assessments,
- Children have been considered as a group who may have particular requirements.

STEP 3 – Evaluate the risks

- What control measures are already in place?
- Can the hazard be removed?
- What control measures can be introduced?
- What are the residual risks, that is the risks that will remain after the successful introduction of the control measures?

STEP 4 – Record your findings (and implement them)

- Keep the records simple to make them easily understood,
- Ensure it is suitable and sufficient (to show a proper check was made, persons affected were asked, obvious hazards are dealt with, precautions are reasonable, the remaining risk is low, staff (and therefore vicariously children) were involved in the process),

The implementation is the responsibility of the site operator.

STEP 5 – Review your assessment and update if necessary

- Changes may affect the risk assessment,
- Learn from accidents and incidents,
- Consider significant changes.

Sensible risk management is about practical steps to protect people from real harm and suffering. It is not about stopping activities, but about ensuring they can take place in reasonable safety. It is about striking a balance between the unachievable aim of absolute safety and the kind of poor management that damages lives.

Sensible risk management is about:

- Ensuring that workers and the public are properly protected,
- Providing overall benefit by balancing risks and benefits,
- Enabling activities to go ahead,
- Ensuring that those who create risks manage them responsibly,
- Enabling individuals to understand that as well as a right to protection they must also exercise responsibility.

It is not about:

- Creating a risk free environment,
- Generating useless paperwork,
- Exaggerating the risks or highlighting trivial risks,
- Stopping important recreational and learning activities where the risks are managed,
- Reducing protection from risks that cause real harm.

These principles are abridged from the Health and Safety Executive's own principles of sensible risk management.

Some practitioners of risk assessment prefer to use tables plotting the likelihood of harm against the severity of the injury sustained. The likelihood is given a score of 1 to 5, and the severity is given a score of 1 to 5. In doing this a matrix is produced which gives a numerical assessment of the risk on a score of 1 to 25, and a judgement is made as to which risks are low, which are medium and which are high. This method is not included in the current examples available from HSE, but it forms part of the assessments below in order to be understandable by a wide audience.

Risks are calculated in this way:

1. An assessment of the likelihood of harm taking place is made using the numbers 1 to 5, by following these descriptions:
  - a. 1 = Rare
  - b. 2 = Unlikely
  - c. 3 = Moderate
  - d. 4 = Likely
  - e. 5 = Certain
2. An assessment of the severity of the injury sustained is made using the numbers 1 to 5, by following these descriptions:
  - a. 1 = Insignificant
  - b. 2 = Minor
  - c. 3 = Moderate
  - d. 4 = Major
  - e. 5 = Catastrophic
3. The two numbers are multiplied to give a risk score on a scale of 1 to 25.
4. Scores of 1 to 7 inclusive are considered to be low risk and are considered to be tolerable,

5. Scores of 8 to 14 are considered to be medium risk and some control measures may be identified to reduce the risks to low, tolerable levels,
6. Score of 15 and above are considered to be high risk and urgent action is considered to be necessary to reduce the risks to tolerable levels.

It is important to note that where an outcome is catastrophic, but for which the likelihood is rare this will present a score of  $1 \times 5 = 5 =$  low risk. Similarly, a certain event for which the consequence is insignificant will present a score of  $5 \times 1 = 5 =$  low risk. It is important to consider likelihood and consequence, and not just one of the factors in isolation.

The multiplication of the factors into a risk matrix is given here in Table 1, with a judgement made as to risk scoring indicated by colour.

Green = LOW risk, Amber = MEDIUM risk, Red = HIGH risk.

Table 1 – Risk Score Matrix

		Severity				
		1 Insignifi- cant	2 Minor	3 Moderate	4 Major	5 Catastro- phic
L i k e l i h o o d	1 = Rare	1 LOW	2 LOW	3 LOW	4 LOW	5 LOW
	2 = Unlikely	2 LOW	4 LOW	6 LOW	8 MEDIUM	10 MEDIUM
	3 = Moderate	3 LOW	6 LOW	9 MEDIUM	12 MEDIUM	15 HIGH
	4 = Likely	4 LOW	8 MEDIUM	12 MEDIUM	16 HIGH	20 HIGH
	5 = Certain	5 LOW	10 MEDIUM	15 HIGH	20 HIGH	25 HIGH

## **ABOUT THE RISK ASSESSMENT TABLES**

In the risk assessment tables which follow the risk scores are given as Likelihood multiplied by Severity equals Risk, e.g.  $2 \times 3 = 6$ .

The tables are split into columns, with column headings having the following meanings:

What are the hazards?

This identifies what hazard is presented to users.

Who might be harmed and how?

This identifies the inherent risk of the activity assuming no control measures are in place, either existing or recommended.

What are you already doing?

This identifies what control measures are already in place and indicates the risk score after these existing controls are in place.

What else can be done to control the risks?

This identifies recommendations to control the risk further, or indicates that no further control measures are needed.

The row at the bottom of each table shows the residual risk once all control measures, including existing controls and recommended controls, have been implemented.

## RISK ASSESSMENTS

<b>Activity: General Bumps and Slips</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
<p>The macadam playground is small for the potential number of children who may use it, which may lead to general knocks, bumps and slips and trips.</p>	<p>Children bumping into each other during the normal course of play, or pushing each other from standing surfaces at height.</p> <p>This is medium risk, assuming all other control measures identified relating to falls from height and boulders are implemented fully. 4 x 2 = 8</p>	<p>Playground supervisors are present.</p> <p>Split playtime sessions reduce the numbers of children on the playground at one time to acceptable levels.</p> <p>Attractiveness of the play opportunities available are likely to reduce the amount of running, but slips and trips are always moderate to likely. Residual risk is low 3 x 2 = 6</p> <p>When the playground is used out of school hours the number of users is expected to be significantly lower than during school time. This reduces the likelihood of knocks, bumps and slips and keeps the residual risk low 3 x 2 = 6</p>	<p>Ensure supervisors are aware of the risks and provide suitable guidance to children.</p>
<p>Residual Risk (once all control measures are implemented)</p>	<p>Effective supervision will keep the residual risk to a tolerable low risk. 3 x 2 = 6</p>		



<b>Activity: Jumping Wall</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how?</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
Falling from timber sleeper wall to the surface below.	Children may fall from the wall during busy periods. They play a game of attempting to push each other off, which may lead to an unprepared child being pushed off, deliberately or accidentally. Injuries sustained may involve broken bones and complex fractures. This is a medium risk. $3 \times 4 = 12$	An impact attenuating surface (IAS) has been installed at the base of the wall which complies with the dimensional requirements of EN 1176. The primary purpose of IAS is to protect the head in the event of a fall – it may also reduce the severity of other injuries. Residual risk is medium $2 \times 4 = 8$  Supervisors are aware of the risks and conduct dynamic risk benefit assessments, intervening when necessary. Residual risk is low $2 \times 3 = 6$	A lack of supervision out of school hours will be balanced by an expected significant reduction in numbers of children using the unit.
Residual Risk (once all control measures are implemented)	Effective supervision is not likely to prevent all falls, but is likely to reduce the risk to a tolerable low risk. When supervision is not available out of school hours the risk is reduced due to an expected significant reduction in the numbers of children using the unit. $2 \times 3 = 6$		



<b>Activity: Climbing Net</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how?</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
Falling from climbing net to the surface below.	Climbing is inherently safe as children tend to concentrate in order to maintain their own balance and maintain three points of contact, but when standing at the top or when competing with other children they are more likely to be pushed deliberately or accidentally and fall. Injuries sustained may involve broken bones and complex fractures. This is a medium risk 2 x 4 = 8	An impact attenuating surface (IAS) has been installed at the base of the wall which complies with the dimensional requirements of EN 1176. The primary purpose of IAS is to protect the head in the event of a fall – it may also reduce the severity of other injuries. Residual risk is low 2 x 3 = 6  Protection against falling (barriers) is provided at the top of the net. Residual risk is low 2 x 3 = 6  Supervisors are aware of the risks and conduct dynamic risk benefit assessments, intervening when necessary. Residual risk is low 2 x 3 = 6	A lack of supervision out of school hours will be balanced by an expected significant reduction in numbers of children using the unit.
Residual Risk (once all control measures are implemented)	Effective supervision is not likely to prevent all falls, but is likely to keep the risk to a tolerable low risk. When supervision is not available out of school hours the risk is reduced due to an expected significant reduction in the numbers of children using the unit. 2 x 3 = 6		



<b>Activity: Ramp and Rope Climb</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how?</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
<p>Falling from the ramp to the surface below.</p> <p>Falling from the boulders to the surface below.</p> <p>Falling onto the boulders from height when going down.</p>	<p>Climbing is inherently safe as children tend to concentrate in order to maintain their own balance and maintain three points of contact, but when standing at the top or when competing with other children they are more likely to be pushed deliberately or accidentally and fall. Injuries sustained may involve broken bones and complex fractures. This is a medium risk 2 x 4 = 8</p> <p>Children falling when going down the boulders may land on the lower boulders. This is a medium risk 2 x 4 = 8</p>	<p>An impact attenuating surface (IAS) has been installed at the base of the ramp which complies with the dimensional requirements of EN 1176. The primary purpose of IAS is to protect the head in the event of a fall – it may also reduce the severity of other injuries. Residual risk is low 2 x 3 = 6</p> <p>The top, whilst not protected by barriers, is patent and protected by upstanding boulders. Residual risk is low. 2 x 3 = 6</p> <p>A one-way system is taught to children so that they do not go down the boulders, but only go up. Supervisors are aware of the risks and conduct dynamic risk benefit assessments, intervening when necessary to maintain the one-way system.</p> <p>Boulders are rounded off. Residual risk is low 2 x 3 = 6</p>	<p>A lack of supervision out of school hours will be balanced by an expected significant reduction in numbers of children using the unit.</p>
<p>Residual Risk (once all control measures are implemented)</p>	<p>Effective supervision is not likely to prevent all falls, but is likely to keep the risk to a tolerable low risk. When supervision is not available out of school hours the risk is reduced due to an expected significant reduction in the numbers of children using the unit. 2 x 3 = 6</p>		



<b>Activity: Collision with Boulders</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
Children may run and trip or fall into or onto the boulders which run along the site.	Children running into the boulders or tripping and colliding with the boulders, especially head first. Non-rounded edges and corners of boulders present a risk of serious injury, although the likelihood of hitting head first is not considered to be high. The likelihood is low, but the severity of injury is high, giving a medium risk. $3 \times 4 = 12$	The boulders are clear and patent to users, and are placed behind a gravel pit. This reduces the running speed for all users.  Sharp edges have been removed from the boulders.  Tripping can already occur on macadam playing surfaces, with subsequent risk of head injury from impact. The boulders are rounded to provide the same level of energy transfer in the event of a collision such that the severity of injury is likely to be similar and the risk may be considered to be similar. Residual risk is low $2 \times 3 = 6$  Supervisors are aware of the risks and conduct dynamic risk benefit assessments, intervening when necessary. Residual risk is low $2 \times 3 = 6$	The residual risk is already low.
Residual Risk (once all control measures are implemented)	The residual risk is already low $2 \times 3 = 6$		



<b>Activity: Rock Wall and Climbing Ropes</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how?</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
<p>Falling from the rocks or ropes to the surface below.</p> <p>Falling from the top to the surface below.</p> <p>The rope may become damaged as it rubs against the rock, leading to failure.</p>	<p>Climbing is inherently safe as children tend to concentrate in order to maintain their own balance and maintain three points of contact, but when standing at the top or when competing with other children they are more likely to be pushed deliberately or accidentally and fall. Injuries sustained may involve broken bones and complex fractures. This is a medium risk 2 x 4 = 8</p> <p>Children running at the top of the boulders may not appreciate the risk and so fall down from height. This is a medium risk 2 x 4 = 8</p> <p>If a rope snaps in use a child may fall from height. The ropes used are steel-cored and very strong. This is a low risk 1 x 4 = 4</p>	<p>An impact attenuating surface (IAS) has been installed at the base of the ramp which complies with the dimensional requirements of EN 1176. The primary purpose of IAS is to protect the head in the event of a fall – it may also reduce the severity of other injuries. Residual risk is low 2 x 3 = 6</p> <p>The top, whilst protected by some strategically placed boulders, may still allow a child to run through and fall. Residual risk is medium. 2 x 4 = 8</p> <p>Supervisors are aware of the risks and conduct dynamic risk benefit assessments, intervening when necessary. Residual risk is medium 2 x 4 = 8</p> <p>Routine inspections monitor the condition of the rope. Residual risk is low 1 x 4 = 4</p>	<p>The provision of a rope barrier on posts placed between the boulders at the top will ensure that children cannot run across and fall from the top.</p>
<p>Residual Risk (once all control measures are implemented)</p>	<p>The provision of a rope barrier on posts placed between the boulders at the top will stop running children and reduce the risk to a tolerable low risk. 2 x 3 = 6</p>		



<b>Activity: Traverse Wall</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how?</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
Falling from the climbing holds onto a hard surface below.	<p>Climbing is inherently safe as children tend to concentrate in order to maintain their own balance and maintain three points of contact, but traverse walls tend to allow children to push their boundaries as they know they are not going to fall far. If they fall they will inevitably land on their feet and will not sustain a head impact. This is a low risk <math>2 \times 3 = 6</math></p> <p>Rotating grips make it more likely that a user will fall. This is a medium risk <math>3 \times 3 = 9</math></p>	<p>An impact attenuating surface (IAS) is not required as EN 1176 allows for fall heights of up to 600 mm onto hard surfaces. The distance between the feet and hand positions make it not likely that a user will fall from any significant height. Residual risk is low <math>2 \times 3 = 6</math></p> <p>Supervisors are aware of the risks and conduct dynamic risk benefit assessments, intervening when necessary. Residual risk is low <math>2 \times 3 = 6</math></p> <p>The grips are currently secure. Routine inspections monitor the condition of the grips. Residual risk is low <math>2 \times 3 = 6</math></p>	The residual risk is already low.
Residual Risk (once all control measures are implemented)	The residual risk is already low $2 \times 3 = 6$		



<b>Activity: Tyre Wall</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how?</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
Falling from the tyres.	<p>Climbing is inherently safe as children tend to concentrate in order to maintain their own balance and maintain three points of contact. There is the possibility of falling from the unprotected edge down to the loose-fill surface below. This is a low risk 2 x 3 = 6</p> <p>There is a possibility of falling from the upper range of tyres onto the non-impact absorbing path beneath. This is a low risk 2 x 3 = 6</p>	<p>An impact attenuating surface (IAS) has been installed at the base of the tyres which complies with the dimensional requirements of EN 1176. The primary purpose of IAS is to protect the head in the event of a fall – it may also reduce the severity of other injuries. Residual risk is low 2 x 3 = 6</p> <p>Fall heights are low, even onto the non-impact absorbing path. The planting at the upper tyres shows that children are not routinely gaining access to this section. Residual risk is low. 2 x 3 = 6</p> <p>Supervisors are aware of the risks and conduct dynamic risk benefit assessments, intervening when necessary. Residual risk is low 2 x 3 = 6</p>	The residual risk is already low.
Residual Risk (once all control measures are implemented)	The residual risk is already low 2 x 3 = 6		

<b>Activity: Slipping in Icy Conditions</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
Children slipping in icy conditions, especially around or on or from rocks, boulders and raised structures.	<p>Children may fall from height, such as from the timber sleeper wall or the top of the rock wall. This is a medium risk. 3 x 3 = 9</p> <p>Children may slip onto rocks and boulders, with risk of injury, especially head injury. This is a high risk 4 x 4 = 16</p> <p>A build up of water may freeze under appropriate conditions, leading to increased likelihood of slipping on, from or into the boulders and rocks. This is a high risk 4 x 4 = 16</p>	<p>A Dynamic Risk Assessment is conducted by the school's Business Manager daily. In icy conditions the rocks are taken out of use. Residual risk is low 2 x 3 = 6</p>	<p>Ensure the dynamic risk assessment is proceduralised so that it is undertaken every day, bearing in mind that staff absence may lead to it not being undertaken. Take action to implement the findings every time.</p> <p>Ensure the playground is kept out of bounds when it is icy, including during out of school hours periods.</p>
Residual Risk (once all control measures are implemented)	<p>Keeping the falls from height inaccessible during icy conditions will keep the residual risk low. 2 x 3 = 6</p>		



<b>Activity: Tiered Rocks</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how?</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
<p>Falling from the rocks or ropes to the surface below.</p> <p>Slipping and tripping on the rocks.</p>	<p>Children running into the boulders or tripping and colliding with the boulders, especially head first.</p> <p>Non-rounded edges and corners of boulders present a risk of serious injury, although the likelihood of hitting head first is not considered to be high. The likelihood is low, but the severity of injury is high, giving a medium risk.</p> <p><math>3 \times 4 = 12</math></p> <p>Children may fall from one tier down to the next.</p> <p>This is a low risk</p> <p><math>2 \times 3 = 6</math></p>	<p>The rocks are suitably spaced and have rounded edges to reduce the energy of any impact.</p> <p>The difference in levels is less than 600 mm. EN 1176 allows for falls of up to 600 mm onto hard surfaces.</p> <p>Tripping can already occur on macadam playing surfaces, with subsequent risk of head injury from impact. The boulders are rounded to provide the same level of energy transfer in the event of a collision such that the severity of injury is likely to be similar and the risk may be considered to be similar. Residual risk is low</p> <p><math>2 \times 3 = 6</math></p> <p>Supervisors are aware of the risks and conduct dynamic risk benefit assessments, intervening when necessary. Residual risk is low</p> <p><math>2 \times 3 = 6</math></p>	<p>The residual risk is already low.</p>
<p>Residual Risk (once all control measures are implemented)</p>	<p>The residual risk is already low.</p> <p><math>2 \times 3 = 6</math></p>		

<b>Activity: Defective Playground Equipment or Surfacing</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
<p>Damaged or otherwise defective equipment leading to hazardous conditions.</p>	<p>Broken or loose equipment may cause injury in a variety of ways, especially due to parts which the children cannot see are broken.</p> <p>The risk is difficult to quantify as it will depend upon what is broken, but is likely to be in the order of medium risk rising to high risk.</p> <p>Unrepaired faults will generally remain intolerable. 3 x 3 = 9</p>	<p>Daily and weekly checks are carried out to ensure the equipment remains in suitable condition.</p> <p>Residual risk will depend upon the residual risk of the item in good condition.</p>	<p>Ensure an effective inspection system in accordance with EN 1176-7:2008, including routine visual inspections, operational inspections and annual main inspections. The inspections should continue during out of school hours periods, such as holidays.</p> <p>Ensure staff conducting inspections are aware of possible defects, by consultation with experts and/or the manufacturer and undergo training as necessary.</p> <p>Make good any repairs within reasonable timescales.</p> <p>Encourage users to report faults.</p>
<p>Residual Risk (once all control measures are implemented)</p>	<p>Implementation of an effective inspection and maintenance regime will keep the residual risk to a tolerable risk commensurate with the inherent risk of the activities in the playground.</p>		

<b>Activity: Loose Parts Play Items</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
<p>Dropping items onto children, or throwing items at children, or using loose items to stack and climb.</p> <p>Tripping and slipping on loose parts.</p>	<p>Unsuspecting targets of deliberate or accidental dropping or throwing. This is a medium risk. 3 x 3 = 9</p> <p>Falling from excessive height onto hard objects and surfaces. This is a medium risk. 3 x 3 = 9</p> <p>Tripping over loose parts and falling onto hard parts The risk is medium, assuming that all of the control measures for <b>Activity: Collision with Boulders</b> are implemented. 3 x 3 = 9</p>	<p>Supervisors are aware of the risks and conduct dynamic risk benefit assessments, intervening when necessary.</p> <p>The loose parts are locked away in a dedicated store out of school hours.</p> <p>Routine inspections ensure any remaining loose parts are identified and locked away.</p> <p>Residual risk is low 2 x 3 = 6</p>	<p>The residual risk is already low.</p>
<p>Residual Risk (once all control measures are implemented)</p>	<p>The residual risk is already low. 2 x 3 = 6</p>		



<b>Activity: Willow Features</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
Damaged or protruding branches	Children running or walking into branches, with potential for facial, especially eye injuries. Risk is medium $3 \times 4 = 12$	Broken and overgrowing branches protrude.	Cut back the broken or protruding branches to reduce the risk to low.  Monitor during routine inspections for further action as necessary.
Residual Risk (once all control measures are implemented)	Cutting the branches back and monitoring will reduce the residual risk to low. $2 \times 2 = 4$		



<b>Activity: Ramp with Logs and General Logs</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how?</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
Slippery timber logs.  Tripping on uneven surface.	Children may slip if the logs become slippery due to the build-up of algae.  Rainwater is creating small ruts in the walking surface.  The risk is low. $2 \times 3 = 6$	The logs are currently in good condition and the walking surface is worn slightly.  Falls from height are not likely as the logs are low.	Monitor the logs during routine inspections and clean off any algae if it develops.  Monitor the path condition during routine inspection. If tripping hazards are developed then make good the surface.
Residual Risk (once all control measures are implemented)	The residual risk is already low. If the surfaces are kept pristine the risk may be further reduced. $2 \times 2 = 4$		



<b>Activity: Slopes for Sliding and Rolling</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
<p>Children may fall down the slope.</p> <p>Children may collide with the rocks that are placed in the middle and at the sides of the slope.</p> <p>The edges of the matting are damaged and/or lifting, exposing tripping points.</p> <p>The matting is compacted.</p>	<p>Children rolling into the boulders or tripping and colliding with the boulders, especially head first.</p> <p>Non-rounded edges and corners of boulders present a risk of serious injury, although the likelihood of hitting head first is not considered to be high. The likelihood is low, but the severity of injury is high, giving a medium risk.</p> <p><math>3 \times 4 = 12</math></p> <p>Lifting edges creates tripping hazards which could cause users to fall.</p>	<p>The boulders are clear and patent to users, but the act of rolling or sliding is likely to lead to children losing their direction.</p> <p>Residual risk is medium <math>3 \times 4 = 12</math></p> <p>Sharp edges have been removed from the boulders.</p> <p>The whole section is currently fenced off and out of bounds. [this makes the risk low]</p>	<p>The central boulders should be removed to remove the risk of collision.</p> <p>There should be tyres installed to the sides to prevent users from rolling or sliding into the edging boulders. These should be installed vertically, half-submerged.</p> <p>The whole grass matting surface should be repaired thus:</p> <ol style="list-style-type: none"> <li>Lift the existing surface and discard,</li> <li>Make good and level the soil,</li> <li>Spread suitable grass seed,</li> <li>Lay plastic mesh to prevent new grass matting from sinking</li> <li>Lay new grass matting, ensuring that only plastic pegs are used to hold the matting down,</li> <li>Tie mats together using a greater frequency of cable ties than at present to bind the edges together,</li> <li>Keep the area out of bounds until the grass has established well, with a good root system binding the soil and a good sward to bind the grass matting.</li> </ol>
<p>Residual Risk (once all control measures are implemented)</p>	<p>The residual risk will reduce to low.</p> <p><math>2 \times 3 = 6</math></p>		



<b>Activity: Agility / Balance Trail</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
<p>Slips and falls from standard playground equipment.</p> <p>The timber is rotten to some support posts.</p> <p>The foundations protrude through the gravel surface.</p>	<p>Children may slip from equipment in use. Such agility equipment is inherently low risk as users tend to hold on well to maintain their balance. Risk is low <math>2 \times 2 = 4</math></p> <p>The decayed diagonal timbers of the rope bridge supports may fail, leading to equipment collapse. Risk is medium <math>3 \times 4 = 12</math></p> <p>Falling users striking the protruding foundations. Risk is medium <math>3 \times 4 = 12</math></p>	<p>Timber condition is monitored during routine inspections, but the risk will remain until timbers are replaced. Residual risk is medium <math>3 \times 4 = 12</math></p>	<p>Replace all rotten timbers.</p> <p>Grind off the protruding edges of the concrete foundations which are exposed.</p> <p>Install gravel surface compliant with EN 1176 (as already installed beneath the climbing boulders)</p>
<p>Residual Risk (once all control measures are implemented)</p>	<p>The residual risk will reduce to low. <math>2 \times 2 = 4</math></p>		



<b>Activity: Grass Open Space</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
<p>General knocks, bumps and slips and trips.</p> <p>Stray footballs.</p>	<p>Children bumping into each other during the normal course of play,</p> <p>The risk is low. 2 x 3 = 6</p> <p>Children being struck by flying or stray footballs.</p> <p>The risk is low 2 x 3 = 6</p>	<p>The number of footballs is limited by staff to just four per session.</p> <p>Ball size is limited and inflation pressure is generally assessed so that the balls are not too hard.</p> <p>The residual risk is low 2 x 3 = 6</p>	<p>Ensure staff are aware of the ball limits and implement them correctly and consistently.</p>
<p>Residual Risk (once all control measures are implemented)</p>	<p>The residual risk is already low 2 x 3 = 6</p>		



<b>Activity: Play Ship</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how?</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
Falling from height at the ship's bow.	Children may climb or sit on the relatively wide level surface of the barrier tops. They may lose hold or be bumped or pushed off with falls from height possible. The risk is medium $3 \times 4 = 12$	An impact attenuating surface (IAS) has been installed at the base of the tyres which complies with the dimensional requirements of EN 1176. The primary purpose of IAS is to protect the head in the event of a fall – it may also reduce the severity of other injuries. Residual risk is medium $3 \times 4 = 12$  Supervisors are aware of the risks and conduct dynamic risk benefit assessments, intervening when necessary. They prioritise this area for supervision Residual risk is medium $2 \times 4 = 8$	Add barriers to the tops of the existing barriers to prevent inadvertent falls and to deter sitting on the barrier tops.
Residual Risk (once all control measures are implemented)	The residual risk will reduce to low. $2 \times 3 = 6$		



<b>Activity: Play Ship – Wall to side</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how?</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
<p>Falling from height.</p> <p>Falling down the boulders adjacent.</p>	<p>Children running down the slope towards the wall may not stop themselves in time and may fall over the wall. The risk is medium 3 x 4 = 12</p>	<p>An impact attenuating surface (IAS) has been installed at the base of the tyres which complies with the dimensional requirements of EN 1176. The primary purpose of IAS is to protect the head in the event of a fall – it may also reduce the severity of other injuries. Residual risk is medium 3 x 4 = 12</p> <p>Supervisors are aware of the risks and conduct dynamic risk benefit assessments, intervening when necessary. They prioritise this area for supervision Residual risk is medium 2 x 4 = 8</p> <p>The boulders have a one-way system introduced, which is taught to children and monitored by supervisors. Residual risk is low 2 x 3 = 6</p>	<p>Install barriers atop the wall on the section immediately at the bottom of the sloped ground area, and to the adjacent side.</p>
<p>Residual Risk (once all control measures are implemented)</p>	<p>The residual risk will reduce to low. 2 x 3 = 6</p>		



<b>Activity: Embankment slide and tunnel</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how?</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
<p>General bumps and scrapes from playground equipment, especially fast-moving slide.</p> <p>Exposed tunnel ends, giving hard edges to the concrete at head height.</p> <p>Eroded ground on the path above due to rainwater flow.</p>	<p>Children running around and generally tripping and slipping. The risk is low 2 x 3 = 6</p> <p>Children hitting their heads on the tunnel entrance. The risk is medium 3 x 3 = 9</p> <p>Children may slip or trip on the eroded path edges/surfaces. The risk is low 2 x 3 = 6</p> <p>Children may fall from the tyres at the side of the access path to the hard surface of the path.</p>	<p>An impact attenuating surface (IAS) has been installed at the appropriate places which complies with the dimensional requirements of EN 1176. The primary purpose of IAS is to protect the head in the event of a fall – it may also reduce the severity of other injuries. Residual risk is low 2 x 3 = 6</p> <p>Supervisors are aware of the risks and conduct dynamic risk benefit assessments, intervening when necessary. Residual risk is low 2 x 3 = 6</p> <p>Some padding has been applied to the concrete tunnel ends, but it is ineffective. Residual risk is medium 3 x 3 = 9</p> <p>The tyres are not easily accessed as planting has overtaken the top satisfactorily. Residual risk is low 2 x 3 = 6</p>	<p>Install tyre padding to the ends of the tunnel so that the cut tyres are bolted in place (ensuring the bolts and nuts do not protrude and create hazards themselves)</p> <p>Consider installing a channel to allow rainwater to flow in a controlled manner down the slopes, which will prevent erosion of the surface.</p>
Residual Risk (once all control measures are implemented)	The residual risk will reduce to low. 2 x 3 = 6		



<b>Activity: Wildlife and Pond Area</b>			
<b>What are the hazards?</b>	<b>Who might be harmed and how?</b>	<b>What are you already doing?</b>	<b>What else can be done to control this risk?</b>
<p>Stinging nettles.</p> <p>Overgrowing foliage.</p> <p>Open water, leading to drowning.</p>	<p>Children may get stung by nettles. The risk is low. <math>2 \times 2 = 4</math></p> <p>Children may run into protruding planting. The risk is low. <math>2 \times 2 = 4</math></p> <p>Children may fall into the water. The risk is medium <math>2 \times 5 = 10</math></p>	<p>Nettles and planting are natural features and are a necessary learning opportunity. The area is used only under supervision. Residual risk is low <math>2 \times 2 = 4</math></p> <p>The pond has a cover and is in a locked area so cannot be accessed accidentally. Residual risk is low <math>2 \times 2 = 4</math></p>	<p>Ensure the nettles do not overtake the area.</p> <p>Ensure, during routine inspection, that the fence, locked gate and cover to the pond are in place.</p>
Residual Risk (once all control measures are implemented)	The residual risk is already low. $2 \times 2 = 4$		

## ABOUT BRITISH & EUROPEAN STANDARDS

The Specification Document for this report includes the requirement to review the conformance to all relevant ENs (European Standards). European Standards (EN) are incorporated into UK practice as British Standards (BS). All EN are published as BS, but not all BS are published as EN. Therefore, I have considered all applicable standards, both EN and BS.

I have identified the following British and European Standards as being applicable to the playground:

- British Standard EN 1176-1:2008 Playground equipment and surfacing – safety requirements and test methods,
- British Standard EN 1176-3:2008 Playgroud equipment and surfacing – additional specific safety requirements for slides.

The scope of EN 1176-1:2008 is as follows:

“This part of EN 1176 specifies general safety requirements for public playground equipment and surfacing. [It] covers playground equipment for all children. It has been prepared with full recognition of the need for supervision of young children and of less able or less competent children. The purpose of this part of EN 1176 is to ensure a proper level of safety when playing in, on or around playground equipment, and at the same time to promote activities and features known to benefit children because they provide valuable experiences that will enable them to cope with situations outside the playground. This part of EN 1176 is applicable to playground equipment intended for individual and collective use by children, but excluding adventure playgrounds. It is also applicable to equipment and units installed as children’s playground equipment although they are not manufactured as such, but excludes those items defined as toys in EN 71 and the Toys Safety Directive. This part of EN 1176 specifies the requirements that will protect the child from hazards that he or she may be unable to foresee when using the equipment as intended, or in a manner that can be reasonably anticipated.”

Compliance with EN 1176 is not mandatory in UK or Scottish Law, but the safety requirements and the principles which underpin them can be useful when considering the safety of children’s playgrounds and playground equipment. These principles have been applied when undertaking the risk assessments above.

The standards EN 1176-1:2008 and EN 1176-3:2008 give safety requirements for playground equipment intended for general use. The requirements can be summarized thus:

- a. Protection against entrapment,
- b. Protection against falling,
- c. Protection against collision,
- d. Protection against insufficient structural integrity, and
- e. Protection against poor materials or finish.

The essence of these protections has been considered for all items within the play space, regardless of the applicability of the standard or conformance of the item. This will be reflected in the risk assessments.

## COMPLIANCE WITH STANDARDS

All aspects of the natural built playground comply with the requirements of BS EN 1176:2008 where this may be tested on site without dismantling or destruction, except for the following:

1.1 Protruding branches to willows could be considered to be non-compliant.



1.2 Picnic tables have edges and corners which are not rounded off.



1.3 The prow of the ship has a section which could be considered to be an entrapment. This is a matter of interpretation as it can be reasonably argued that the section is not accessible and therefore is compliant. In any event the risk is a tolerable low risk.



1.4 The foundations of the trim trail are exposed.



1.5 The drop from the tyres at the side of the path down to the path exceeds 600 mm without an impact attenuating surface. The risk is low.



1.6 The barrier at the bottom of the slope does not offer sufficient protection against falling.



1.7 The barriers at the bow of the ship encourage sitting or standing and do not offer sufficient protection against falling.

