

## RISK ASSESSMENT FOR GO APE, ADVENTURE FOREST LIMITED

FALLS FROM HEIGHT FROM THE HIGH WIRE ROPES COURSE

RISK ASSESSMENT NUMBER 001

### GAR1

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TO BE REVIEWED: March 2010

SER	HAZARD	LHD	CON	WHO MIGHT BE HARMED	EXISTING CONTROL MEASURES	FURTHER CONTROL MEASURES	RR
1001	<p>Falling to the ground or onto another person or onto another part of the course or another object due to:</p> <ul style="list-style-type: none"> <li>• Unclipping from safety system then slipping, jumping or falling, either unintentionally or intentionally</li> <li>• Clipping on to the safety cable (system) incorrectly</li> <li>• Failure of part of the course infrastructure</li> <li>• PPE failure, incorrect selection, use, fitting, etc</li> <li>• Tree failure, falling over or onto the course, etc</li> <li>• Slips and trips</li> </ul> <p>This could happen whilst opening or closing the course, operating the course, participating on the course, carrying out inspections or carrying out a rescue</p>	Low	V High	<p>Employees Course Users Contractors Onlookers Trespassers</p>	<p style="text-align: center;"><b>Admission Controls</b></p> <ul style="list-style-type: none"> <li>• Minimum age of 10 years, due to learning ability for attaching to safety system (AFNOR standard). Age confirmed on Risk Acknowledgement and Disclaimer (RAD). GAD.</li> <li>• Minimum height of 4ft 7in / 1m 40 cm (wearing footwear) due to course construction and ability to attach to safety cable due to height. Construction documents. Height markers installed at all courses. Instructors carry out check if unsure.</li> <li>• Maximum weight of 20.5 stone / 130 kg due to load limits of course (Jacobs and Altus load testing advice). Scales provided at sites. Information provided to customers on booking confirmation documents, RAD and website.</li> <li>• Anyone who is deemed to be under the influence of alcohol or drugs is not permitted access onto the course.</li> <li>• Anyone who does not comply with the safety rules and advice and / or unattaches from the safety cable will be removed from the course. GAD Red and Yellow Card Policy.</li> <li>• Assessments of course participants during the Safety Brief element, so that if a participant completes the first 3 obstacles incorrectly they are asked to repeat the first 3 obstacles; if they still fail to complete this part safely (i.e. they have not understood or cannot understand the safe system of completing the course on their own), they will be removed from the course (and offered a full refund).</li> <li>• Anyone who does not have the correct footwear (e.g. sandals) or clothing that may lead to a slip or a trip will not be allowed onto the course.</li> <li>• Only mature and competent instructors will be allowed to give a Safety Brief (an age limit of 21 is suggested); this is to ensure they do not forget essential information and can handle difficult groups when under pressure.</li> </ul>		Low
1002					<p style="text-align: center;"><b>Supervision</b></p> <ul style="list-style-type: none"> <li>• Supervision ratios implemented whereby a participating adult must accompany under 18 year olds. One participating adult is permitted to supervise either two</li> </ul>		Low

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					<p>under 18 year olds (where 1 or both children are 10-15 years old) or up to five 16-17 year olds. (Changed for 2007 season after advice). This is to ensure under 18's remain attached to the safety system and follow the safety rules. SLE Worldwide risk survey.</p> <ul style="list-style-type: none"> <li>• Under 16's are to be no more than 1 tree away from their supervising adult. SLDC EHO advice. In order to assist with this the decision was taken in 2005 to allow the number of course users on a platform to be increased from 2 to 3. SLDC EHO advice.</li> <li>• Regular patrolling (every 15 minutes) of the course, by an instructor, to take place whenever anyone is on the course to ensure they are safe and completing the course correctly and are not in difficulty. AFNOR standard. GAD "Patrolling".</li> <li>• Site specific patrol plans to identify areas where more / less supervision is required. (GAD Patrol Plans).</li> <li>• Medical and Disability Policy for those with special needs who may require additional supervision whilst on the course to ensure they remain attached to the safety cable at all times.</li> </ul>		
1003					<p style="text-align: center;"><b>Provision of Information</b></p> <ul style="list-style-type: none"> <li>• Provision of suitable and sufficient information and training to course participants to ensure they are safe on the course - see Booking Terms and Conditions sent to all who have booked in advance, RAD completed by all adults, Written Safety Rules and Advice which must be read by all course participants, Instructors Safety Brief given to all course participants. (For example this includes advice to the supervising adult to descend the zip slide last to ensure 10-15 year olds are clipped onto the safety system correctly before descending.)</li> <li>• Safety signage on course reminding course participants to remain attached to the safety system; also signage (colour coded obstacles) giving difficulty level of obstacles so that participants can avoid hardest "black" obstacles, which if unconfident could lead to a rescue. GAD Rescue Policy. Safety Signs and Signals regs.</li> <li>• Safety signage at zip line landings warning customers to keep out of zip line areas due to participants descending at speed. Safety Signs and Signals regs.</li> <li>• On the Tarzan Swing, additional signage must be supplied so that course users understand how to complete the activity correctly. A training Tarzan Swing rope is to be used during the initial Safety Brief training. GAD Safety</li> </ul>		Low

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					<p>Brief.</p> <ul style="list-style-type: none"> <li>• Signs on stockades warning people / trespassers of dangers of a fall from height</li> </ul>		
1004					<p style="text-align: center;"><b>Training</b></p> <ul style="list-style-type: none"> <li>• Instructor training (see note 2 below). Instructors must be competent at working on the course. GAD “Opening and Closing the Course”. WAH regs.</li> <li>• Instructors must be competent at giving the Safety Brief to other course participants. GAD “The Safety Brief”. WAH regs.</li> <li>• Instructors Safety Brief Assessments and operational audits carried out on an ongoing basis to ensure instructors are including all the correct critical safety information in the Safety Brief. GAD Instructor Safety Brief Assessments.</li> <li>• Training then assessment of course users to ensure they are safe to complete the course and understand that they must remain attached at all times. WAH regs</li> <li>• 4 stage Training Session to drip feed critical information, starting participants off at ground level and slowly gaining height:             <ol style="list-style-type: none"> <li>1. Course users read Written Safety Rules and Advice at office in a calm environment (not under pressure)</li> <li>2. Course users trained in how to attach to the safety system (at ground level) whilst wearing PPE</li> <li>3. Demonstration on how to safely negotiate the course (off ground low level). Assessment: Course users must demonstrate safe use and competence before being allowed to continue</li> <li>4. Course users be monitored while completing the next 5 elements and must be within instructor’s field of view so any mistakes can be identified and rectified. GAD Monitoring Policy. AFNOR standard.</li> </ol> </li> <li>• Instructors trained in rescue procedures (see separate risk assessment for this and associated procedures). WAH regs.</li> <li>• Instructors trained in the correct fitting and inspection of PPE to ensure they are safe for course participants and they cannot fall out of the harness and the harness is in good order and will not break. GAD “PPE”. PPE regs.</li> <li>• Site Managers and Site Deputy Managers must undergo a 1 day PPE inspection course so they are competent to inspect Go Ape PPE.</li> <li>• All Managers and instructors must be trained in the correct use of ladders for access and egress from the</li> </ul>		Low

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					<p>course to ensure they do not fall whilst climbing a ladder. This is to be recorded on the individual "Staff Training Record". GAD "ladders".</p>	
1005					<p style="text-align: center;"><b>Course inspections and checks</b></p> <ul style="list-style-type: none"> <li>• Pre-use course checks and inspections carried out by instructor when opening up course to ensure course is safe to use and no overnight damage has occurred. This must be completed from the base of the zip line where possible so any overnight vandalism can be checked. WAH regs.</li> <li>• Periodic site inspections (2 monthly) are carried out and recorded by the Site Manager or a competent person appointed by the Site Manager.</li> <li>• Annual inspection of the course, including the Tarzan Swing, ladder halos, all anchor points and points used for rescues (note: large maillons are fitted in areas where there is no obvious identifiable attachment point for rescues), by an external competent person / company. LOLER &amp; PUWER regs. This will be carried out by Jacobs who will inspect the course to the HSE ADIPS standard.</li> <li>• Records of inspections and examinations, maintenance, testing and certificates of conformity to be kept. (See Daily Report and Monthly Course Inspection). WAH regs</li> <li>• Following high winds, snow and lightning the course must be checked thoroughly for any damage, initially from the ground and then on the course, prior to opening the course to participants. AFNOR standard.</li> <li>• Inspection records are to be checked 3 monthly by the Operations Managers. GAD Site Audits.</li> <li>• Tarzan Swing inspection carried out by Site managers under supervision of rescue trainers. GAD Tarzan inspection policy.</li> </ul>	Low
1006					<p style="text-align: center;"><b>PPE provision and checks</b></p> <ul style="list-style-type: none"> <li>• Effective procurement and management system, using reputable suppliers to ensure all PPE is of the correct standard (CE marked, etc) and design and has correct information provided for use and is therefore safe and appropriate for its intended use. PPE regs.</li> <li>• Advice on selection of correct PPE that is fit for purpose and use must be sought from industry experts and suppliers.</li> <li>• All equipment must be used correctly as directed by manufacturers guidelines. A copy of each new batch of PPE's manufacturing guidelines is to be kept on the site PPE file by the Site Manager.</li> </ul>	Low

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				<ul style="list-style-type: none"> <li>• PPE compatibility policy (where more than 1 item of PPE is being worn) is to be checked by an Operations Manager who must have undertaken the 4 day PPE inspection course and who must seek advice from reputable suppliers on compatibility. This ensures that it is safe for two pieces of PPE to be used together in a system and applies to chest harnesses and fall arrest lanyards, etc. PPE regs.</li> <li>• All PPE must be checked for faults prior to first use (from the manufacturer) PPE regs.</li> <li>• PPE must be inspected every two months. Where PPE is thought to be defective it is to be placed in the quarantine box until examined by the PPE trained Operations Manager or Operations Director. Faulty PPE is to be returned to the supplier for repair or replaced. GAD Equipment Policy and Quarantine Policy. PPE regs.</li> <li>• PPE to be visually checked prior to each use. This includes harnesses and rescue equipment that must be inspected by a trained instructor to ensure it is safe to use. PPE regs.</li> <li>• PPE is to be stored in a dry, clean area, away from any chemicals. PPE must be cleaned and dried as detailed in the manufacturers guidelines. GAD Equipment Husbandry Policy. PPE regs.</li> <li>• All PPE must be identifiable, documented and thoroughly examined at 6 monthly intervals. PPE regs. (Note that an examination and inspection are different.) GAD Equipment Policy.</li> <li>• All PPE must be documented and logged by the Site Manager, including inspection and maintenance records. These records must be checked periodically by the Operations Team. GAD Site Audits. PPE regs.</li> <li>• The Operations Managers and Site Managers are to ensure that all instructors are trained in the correct fitting of PPE, its operation and its operating limits, inspection of the PPE and are to record the training on the individual staff "Training Record Sheet". GAD PPE. PPE regs.</li> <li>• A selection of harnesses and lanyards are to be break tested periodically (suggest annually) to ensure that they are still strong enough and suitable for the purpose. This will be controlled by the Operations Director at Lyon Equipment or Petzl. These records must be kept until the PPE or batch is retired from service.</li> <li>• PPE replacement is to follow manufacturers guidelines. GAD PPE Replacement Policy.</li> <li>• A trained instructor must check all course participants'</li> </ul>		
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					<p>harnesses before they go onto the course to ensure they are correctly fitted.</p> <ul style="list-style-type: none"> <li>• If a course user removes their harness for a rest break or toilet break, they must be checked for correct fitting prior to the course user returning onto the course. This information must be included in the Safety Brief.</li> <li>• Patrolling instructors are to carry out visual checks to ensure that PPE is still fitted correctly and has not slipped or moved so that it is unsafe.</li> <li>• Chest harnesses are to be fitted to course users who have little or no hip definition whereby a normal sit harness may slip off their hips (this includes course users with large bellies or slim hips).</li> <li>• Only PPE approved by the Operations Director can be used on a Go Ape course. Personal PPE must not be used, (except in exceptional circumstances by a contractor – clearance for this is required from the Operations Director).</li> <li>• Safety helmets are to be worn for all construction work and rescue training (to mitigate a fall).</li> <li>• Full body harnesses were used instead of chest harnesses in 2006 but they were found to have problems, which could lead to a fall, and therefore the decision was taken to revert to the combination of chest and sit harness.</li> <li>• An Operations Manager and the Operations Director must both be competent to carry out thorough examinations of PPE and to that end must have attended a 4 day PPE inspection course.</li> <li>• Site Manager undergo a 1 day PPE inspection training course so they can identify problems with PPE. Site Managers must then train their instructors in PPE inspection and the identification of likely problems. The PPE inspection poster is to be displayed at all sites as a reminder.</li> <li>• Builders and contractors PPE should be visually checked when being used on the course.</li> <li>• Builders and contractors PPE must be checked and used correctly to ensure that there is no scope for a fall due to faulty or incorrect PPE. (GAD – PPE for contractors policy).</li> </ul>		
1007					<p style="text-align: center;"><b>Operation systems and controls of the course</b></p> <ul style="list-style-type: none"> <li>• The system for clipping onto the safety system throughout the course must have a backup, so that a “junction” can be passed without completely unclipping. Therefore two lanyards must be used. Likewise in rescues there must</li> </ul>		Low

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					<p>always be a back up safety system. GAD Rescue Procedures. In 2004 the system of clipping on to the pulley and safety cable was changed to allow a double back up system with inbuilt redundancy.</p> <ul style="list-style-type: none"> <li>• In lightning, high winds, heavy ice and snow, the course must be evacuated and closed. GAD Duty Manager Guidelines and Emergency Evacuation Procedures.</li> <li>• Whilst on the course, the use of mobile phones as telephones is not permitted as this can lead to distraction and unclipping from the course. Mobile phones can be used to take photographs but must be secured to the user to prevent them falling. Cameras must also be secured.</li> <li>• Course participants who wear glasses must have them secured when going around the course. This can be done effectively using rubber bands.</li> <li>• When the course is “closed”, the ladders allowing access onto the course are to be lifted up onto the platforms and locked so that trespassers cannot access the course. The Tarzan Swing rope and the Tarzan Net, where it is below 4 .5 metres, must also be raised and locked. Occupiers Liability Act.</li> <li>• The coded locks on the stockade doors are to be changed every week to ensure that people in particular children (who have previously been on the course) do not access the course without the correct safety equipment and supervision.</li> <li>• Any tasks being undertaken apart from the normal day to day running of the course (opening, closing) must be carried out by a minimum of two people; this includes any work involving moving obstacles or moving off the normal route of the course (platforms and cables) including changing the Tarzan net. GAD method statements.</li> <li>• Instructors are to patrol the course every 15 minutes to ensure the safety of course users.</li> <li>• Changes made to the course to improve safety against falls from height include:             <ol style="list-style-type: none"> <li>1. All Bosuns chair hand rope are to be increased in size so that course users do not inadvertently attach to it as it is not load tested and is not part of the safety system of the course and may break if loaded by a person. The rope diameter must not allow a karabiner to be easily attached to it.</li> <li>2. All scramble nets have been removed due to concerns over course users using them incorrectly, which could</li> </ol> </li> </ul>		
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					<p>lead to a fall (2005).</p> <p>3. All Tractel Blocfor's used as a backup for climbing rope and wooden ladders when changing height on the course were replaced with Cabloc for the 2006 season and then by Protectman in 2007. (Separate information available).</p>		
1008					<p style="text-align: center;"><b>Trees</b></p> <ul style="list-style-type: none"> <li>• Prior to a new course opening all trees that form part of the course are to be inspected for stability and disease by a qualified arboricultural expert. AFNOR standard.</li> <li>• All trees are to be inspected annually by an arboriculturalist and a written report of these inspections is to be kept. AFNOR standard.</li> <li>• System for monitoring trees where an area has been identified by the arboriculturalist, including a photographic record.</li> </ul>		Low
1009					<p style="text-align: center;"><b>Other</b></p> <ul style="list-style-type: none"> <li>• When work is taking place on the course, the area below must be cordoned off, including provision of danger and exclusion zones, so that onlookers do not stray into the area.</li> <li>• The course must be designed so that there is a stockade surrounding the access ladders, with a secure coded door lock and self-closing hinges so that an onlooker (perhaps young) cannot access the ladder and climb up onto the course (without wearing the appropriate PPE and having received instruction).</li> <li>• The course must be designed so that the safety cable that course users attach to is easily identifiable, by being colour coded red. This includes placing a red buffer at each end of a crossing. This must be referred to in the Safety Brief.</li> <li>• First aid supplies must be available and there must be a minimum of 1 First Aid at Work qualified member of staff on duty each day (mitigate fall). First Aid regs. First Aid Policy (GAD).</li> </ul>	<ul style="list-style-type: none"> <li>• Where it is possible (safe and ground and environment allows) cherry pickers should be considered for use for working at height (taking into account concerns about their instability and falling over)</li> </ul>	Low
Refs	<p>HSW Act 1974, MHSW Regs amended 1999, WAH regs 2005, PUWER 1992, LOLER 1998, PPE regs 1992, Workplace HSW regs 1992, H&amp;S (Safety Signs) regs 1996, First Aid regs 1981, Occupiers Liability Act 1984, HSE Information Sheet Entertainment Sheet No 14, HSE 5 Steps to Risk assessment INDG 163, HSE A Guide to Risk Assessment requirements INDG 218, Draft European Standard for ropes courses, AFNOR standard, HSE ADIPS standard.</p> <p>GAD = Go Ape documents</p>						

**Note 1: Control Measures** - Where a control measure has been identified, it is only included once and not repeated under every serial number. Therefore for a specific hazard identified, a control measure in a serial above may apply to that hazard. (HSE RA guidance.)

## **RISK ASSESSMENT FOR GO APE, ADVENTURE FOREST LIMITED**

**Note 2: Instructors Training** - Go Ape instructors must pass through a rigorous training and assessment programme before they can instruct on Go Ape. To be selected for training prospective instructors must demonstrate they have the requisite aptitude and experience. They then undergo training in safety instruction and procedures, operational limits on the use of the course, course inspections during daily course opening and closing, patrolling techniques, personal protective equipment, harness fitting and inspection, emergency operations, health and safety and customer management. Only instructors with climbing experience and the correct aptitude are selected for additional training in rope rescue techniques. Instructors are First Aid trained. Go Ape's training objectives and rescue procedures have been developed in conjunction with an external specialist technical advisor who holds the Mountaineering Instructors Certificate and the European Mountain Leader Award (rescue procedures updated in 2005 by Berwyn Evans MIC). Assessment of rescue trained instructors is only carried out by our trained and qualified persons, who have been formally assessed as competent to do so by the Operations Manager responsible for training.