

**INDOOR CLIMBING WALLS
AND
ADVENTURE COURSES
STANDARDS, GUIDELINES, AND RECOMMENDATIONS
FOR
DESIGN, CONSTRUCTION, AND MAINTENANCE**



EVALUATION **INSPECTIONS** **DO'S**
ERGONOMICS **TRAININGS** **& DON'TS**
STRATEGY **REMEDIAION** **ERGONOMIC ASSESSMENTS**
AUDIT **INSPECTIONS** **FALL PREVENTION**
LEGAL **GRANTS** **COST SAFETY**
VSBIT **SECURITY**
HUMAN FMLA RESOURCES **PLAYGROUNDS** **RISK**
RESOURCES **MANAGEMENT** **METHOD**

This document was created to assist VSBIT Multi-line Intermunicipal School Program Members with the design, installation, maintenance, equipment, and activities associated with indoor climbing walls and adventure courses. This document contains standards (when available), guidelines and recommendations in six listed areas.

- I. PLANNING**
- II. DESIGN**
- III. CONSTRUCTION/INSTALLATION**
- IV. MAINTENANCE**
- V. EQUIPMENT**
- VI. ACTIVITIES**

These guidelines are meant to be used in conjunction with the School District's own procedures and guidelines. The VSBIT Multi-line Intermunicipal School Program and its staff assume no responsibility or liability for any loss, damage or injury resulting from the use of the material contained herein.



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PLANNING

The planning stage for any climbing wall or adventure course (referred to as the "structure") should address concerns in each of the specific areas. A comprehensive plan will improve efficiency in the other guideline areas and help insure the overall project design encompasses a comprehensive list of concerns.

A climbing wall or an adventure course in the concept stage of development should include attention to planning details in each of the specific areas. Specific planning concerns are addressed in each of the listed topics. The following are resources that may contribute to your planning, design, installation and operation:

The Association for Challenge Course Technology (ACCT)

ACCT Standard - ANSI/ACCT 03-2016:

ANSI/ACCT Challenge Course and Canopy/Zip Line Tours Standards -
<http://www.acctinfo.org/?page=ANSIACCTStandards>

Web site: www.acctinfo.org

P.O. Box 19797

Boulder, CO. 80308

Phone: 800-991-0286

info@acctinfo.org

The Climbing Wall Association (CWA)

Here are two standards produced by the CWA:

1. *General Specification for Design and Engineering of Artificial Climbing Structures, First Edition -*
<http://climbingwallindustry.org/?page=DesignEngineering>
2. *Specification for the Structural Inspection of Artificial Climbing Structures, First Edition -*
<http://climbingwallindustry.org/?page=StructuralInspection>

Web site: <http://climbingwallindustry.org/>

1460 Lee Hill Rd., Unit 7

Boulder, CO 80304

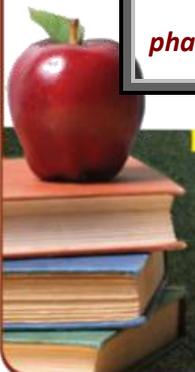
Phone: (720) 838-8284

Boy Scouts of America (BSA)

www.scouting.org

www.ropesonline.org

Always check with your district office (Superintendent or Business Manager) during the planning phase! Your district may have more stringent requirements for these structures.



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DESIGN

The design of a structure is the first stage of development. Ideas to incorporate in the design are the size, shape, location and security of the structure. The structure should be designed by a qualified individual.

Checklist for a *New or Existing* climbing wall:

1. A **new** climbing wall should be designed by a licensed **Structural Engineer**, preferably with a background in climbing walls/adventure courses.
2. It is recommended that the installation of the structure be performed by a qualified state licensed general contractor, also with a background in these structures.
3. A post-construction inspection by the structural engineer is also recommended to verify construction followed design specifications.



DESIGN CONTINUED

In order for **existing** climbing wall structures to be utilized:

1. They must first be inspected. A licensed Structural Engineer must perform this inspection.
2. The Structural Engineer must inspect the following:
 - System Soundness, and
 - Site Specific Anchorage System

RECOMMENDATION: All structures must be equipped with security features that will prevent unauthorized use of the structures. The security features should be substantial in design and include securing the structure and the equipment, especially the belay ropes (i.e., fencing, locked doors, or any other device used to control access).

It is recommended that indoor structures do not exceed twenty-four (24) feet in height, measured from the floor. Although new buildings may be taller, there is not any additional benefit to installing a structure in excess of this height. Maximum width of a vertical climbing structure should not exceed sixteen (16) feet.

If the climbing structure is to be used as a traverse only wall (only horizontal climbing), the recommended height should not exceed eight (8) feet. No horizontal width is recommended.

RECOMMENDATION: A design for all climbing structures which allows for the removal of hand and foot holds from the structure is preferred. This feature allows for the inspection and replacement of hand and foot holds, and facilitates realignment of the climbing course. Removable hand and foot holds are also a security feature, preventing unauthorized use.



DESIGN CONTINUED

RECOMMENDATION: The use of adhesives is not recommended to attach the holds directly to an existing wall. Several reasons adhesives are not recommended are:

1. The surface should be applied to untreated materials. Paints, lacquers and other products are a "seal" and they reduce the ability of the adhesive to adhere the two surfaces.
2. A hold that has been glued to a wall can only be inspected from the outer perimeter of the hold. It is impossible to detect flaws, cracks and deterioration of adhesive on the remaining hold due to the remainder of the surface being inaccessible.
3. Holds that are glued to a wall cannot be easily removed. If removal is necessary, there is potential for significant damage to the holds and to the surface. This can be a problem if the removal causes damage to a concrete block (load bearing) wall.
4. Holds that are glued to the wall cannot be reconfigured to different patterns, to increase/decrease the degree of difficulty of the wall.
5. With few exceptions, adhesives are used to supplement mechanical means of bonding materials together. For example, the plywood flooring in a residential dwelling is both glued and nailed/screwed to the floor joists. Using both the adhesive and mechanical devices increases the durability of the structure, and reduces the chances that the floor will "squeak". This is especially true where a floor will be inaccessible after the sheetrock has been installed.
6. Certain climatic conditions may cause adhesives to prematurely dry out and reduce their effectiveness and adhesion capabilities. Since inspection is impossible, the adhesive can dry-out and create a hazard that cannot be seen or otherwise detected.



CONSTRUCTION/INSTALLATION

After the plans for the structure have been approved, the next step in the process is the installation of the structure.

RECOMMENDATION: The installation of the structure should be performed by a qualified state licensed general contractor. Advantages to utilizing the contractor include:

- Warranty, replacement, and/or repair of the structure, or its components, as necessary.
- Reduction in worker compensation loss exposure (as opposed to District employees performing the installation).
- Qualified contractors will have knowledge of standard building practices and proper tools and equipment to complete the installation.
- Contractors must carry comprehensive general liability, workers' compensation and other insurance coverages to reduce the District's loss exposure. Please contact the VSBIT Multi-line Program for assistance with insurance requirements.

The District's Safety and Maintenance personnel should be included in the entire process. The District's Planning and Engineering and/or Maintenance departments should review the design and oversee the construction of the structure.



ACTIVITIES

RECOMMENDATION: Prior to any individual being allowed to participate in adventure-based activities, the proper permission slips, waivers and releases must be returned to the classroom instructor(s). Conduct an initial consultation with participants and guardians reviewing the activity and the dangers associated with it. Provide **verbal and written** information in addition to the opportunity to ask questions and to decide on participation. Copies of these documents should be on file at the appropriate District Office. The original document should be kept as a permanent record for a period of twelve (12) months after the end of the class or event (see Appendix C).

RECOMMENDATION: Daily inspections of the structure and climbing equipment must be performed and documented by the event instructor/teacher prior to the activity (see Appendix D).

RECOMMENDATION: All activities that will be performed on the structure should be reviewed and included in a syllabus format document prepared by the classroom instructor. The document should be reviewed by District personnel, (i.e., building administrators, District Risk Manager, Safety Committee), to assure that specific activities are appropriate: for example, age, size, instructor qualifications, degree of difficulty, safety regulations, etc.

RECOMMENDATION: All classroom instructors are encouraged to attend professional development training and education programs, specifically to improve skills and understanding of the adventure philosophy, program maintenance, and safety.

RECOMMENDATION: Prepare and train for medical emergencies. Take into account the need for an emergency rescue.

INSTRUCTOR QUALIFICATIONS: Unfortunately, there is no mandated standard for these activities, but several groups have set their own criteria, which may assist in setting your own standards. Please see the following information:

Boy Scouts of America

Climb On Safely, A Guide to Unit Climbing and Rappelling

www.scouting.org/boyscouts/resources/20-099/index.html

Qualified Supervisor: at least 21 years old who understands the risks inherent to these activities. Responsible for ensuring that someone in the group is currently certified in American Red Cross Standard First Aid and CPR (or equivalent).

Qualified Instructor: at least 21 years of age and has successfully completed a minimum of 10 hours of instructor training for climbing/rappelling from a nationally or regionally recognized organization, a climbing school, or a college-level climbing /rappelling course.



ACTIVITIES CONTINUED

**North Carolina State University
Department of Physical Education
Raleigh, North Carolina**

Safety Policies and Procedures Manual, The Fauxrock Climbing Facility
Fall 1995

Climbing Supervisor Minimum Requirements:

- 18 years age minimum
- Experienced climbers having at least two years climbing experience and/or formal training in technical rock climbing
- Trained in first aid and CPR through the standard Red Cross First aid course or equivalent

Information also requested on the staff application:

- Climbing experience
- Teaching experience
- Specialized training
- Certifications
- First Aid certifications
- Three references
- Current resume

STUDENT/INSTRUCTOR RATIOS:

BSA: 1-10 Students/ 2 adult supervisors
11-20 students/ 3 adult supervisors
21-30 students/ 4 adult supervisors

Journal of Physical Education Recreation and Dance (JOPERD): 6 participants to one instructor

Telluride Public Schools: 6/1 in ropes course and bouldering activities
8/1 top rope climbing and rappelling

Sample forms are attached for your use in developing your district forms. We recommend you provide a copy to your district legal counsel for approval prior to use after you develop your district form (see Appendix C).



REFERENCES AND OTHER SOURCES OF INFORMATION

The Association for Challenge Course Technology (ACCT)

ACCT Standard - ANSI/ACCT 03-2016:

ANSI/ACCT Challenge Course and Canopy/Zip Line Tours Standards -

<http://www.acctinfo.org/?page=ANSIACCTStandards>

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<http://climbingwallindustry.org/?page=StructuralInspection>

Web site: <http://climbingwallindustry.org/>

1460 Lee Hill Rd., Unit 7

Boulder, CO 80304

Phone: (720) 838-8284

American Society for Testing Materials (ASTM)

100 Barr Harbor Drive

West Conshohocken, PA 19428

Phone: 610-832-9500



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INSPECTION/MAINTENANCE LOG

Date _____

Structure(s) _____ Name of Inspector _____

Panels: Cracked (not at joint) _____ Bowed or Warped _____

Missing _____ Other damage _____

Mounting Hardware: Loose _____ Bolt/nut/washer/screw missing _____

Surface: Dirty _____ Vandalized _____ Cracks (not at joint) _____

Other _____

Holds: Loose _____ Damaged _____ Missing _____

Other _____

Belay Support: Bolts tight? Yes No

Straps inspected? Yes No

Carabiner or other device inspected? Yes No

Maintenance/lubrication needed? Yes No

Other:

Signature: _____ Date: _____



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EQUIPMENT FILE INFORMATION

Equipment _____

Date of Purchase _____

Date Equipment in-service _____

Date Equipment should be removed from service _____

Manufacturer's Recommended Service (procedures and intervals) _____

Manufacturer's Recommended Maintenance (procedures and intervals)

Manufacturer's Recommended Procedures or Usage _____

Manufacturer/Supplier _____

Warranty Information _____

Other _____



EMERGENCY INFORMATION FORM
STAFF

Name _____ Birthdate _____ Age _____
Address _____ City _____ ZIP _____
Home Phone _____
Emergency Contact _____
Emergency Contact Phone _____ Relationship _____
Family Doctor _____ Phone _____
Preferred Hospital _____
Known allergies and other medical concerns _____

The Climbing Wall Facilitators may apply first-aid treatment until professional medical personnel can be contacted and I give consent for facilitators to use their own judgment in securing medical aid and ambulance services in case we cannot be reached. Yes _____ No _____

You must carry Family Medical/Hospital Insurance in order to participate:

Carrier _____
Policy or Group # _____
Subscriber Name _____

Participant's Name (Please Print) _____ Participant's Signature _____

Date _____



EMERGENCY INFORMATION FORM
ADULT PARTICIPATION

Name _____ Birthdate _____ Age _____
Address _____ City _____ ZIP _____
Home Phone _____
Emergency Contact _____
Emergency Contact Phone _____ Relationship _____
Family Doctor _____ Phone _____
Preferred Hospital _____
Known allergies and other medical concerns _____

The Climbing Wall Facilitators may apply first-aid treatment until professional medical personnel can be contacted and I give consent for facilitators to use their own judgment in securing medical aid and ambulance services in case we cannot be reached. Yes _____ No _____

You must carry Family Medical/Hospital Insurance in order to participate:

Carrier _____
Policy or Group # _____
Subscriber Name _____

Participant's Name (Please Print) _____ Participant's Signature _____

Date _____



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EMERGENCY INFORMATION FORM
STUDENT PARTICIPATION

Name _____ Birthdate _____ Age _____
Parent's Name _____ Home Phone _____
Address _____ City _____ ZIP _____
Phone # of Parent _____
Emergency Contact, if parents cannot be reached _____
Emergency Contact Phone _____ Relationship _____
Family Doctor _____ Phone _____
Preferred Hospital _____
Known allergies and other medical concerns _____

The Climbing Wall Facilitators may apply first-aid treatment until professional medical personnel can be contacted and I give consent for facilitators to use their own judgment in securing medical aid and ambulance services in case we cannot be reached. Yes _____ No _____

You must carry Family Medical/Hospital Insurance in order to participate:

Carrier _____
Policy or Group # _____
Subscriber Name _____

Participant's Name (Please Print) _____ Participant's Signature _____

Date _____



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CLIMBING WALL RELEASE, ACKNOWLEDGMENT OF RISK, ASSUMPTION OF PERSONAL RESPONSIBILITY AND INDEMNITY STAFF

I understand that during my participation in Climbing Wall activities, I may be exposed to risk of possible injury, which could be serious.

I understand, too, that it is not possible for the School, its employees, or agents, to guarantee or otherwise assure the effectiveness of the safety measures, or that the safety measures will be used in every instance. I further understand that mistakes, errors or neglectful acts or omissions may happen and that equipment may fail. Also, I understand that I assume the risk for any injuries or damages resulting from my participation in these activities.

I have accepted responsibility to verify with my physician that I have no physical or psychological problems that would prohibit my participation in these activities, and agree to comply with the instructions and directions of School staff members during my participation in the Climbing Wall activities.

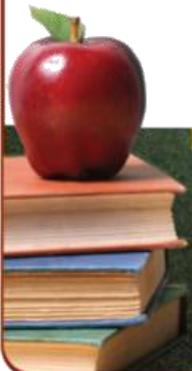
I _____ in return for my opportunity to participate in the Climbing Wall activities, which includes the use of equipment, do hereby exempt and release the School District, its directors, officers, employees, volunteers and agents, from any and all liability, claims, demands or actions whatsoever arising out of any damage, loss or injury that my child or I might sustain while I am participating in Climbing Wall Activities, whether or not such damage, loss or injury results from the negligence of the School District, its directors, officers, employees, volunteers or agents, or any defective equipment. I also understand that if I do not sign this RELEASE then I will not be permitted to participate in the Climbing Wall activities. I hereby represent that I am 18 years of age or older.

I further acknowledge that no representations or promises by School District representatives have been made to induce me to sign this Release, and that I have read the Climbing Wall information, in which the elements of the course have been described. I further agree to indemnify, hold harmless and defend the School District from any claim, cause of action or demand, of any sort or nature which may at any time be filed or asserted arising out of and in connection with my participation in the Climbing Wall activities, which indemnification shall include any costs and attorney's fees that may be incurred by the School District as a result of any claims, causes of action or demands.

Participant's Name (Please Print)

Participant's Signature

Date



CLIMBING WALL RELEASE, ACKNOWLEDGMENT OF RISK, ASSUMPTION OF PERSONAL RESPONSIBILITY AND INDEMNITY ADULT PARTICIPATION

I understand that during my participation in Climbing Wall activities, I may be exposed to risk of possible injury, which could be serious.

I understand, too, that it is not possible for the School, its employees, or agents, to guarantee or otherwise assure the effectiveness of the safety measures, or that the safety measures will be used in every instance. I further understand that mistakes, errors or neglectful acts or Omissions may happen and that equipment may fail. Also, I understand that I assume the risk for any injuries or damages resulting from my participation in these activities

I have accepted responsibility to verify with my physician that I have no physical or psychological problems that would prohibit my participation in these activities, and agree to comply with the instructions and directions of the School's staff members during my participation in the Climbing Wall activities.

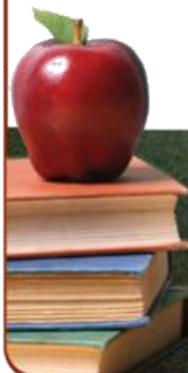
I _____ in return for my opportunity to participate in the Climbing Wall activities, which includes the use of equipment, do hereby exempt and release the School District, its directors, officers, employees, volunteers and agents, from any and all liability, claims, demands or actions whatsoever arising out of any damage, loss or injury that my child or I might sustain while I am participating in Climbing Wall Activities, whether or not such damage, loss or injury results from the negligence of the School District, its directors, officers, employees, volunteers or agents, or any defective equipment. I also understand that if I do not sign this RELEASE then I will not be permitted to participate in the Climbing Wall activities. I hereby represent that I am 18 years of age or older.

I further acknowledge that no representations or promises by District representatives have been made to induce me to sign this Release, and that I have read the Climbing Wall information in which the elements of the course have been described. I further agree to indemnify, hold harmless and defend the School District from any claim, cause of action or demand, of any sort or nature which may at any time be filed or asserted arising out of and in connection with my participation in the Climbing Wall activities, which indemnification shall include any costs and attorney's fees that may be incurred by the School District as result of any claims, causes of action or demands.

Participant's Name (Please Print)

Participant's Signature

Date



CLIMBING WALL RELEASE, ACKNOWLEDGMENT OF RISK, ASSUMPTION OF PERSONAL RESPONSIBILITY AND INDEMNITY STUDENT PARTICIPATION

I/we understand that during my child's participation in Climbing Wall activities, he/she may be exposed to risk of possible injury, which could be serious.

I/we understand, too, that it is not possible for the school, its employees, or agents, to guarantee or otherwise assure the effectiveness of the safety measures, or that the safety measures will be used in every instance. I further understand that mistakes, errors or omissions may happen and that equipment may fail. Also, I/we understand that I/we assume the risk for any injuries or damages resulting from my child's participation in Climbing Wall activities.

I/we have accepted responsibility to verify with my physician that my child has no physical or psychological problems that would prohibit his/her participation in club activities, and agree to advise my child to comply with the instruction and directions of the school staff members during their participation in Climbing Wall activities.

I/we _____ (Parent/Guardian), in return for my child's opportunity to participate in the Climbing Wall activities, which includes the use of equipment, do hereby exempt and release the school district, its directors, officers, employees, volunteers and agents, from any and all liability, claims, demands or actions whatsoever arising out of any damage, loss or injury that my child or I/we might sustain while my child is participating in Climbing Wall activities, whether or not such damage, loss or injury results from the acts or omissions of the school district, its directors, officers, employees, volunteers or agents, or any defective equipment. I/we understand that if I/we do not sign this Release, then my child will not be permitted to participate in Climbing Wall activities. I/we hereby represent that I am/ we are 18 years of age or older, and that I am/we are the parent(s)/guardians of _____ (Student).

I/we further acknowledge that no representations or promises by school district representatives have been made to induce me to sign this release, and that I/we have read the Climbing Wall information in which the activities of the program have been described.

I/we _____ (Parent/Guardian), further agree to indemnify, hold harmless and defend the school district from any claim, cause of action or demand, of any sort or nature, which may at any time be filed or asserted by _____ (Student), or on his or her behalf, arising out of and in connection with their participation in Climbing Wall activities, which indemnification shall include any costs and attorneys' fees that may be incurred by the School District as result of any claims, causes of action or demands.

Participant's Name (Please Print)

Participant's Signature

Parent/Guardian Name (Please Print)

Parent/Guardian's Signature

Date _____



SAMPLE INSPECTION/CHECKLIST SYSTEM HIGH ROPES COURSE INSPECTION LOG AND CHECKLIST

Date _____ Facilitators _____

Class _____ # of Participants _____

Post-Course Check _____ Pre-Course Check _____ Participant Orientation Check _____

Signature: _____ Date: _____

Incidents: How many and on what elements?

Emotional _____

Injuries _____

Rescue(s) _____

Equipment Malfunction _____

Post-Course Check: Items used for the ropes course must be inventoried before the group departs. Below is a list of sample elements and requirements for the checklist. Your district will need to modify to meet special element needs.

- _____ Access elements tied up and out of reach
- _____ Dangle Duo bottom rung removed and stored
- _____ AC/DC rope raised and tied off
- _____ Store rescue ladder
- _____ Cargo net raised to ceiling
- _____ Rappel ropes raised to platforms
- _____ Centipede bottom piece removed and stored
- _____ Centipede retracted to wall
- _____ Giant swing cable secure
- _____ Flying squirrel rope removed and stored
- _____ Pamper Pole placed in storage
- _____ Ropes equipment and site inspected and cleared
- _____ Fill out Course Inspection Log and Checklist
- _____ Complete Pre and Post Use Inventory
- _____ Complete Rope Use Log



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RESOURCES

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SAMPLE INSPECTION/CHECKLIST SYSTEM PRE-COURSE CHECKLIST

GROUND SET-UP

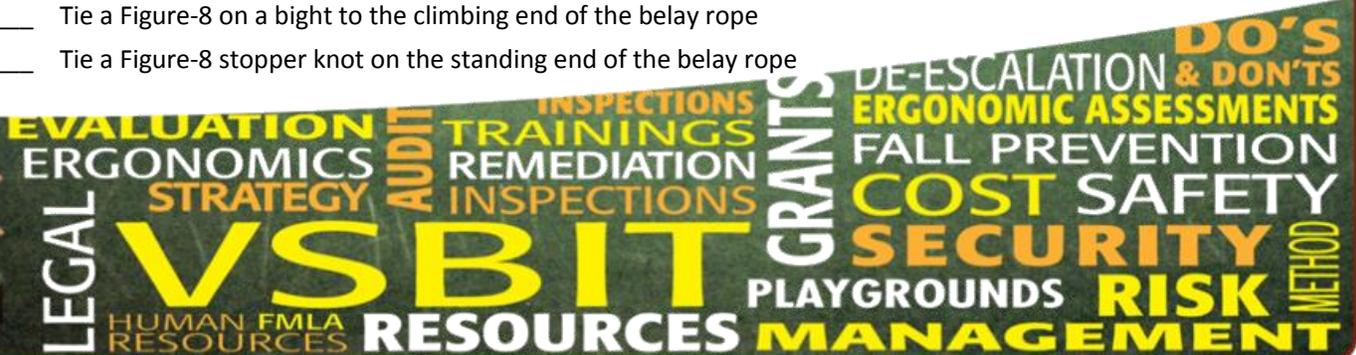
- Cordon off under the High Ropes Course; place First Aid Kit in designated area
- Review previous log
- Inspect belay ropes (check for fraying, breakage and wear)
- Inspect rescue rope (check for fraying, breakage and wear)
- Inspect all hardware (belay devices, carabiners) for dents, wear, corrosion, dirt
- Inspect harnesses (stitching, frays, wear, and discoloration)
- Inspect Y-Tails (check for frays/tears; check knots and splice; 2 steel carabiners)
- Inspect helmets (check for frays and/or cracks)
- Set-up rescue equipment [see *Rescue Bag Set-up*]
- Inspect co-facilitators safety equipment
- Lower all access ladders that will be used
- Set up rescue ladder
- Set up ground school
- Thread all belay lines for course access. (Store lazy lines in equipment room)
- Tie knots and attach belay devices
- Organize harnesses, helmets, Y-tails, and carabiners
- Lower Dangling Duo and secure the bottom rung
- Set up AC/DC lines
- Lower centipede and attach lower segment
- Lower giant swing cable

TOP SET-UP AND INSPECTION

- Check bolts, connections, and platforms (for looseness and wear)
- Inspect all cables and attachments
- Set-up belay system on the top course
- Attach Emergency Take-Down Bag to designated location

GROUND BELAY SET-UP

- Thread belay rope through tuber
- Tie a Figure-8 on a bight to the climbing end of the belay rope
- Tie a Figure-8 stopper knot on the standing end of the belay rope



SAMPLE INSPECTION/CHECKLIST SYSTEM

PARTICIPANT ORIENTATION AND COURSE TOUR CHECKLIST

- Check all participant waivers for emergency information and signature.
- Identify access and exit points [marked with an asterisk *].
- Briefly identify the elements the participants will use:

AC/DC	Etrier Crossing
Traverse Wall	Earthquake Tremor
Bottomless Burma Bridge	Firecracker Ladder *
Cargo Net	Floating Beam
Cave Ladder	Flying Squirrel
Centipede	Hour Glass
Commando Crawl	Pamper Pole
Dangling Duo	Rope Ladder
Knotted Rope *	Jumar Ascent Rope
Rappel Station	Giant Swing
- Identify the overhead belay cable. You must be clipped into a safety system at all times the course.
- Briefly explain *assists* and *take-down* procedures for emergencies.
- Discuss the following safety concepts
 - Safety is the #1 priority. Nothing justifies getting hurt physically or emotionally. All group members are responsible for safety. Proceed in a controlled and orderly manner.
 - Only two people on an element at any time.
 - Maximum of four (4) people per platform at all times.
 - No *test falls*.
- Discuss:
 - The Ropes Course is a non-competitive group-oriented activity.
 - All individual choices will be respected and supported [*challenge by choice*].
 - Debrief/Linking: The course can be physically and emotionally challenging, and offers an opportunity for personal growth.
 - Do not step on the rope (dirt will cut or weaken fibers).
- Do warm-up activities: e.g., stretches to limber and warm-up muscles.
- Select partners and discuss goals and objectives.
- Put on harnesses [see *Harness Instructions*].
- Waist cinched tightly [less than two fingers can fit between harness and waist].
- Waist webbing rests on the hip bone [not below hip bone].
- Double-back webbing over buckle [functions as a lock].
- Tighten leg loops [comfortably snug].
- Two (2) facilitators should check each participant to ensure that the harness is on correctly.
- Attach Y-tails to harness belay loop [use a girth hitch with the knot out of the bight].
- Helmets: secure on head [less than two fingers from the eyebrow line].
- Teach Transfer Commands & how to clip into the overhead safety cable [see *Transfers*].
- Teach Belay Commands [see *Belay Commands*].



SAMPLE INSPECTION/CHECKLIST SYSTEM

TRANSFERS AND BELAY COMMANDS CHECKLIST

Transfers

- You must be clipped into a safety system at all times when you are on the course. [Demonstrate the clip-in procedure.]
- Hands on only one clip-in device at a time [prevents accidental removal of both clip-in devices].
- A facilitator must observe every transfer. Use the facilitator's name when asking for a transfer. It is critical to use standard terminology [it is clear and eliminates confusion].
- Participant Name, Will you watch me transfer?
- Facilitator Name, I'm watching

- Participant Name, Transfer #1?
- Facilitator Name, Transfer #1

- Participant Name, Transfer #2?
- Facilitator Name, Transfer #2

- Participant Name, Check one and two?
- Facilitator Name, Checked. You may proceed
- STOP means freeze and correct.
- Practice everything that can go wrong: permission, wait for response, attaching clip-in to wrong cable, moving both clip-in devices at once.

Belay Commands (used when leaving ground level):

- Climber* when clipped in Name, On Belay
- Belayer* when slack is in Name, Belay Is On

- Climber* when ready to climb Climbing
- Belayer* tells climber Climb On

- Climber* if rope is too tight Name, Slack
- Belayer* gives a maximum of six (6) inches of rope to each command until climber is satisfied.

- Climber* if rope is too loose Name, Up Rope
- Belayer* takes up slack

- Climber* if falling during the climb Falling
- Belayer* assumes brake position to arrest the fall

- Climber* when safely on ground or connected by static belay Name, Off Belay
- Belayer* lets go of rope Name, Belay Off

- Climber* thanks belayer for keeping him/her safe

Signature: _____ Date: _____



VSBIT

LEGAL HUMAN FMLA RESOURCES

RESOURCES

MANAGEMENT

INSPECTIONS TRAININGS REMEDIATION INSPECTIONS

GRANTS

DE-ESCALATION & DON'TS

ERGONOMIC ASSESSMENTS

FALL PREVENTION

COST SAFETY

SECURITY

PLAYGROUNDS RISK

METHOD

SAMPLE INSPECTION/CHECKLIST SYSTEM HARNES AND Y-TAILS INSTRUCTIONS

Scat Harness

- _____ Step through leg loops.
- _____ Make sure leg loops are relatively loose at the thigh area.
- _____ The webbing must rest on the hip bone (not below the hip bone).
- _____ Tighten webbing at the waist (maximum of 2 fingers should be able to fit between the webbing and waist).
- _____ Tighten webbing around the thighs (comfortably snug).
- _____ Tuck-in the excess webbing.

Note: Putting on the harness is easier if the waist and leg webbing is drawn out to the maximum before the participants get the harness (do this as part of the pre-course set-up).

Body Harness

Follow manufacturer's instructions.

Y-Tails

- _____ Slip the bight into the harness belay loop.
- _____ Thread the clip-ends into the bight to form a girth hitch.

Prusik Knot Management

- _____ Keep slack out of the y-tails by pushing up on the prusik knot (too much slack makes it dangerous if someone slips off the element).
- _____ Maintain uneven length on the y-tails (to avoid getting head caught between them).

Signature: _____ Date: _____



SAMPLE INSPECTION/CHECKLIST SYSTEM PRE- AND POST-USE INVENTORY

Ropes Course equipment must be checked-out and inventoried at the end of the course, before the group departs. Document and items that need to be repaired or removed from service.

Item	Quantity	Checked In	Checked Out
Y-tails	_____	_____	_____
Steel Carabiners	_____	_____	_____
Helmets	_____	_____	_____
Seat Harness	_____	_____	_____
Body Harness	_____	_____	_____
First Aid Kit	_____	_____	_____
Emergency Take-Down Kit	_____	_____	_____
Tubers	_____	_____	_____
Rope	_____	_____	_____
Locking Carabiners	_____	_____	_____

What's missing _____

Maintenance performed _____

Maintenance needed _____

Equipment replaced _____

Equipment needed _____

Facilitators _____

Date _____

Notes _____

Signature: _____ Date: _____



SAMPLE INSPECTION/CHECKLIST SYSTEM ASSIST AND EMERGENCY TAKE-DOWN PROCEDURES

The necessity of a Ropes Course *assist* or *emergency take-down* is greatly minimized if the facilitator conducts the *Ropes Course Group Orientation* activities. If a participant is having non-medical problems (e.g., anxiety, fear; fatigue) and appears unable to complete the course, survey the participant's situation and condition. If the participant is cooperating and coherent, follow these guidelines for an *assisted take-down*:

Assisted Take-down

1. Self Help
Reassure the person that s/he is physically safe. Point out the safety system and the Y-tails. Try to talk the participant through the element. The participant will feel more confident if s/he can complete the element by herself/himself. Encourage the participant with the following suggestions:
 - a. Use deep, slow breathing.
 - b. Shake out arms and legs.
 - c. Encourage the person to drink some water.
 - d. Find out how the participant reacts in other situations of stress and difficulty.
 - e. Ask the participant to make a commitment to continue.
2. Partner Help
Ask the person's partner to help him/her continue.
3. Facilitator Help
Walk out to the participant and try to calm her/him. Finish the element as the participant's partner. Continually reassure the participant.

If a participant refuses to move or is experiencing shortness of breath, pain, or any medical emergency, begin *Emergency Take Down* procedures immediately. Remain calm and move quickly.



SAMPLE INSPECTION/CHECKLIST SYSTEM EMERGENCY TAKE-DOWN PROCEDURES AND CHECKLIST

Ground Facilitator

- _____ Alert 911, if the *take-down* is a medical emergency.
- _____ *Rescue ladder*: If the person is conscious and able, move the *rescue ladder* under the participant's feet (for support). The person can be belayed down the ladder. [Do not use the rescue ladder if the person is unconscious or unable to move.]
- _____ Instruct all other participants to move to the nearest platform, remain clipped in, and in place until given permission to move.

Top Facilitator

Talk to the participant in a quiet, calm voice. Make sure s/he is breathing regularly.
Ask him/her to *shake-out* arms and legs so they don't get numb.

- _____ Move Rescue Bag to the participant's element.
- _____ Attach the *steel locking carabiner* of the rescue belay rope to the overhead belay cable (lock down).
- _____ Move to the participant. Drop the *Rescue Rope* (yell "ROPE" before dropping the rope to the ground).
- _____ Attach *locking carabiner* to participant's harness belay loop (enter loop from top to down). The carabiner gate must face away from the person's body. LOCK the carabiner.
- _____ *Ground Facilitator*: Set-up a *body belay* with a back-up belay, then stand at a 45" angle to the participant's cable. Take-up slack in rope (this removes the weight from the participant's Y-tail).
- _____ The following commands MUST be called before the Y-tail is cut or unclipped.

Top Facilitator: ON BELAY?

Ground Facilitator: BELAY ON

Ground Facilitator must ask *Top Facilitator* to recheck:

- _____ connection and lock on participant's harness carabiner
- _____ lock on the steel carabiner on the cable

Ground Facilitator must recheck:

- _____ carabiner on stitch plate is properly connected and locked
- _____ rope is not tangled

Top Facilitator: CUTTING? (releasing)

Ground Facilitator: CUT (release)

- _____ *Top Facilitator* cuts or unhooks the Y-tails so participant can be lowered. If the person is conscious and cooperating, unhook the Y-tails (they do not need to be cut).
- _____ *Ground Facilitator* belays participant down slowly.
- _____ Proceed with First Aid (if necessary).



Signature: _____

Date: _____



SAMPLE INSPECTION/CHECKLIST SYSTEM EMERGENCY TAKE-DOWN BAG SETUP

Bag Contents

- | | |
|---------------------------------------------------------|---------------------------------------------------------|
| <input type="checkbox"/> Rescue rope | <input type="checkbox"/> Rescue-8 |
| <input type="checkbox"/> Steel carabiner (for harness) | <input type="checkbox"/> Steel carabiner (for Rescue-8) |
| <input type="checkbox"/> Scissors on aluminum carabiner | <input type="checkbox"/> Steel oval carabiner (carrier) |

Setup Instructions

- Tie Figure-8 follow-through knot on a bight with a double fisherman's knot on working end of rope.
- Tie figure-8 stopper knot on the standing end of rope.
- Stack the rope in to the backpack (start with the standing end of the rope).
- Attach the steel carabiner to the Figure-8 loop (this carabiner that hooks into the participant's harness).
- Slip the rope through the Rescue-8.
- Attach the D carabiner to the Rescue-8.
- Hook the D carabiner (of the rescue rope) to the outside loop on backpack.
- Hook scissors (on the oval aluminum carabiner) to the outside loop on backpack.
- Hook the oval steel carabiner to the loop on backpack (this carabiner is hooked onto the cable to transport the backpack to the rescue site).
- Tuck everything (but the transport oval carabiner) into the top of the bag and close the bag.

To TRANSPORT RESCUE EQUIPMENT to the rescue site:

- Attach the transport carabiner between your Y-tails carabiners on the cable
or
- Place the pack on your back

Signature: _____ Date: _____

