SISC
SELF-INSURED SCHOOLS OF CALIFORNIA
Schools Helping Schools
RISK MANAGEMENT SERVICES

November 2003

TO: District Superintendents
SISC II Member Districts

FROM: Catherine Wilson Jones, CSP, ARM
Director, Safety and Loss Control

SUBJECT: Climbing Walls

Enclosed is a copy of the *SISC II Operational Guidelines for Climbing Walls*, which outlines the parameters for district administrators to follow should they desire to construct and implement a climbing wall program. Please note that the guidelines contain the elements necessary to address the operational elements of a climbing program as well as addressing the construction and design issues.

SISC staff have worked closely with the Division of State Architect (DSA) over the past year to clarify the overall construction process. DSA recognizes that climbing walls fall within their jurisdiction and therefore each installation must be submitted to DSA for approval.

Please consider the enclosed guidelines carefully before making the decision to proceed with a climbing wall program. In order for climbing walls to be covered under the SISC II liability policy, they must be DSA approved and in compliance with the SISC guidelines.

Ropes courses are closely related to climbing walls and must also follow many of the same requirements. For information pertaining to the applicability of these guidelines to ropes courses or if your design professional has questions regarding DSA or design issues applicable to climbing walls, contact Tim Beard at (661) 636-4417.

CWJ:sh
Enc.

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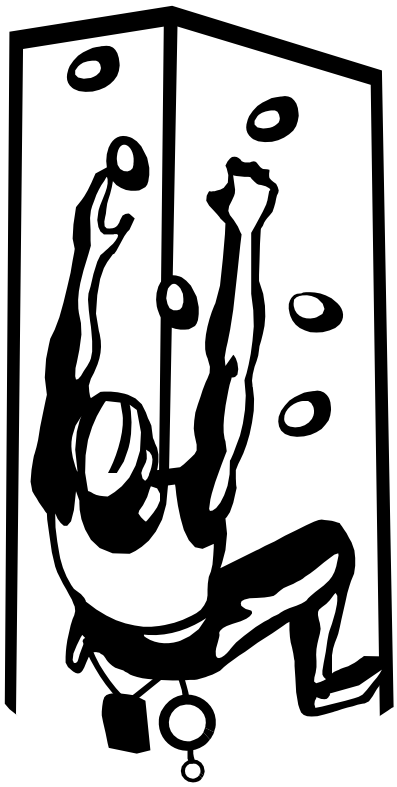
1300 17th Street - CITY CENTRE ◆ Bakersfield, CA ◆ (661) 636-4604 ◆ FAX (661) 636-4418

SISC II OPERATIONAL GUIDELINES FOR CLIMBING WALLS



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A Joint Powers Authority administered by the Kern County Superintendent of Schools, Larry E. Reider, Superintendent

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I Introduction

As the overall interest in offering innovative and experiential physical education (PE) grows, more district administrators are considering adding climbing walls to their PE curriculum. SISC member districts are no different. Climbing walls can provide a meaningful PE experience; however, climbing walls are not risk free.

Injuries resulting from the use of climbing walls can involve minor scraps and sprains or other serious injuries, including death. Therefore, the question of whether to add a climbing wall to any public school program should not be taken lightly. In May of 2002, the SISC II Board of Directors voted to exclude climbing walls from the SISC II general liability coverage unless certain conditions were met.

The purpose of this document is twofold. First, this document shall serve as the operational guideline that must be followed in order for any climbing wall to be covered under the SISC II general liability coverage. Secondly, this document should serve as the framework of issues that must be considered and addressed by district administrators prior to making the decision to add a climbing wall to their program.

The scope of this document covers free standing climbing wall structures and climbing walls attached to existing structures. Climbing wall components that are manufactured as part of a composite playground structure are not included within this scope. Such components are acceptable as long as they meet current California playground regulations. Be aware that several currently available playground climbing wall structures do not meet California regulations. Contact the SISC Safety and Loss Control office for more information regarding playground structures.

Ropes courses are closely related to climbing walls and must also follow many of the same requirements. For information pertaining to the applicability of these guidelines to ropes courses or if your design professional has questions regarding DSA or design issues applicable to climbing walls, contact Tim Beard at (661) 636-4417.

II Design and Layout

The design and layout phase of any climbing wall is an important, and critical, step in the overall development of a climbing wall program. Issues such as user age, type of wall, engineering and approval, handicap accessibility, surfacing material, construction, security, and signage must all be considered prior to making a final decision to proceed.

The intended user age should be one of the first considerations in selecting a climbing wall. Certainly there are many walls that are not appropriate for younger students. Physical as well as psychological ability of students vary, therefore, it is important to match the equipment, the student's abilities, and the goal of the curriculum.

User Age

The following types of walls are categorized by appropriate user age groups:

Grade Level	Type of Climbing Structure
o K-8	Commercial playground composite, or Engineered traverse or bouldering walls
o 9-12 Sites	Traverse wall and/or climbing walls with top rope belay systems.

Playground equipment may not have elevated platforms or a fall distance exceeding six (6') feet. Traverse or bouldering walls may not exceed eight feet (8') in height from highest handhold.

Engineering and Approval

All free standing climbing walls and those attached to an existing structure must be designed by an architect and/or engineer. The plans must then be submitted and approved by the Division of State Architect (DSA) prior to construction. Projects that do not have DSA approval will be excluded under the SISC II general liability coverage.

The Climbing Wall Industry Group (CWIG) has written specifications for the design of climbing walls. The specifications include the determination of live loads and the structural requirements for anchor points. The specifications should be useful in helping an engineer determine the appropriate design loads in a specific application. Be aware that as with any DSA project, climbing wall construction will require DSA inspector supervision, inspection, and final certification.

For climbing walls with top rope belay systems, the top anchor points and belayer anchor points must be included in the design and load calculations.

Handicap Accessibility

According to the Architectural and Transportation Barriers Compliance Board (Access Board), rock-climbing walls are considered "unique play areas" and are included within the scope of accessible facilities under the Americans With Disabilities Act (ADA). Although some of the technical provisions of the accessibility standards may not apply, school districts would still fall under the requirement/obligation to provide individuals with disabilities an equal opportunity to enjoy the goods, services, or programs provided by their facilities. This includes a climbing wall program.

School district administrators should carefully consider the operational aspect of coordinating use of the wall by students with disabilities. The construction aspect of accessibility may be addressed by the designing architect and submitted to DSA along with the overall project design.

Construction

Installation/construction of any free standing or structurally attached climbing wall must be conducted by an appropriately licensed contractor in accordance with the DSA approved plans and specifications.

Contractors must carry insurance that meets the following:

> Commercial General Liability coverage must be written on an occurrence as opposed to a claims made form with policy limits of not less than $1,000,000.00 per occurrence and $2,000,000.00 aggregate per project on BI (bodily injury) and PD (property damage) and include coverage for the following:
>
> 1. Premises – operations
> 2. Contractual liability
> 3. Products
> 4. Completed operation
> 5. Personal injury
> 6. Owners, contractors protective

The insurance required must be written by a Best Key Rating Guide "A" or better rated carrier admitted to write insurance in the state where the work is located at the time the policy is issued.

Fall Protection

Climbing walls with rope belay systems are to be fitted with commercially available auto-belay systems.

Falls from indoor climbing must be protected by an impact-attenuating surfacing material or matting that complies with American Society for Testing and Materials (ASTM) Designation F 1292-99, Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment.

For outdoor climbing, an impact-attenuating surfacing material that complies with ASTM F 1292-99 or the United States Consumer Product Safety Commission (CPSC) guidelines published in the Handbook for Public Playground Safety must be used.

Security

Whether indoor or outdoor, district officials must consider security for the wall when it is not in use. An unsecured wall is not acceptable due to the potential for serious injury, including death and the associated liability to the district and the SISC II program.

All walls must be physically secured when not in use to prevent unauthorized access. For climbing walls with rope systems, the ropes must be removed or secured. All walls must also be protected with an alarm system that is monitored by a licensed third-party alarm company.

Signage/Posting

The climbing wall area must be posted with the operating/safety rules as well as a warning that unauthorized, unsupervised use is prohibited. There is no set language that is required; districts should tailor the sign to be specific to their program. There should also be a provision to post the wall "out of use" if there is a deficiency noted that requires repair.

Notification

To secure insurance coverage under the SISC II policy for a climbing wall, contact the SISC Safety and Loss Control office at (661) 636-4604.

III Responsibility and Training

After the design and construction issues have been addressed, attention needs to be shifted to the training of staff that will operate the program as well as to the training curriculum aimed at students. Emphasis should be placed on providing comprehensive training and outlining responsibilities. A well-designed wall becomes life threatening in the hands of an inadequately trained instructor.

Staff

All instructors who teach and supervise climbing activities must have received instruction from a nationally or regionally recognized organization, climbing school, or college-level climbing course. The instruction must be specific to the type of program contemplated by the district.

There must be at least one qualified instructor for each six climbing participants on a rope belay system. This ratio is consistent with the ratio established by the Boy Scouts of American (BSA) program. (The BSA program is a formally organized program and acknowledged as an appropriate standard.)

Supervision ratios for traverse or bouldering walls may vary depending on the dynamics of the class and wall layout. The instructor must have direct line of sight supervision at all times for all portions of the wall.

Student

For Traverse or Bouldering Walls:

Students must demonstrate an understanding of and compliance with climbing wall safety rules, basic knowledge of the facility and program components and competence in the following techniques:

- Hazards of climbing
- Climbing techniques
- Landing
- Spotting
- Helmet use, care and maintenance

For Walls With Rope Belay Systems:

Students must demonstrate understanding and compliance with the above as well as the following:

- Anchor systems
- Belaying
- Harnesses
- Knots
- Rope and equipment care and management
- Rope commands

There must be a detailed curriculum that outlines the instructional elements of the items listed above.

IV Equipment

All equipment for climbing is to be made specifically for climbing activities and must be acquired new from a reputable supplier. For most traverse or bouldering walls, there are no equipment considerations. However, for rope systems, there is a host of equipment that must be provided, inspected, and regularly replaced.

All equipment for climbing must be Union International des Associations d' Alpinisme (UIAA) and/or American Society of Testing and Materials (ASTM) certified. These organizations have standards that cover force, static loads, dynamic loads, etc. Using only UIAA or ASTM compliant equipment ensures that the equipment is suitable for its intended use.

Auto-belay Systems

If any body part of a student climber exceeds the impact attenuating capabilities of the protective surfacing, that student is to be tied into an auto-belay system. An automatic belay system alleviates the "human factor" risks in belaying (e.g., belay error, no technical mastering of belay particulars by beginners, etc.).

Ropes

Only UIAA certified Dynamic Ropes should be used. Ropes must be replaced every year or more often if the rope shows signs of unusual wear.

Harnesses

It is critical that the climbing harness fits the user properly. Therefore, it will be necessary to have several sizes available so that a proper fit can be achieved. Harnesses should be replaced every year or more often if they show signs of excessive wear.

Helmets

Helmets must be worn. As with harnesses, several sizes should be made available to ensure appropriate fit. Helmets should be replaced according to the manufacturer's directions.

Miscellaneous

All other climbing equipment, such as holds, carabiners, belay devices and brakes, etc. should be inspected and replaced according to the manufacturer's directions.

Recall

Occasionally, there may be a design flaw or safety issue involving the equipment. Such instances are rare but do occur. The district should monitor the Consumer Product Safety Commission (CPSC) website at www.cpsc.gov to track recall notices. Completing and returning all product/equipment registration cards to the manufacturer will enable the manufacturer to notify the district of any product recalls.

V Inspection and Repair

Climbing wall programs can be a significant investment; therefore, it is important to plan the process to inspect and maintain the investment year after year.

Inspection

A written inspection protocol should be developed covering daily pre-use inspection, monthly inspection, and quarterly inspection. Checklist-type forms may be used for this purpose. All those who may be assigned inspection responsibilities must receive specific detailed instruction. At a minimum, the following items must be included in the inspection process.

- Visually inspect belay anchors for stability, damage, and/or wear (before each use).
- Check all equipment for signs of damage or unusual wear (before each use).
- Physically check each handhold for damage and stability (daily before and after use).
- Check for buildup of chalk on handholds and clean holds if necessary (daily).
- Check for any visible signs of damage along the wall surface (daily).
- Inspect the landing surface for adequacy and/or signs of damage (before each use).
- Visually inspect all anchor/structural points where the climbing wall attaches to an existing structure (as per manufacture recommendations).

Additional items should be added to the inspection process as appropriate.

Repair

Careful consideration should be given to those who will be assigned responsibility to make repairs to a climbing wall. Structural repairs should be made only by skilled tradesmen and must be consistent with the original design.

Record Keeping

All equipment logs, maintenance, service records, and verification of equipment change-out are to be retained for at least one year after the equipment is retired.

VI Rules, Contracts, and Waivers

A small but significant aspect of a climbing wall program is the communication of hazards and the affirmation that the information is understood and accepted. Climbing activities are not risk free; therefore, it is important that parents, as well as students, are fully informed. Students must understand that they will be held to a strict conduct standard during climbing activities. Contracts and waivers can be very useful in achieving the desired goal of informed consent and release of liability.

Rules and Contracts

Along with safety instruction and posting the operational rules, the rules should be written and distributed to students in the form of a test and written contract. Students may participate in climbing activities when they have achieved a 100% passing grade on the rules test and have signed the contract portion affirming they will abide by the rules.

Waivers

A parent or guardian, as well as the student, must sign a voluntary participation form that releases the district from liability regarding use of the wall. Students may not participate in climbing wall activities unless a signed form is on file. The Exhibit I, II, and III forms contained in the appendix may be used for this purpose. Exhibit I is a fairly straightforward form that would be appropriate for bouldering or traverse walls. It is not appropriate for use with rope system walls. Exhibit II and III are designed for use with rope system walls. Modifications may be made to the forms but must be submitted to SISC II for approval before use.

Alternate activities must be provided for students whose parent/guardian declines to sign the participation form. Such declination must not have any impact on the student's class grade.

VII Climbing Wall Glossary

ANCHOR	A place or device to which one can secure a rope to a wall or the floor.
BELAY	A system of protecting the climber with a rope from the effects of a fall. The belayer holds the rope, feeding it in or out as appropriate to protect the moving climber.
BELAYER	The person who is rendering the protection to the climber.
BELAY DEVICE	A friction device used by the belayer to more easily grip the rope and thereby manage the force of a falling climber.
BELAY SYSTEM	All factors on a belay setup.
BOULDERING	Climbing on short walls and boulders, usually in a traverse or sideways climb, without belay or other means of fall protection.
BRAKE HAND	Hand used to control a running rope.
CLIMBING COMMANDS	Verbal signals used in climbing and belaying.
CARABINER	Alloy rings equipped with a spring-loaded snap gate. Used to connect the climbing rope to an anchor.
CLIMB	The ascent and descent of the climbing wall.
CLIMBING ROPE	Specially designed and manufactured rope used in climbing which helps prevent or lessen the effects of a fall.
DYNAMIC BELAY	A belay where a falling climber is stopped gradually to reduce impact forces or to prevent a sharp swing into the wall.
FACE	Vertical wall.
FACE CLIMBING	Climbing that uses small holds on a face.
FALL	Breaking loose from the climbing surface.
FREE SOLO CLIMB	Climb using hands and feet only and without a rope or other device for fall protection. This is a very dangerous activity!
GUIDE HAND	Hand opposite the brake hand that pulls in slack on the rope.
HELMET	Protective headgear.
HOLD	Manufactured handhold that is bolted to the climbing wall by T-Nuts. Provide the climber a means for ascent or descent.

LAYBACK	Climbing technique that involves pulling with the hands and pushing with the feet.
LOCKING CARABINERS	Carabiners equipped with a positive locking device. Two types are generally available: o Autolocking carabiners are self-locking. o Screw-gate carabiners must be manually locked by the user.
MOVE	One of a series of motions necessary to gain climbing distance.
ROUTE	The path taken on a climb.
STATIC BELAY	A belay from above with no slack.
T-NUT	Threaded nuts mounted behind each hole in a climbing wall, allowing movable holds to be bolted to the wall in various locations and patterns.
TENSION	A taut belay when the climber is being held by the belay line.
TOP ROPE	A belay from above designed to protect the climber from falling even a short distance.
TRAVERSE	Moving sideways, without altitude gain.

VIII Additional Information

American Mountain Guides Association
www.amga.com

Consumer Product Safety Commission
www.cpsc.gov

Boy Scouts of America
www.scouting.org

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EXHIBIT I

VOLUNTARY ACTIVITIES PARTICIPATION FORM
ACKNOWLEDGEMENT AND ASSUMPTION OF POTENTIAL RISK

I authorize my son/daughter, _____, to participate in the District sponsored activities of _____.

I understand and acknowledge that these activities, by their very nature, pose the potential risk of serious injury/illness to individuals who participate in such activities.

I understand and acknowledge that some of the injuries/illnesses that may result from participating in these activities include, but are not limited to, the following:

1. Sprains/strains
2. Fractured bones
3. Unconsciousness
4. Head and/or back injuries
6. Paralysis
7. Loss of eyesight
8. Death

I understand and acknowledge that participation in these activities is completely voluntary and as such is not required by the District for course credit or for completion of graduation requirements.

I understand and acknowledge that in order to participate in these activities (I and my son/daughter) agree to assume liability and responsibility for any and all potential risks that may be associated with participation in such activities.

I understand, acknowledge, and agree that the District, its employees, officers, agent(s), or volunteers shall not be liable for any injury/illness suffered by my son/daughter arising as a result of engaging or receiving instruction in said activity or any activity that is incidental thereto.

I acknowledge that I have carefully read this VOLUNTARY ACTIVITIES PARTICIPATION FORM and that I understand and agree to its terms.

_____ _____

Parent/Guardian Signature Date

_____ _____

Student Signature Date

A signed VOLUNTARY ACTIVITIES PARTICIPATION FORM must be on file with the District before a student will be allowed to participate in the above extra-curricular activities.

EXHIBIT II

(*District Letterhead*)

Dear Parent/Guardian,

Your son/daughter has expressed interest in selecting the climbing wall class to fulfill a physical education requirement. Before your son/daughter can be enrolled in the class, the attached paperwork must be completed and returned to the school site. The purpose of this letter is to provide you with sufficient information to make an informed decision about your child's participation in the climbing wall program. Please read all the information carefully. Climbing is not a risk free activity and there is a potential for your son/daughter to sustain a serious injury up to and including death.

Artificial climbing walls are growing in popularity across the state. Several school districts have decided to add artificial climbing walls to their physical education programs in an effort to keep pace with offering innovative, experience-oriented challenges. An artificial climbing wall can be constructed using various construction materials and configured to be customized to a specific installation. The wall has sculpted hand and foot holds that can be moved to create new and challenging climbing routes. Climbing is a sport that challenges a participant in many different ways. Physical strength plays a part but equally important are attitude, strategy, and flexibility.

While climbing at height, climbers wear a safety harness, which is tied into a rope system. The rope is secured through an auto-belay system. An automatic belay system alleviates "the human factor" that exists if another student were to operate the belay. We will be teaching students how to operate the safety ropes (belaying) and how to tie the rope to the harness.

If you have any questions or concerns, please do not hesitate to contact _____ to discuss the program in more detail or to make arrangements to visit the site.

If you decline to grant permission for your son/daughter to participate in this activity/class, alternate choices will be made available. This decision to participate in the class is completely voluntary and declination to participate in the class will not adversely impact your child's grade.

Sincerely,

EXHIBIT III

(District Letterhead)

CLIMBING WALL ACTIVITY PARTICIPATION FORM

Acknowledgment of Hazard and Assumption of Risk

I, the undersigned, acknowledge and agree that observing or participating in activities, including but not being limited to climbing on top rope and bouldering, has inherent risks. Those risks include but are not limited to:

1. Injuries resulting from falling, including but not being limited to, falling into other persons, falling and coming into contact with any walls, structures or ropes, or falling to the floor, whether accidental or related to bad belaying.

2. Injuries resulting from the fall of other persons or objects such as broken holds.

3. Injuries that occur from negligence or lack of adequate training, the participant's failure to observe safety procedures, and/or from human error.

4. Injuries or death resulting from the failure or negligent use of the facilities, climbing walls or equipment.

5. Injuries or death resulting from the failure of equipment, or poor design or placement of any equipment, including but not being limited to ropes, carabiners, quick draws, bolt hangers, and all anchors, except in the case of gross negligence.

I understand that any instructions given to my son/daughter may be important for his/her safety as well as the safety of others, and I agree that failure to follow all safety rules may result in dismissal from the class.

I understand and acknowledge that participation in these activities is completely voluntary and as such is not required by the District for course credit or for completion of graduation requirements.

I understand and acknowledge that in order to participate in these activities, my son/daughter and I agree to assume liability and responsibility for any and all potential risks that may be associated with participation in such activities.

I understand, acknowledge, and agree that the _____ School District, its employees, officers, agent(s), or volunteers shall not be liable for any injury/illness suffered by my son/daughter arising as a result of engaging or receiving instruction in said activity or any activity that is incidental thereto. I therefore agree to indemnify and hold harmless the district, their agents, and employees from all claims, damages, losses, injuries, and expenses arising out of or resulting from participation in the climbing wall program.

Please recopy the following words in your own handwriting on the line below:

"I have read, I understand, and I agree to the above conditions"

_____

_____

_____ _____

(Parent/Guardian Signature) *(Date)*

_____ _____

(Student Signature) *(Date)*

A signed form must be on file with the District before a student will be allowed to participate in the above extra-curricular activities.

NOTE: This form should be typed onto district letterhead and copies as a one-page (two-sided) form. This will prevent the signature page from inadvertently being separated