Working at Heights
Training Program Standard

Contents

Acknowledgements

The Working at Heights Committee have developed a *Working at Heights Training Program Standard* that outlines the **minimum** requirements for program objectives, training requirements and learning outcomes that are designed to educate Manitoba workers on working in compliance when working at heights.

Please note that while reasonable efforts have been made to ensure that the criteria of the *Working at Heights Training Program Standard* is met, the responsibility resides with the employers to ensure compliance with the training requirements under the *Manitoba Workplace Safety and Health Act and Regulation.* In determining what rights or obligations a party may have under the province's legislation, reference should always be made to the official version of the Act and regulations.

On behalf of the Working at Heights Committee, I thank you for incorporating the Working at Heights Training Program standard into your offered training. If you have any questions or concerns, I can be reached directly at 204-775-3171 or mike@constructionsafety.ca.

Yours truly,

Mike Jones
Chair, Working at Heights Committee
Executive Director
Construction Safety Association of Manitoba

Scope

The *Working at Heights Training Program Standard* outlines the minimum requirements for Working at Heights training programs in Manitoba. This Program Standard should be read in conjunction with *the Working at Heights Training Provider Standard*, which sets out the minimum requirements for a provider to meet when conducting a training program on Working at Heights.

SAFE Work Manitoba has approved this training standard as “best practice” for Working at Heights training in the province of Manitoba. Currently, there is no official mechanism that can give best practice accreditation to individual Working at Heights training programs for all industries; therefore, in order to ensure that this standard is met, the Construction Safety Association of Manitoba (CSAM) has agreed to take on the role as the “gatekeeper” for integrating this standard into working at heights training programs offered to the Construction industry.

The initiative for standardizing Working at Heights training was led by the Construction Safety Association of Manitoba (CSAM) and a group of key industry stakeholders from different industry sectors, encompassing safety associations, government organizations, training providers and union representation.

The consensus made within the construction industry states that all participating training providers must submit their current working at heights training program to CSAM for review under the guidelines of the *Working at Heights Training Program* and *Provider Standard* in order to meet the Manitoba Working at Heights “Best Practice” training for construction environments.

1. Introduction

The *Working at Heights Training Program Standard* is designed to support consistent and quality training for workers in the Province of Manitoba, with respect to core competencies required for working at heights.

The *Working at Heights Training Program Standard* outlines the minimum requirements to be met by designated Working at Heights training programs. This program standard should be read in conjunction with the *Working at Heights Training Provider Standard*, which sets out the minimum requirements for a provider to meet when conducting a training program on Working at Heights in Manitoba.

The *Working at Heights Training Program Standard* also contains an eLearning component that has been structured under the province's eLearning Instructional Design Guidelines. This online component provides new one-on-one interaction with the students, qualified instructor and educational activities.

Training programs that are structured around this guideline can be customized to address the specific hazards of a sector and common equipment and machinery used within that sector.

2. Purpose

The purpose of the *Working at Heights Training Program Standard* is to establish a minimum standard for basic Working at Heights training in the Province of Manitoba.

Having a Working at Heights Training program that meets the guidelines pertaining to the minimum training standard will:

a) Strengthen workplace safety culture by elevating the profile and importance of preventing falls from heights;

b) Provide workers, who may be exposed to the hazard of falling from heights, with adequate knowledge about fall hazards and general safety practices to work safely at heights;

c) Provide workers, who use personal fall protection equipment, with sufficient knowledge about its purpose and use; and

d) Reduce the number of fall-from-heights incidents, injuries and fatalities.

3. Overview

The *Working at Heights Training Program Standard* is structured as a modular format that allows core theory training to be completed separately from practical training elements. These two modules are *Working at Heights Basic Theory* and *Working at Heights Practical.*

3.1. Working at Heights Basic Theory Module

The *Working at Heights Basic Theory* module covers the following content:

a) Rights and responsibilities related to working at heights under the rights and responsibilities for workers and employees;
b) General hazard recognition for working at heights;
c) Hierarchy of controls;
d) Safety procedures for warning methods and physical barriers;
e) Safety procedures for ladders and similar equipment; and
f) An introduction to personal fall protection equipment.

3.2. Working at Heights Practical Module

The *Working at Heights Practical* module covers the following content:

a) Barriers and safety nets;
b) Personal fall protection equipment;
c) Anchor points;
d) Work positioning systems, work access and platforms; and
e) Rescue planning.

4. Requirements

The *Working at Heights Basic Theory* module must be successfully completed before the *Working at Heights Practical* module is taken.

Employers shall supplement any training program that meets the requirements of this training program standard with additional information, instruction and training in workplace-specific policies and procedures and workplace-specific equipment related to working at heights. In addition, employers must ensure that they meet the training and other requirements in the Manitoba Regulation 217/2006

5. Design

A Working at Heights training program is designed to allow learners to ability to achieve the learning outcomes that are set out in this standard for the *Working at Heights Basic Theory* module and the *Working at Heights Practical* module (if applicable).

The training program must meet the following criteria:

a) Compliance with adult learning principles:

- Ensuring learners know why they need to learn specific content, its relevance to them and their workplace;
- Relating learning to training participants' own experiences in situations that simulate actual application in the workplace;
- Challenging training participants using a variety of activities that allow opportunity for participation, feedback and interaction;
- Recognizing limits of attention span and various ways that adults learn; and
- Using realistic activities and tools to support transfer of learning to the workplace.

b) Language and literacy level appropriate for the learners;

c) Content accurate, current, and with all legal and technical information referenced and verified;

d) Use of a variety of teaching aides such as audio-visual, equipment, safety devices and measuring/monitoring equipment;

e) Learner materials follow principles of instructional writing and good graphic design; and

f) Compliance with the requirements of the Occupational Health and Safety Act and its regulations.

6. Delivery Mode

6.1. Face-to-Face Learning

For the *Working at Heights Basic Theory* module, the maximum ratio of learners to instructor will be twenty-four (24) to one (1). For the Working at Heights Practical module, which includes hands-on demonstration of some of the learning outcomes, the maximum ratio of learners to instructor will be twelve (12) to one (1).

The following are the minimum hours for training delivery:

a) Working at Heights Basic Theory module - **3 hours.**
b) Working at Heights Practical module – **3.5 hours.**

Timing for delivery of this training program may be extended for various reasons, such as the amount of equipment available for demonstration of learning outcomes, instructor experience, and/or the learning needs of the training participants.

6.2. eLearning and Blended Learning

ELearning is an acceptable delivery method for the *Working at Heights Basic Theory Model* if it includes provisions for Learner Evaluation, such as contemporary checks, and valid learning outcomes that can be adequately met by the learner.

All eLearning program components must meet Manitoba's eLearning Instructional Design Guidelines, under the review of SAFE Work Manitoba.

Evaluation must support and validate that the learning outcomes, covered by both the *Working at Heights Basic Theory* module and the *Working at Heights Practical* module, have been adequately met by the learner.

ELearning is not an acceptable delivery method for the *Working at Heights Practical* module.

6.3. Distance Learning

All distance learning must include plans for interactivity with a qualified instructor.

For the *Working at Heights Basic Theory* module, distance learning such as training via a live video link is an acceptable delivery method, but distance learning is not acceptable for the *Working at Heights Practical* module.

7. Resource Materials

7.1. Learner Materials

Learner materials:

a) Clearly describe learning objectives, agenda, training content and evaluation/testing;
b) Clearly indicate the date and version number of the materials; and
c) Include, at a minimum:

- Terms and definitions;
- Worksheets for learning activities, exercises, role plays and case studies;
- Job aids, tools and templates;
- Excerpts from the regulations regarding working at heights that are relevant to the sectors in which the learners work; and
- Participant manual.

7.2. Instructor Materials

Instructor materials:

a) Clearly describe learning outcomes and training content;
b) Clearly describe instructional methods, learning activities and lesson plan timing;
c) Clearly indicate the date and version number of the materials; and
d) Include, at a minimum:

- Instructor manual and lesson plans with detailed, step-by-step instructions to guide the instructor through the lessons, including:
  - What materials will be used to deliver the topic,
  - The instructional methods,
  - The learning activities,
  - Timing,
  - Presentation materials, including any audio-visual resources, and
  - Needed equipment and supplies
- Evaluation tools and answer sheets for the learning activities, exercises, role plays, case studies and tests;
- A copy of the Manitoba Workplace Safety and Health Act and Regulation; and
- Manufacturers' instructions for the equipment used by the instructor in the delivery of the training program.

8. Equipment

In the *Working at Heights Practical* module, learners must have hands-on training on the proper use, care and limitations of the personal protective equipment (PPE) listed below. The PPE provided must comply with the requirements of the Manitoba Workplace Safety and Health Act and Regulations, such as meeting or exceeding the equipment-specific National Standards of Canada / Canadian Standards Association technical standards, as applicable.

8.1. Equipment for Demonstration of Learning Outcomes

The equipment listed below may be used for the delivery of the Working at Heights Practical module:

- Type A harnesses with tongue buckles (variety of sizes);
- Type A harnesses with mating buckles (variety of sizes);
- Single leg lanyards (with energy absorber);
- Lifelines with snap hooks adequate for learning purposes;
- Rope grabs;
- Carabiners; and
- D-bolt anchors.

8.2. Other Equipment

The equipment listed below may be used in the delivery of the *Working at Heights Practical* module so that learners become familiar with the look and function of this equipment:

- Non-Type A harnesses (such as ADELP harness and cross-over harness);
- Various lanyards (such as with no energy absorbers, with various levels of energy absorbers, Y lanyard, tie-back lanyard, Type 1 self-retracting lanyard);
- Various rope grabs;
- Various lifelines (such as with carabiner and thimble);
- Leg stirrups;
- Various hooks (such as snap hook with swivel, rebar hook); and
- Various anchors (such as cross-arm anchor connector, one-time use roof anchor, disposable concrete anchor).

8.3. Damaged Equipment

The equipment listed below may be used in the delivery of the *Working at Heights Practical* module so that learners are able to identify and inspect this equipment for damage.

- Type A harness (with tongue and mating buckles); and
- Single leg lanyards (with and without energy absorbers).

9. Learning Outcomes

Employers will need to supplement any training program that meets the requirements of this training program standard with additional information, instruction and training in workplace-specific policies and procedures and workplace-specific equipment related to working at heights.

9.1. Working at Heights Basic Theory Module

9.1.1. Rights and Responsibilities

By the end of this session learners will be able to:

a) Identify the roles and responsibilities of the employer, constructor (if applicable), supplier, supervisor and worker with respect to working safely at heights;

b) Describe four worker rights with regards to working at heights and how a worker would take steps to exercise them;

c) Explain that all workers have a duty to report to their supervisor or employer any fall hazard or defect in fall prevention/protection equipment of which they are aware and which may endanger themselves or another worker;

d) Explain that an employer is prohibited from threatening to fire or dismiss workers for exercising their health and safety rights with respect to working safely at heights, or for asking their employer or supervisor to do what the Manitoba Workplace Safety and Health Act and Regulation requires;

e) Explain that the Workplace Safety and Health Branch enforces the Manitoba Workplace Safety and Health Act and Regulation, and that Workplace Safety and Health Branch inspectors may make orders, requirements and may initiate prosecutions, where appropriate, for non- compliance with requirements for working safely at heights; and

f) Explain the types of help and resources available through SAFE Work Manitoba's website SafeManitoba.com

9.1.2. Identification of the Hazards of Working at Heights

By the end of this session learners will be able to:

a) Recognize hazards of working at heights;

b) Recognize other hazards where workers are exposed to the hazard of falling from heights (i.e. into water, machinery, electrical equipment, hazardous substances or objects);

c) List typical accidents and injuries related to working at heights in the workplace;

d) Identify the consequences of injuries and fatalities due to fall from heights (family, society, reputation, morale); and

e) Explain the role of safe work plans and procedures in identifying hazards of falling from heights.

9.1.3. Eliminating or Controlling the Hazards of Working at Heights

By the end of this session learners will be able to:

a) Define Hierarchy of controls to Manitoba Regulations related to working at heights;

b) Utilizing realistic workplace scenarios (for barriers, access equipment, positioning equipment and Personal Protective Equipment), use the hierarchy of controls to choose the preferred method of working safely at heights; and

c) Explain the limitations of personal protective equipment.

9.1.4. Warning Methods and Physical Barriers

By the end of this session learners will be able to:

a) Describe the types of warning methods (signs and bump lines), and physical barriers (fencing, guard rails, protective coverings), and their appropriate use;

b) Identify the characteristics and appropriate uses of permanent and temporary guard rails; and

c) Explain which precautions are necessary when relocating or removing guardrails.

9.1.5. Ladders and Similar Equipment

By the end of this session learners will be able to:

a) Identify a minimum of three types of portable ladders and similar equipment and their limitations;

b) Explain the advantages and disadvantages of ladders and similar equipment for working at heights;

c) Identify that there are different regulatory requirements for ladders in different sectors and that these requirements may place restrictions on the type of work which may be performed for working at heights from a ladder;

d) Identify and assess situations in which ladders could be used safely for working at heights, and when alternative means of access would be more appropriate;

e) Explain how to properly inspect and care for ladders and similar equipment;

f) Describe how to safely position and use ladders; and

g) Explain that if you are asked to use a ladder or similar equipment for working at heights at your workplace, you may need additional workplace specific information, instruction, or training by your employer.

9.1.6. Personal Fall Protection Equipment

By the end of this session learners will be able to:

a) Explain when a travel restraint system, fall restricting system or fall arrest system would be required and the essential components of each; and

b) Identify that more extensive training is essential to safely use a travel restraint system, fall restricting system or fall arrest system.

9.2. Working at Heights Practical Module

9.2.1. Barriers and Other Fixed Equipment

By the end of this session learners will be able to:

a) Identify situations in which bump lines, barriers, guardrails and safety nets would be appropriate;

b) Identify the regulatory requirements (if any) for bump lines, barriers, guardrails and safety nets;

c) Identify the limitations of bump lines, barriers, guardrails and safety nets;

d) Identify the specific requirements for strength and design of temporary guard rails.

9.2.2. Personal Fall Protection Equipment

By the end of this session learners will be able to:

a) Discuss the limitations and the appropriate application of travel restraint, fall restricting and fall arrest systems;

b) Identify the fall protection regulatory requirements (where applicable) for travel restraint, fall restricting and fall arrest systems;

c) Discuss the fundamental components of travel restraint, fall restricting and fall arrest systems;

d) Determine the fall distance to prevent a worker from striking the ground or an object below;

e) Discuss the force required to deploy a shock absorber;

f) Define and explain the effects on the human body of ”bottoming out”, the pendulum effect, and suspension trauma;

g) Describe the steps required for the proper set up, use, maintenance and storage of travel restraint and fall arrest equipment (harness, lanyard, lifeline, rope grab, , snap and grab hooks, carabiners);

h) Demonstrate an ability to inspect and identify deficiencies in industry-standard personal fall arrest equipment;

i) Demonstrate how to appropriately “don” and “doff” (i.e. put on and take off) industry standard personal fall arrest equipment, including harness and lanyard;

j) Describe how to protect horizontal and vertical lifelines while in use;

k) Describe the appropriate set-up and use of a rope grab for personal fall arrest systems and ladder use;

l) Explain methods to maintain tie-off at all times to an anchor point when changing anchor points; and

m) Describe possible situations where you may need additional workplace specific information, instruction or training by your employer if you are asked to use fall protection equipment in your workplace.

9.2.3. Anchor Points

By the end of this session learners will be able to:

a) Explain what an anchor point is;

b) Discuss the appropriate location and use of anchor points;

c) Provide examples of appropriate and inappropriate anchor points;

d) Identify the consequences of using inappropriate items as anchor points;

e) Illustrate the differences between permanent anchors, temporary fixed supports, and existing structural features as anchor points;

f) Discuss the importance of manufacturer's recommendations when installing new anchor points and, where necessary, approval of anchor points by a professional engineer; and

g) Explain the importance of asking for information before using new anchor points.

9.2.4. Work Access Equipment and Platforms

By the end of this session learners will be able to:

a) Using the hierarchy of controls, identify the different types of equipment that may be available to safely perform a variety of tasks at heights. Aerial devices and self-elevating work platforms scaffolds, ladders, suspended access equipment, and boatswain's chairs. For ladders, regulatory restrictions and criteria for safe use and positioning shall be identified;

b) Provide examples of the types of personal fall protection equipment that is needed to safely work at heights on work access equipment and platforms; and

c) Explain that if you are asked to use, work access equipment, platforms, or similar equipment in your workplace, you may need additional workplace specific and/or equipment specific information, instruction or training.

9.2.5. Rescue Planning

By the end of this session learners will be able to:

a) Explain the purpose of a working at heights fall rescue plan;

b) Identify key components of a fall rescue plan;

c) Discuss the roles and responsibilities of employers, supervisors and workers in regards to a fall rescue plan and emergency procedures; and

d) Explain that each project where workers rely on fall protection equipment (such as PPE and safety nets) must have a site specific rescue plan and that information, instruction or training on the site specific rescue plan is necessary.

10. Learner Evaluation

10.1. Written Tests and Alternative Evaluation Methods

a) A written test, either at the end of each module or at the end of the whole training program, can verify that the key concepts have been understood by learner. After a learner has successfully completed the test, the evaluator can review incorrect answers with the learner in order for him or her to have a full understanding of the training program.

b) For learners with language, literacy or accommodation needs, alternative evaluation methods to written tests may be employed to verify that key concepts have been understood by the learner. These alternative evaluation methods must be clearly outlined in the evaluation plan and the corresponding results must be documented by the evaluator.

10.2. Evaluation of Demonstration Learning Outcomes

a) Learning outcomes requiring demonstration (sections 9.2.2(h), 9.2.2(i), 9.2.2(l)) can involve performance-based tests in order to successfully complete the Working at Heights Practical module.

b) For learners with language, literacy or accommodation needs, alternative evaluation methods may be employed to verify satisfactory demonstration of learning outcome by the learner. These evaluation methods must be clearly outlined in the evaluation plan and the corresponding results must be documented by the evaluator.

11. Validity and Refresher Training

Learners who have successfully completed an approved Working at Heights Training Program must periodically refresh their training in order to maintain its validity. This supports learners in maintaining their foundational knowledge and skills for working safely at heights.

11.1. Validity of the Training Program

Successful completion of a working at heights training program includes the completion of both the Working at Heights Basic Theory module (section 9.1) and the Working at Heights Practical module (section 9.2) in accordance with the criteria set out in this standard and the Working at Heights Training Provider standard. Working at heights training remains valid for a period of three years from the date of successful completion.

11.2. Refresher Training

Refresher training can be achieved by successfully completing the Working at Heights Practical module (section 9.2) in accordance with the criteria set out in this Standard and the Working at Heights Training Provider Standard. Successful completion of the refresher training will re-validate a learner's working at heights training for another three year period from the date of successful completion of the refresher.

Learners must have previously successfully completed both modules of an approved Working at Heights training program to be eligible for refresher training.

Appendix A: Glossary of Terms – General

Blended Learning
Describes the practice of using several training delivery mediums in a single training program. It typically refers to the combination of classroom instruction and eLearning.

Distance Learning
An educational situation in which the instructor and students are separated by time, location, or both. Education or training courses are delivered to remote locations via synchronous or asynchronous instruction (ASTD definition).

eLearning (Electronic Learning)
A term covering a wide set of applications and processes that includes web-based learning, computer-based learning, virtual classrooms, and digital collaboration.

Face-to-face Training
Usually refers to traditional classroom training, in which an instructor teaches a course to a room of training participants. The term is used synonymously with on-site training and classroom training and instructor-led training (slightly modified from ASTD definition).

Module
A unit of instruction that can be measured, evaluated for change, assembled to form complete courses, or bypassed as a whole, and usually is intended to teach one or a group of skills or areas of knowledge (slightly modified from ASTD definition).

Evaluator
A person who evaluates learners.

Instructor
A person who delivers training programs.

Qualification
A skill, quality, or attribute that makes somebody suitable for a job, activity or task.

Subject Matter Expert (SME)
A person who has extensive knowledge and skills in a particular subject area (ASTD definition).

Appendix B: Glossary of Terms – Working at Heights Standards

Fall Arrest System
A fall protection system that is designed to stop a worker's fall before the worker hits the surface below.

Fall Restricting System
A type of fall arrest system that has been designed to limit a worker's fall to a specified distance.

Fixed Support
A permanent or temporary structure or a component of such a structure that can withstand all loads and forces the structure or component is intended to support or resist and is sufficient to protect a worker's health and safety, and includes equipment or devices that are securely fastened to the structure or component.

Full Body Harness
A device that can arrest an accidental vertical or near vertical fall of a worker and which can guide and distribute the impact forces of the fall by means of leg and shoulder strap supports and an upper dorsal suspension assembly which, after the arrest, will not by itself permit the release or further lowering of the worker.

Guardrail System
An assembly of components joined together to provide a barrier to prevent a worker from falling from the edge of a surface.

Safety Factor
The ratio of the failure load to the specified load or rated load.

Safety Net
A safety net that complies and is used in accordance with ANSI 10.11-1989 (R1998) and Part 14.7(1)(a)(x) of Manitoba Regulations 217/2006 must be located and supported in such a way that it arrests the fall of a worker who may fall into it without endangering the worker.

Travel Restraint System
A fall protection system that is designed to prevent a worker from travelling to a location where there is a risk of falling