

# Sample Written Program

for

# Fall Protection



## **29 CFR 1926, Subpart M**

### **Fall Protection Program**

**The following fall protection program is provided only as a guide to assist employers and employees in complying with the requirements of OSHA's Fall Protection Standard, 29 CFR 1926, Subpart M, as well as to provide other helpful information. It is not intended to supersede the requirements of the standard. An employer should review the standard for particular requirements which are applicable to their individual situation and make adjustments to this program that are specific to their company. An employer will need to add information relevant to their particular facility in order to develop an effective, comprehensive program.**

## **29 CFR 1926, Subpart M**

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**Fall Protection Program  
For  
Company Name**

**I. OBJECTIVE**

The objective of the Company Name Fall Protection Program is to identify and evaluate fall hazards to which employees will be exposed, and to provide specific training as required by the Occupational Safety and Health Administration (OSHA) Fall Protection Standard, 29 CFR 1926, Subpart M.

**II. POLICY**

It is the policy of Company Name to protect its employees from occupational injuries by implementing and enforcing safe work practices and appointing a competent person(s) to manage the Fall Protection Program. The Company Name Fall Protection Program shall comply with the OSHA requirements. A copy of the OSHA Fall Protection Standard shall be made available to all employees, and may be obtained from Responsible Person.

**III. ASSIGNMENT OF RESPONSIBILITY**

A. Employer

It is the responsibility of Company Name to provide fall protection to affected employees, and to ensure that all employees understand and adhere to the procedures of this plan and follow the instructions of Responsible Person.

B. Program Manager

It is the responsibility of Responsible Person as the Fall Protection Program Manager to implement this program by:

1. performing routine safety checks of work operations;
2. enforcing Company Name safety policy and procedures;
3. correcting any unsafe practices or conditions immediately;
4. training employees and supervisors in recognizing fall hazards and the use of fall protection systems;
5. maintaining records of employee training, equipment issue, and fall protection systems used at Company Name jobsites; and
6. Investigating and documenting all incidents that result in employee injury.

### C. Employees

It is the responsibility of all employees to:

1. understand and adhere to the procedures outlined in this Fall Protection Program;
2. follow the instructions of **Responsible Person**;
3. bring to management's attention any unsafe or hazardous conditions or practices that may cause injury to either themselves or any other employees; and
4. report any incident that causes injury to an employee, regardless of the nature of the injury.

## IV. TRAINING

A. All employees who may be exposed to fall hazards are required to receive training on how to recognize such hazards, and how to minimize their exposure to them. Employees shall receive training as soon after employment as possible, and before they are required to work in areas where fall hazards exist.

B. A record of employees who have received training and training dates shall be maintained by **Responsible Person**. Training of employees by **Responsible Person** shall include:

1. Nature of the fall hazards employees may be exposed to.
2. Correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems.
3. Use and operation of controlled access zones, guardrails, personal fall arrest systems, safety nets, warning lines, and safety monitoring systems.
4. Role of each employee in the Safety Monitoring System (if one is used).
5. Limitations of the use of mechanical equipment during roofing work on low-slope roofs (if applicable).
6. Correct procedures for equipment and materials handling, and storage and erection of overhead protection.
7. Role of each employee in alternative Fall Protection Plans (if used).
8. Requirements of the OSHA Fall Protection Standard, 29 CFR 1926, Subpart M.

9. Company Name requirements for reporting incidents that cause injury to an employee.

C. Additional training shall be provided on an annual basis, or as needed when changes are made to this Fall Protection Program, an alternative Fall Protection Plan, or the OSHA Fall Protection Standard.

## **V. CONTROLLED ACCESS ZONES**

A. Masons are the only authorized employees permitted to enter controlled access zones and areas from which guardrails have been removed. All other workers are prohibited from entering controlled access zones.

B. Controlled access zones shall be defined by control lines consisting of ropes, wires, tapes, or equivalent material, with supporting stanchions, and shall be:

1. Flagged with a high-visibility material at six (6) foot intervals.
2. Rigged and supported so that the line is between 30 and 50 inches (including sag) from the walking/working surface.
3. Strong enough to sustain stress of at least 200 pounds.
4. Extended along the entire length of an unprotected or leading edge.
5. Parallel to the unprotected or leading edge.
6. Connected on each side to a guardrail system or wall.
7. Erected between six (6) feet and 25 feet from an unprotected edge, except in the following cases:
  - a. when working with precast concrete members: between six (6) feet and 60 feet from the leading edge, or half the length of the member being erected, whichever is less; or
  - b. when performing overhand bricking or related work: between ten (10) feet and 15 feet from the working edge.

## **VI. EXCAVATIONS**

Fall protection will be provided to employees working at the edge of an excavation that is six (6) feet or deeper. Employees in these areas are required to use the fall protection systems as designated in this program.

A. Excavations that are six (6) feet or deeper shall be protected by guardrail systems, fences, barricades, or covers.

B. Walkways that allow employees to cross over an excavation that is six (6) feet or deeper shall be equipped with guardrails.

## **VII. FALL PROTECTION SYSTEMS**

### A. Covers

1. All covers shall be secured to prevent accidental displacement.
2. Covers shall be color-coded or bear the markings “HOLE” or “COVER”.
3. Covers located in roadways shall be able to support twice the axle load of the largest vehicle that might cross them.
4. Covers shall be able to support twice the weight of employees, equipment, and materials that might cross them.

### B. Guardrail Systems

Guardrail systems shall be erected at unprotected edges, ramps, runways, or holes where it is determined by **Responsible Person** that erecting such systems will not cause an increased hazard to employees. The following specifications will be followed in the erection of guardrail systems. Toprails shall be:

1. at least ¼ inch in diameter (steel or plastic banding is unacceptable);
2. flagged every six (6) feet or less with a high visibility material if wire rope is used;
3. inspected by **Responsible Person** as frequently as necessary to ensure strength and stability;
4. forty-two (42) inches (plus or minus three (3) inches) above the walking/working level; and
5. adjusted to accommodate the height of stilts, if they are in use.

Midrails, screens, mesh, intermediate vertical members, and solid panels shall be erected in accordance with the OSHA Fall Protection Standard.

Gates or removable guardrail sections shall be placed across openings of hoisting areas or holes when they are not in use to prevent access.

### C. Personal Fall Arrest Systems

1. Personal fall arrest systems shall be issued to and used by employees as determined by Responsible Person and may consist of anchorage, connectors, body harness, deceleration device, lifeline, or suitable combinations. Personal fall arrest systems shall:

- a. limit the maximum arresting force to 1800 pounds;
- b. be rigged so an employee cannot free fall more than six (6) feet or contact any lower level;
- c. bring an employee to a complete stop and limit the maximum deceleration distance traveled to three and a half (3 ½ ) feet;
- d. be strong enough to withstand twice the potential impact energy of an employee free falling six (6) feet (or the free fall distance permitted by the system, whichever is less);
- e. be inspected prior to each use for damage and deterioration; and
- f. be removed from service if any damaged components are detected.

2. All components of a fall arrest system shall meet the specifications of the OSHA Fall Protection Standard, and shall be used in accordance with the manufacturer's instructions.

- a. The use of non-locking snaphooks is prohibited.
- b. Dee-rings and locking snaphooks shall:
  - i. have a minimum tensile strength of 5000 pounds; and
  - ii. be proof-tested to a minimum tensile load of 3600 pounds without cracking, breaking, or suffering permanent deformation.
- c. Lifelines shall be:
  - i. designed, installed, and used under the supervision of **Responsible Person**;
  - ii. protected against cuts and abrasions; and
  - iii. equipped with horizontal lifeline connection devices capable of locking in both directions on the lifeline when used on suspended scaffolds or similar work platforms that have horizontal lifelines that may become vertical lifelines.

- d. Self-retracting lifelines and lanyards must have ropes and straps (webbing) made of synthetic fibers, and shall:
  - i. sustain a minimum tensile load of 3600 pounds if they automatically limit free fall distance to two (2) feet; or
  - ii. sustain a minimum tensile load of 5000 pounds (includes ripstitch, tearing, and deforming lanyards).
  
- e. Anchorages must support at least 5000 pounds per person attached and shall be:
  - i. designed, installed, and used under the supervision of **Responsible Person**;
  - ii. capable of supporting twice the weight expected to be imposed on it; and
  - iii. independent of any anchorage used to support or suspend platforms.

#### D. Positioning Device Systems

Body belt or body harness systems shall be set up so that an employee can free fall no farther than two (2) feet, and shall be secured to an anchorage capable of supporting twice the potential impact load or 3000 pounds, whichever is greater. Requirements for snaphooks, dee-rings, and other connectors are the same as detailed in this Program under *Personal Fall Arrest Systems*.

#### E. Safety Monitoring Systems

In situations when no other fall protection has been implemented, **Responsible Person(s)** shall monitor the safety of employees in these work areas. The **Responsible Person(s)** shall be:

1. competent in the recognition of fall hazards;
2. capable of warning workers of fall hazard dangers;
3. operating on the same walking/working surfaces as the employees and able to see them;
4. close enough to work operations to communicate orally with employees; and
5. free of other job duties that might distract them from the monitoring function.

No employees other than those engaged in the work being performed under the Safety Monitoring System shall be allowed in the area. All employees under a Safety Monitoring System are required to promptly comply with the fall hazard warnings of the **Responsible Person(s)**.

#### F. Safety Net Systems

1. Safety net systems must be installed no more than 30 feet below the walking/working surface with sufficient clearance to prevent contact with the surface below, and shall be installed with sufficient vertical and horizontal distances as described in the OSHA Fall Protection Standard.
2. All nets shall be inspected at least once a week for wear, damage, or deterioration by **Responsible Person**. Defective nets shall be removed from use and replaced with acceptable nets.
3. All nets shall be in compliance with mesh, mesh crossing, border rope, and connection specifications as described in the OSHA Fall Protection Standard.
4. When nets are used on bridges, the potential fall area from the walking/working surface shall remain unobstructed.
5. Objects that have fallen into safety nets shall be removed as soon as possible and at least before the next working shift.

#### G. Warning Line Systems

Warning line systems consisting of supporting stanchions and ropes, wires, or chains shall be erected around all sides of roof work areas.

1. Lines shall be flagged at no more than six (6) foot intervals with high-visibility materials.
2. The lowest point of the line (including sag) shall be between 34 and 39 inches from the walking/working surface.
3. Stanchions of warning line systems shall be capable of resisting at least 16 pounds of force.
4. Ropes, wires, or chains must have a minimum tensile strength of 500 pounds.
5. Warning line systems shall be erected at least six (6) feet from the edge, except in areas where mechanical equipment is in use. When mechanical equipment is in use, warning line systems shall be erected at least six (6) feet from the parallel edge, and at least ten (10) feet from the perpendicular edge.

### **VIII. TASKS AND WORK AREAS REQUIRING FALL PROTECTION**

Unless otherwise specified, **Responsible Person(s)** shall evaluate the worksite(s) and determine the specific type(s) of fall protection to be used in the following situations.

#### A. Framework and Reinforcing Steel

Fall protection will be provided when an employee is climbing or moving at a height of over 24 feet when working with rebar assemblies.

#### B. Hoist Areas

Guardrail systems or personal fall arrest systems will be used in hoist areas when an employee may fall six (6) feet or more. If guardrail systems must be removed for hoisting, employees are required to use personal fall arrest systems.

#### C. Holes

Covers or guardrail systems shall be erected around holes (including skylights) that are six (6) feet or more above lower levels. If covers or guardrail systems must be removed, employees are required to use personal fall arrest systems.

#### D. Leading Edges

Guardrail systems, safety net systems, or personal fall arrest systems shall be used when employees are constructing a leading edge that is six (6) feet or more above lower levels. An alternative Fall Protection Plan shall be used if **Responsible Person(s)** determines that the implementation of conventional fall protection systems is infeasible or creates a greater hazard to employees. All alternative Fall Protection Plans for work on leading edges shall:

1. be written specific to the particular jobsite needs;
2. include explanation of how conventional fall protection is infeasible or creates a greater hazard to employees;
3. explain what alternative fall protection will be used for each task;
4. be maintained in writing at the jobsite by **Responsible Person**; and
5. meet the requirements of 29 CFR 1926.502(k).

#### E. Overhand Bricklaying and Related Work

Guardrail systems, safety net systems, personal fall arrest systems, or controlled access zones shall be provided to employees engaged in overhead bricklaying or related work six (6) feet or more above the lower level. All employees reaching more than ten (10) inches below the walking/working surface shall be protected by guardrail systems, safety net systems, or personal fall arrest systems.

#### F. Precast Concrete Erection

Guardrail systems, safety net systems, or personal fall arrest systems shall be provided to employees working six (6) feet or more above the lower level while erecting or grouting precast concrete members. An alternative Fall Protection Plan shall be used if Responsible Person(s) determines that the implementation of conventional fall protection systems is infeasible or creates a greater hazard to employees. All alternative Fall Protection Plans for precast concrete erection shall:

1. be written specific to the particular jobsite needs;
2. include explanation of how conventional fall protection is infeasible or creates a greater hazard to employees;
3. explain what alternative fall protection will be used for each task;
4. be maintained in writing at the jobsite by Responsible Person; and
5. meet the requirements of 29 CFR 1926.502(k).

#### G. Residential Construction

Guardrail systems, safety net systems, or personal fall arrest systems shall be provided to employees working six (6) feet or more above the lower level on residential construction projects. However, certain tasks may be performed without the use of conventional fall protection if Responsible Person has determined that such fall protection is infeasible or creates greater hazards to employees. Responsible Person shall follow the guidelines of 29 CFR 1926, Subpart M, Appendix E in the development of alternative Fall Protection Plans for residential construction projects (see Attachment A).

#### H. Roofing

##### 1. Low-Slope Roofs

Fall protection shall be provided to employees engaged in roofing activities on low-slope roofs with unprotected sides and edges six (6) feet or more above lower levels. The type(s) of fall protection needed shall be determined by Responsible Person, and may consist of guardrail systems, safety net systems, personal fall arrest systems, or a combination of a warning line system and safety net system, warning line system and personal fall arrest system, or warning line system and safety monitoring system. On roofs 50 feet or less in width, the use of a safety monitoring system without a warning line system is permitted.

##### 2. Steep Roofs

Guardrail systems with toeboards, safety net systems, or personal fall arrest systems will be provided to employees working on a steep roof with unprotected

sides and edges six (6) feet or more above lower levels, as determined by **Responsible Person**.

#### I. Wall Openings

Guardrail systems, safety net systems, or a personal fall arrest system will be provided to employees working on, at, above, or near wall openings when the outside bottom edge of the wall opening is six (6) feet or more above lower levels and the inside bottom edge of the wall opening is less than 39 inches above the walking/working surface. The type of fall protection to be used will be determined by **Responsible Person**.

#### J. Ramps, Runways, and Other Walkways

Employees using ramps, runways, and other walkways six (6) feet or more above the lower level shall be protected by guardrail systems.

### **IX. PROTECTION FROM FALLING OBJECTS**

When guardrail systems are in use, the openings shall be small enough to prevent potential passage of falling objects. The following procedures must be followed by all employees to prevent hazards associated with falling objects.

- A. No materials (except masonry and mortar) shall be stored within four (4) feet of working edges.
- B. Excess debris shall be removed regularly to keep work areas clear.
- C. During roofing work, materials and equipment shall be stored no less than six (6) feet from the roof edge unless guardrails are erected at the edge.
- D. Stacked materials must be stable and self-supporting.
- E. Canopies shall be strong enough to prevent penetration by falling objects.
- F. Toeboards erected along the edges of overhead walking/working surfaces shall be:
  - 1. capable of withstanding a force of at least 50 pounds; and
  - 2. solid with a minimum of three and a half (3 ½ ) inches tall and no more than one quarter (1/4 ) inch clearance above the walking/working surface.
- G. Equipment shall not be piled higher than the toeboard unless sufficient paneling or screening has been erected above the toeboard.

### **X. ACCIDENT INVESTIGATIONS**

All incidents that result in injury to workers, as well as near misses, regardless of their nature, shall be reported and investigated. Investigations shall be conducted by **Responsible Person** as soon after an incident as possible to identify the cause and means of prevention to eliminate the risk of reoccurrence.

In the event of such an incident, the Fall Protection Program (and alternative Fall Protection Plans, if in place) shall be reevaluated by **Responsible Person** to determine if additional practices, procedures, or training are necessary to prevent similar future incidents.

## **XI. CHANGES TO THE PLAN**

Any changes to the Fall Protection Program (and alternative Fall Protection Plans, if in place) shall be approved by **Responsible Person**, and shall be reviewed by a qualified person as the job progresses to determine additional practices, procedures or training needs necessary to prevent fall injuries. Affected employees shall be notified of all procedure changes, and trained if necessary. A copy of this plan, and any additional alternative Fall Protection Plans, shall be maintained at the jobsite by **Responsible Person**.

## **XII. GLOSSARY**

**Anchorage**: a secure point of attachment for lifelines, lanyards, or deceleration devices.

**Body belt**: a strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline, or deceleration device.

**Body harness**: straps that may be secured about the person in a manner that distributes the fall-arrest forces over at least the thighs, pelvis, waist, chest, and shoulders with a means for attaching the harness to other components of a personal fall arrest system.

**Connector**: A device that is used to couple (connect) parts of a personal fall arrest system or positioning device system together.

**Controlled access zone**: a work area designated and clearly marked in which certain types of work (such as overhand bricklaying) may take place without the use of conventional fall protection systems (guardrail, personal arrest, or safety net) to protect the employees working in the zone.

**Deceleration device:** any mechanism, such as a rope, grab, ripstitch lanyard, specially-woven lanyard, tearing lanyard, deforming lanyard, or automatic self-retracting lifeline/lanyard, which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limits the energy imposed on an employee during fall arrest.

**Deceleration distance:** the additional vertical distance a falling person travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which a deceleration device begins to operate.

**Guardrail system:** a barrier erected to prevent employees from falling to lower levels.

**Hole:** a void or gap two (2) inches (5.1 centimeters) or more in the least dimension in a floor, roof, or other walking/working surface.

**Lanyard:** a flexible line of rope, wire rope, or strap that generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.

**Leading edge:** the edge of a floor, roof, or formwork for a floor or other walking/working surface (such as a deck) which changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed.

**Lifeline:** a component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline), that serves as a means for connecting other components of a personal fall arrest system to an anchorage.

**Low slope roof:** a roof having a slope less than or equal to 4 in 12 (vertical to horizontal).

**Opening:** a gap or void 30 inches (76 centimeters) or more high and 18 inches (46 centimeters) or more wide, in a wall or partition through which employees can fall to a lower level.

**Personal fall arrest system:** a system including but not limited to an anchorage, connectors, and a body harness used to arrest an employee in a fall from a working level.

**Positioning device system:** a body belt or body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning backwards.

**Rope grab:** a deceleration device that travels on a lifeline and automatically, by friction, engages the lifeline and locks to arrest a fall.

**Safety monitoring system:** a safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.

**Self-retracting lifeline/lanyard:** a deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under minimal tension during normal employee movement and which, after onset of a fall, automatically locks the drum and arrests the fall.

**Snaphook:** a connector consisting of a hook-shaped member with a normally closed keeper, or a similar arrangement, which may be opened to permit the hook to receive an object and, when released automatically, closes to retain the object.

**Steep roof:** a roof having a slope greater than 4 in 12 (vertical to horizontal).

**Toeboard:** a low protective barrier that prevents material and equipment from falling to lower levels and which protects personnel from falling.

**Unprotected sides and edges:** any side or edge (except at entrances to points of access) of a walking/working surface (e.g., floor, roof, ramp, or runway) where there is no wall or guardrail system at least 39 inches (1 meter) high.

**Walking/working surface:** any surface, whether horizontal or vertical, on which an employee walks or works, including but not limited to floors, roofs, ramps, bridges, runways, formwork, and concrete reinforcing steel. Does not include ladders, vehicles, or trailers on which employees must be located to perform their work duties.

**Warning line system:** a barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge and which designates an area in which roofing work may take place without the use of guardrail, body belt, or safety net systems to protect employees in the area.

**Attachment A**  
**Sample Fall Protection Plan for Residential Construction**  
**for**  
**Company Name**

This Fall Protection Plan is specific to the following project:

<b>Job Location:</b>	
<b>Date Plan Prepared:</b>	
<b>Date Plan Modified:</b>	
<b>Plan Prepared by:</b>	
<b>Plan Approved by:</b>	
<b>Plan Supervised by:</b>	

**I. STATEMENT OF COMPANY POLICY**

Company Name is dedicated to the protection of its employees from occupational injuries. All employees of Company Name have the responsibility to work safely on the job. The purpose of this Plan is to supplement our existing Fall Protection Program and to ensure that every employee who works for Company Name recognizes workplace fall hazards and takes the appropriate measures to address those hazards.

This Fall Protection Plan addresses the use of conventional fall protection at a number of areas on the project, and identifies specific activities that require non-conventional means of fall protection. During the construction of residential buildings under 48 feet in height, it is sometimes infeasible or creates a greater hazard to use conventional fall protection systems at specific areas or for specific tasks. Such areas or tasks include, but are not limited to:

- A. setting and bracing of roof trusses and rafters;
- B. installation of floor sheathing and joists;
- C. roof sheathing operations; and
- D. erecting exterior walls.

In these cases, conventional fall protection systems may not be the safest choice for this project. This Plan is designed to enable employees to recognize fall hazards associated with this job and to establish safe procedures to prevent falls to lower levels through holes and openings in walking/working surfaces.

**II. ASSIGNMENT OF RESPONSIBILITY**

- A. Employer

1. Ensure that all employees understand and adhere to the procedures of this Plan and the instructions of the crew supervisor or foreman.
2. Assign a competent person to be responsible for managing this Fall Protection Plan.
3. Provide appropriate fall protection to employees as detailed in this Plan.

#### B. Employee

1. Bring to the attention of *Company Name* management any unsafe or hazardous conditions or practices that may cause injury to themselves or other employees.
2. Report any incident which causes injury to self or a co-worker.
3. Each employee will be trained in these procedures and will be expected to strictly adhere to them except when doing so would expose him/her to a greater hazard. If, in the employee's opinion, the procedures in this Plan pose a risk, the employee is to notify *Responsible Person* and have their concern(s) addressed before proceeding with work.

#### C. Plan Manager

*Responsible Person* shall function as Manager of this Fall Protection Plan and has the following responsibilities:

1. Implement this Fall Protection Plan.
2. Perform continual observational checks of work operations to identify hazards.
3. Enforce the company policy and the procedures of this Plan.
4. Coordinate with crew supervisors or foremen to correct any unsafe practices or conditions immediately.
5. Provide training on this Plan to all affected employees before work begins on this project.

### **III. FALL PROTECTION TO BE USED ON THIS JOB**

Installation of roof trusses/rafters, exterior wall erection, roof sheathing, floor sheathing, and joint/truss activities will be conducted by employees who are specifically trained to do this type of work and are trained to recognize fall hazards. The nature of such work

normally exposes employees to fall hazards for a short period of time. This Plan details how Company Name will minimize these hazards.

#### A. Controlled Access Zones

When using this Plan to implement the fall protection options available, workers must be protected through limited access to high hazard locations. Before any non-conventional fall protection systems are used as part of this work Plan, a controlled access zone (CAZ) shall be clearly defined by a Responsible Person as an area where a recognized hazard exists. The demarcation of the CAZ shall be communicated by Responsible Person in a recognized manner, either through signs, wires, tapes, ropes, or chains.

Company Name shall take the following steps to ensure that the CAZ is clearly marked or controlled by a competent person.

1. All access to the CAZ shall be restricted to authorized entrants only.
2. All workers who are permitted in the CAZ must be listed in the appropriate sections of this Plan (or be visibly identifiable by Responsible Person prior to implementation).
3. Responsible Person shall ensure that all protective elements of the CAZ be implemented prior to the beginning of work.

#### B. Installation of Roof Truss or Rafter Erection

1. During the erection and bracing of roof trusses/rafters, conventional fall protection may present a greater hazard to workers. On this job, safety nets will not provide adequate fall protection because the nets will cause the walls to collapse. In addition, there are also no suitable attachment or anchorage points for guardrails or personal fall arrest systems.
2. Requiring employees on this job to use a ladder for the entire installation process will cause greater hazard because the worker must stand on the ladder with his back or side to the front of the ladder. While erecting the truss or rafter, the worker will need both hands to maneuver the truss and therefore cannot hold onto the ladder. In addition, ladders cannot be adequately protected from movement while trusses are being maneuvered into place. Employees may experience fatigue because of the increased overhead work with heavy materials, which can also lead to a greater hazard.
3. Exterior scaffolds cannot be utilized on this job because the ground, after recent backfilling, cannot support the scaffolding. In most cases, the

erection and dismantling of the scaffold would expose workers to a greater fall hazard than the erection of the trusses/rafters.

4. On all walls eight (8) feet or less in height, employees will install interior scaffolds along interior walls below the location where the trusses/rafters will be erected. A sawhorse scaffold constructed of 46 inch sawhorses and two (2) foot by ten (10) foot planks will often allow workers to be elevated high enough to allow for the erection of trusses and rafters without working on the top plate of the wall.

5. In structures that have walls higher than eight (8) feet and where the use of scaffolds and ladders would create a greater hazard, safe working procedures will be used when working on the top plate, which will be monitored by **Responsible Person**. During all stages of truss/rafter erection, the stability of the trusses/rafters will be ensured at all times.

6. **Company Name** shall take the following steps to protect workers who are exposed to fall hazards while working from the top plate installing trusses/rafters:

a. Only trained and approved workers will be allowed to work on the top plate during roof truss or rafter installation. A list of approved employees will be maintained by the **Responsible Person** as an attachment to this Plan.

b. Employees shall have no other duties to perform during truss/rafter erection procedures.

c. All trusses/rafters will be adequately braced before any worker will be permitted to use the truss/rafter as a support.

d. Employees will remain on the top plate using the previously stabilized truss/rafter as a support while other trusses/rafters are being erected.

e. Employees will leave the area of the secured trusses only when it is necessary to secure another truss/rafter.

f. The first two (2) trusses/rafters will be set from ladders leaning on side walls at points where the walls can support the weight of the ladder.

g. An employee will climb onto the interior top plate via a ladder to secure the peaks of the first two trusses/rafters being set.

7. Employees responsible for detaching trusses from cranes and/or securing trusses at the peaks traditionally are positioned at the peak of the trusses/rafters. There are also situations where workers securing rafters to ridge beams will be positioned at the top of the ridge beam. **Company Name** will take the following steps to protect workers who are exposed to fall hazards while securing trusses/rafters at the peak of the trusses/ridge beam:

- a. Only trained and approved workers will be allowed to work at the peak during roof truss or rafter installation. A list of approved employees will be maintained by **Responsible Person** as an attachment to this Plan.
- b. Once truss or rafter installation begins, workers not involved in that activity shall not stand or walk below or adjacent to the roof opening or exterior walls in any area where they could be struck by falling objects.
- c. Employees shall have no duties other than securing/bracing the trusses/ridge beams.
- d. Employees positioned at the peaks, in the webs of trusses, or on top of the ridge beam shall work from a stable position. A stable position for an employee will be either sitting on a “ridge seat” or other equivalent surface that provides additional stability, or positioning themselves in previously stabilized trusses/rafters and leaning into and reaching through the trusses/rafters.
- e. Workers shall not remain on or in the peak/ridge any longer than necessary to safely complete the task.

### C. Roof Sheathing Operations

1. Workers typically install roof sheathing after all trusses/rafters and any permanent truss bracing is in place. Because roof structures are unstable until some sheathing is installed, workers installing roof sheathing cannot be protected from fall hazards by conventional fall protection systems until it is determined that the roofing system can be used as an anchorage point. At that point, employees shall be protected by personal fall arrest systems.
2. Trusses/rafters are subject to collapse if a worker falls while attached to a single truss with a belt/harness. Nets could also cause collapse, and there is insufficient structure to attach guardrails.

3. All employees will ensure that they have secure footing before they attempt to walk on the sheathing, and will clean their shoes/boots of mud or other slip hazards.
4. To minimize the time workers must be exposed to a fall hazard, materials will be staged to allow for the quickest installation of sheathing.
5. **Company Name** will take the following steps to protect workers who are exposed to fall hazards while installing roof sheathing:
  - a. Once roof sheathing installation begins, employees not involved in that activity shall not stand or walk below or adjacent to the roof opening or exterior walls in any area where they could be struck by falling objects.
  - b. **Responsible Person** shall determine the limits of this area, which shall be clearly communicated to workers prior to placement of the first piece of roof sheathing.
  - c. **Responsible Person** may suspend work on the roof for brief periods as necessary to allow other workers to pass through such areas when this would not create a greater hazard.
  - d. Only trained and approved workers will be allowed to install roof sheathing. A list of approved employees will be maintained by **Responsible Person** as an attachment to this Plan.
  - e. The bottom row of roof sheathing may be installed by workers standing in truss webs.
  - f. After the bottom row of roof sheathing is installed, a slide guard extending the width of the roof shall be securely attached to the roof. Slide guards will be at least four (4) inches in height and capable of limiting the uncontrolled slide of workers. Workers shall install the slide guard while standing in truss webs and leaning over the sheathing.
  - g. Additional rows of sheathing may be installed by workers positioned on previously installed rows of sheathing with slide guards.
  - h. Additional slide guards shall be securely attached to the roof at intervals not to exceed 13 feet as successive rows of sheathing are installed. For roofs with pitches in excess of 9 in 12, slide guards will be installed at four (4) foot intervals.

- i. When wet weather conditions (rain, snow, or sleet) are present, roof sheathing operations shall be suspended unless safe footing can be assured for those workers installing sheathing.
- j. When strong winds (over 40 miles per hour) are present, roof sheathing operations shall be suspended unless wind breakers are erected.

#### D. Installation of Floor Joists and Sheathing

**Company Name** will take the following steps to protect workers who are exposed to fall hazards while installing floor joists or floor sheathing:

1. Only trained and approved workers will be allowed to install floor joists and floor sheathing. A list of approved employees will be maintained by **Responsible Person** as an attachment to this Plan.
2. Materials for this work shall be conveniently staged to allow for easy access to workers.
3. The first-floor joints or trusses will be rolled into position and secured either from the ground, ladders, or sawhorse scaffolds.
4. Each successive floor joist or trust will be rolled into place and secured from a platform created from a sheet of plywood laid over the previously secured floor joists or trusses.
5. Except for the first row of sheathing, which will be installed from ladders or the ground, employees shall work from the established deck.
6. Any employees not assisting in the leading edge construction while leading edges still exist (i.e., cutting the decking for installers) shall not be permitted within six (6) feet of the leading edge under construction.

#### E. Erection of Exterior Walls

**Company Name** will take the following steps to protect workers who are exposed to fall hazards during the construction and erection of exterior walls:

1. Only trained and approved workers will be allowed to construct and erect exterior walls. A list of approved employees will be maintained by **Responsible Person** as an attachment to this Plan.
2. A painted line six (6) feet from the perimeter will be clearly marked prior to any wall erection activities to warn of the approaching unprotected edge.

3. Materials for operations shall be conveniently staged to minimize fall hazards.
4. Workers constructing exterior walls shall complete as much cutting of materials and other preparation as possible away from the edge of the deck.

#### **IV. ENFORCEMENT**

Constant awareness of and respect for fall hazards, as well as compliance with all safety rules, are considered conditions of employment with *Company Name*. The crew supervisor or foreman, as well as *Responsible Person* or company management, reserve the right to issue disciplinary warnings to employees, up to and including termination, for failure to follow the guidelines of this Plan.

#### **V. ACCIDENT INVESTIGATIONS**

All incidents that result in injury to workers and near misses, regardless of their nature, shall be reported and investigated. All incidents shall be investigated as soon as possible by *Responsible Person* to identify the cause and means of prevention to prevent future occurrences.

In the event of such an incident, this Fall Protection Plan shall be reviewed to determine if additional practices, procedures, or training should be implemented to prevent similar incidents in the future.

#### **VI. CHANGES TO THE PLAN**

Any changes to this Plan will be made by *Responsible Person*. This Plan shall be reviewed by *Responsible Person* as the job progresses to determine if additional practices, procedures, or training are needed to improve or provide additional fall protection. Affected employees shall be notified of changes to this Plan, and retrained, if necessary. A copy of this Plan and all approved changes shall be maintained at the jobsite by *Responsible Person*.

The information and suggestions contained in this material have been developed from sources believed to be reliable. However, Frankenmuth accepts no legal responsibility for the correctness or completeness of this material, or its application to specific factual situations.