PCI™ Precast/Prestressed Concrete Institute

TO: All PCI Producer Member Companies

DATE: May 24, 2017

RE: **IMPORTANT NOTICE REGARDING OSHA REGULATORY ISSUE**
Request for Permanent Variance for OSHA 29 CFR 1910.28 (b) (1)
Work atop Stacked Materials to Attach/Detach Rigging and
Work atop Precast Materials Flat Stacked on Rolling Stock and Motor Vehicles

INSTRUCTIONS:

1. **Please read this letter in its entirety** to understand the severity of this issue to your company and our industry, and your vital role in this process.
2. Please **post the attached letter** addressed to "All Plant Employees of PCI Producer Member Companies" in a conspicuous location where your plant employees will see it. For example, at the company time clock or notification board. The letter should be posted for a period of at least 30 days. This Request for Permanent Variance does not relate to construction workers, only to those within your plant and shipping or storage yards.
3. The Permanent Variance Application has been uploaded to the Members Only section of the PCI website. It can be found under Business Resources, OSHA Variance. If your employees ask to see a copy of the application, you must comply. Please download and print a copy of the application and allow them to review it.
4. Please advise Jim Lewis at jlewis@pci.org if you receive any substantive feedback related to this application. PCI will be working directly with OSHA in the coming months regarding the application process. We believe the application to be well thought out, well written, and worthy of OSHA granting the requested variances. Being aware of any potential obstacles ahead of time will assist in successful completion of this process.
5. Review the Fall Protection Plan package included with this packet. PCI and its Task Group have expended significant resources to file for this permanent variance and to make these materials available. They are designed to assist the members in preventing injury to its employees and avoiding OSHA citations and penalties.
6. Please advise Jim Lewis at jlewis@pci.org immediately if your plant becomes involved in an OSHA inspection that relates to fall protection on either stacked materials or trailers. It will be in your best interest, as well as the industry, if we stand together while this variance application makes its way through OSHA's process.

On November 18, 2016, the Occupational Safety and Health Administration (OSHA) released its Final Rule on Walking-Working Surfaces and Personal Protective Equipment as it relates to Fall Protection Systems. This rule has effectively altered OSHA's stance on what it sees as feasible when it comes to fall protection while working on both; stacks of precast materials in storage yards and on precast materials being loaded on rail cars or trailers.

Over the course of the last five months, PCI has been working on this issue with safety representatives from several of its member companies and an industry leading safety consulting firm. This Task Group has diligently examined the Final

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Rule and its negative impact to the work environment and safety of the valuable men and women who perform this work. This new rule has the potential to create significant increases in risk to the safety of your workforce. It also has the potential to create substantial exposure to OSHA Citations and Penalties as we do not believe the members can comply with its requirements.

Therefore, the Task Group has recommended that PCI seek a Permanent Variance from this OSHA Standard for these activities on behalf of the Producer Members. Two formal applications are being filed with OSHA. One is for attaching and detaching rigging on Stacked Materials and the other is for loading and unloading operations on Rolling Stock (Rail Cars) and Motor Vehicles (Trailers).

OSHA's application process requires PCI to certify that the affected employees have been informed of both; the filing of the application, and their right to request a hearing before the Assistant Secretary of Labor for OSHA. The way that PCI has chosen to meet this requirement is by sending this notification letter to its producer members along with the instructions above. We respectfully ask for your assistance in meeting this obligation.

We firmly believe this Permanent Variance is vital to the continued success of our industry. While the filing of this application is the culmination of approximately five months of hard work, it is only the beginning of a long process. We ask that you stand with us and work to implement the measures found within this packet. Doing so will help secure the safety of your workforce and eliminate unnecessary fines. Thank you for assistance with this important administrative step in the process.

Sincerely,

Precast/Prestressed Concrete Institute

Robert J. Risser, P.E.

President and C.E.O.

Attachments:

Notice to Plant Employees

Fall Protection Plan Package

PCI Precast/Prestressed Concrete Institute

For Immediate Posting

Instruction: Post in conspicuous location near time clock or notification board for 30 days.

Date of Posting: _____

Date to Remove: _____

TO: All Plant Employees of PCI Producer Member Companies

DATE: May 24, 2017

RE: Request for Permanent Variance for OSHA 29 CFR 1910.28 (b) (1)
Work atop Stacked Materials to Attach/Detach Rigging and
Work atop Precast Materials Flat Stacked on Rolling Stock and Motor Vehicles

On November 18, 2016, the Occupational Safety and Health Administration (OSHA) released its Final Rule on Walking-Working Surfaces and Personal Protective Equipment as it relates to Fall Protection Systems. This rule has effectively altered OSHA's stance on what it sees as feasible when it comes to fall protection while working on both; stacks of precast materials in storage yards and on precast materials being loaded on rail cars or trailers.

Over the course of the last five months, PCI has been working on this issue with safety representatives from several of its member companies and an industry leading safety consulting firm. This Task Group has diligently examined the Final Rule and its negative impact to the work environment and safety of the valuable men and women who perform this work.

It is the opinion of PCI and its Task Group that errant information was provided to OSHA regarding this topic. OSHA was told, by safety equipment manufacturers, there are now systems and innovations that would allow workers to be "tied off" during this work. The Task Group has presented its findings that the systems are not able to be utilized because the work is performed mostly under the footprint of either a straddle crane, a mobile crane or an overhead crane. To utilize these systems would cause a high potential for extensive injury to the workers from entanglement with the crane or excessive movements of the systems by forklift or other powered equipment in the yard. These movements would all be underneath the cranes, their load cables, and their rigging. Damaging any of this equipment could cause severe injury due to dropping precast elements weighing many thousands of pounds near workers. Workers could also be drug from the top of a piece if the crane were to move unexpectedly.

In addition, OSHA was told that there are many injuries due to this type of activity. The Task Group has examined a large body of injury data for a ten-year period, as reported by PCI members each year. Through this analysis, the Task Group has found this claim to be untrue also. There is actually a very low incident rate relative to this work.

Due to the increased risk of serious injury, and the apparent lack of injuries being seen around the industry, the Task Group has recommended that PCI seek a Permanent Variance from this OSHA Standard for these activities. Two formal applications are being filed with OSHA. One is for attaching and detaching rigging on Stacked Materials and the other is for loading and unloading operations on Rolling Stock and Motor Vehicles.

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These applications outline the discussion points above as well as the measures the Task Group has proposed to protect workers. The measures include the implementation of a Fall Protection Plan in accordance with a series of Job Hazard Analyses that have been developed by the Task Group.

As an employee within a plant affected by this Request for Permanent Variance, you have a right to petition the Assistant Secretary for a hearing. You also have a right to examine the Application for Permanent Variance. If you desire to examine the application, please notify your management. They have access to the entire application and can make a copy available for you to review.

The Precast/Prestressed Concrete Institute and its producer members understand that you and your coworkers are our most valuable asset. It is our sincere desire to do all we can to protect you while you are at work. It is because of this desire that we have taken these measures.

Thank you for your continued support of our great industry.

Sincerely,

Precast/Prestressed Concrete Institute

Robert J. Risser, P.E.

President and C.E.O.

TO: PCI Producer Member Companies

DATE: May 24, 2017

RE: Fall Protection Plan Package – Plants Only

As you are aware from direct PCI communications, a Task Group comprised of safety professionals from several PCI Members and Optimum Safety Management have been engaged in discussions regarding OSHA's Final Rule on Walking and Working Surfaces. Specifically, this relates to workers accessing the top of precast materials while in stacks and on trailers or rail cars at precast plants. The new requirements found in OSHA's Final Rule require the use of fall protection measures that the Task Group believes are infeasible in most cases in the industry. This leaves most producers in a gap between doing nothing or trying to implement infeasible solutions.

As a result, the Task Group has taken the following actions:

1. Filed an Application with OSHA for a Permanent Variance from requirements of the final rule, and
2. Developed two Fall Protection Plans along with associated Job Hazard Analyses, one each for work atop Stacked Materials and Rolling Stock / Motor Vehicles (trailers).

The materials being transmitted along with this package are the fall protection plan templates and the job hazard analysis templates. They are yours to customize to your workplace and implement, if you so choose. This should be done with a great deal of caution however. While they represent what the Task Group believes to be the best available and feasible practices, they do not meet current OSHA requirements as of this date of publication. In the event of an OSHA inspection, you will be required to justify their use.

Initially, a careful examination of your unique circumstances should be undertaken. If, you find it is feasible to implement conventional positive fall protection methods, you must do so. Anything less can subject you to OSHA citations and penalties.

Electronic copies of the files can be found in the Members Only section of the PCI Website under Business Resources, OSHA Variance.

Attachments:

Fall Protection Plans
Job Hazard Analyses

Fall Protection Plan

Stacked Precast Materials

Developed: May 15, 2017

Implemented:

Revised: Original

This Template Fall Protection Plan has been prepared by Optimum Safety Management™ ("Optimum") and is being presented to the members of the Precast / Prestressed Concrete Institute ("PCI"). The preparation of this plan is being sponsored by PCI, and its contents contain the work and opinions of Optimum.

The document is intended as a guide for the member to use in the development of a plan for its own activities. Direct application to an individual members' organization or circumstances is not intended. The member should take into consideration their particular configuration or practices, and available technology and industry best practices, in final determination of work practices and compliance measures it will utilize.

IN ADDITION, THE METHODS DESCRIBED IN THIS PLAN DO NOT MEET OSHA REQUIREMENTS AT THE TIME OF ITS CREATION. This plan has been developed with the intent of submittal to OSHA as part of a Request for Permanent Variance from 29 C.F.R. 1910.28 (b) (1) for Work Atop Stacked Material in Precast Plant Yards to Attach/Detach Rigging. **UNTIL SUCH A TIME AS OSHA GRANTS A VARIANCE, EITHER INTERIM, TEMPORARY, OR PERMANENT, UTILIZING THIS PLAN COULD BE CONSIDERED TO BE A VIOLATION OF OSHA STANDARDS AND SUBJECT THE MEMBER COMPANY TO CITATIONS AND PENALTIES.**

OSHA's "Safety and Health Regulations" are continuously being reinterpreted. Therefore, Optimum Safety Management™ is unable to guarantee the exactness of the information conveyed in this publication. Optimum Safety Management™ assumes no responsibility and will be held harmless for any inaccuracies or omissions contained within this manual and will not be held liable to any extent or form for any injury or loss resulting from the manner in which this information is interpreted and/or applied. Precast/Prestressed Concrete Institute member acknowledges that Optimum Safety Management™ has been hired for consultancy and advisory services only. **ENFORCEMENT OF ALL SAFETY AND HEALTH REGULATIONS WILL BE THE SOLE RESPONSIBILITY OF PRECAST/PRESTRESSED CONCRETE INSTITUTE'S MEMBER AND WILL NOT BE THE RESPONSIBILITY OF OPTIMUM SAFETY MANAGEMENT™**. Careful effort has been dedicated in order to provide a simplified, understandable explanation of OSHA regulations based on currently available information. This "Fall Protection Plan" is distributed under the full terms and conditions of the contract in force with Precast/Prestressed Concrete Institute.

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Introduction

This fall protection plan is specific for accessing the top of stacked precast products manufactured at the facility and placed in storage until shipment to the client, for the purposes of attaching or detaching rigging only. Where conventional fall protection is infeasible or creates a greater hazard when on top of stacks of precast products for rigging purposes, the company will only allow properly trained employees to access the stack, for the time necessary to complete rigging activities. This plan establishes that employees are to access the product piece only for the time necessary to attach or detach rigging and position dunnage. No other activity is allowed or permitted. Multiple employees will be designated and trained to perform the activity on the selected product piece.

Product pieces are manufactured in a variety of shapes and sizes based on the client's design specifications. Typical product pieces include wall panels, architectural wall panels, floor plank, double tees, beams and columns. When produced, the products are moved from the plant to the storage yard.

Architectural wall panels are typically stored in the vertical position so that the finished side (e.g., brick design, embedded design), is protected from damage. These are only accessed by ladder to attach/detach rigging. The employee is not to leave the ladder at elevation for this task.

Additionally, product pieces are placed on A Frame stands or racks for detailed finishing such as sand blasting, cleaning and washing. Workers use ladders, scissor lifts and manufactured rolling platforms (guarded walking/working surfaces) to gain the height necessary to accomplish the work.

This Fall Protection Plan does not apply to storage of architectural wall panels (in storage or being finished in a vertical position). The storage methods used for these product pieces do not present an exposure to a fall from a walking/working surface. None the less, specific training for equipment and job hazard analyses are developed to improve worker safety due to the exposure of a fall from a ladder and operating the equipment.

Site Specific Information

Information contained in this site specific fall protection plan is effective upon implementation. It applies to all work conducted at the facility in an ongoing manner. Any changes to the listing of Designated Employees and Competent Persons need to be communicated to all personnel involved in the work.

- Location:
- Date Prepared:
- Plan Prepared by (Qualified Person):
- Plan Approved by:
- Designated Employees:
    - o
    - o
    - o
    - o
    - o
    - o
    - o
    - o
    - o
    - o
- Competent Persons:
    - o
    - o
    - o
    - o
    - o
    - o
    - o

Definitions

"Competent Person" means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions, which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

"Designated Employee" means an employee who conforms to the following:

- The designated employee will be trained in the proper procedures to be followed to access the "Limited Access Zone" and "Work Zone".
- The designated employee will be named in this plan or designated by a method of identification listed in this plan.

"Limited Access Zone" means an area on top of a precast concrete panel that conforms to the following:

- The limited access zone will be restricted to entry by a "Designated Employee" that is passing through for access to the "Work Zone". No other employees will be permitted to enter the zone.
- The limited access zone will consist of the area between the "Work Zone" and the edge of the piece.

"Qualified Person" means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated their ability to solve or resolve problems relating to the subject matter, the work, or the project.

"Work Zone" means an area on top of a precast concrete panel that conforms to the following:

- The work zone will be separated from the edge by the "Limited Access Zone".
- The work zone will be designated as the area inside the rigging attachment points utilized to lift the concrete panel.

Statement of Company Policy

COMPANY NAME is dedicated to the protection of its employees from on the job injuries. All employees have the responsibility to work safely on the job. The purpose of this plan is: (a) To supplement our standard safety policy by providing safety standards specifically designed to cover fall protection during storage of products in the yard and: (b) to ensure that each employee is trained and made aware of the safety provisions which are to be implemented by this plan prior to start of all product storage actions in the yard.

This fall protection plan addresses employees four feet or more above ground elevation when working on stacked precast products and the use of conventional fall protection is infeasible or creates a greater hazard. Specific Job Hazard Analyses (JHAs) are developed to provide clear instruction for accessing work on these surfaces. These include:

- Floor Plank Storage - Placement and Removal
- Double Tee Storage - Placement and Removal
- Wall Panel Storage - Placement and Removal
- Beam and Column Storage - Placement and Removal

This plan is designed to enable the company and employees to recognize the fall hazards when on top of stacked precast products for rigging purposes and to establish procedures that are to be followed in order to prevent falls to lower levels. Each employee will be trained in these procedures and strictly adhere to them except when doing so would expose the employee to a greater hazard. If, in the employee's opinion, this is the case, the employee will notify the Competent Person of the concern and address it before proceeding.

It is the responsibility of the Competent Person, to implement this Fall Protection Plan. The Competent Person is responsible for continual observational safety checks of their work operations and to enforce safety policy and procedures. The Competent Person is also responsible to correct any unsafe acts or conditions immediately. It is the responsibility of the employee to understand and adhere to the procedures of this plan and to follow the instructions of the Competent Person. It is also the responsibility of the employee to bring to Competent Person's attention any unsafe or hazardous conditions or acts that may cause injury to either themselves or any other employees. Any changes to this Fall Protection Plan must be approved by the Qualified Person.

Hazard Exposures

Fall from Heights

Employees are exposed to falls greater than four feet when attaching/detaching the rigging on stacked products, typically flat panels, beams, columns, floor planks, and double tees.

Trip Hazards

Wall panels sometimes have haunches extending from the surface of the panel. A haunch serves as a support for other components such as beams. These protrude from the surface, but are sizable and easily recognized as a trip hazard. Double tee surfaces sometimes have minimal changes in elevation and attachment points. Beams and other structural elements often have attachment points and rebar loops protruding from the top surface.

Infeasible / Greater Hazard Controls

OSHA's Walking/Working Surface standard 1910.28(b)(1)(i) "unprotected sides and edges" states that "each employee on a walking-working surface with an unprotected side or edge that is 4 feet or more above a lower level is protected from falling by one or more of the following:

- Guardrail systems;
- Safety net systems; or
- Personal fall protection systems, (personal fall arrest, travel restraint, or positioning systems)."

As it relates to accessing precast stacked material for rigging tasks, the precast industry has determined that guardrail systems, safety nets, controlled access zones, and safety monitor systems are infeasible. Additionally, the precast industry has determined that personal fall protection systems are infeasible AND create a greater hazard.

The following are reasons why the use of conventional fall protection systems (guardrail systems, personal fall arrest systems, or safety nets systems) are infeasible or why their use would create a greater hazard.

- Guardrail Systems – INFEASIBLE:
  The time it would take to access the top of a piece and install guard rails would exceed the amount of time that it takes an employee to perform the tasks covered under this fall protection plan. This would lead to more time of exposure to the same hazard. Additionally, the extra traffic by fork lifts that would be required to move the necessary equipment would pose more of a risk.

- Safety Nets – INFEASIBLE:
  The time it would take to access the top of a piece and install and test safety nets would exceed the amount of time that it takes an employee to perform the tasks covered under this fall protection plan. This would lead to an increase in the time of employee exposure to the same hazard.

- Personal Fall Arrest Systems – INFEASIBLE:
  The precast pieces are being moved by a mobile gantry crane, lattice or hydraulic boom mobile crane. The mobile gantry crane is a frame work on four wheels that passes over the stack, therefore preventing installation of overhead anchor points on any structure. The other types of cranes also have boom angles and swing radii movement requirements for proper positioning of the load on the stack. These crane designs and movements are what makes the installation of personal fall arrest systems infeasible. Due to the necessity of crane operations for handling material, there is no feasible solution for utilizing anchor points for a fall arrest system that would not interfere with the operation of the crane.

- Personal Fall Arrest Systems – GREATER HAZARD:
  Due to the nature of the cranes that are used to move the pieces, entanglement with any devices used to offer an overhead anchor point would pose a greater hazard to the employee

than those offered by this fall protection plan. Additionally, the extra traffic by fork lifts that would be required to move the necessary equipment would pose more of a risk.

- Mobile Fall Protection Systems – INFEASIBLE:
  Mobile fall protection systems cannot be utilized due to the nature of the work, attaching or detaching rigging from the product piece. The piece is secured by a large lifting beam (strongback), typically more than fifty feet long, approximately three to four feet wide and the accompanying chains, wire rope slings and rolling blocks, all placed to maintain the product piece in the loading position. Mobile fall protection devices would have to be moved to a position under the crane. The attachment point would be near or close to the edge because the lifting beam is on the centerline of the product being placed for shipment. Any movement of another piece of equipment in close proximity to the crane poses a great danger of obstructing the crane and potentially damaging the rigging.

  The mobile equipment would also need to be positioned so that it is likely too close to the crane wheels, or placed under the boom structure, creating potential obstruction situations. The movement of a mobile fall protection system also requires a means of transport, either positioned by fork truck or pulled by truck. Vehicular traffic then creates another hazard to employees.

- Warning Line System – INFEASIBLE:
  Due to the engineered design requirements for attachment (lifting) points, there is no feasible way to reach the rigging attachment points while maintaining six feet distance from the edge of the piece. Typical product widths are between 3 and 12 feet. Additionally, the time it would take to access the top of a piece and install a warning line system would exceed the amount of time that it takes an employee to perform the tasks covered under this fall protection plan. This would lead to more time of exposure to the same hazard.

- Safety Monitor System – GREATER HAZARD:
  Due to the limited surface area of the precast pieces, the addition of another employee on the same surface would unnecessarily increase the total time in which an employee was exposed to a fall hazard.

Fall Exposure Controls

OSHA's standard 1910.28(b)(1)(ii) states that when the employer can demonstrate that it is not feasible or creates a greater hazard to use guardrail, safety net, or personal fall protection systems on residential roofs, the employer must develop and implement a fall protection plan that meets the requirements of 29 CFR 1926.502(k) and training that meets the requirements of 29 CFR 1926.503(a) and (c).

In applying this variance for residential roofs to stacks of precast products for rigging tasks, the following fall protection plan meeting the requirements of 29 CFR 1926.502(k) will be followed.

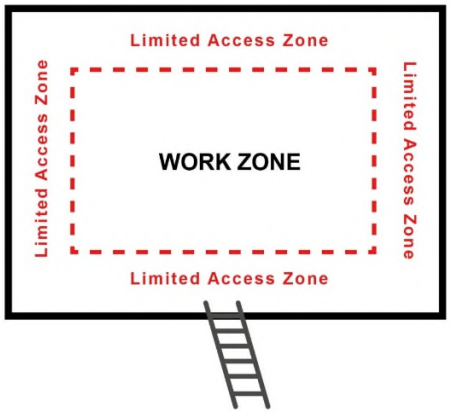
This fall protection plan has been prepared by qualified people and is developed specifically for our company's facility where the accessing of precast stacks for rigging tasks is being performed. This plan will be maintained up to date and any changes to the fall protection plan will be approved by the Qualified Person. A copy of this fall protection plan with all approved changes will be maintained on site at all times. Additionally, the implementation of this fall protection plan will be under the supervision of a Competent Person.

In the event that an employee falls, or some other related serious incident occurs, (e.g., a near miss) the company will investigate the circumstances of the fall or other incident to determine if the fall protection plan needs to be changed (e.g. new practices, procedures, or training). If changes are made they will be implement to prevent similar types of falls or incidents. These changes will be approved by the Qualified Person.

The Work Zone is designated as the area within the corner lifting device attachment points of the product. The Limited Access Zone is designated as the area outside of the Work Zone, extending to the edge of the product. Designated Employees are trained to access the product and pass through the Limited Access Zone to the Work Zone. All attaching/detaching/placement tasks are to be completed within the Work Zone.

On beams, columns and floor planks, the width of the surface may limit the ability of the Designated Employee to establish a Work Zone and a Limited Access Zone. In these instances, the Designated Employee will maintain as much distance between themselves and the edge as possible while on top of the precast concrete piece, and face the wider dimension of the surface.

The first panel placed is normally less than four feet above ground elevation. The panels placed in the stack afterward are regulated by the safety policy and procedures of this Fall Protection Plan. The attached JHA's, Stacked Flat Wall Panel, Double Tee, Beam and Column, and Floor Plank-Placement and Removal, define the necessary tasks, potential hazards and recommended actions to perform the work in a safe manner.



Plan View-Flat Panel with means of access, Limited Access Zone and Work Zone

Training

Only individuals with the appropriate experience, skills, and training will be authorized as designated employees. All employees that will be working as designated employees under this fall protection plan will be trained and instructed by a Competent Person in the following areas:

- Recognition of the fall hazards in the work area;
- Avoidance of fall hazards using established work practices which have been specified by a Job Hazard Analysis, and made known to the employees;
- Recognition of unsafe practices or working conditions that could lead to a fall, such as windy or icy conditions; and
- The role of employees in this fall protection plan.

Retraining - When the Competent Person has reason to believe that any designated employee does not have the understanding and skill required to compete tasks according to this plan, the designated employee will be retrained. Circumstances where retraining is required include, but are not limited to, situations where:

- Changes in the workplace render previous training obsolete;
- Changes in the types of fall protection systems or equipment to be used render previous training obsolete; and
- Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.

Fall Protection Plan Enforcement

Constant awareness of and respect for fall hazards, and compliance with all safety rules are considered conditions of employment. The Competent Person, as well as individuals in management, reserve the right to issue disciplinary warnings to employees for failure to follow the guidelines of this program. The form of the discipline will be the responsibility of the management and will comply with the company's discipline policy, up to and including termination.

Developed By:

PCI Precast/Prestressed Concrete Institute

OPTIMUM SAFETY MANAGEMENT

Job Hazard Analysis (DRAFT TEMPLATE)
Double Tee - Stacked Placement, Removal

Date Developed:	Conducted by:	Date Revised:
Location:	Area:	Revised by:

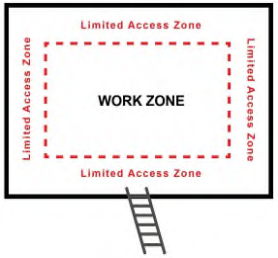
Certification of Hazard Assessment (Management)

Print:	Sign:	Date:

Personal Protective Equipment

Required at all times: Hard hat, safety glasses, high visibility shirt or safety vest, hand protection and safety footwear
Task specific: Gloves, hearing protection when appropriate

Task ID	Task Description	Potential Hazards	Recommended Actions
1	Assess worksite conditions	Weather	Perform any steps that are required to mitigate weather effects
		Lighting	Add lighting if necessary
		Slips, trips, falls	Ensure that walking surfaces are clear of hazards
2	Ensure load is stable	Shifting load	Ensure that rigging is slack and load is completely released by crane (stacked placement) Communicate with crane operator for authorization to approach Inspect load to ensure it will not shift
3	Set up ladder for access	Defective ladder	Inspect ladder according to manufacturer instructions
		Ladder instability	Ensure level ground condition Place ladder at 4:1 angle Select proper ladder foot pad position (soft or hard surface) Extend ladder at least three feet above landing surface Secure or stabilize to prevent accidental displacement
		Strain	Position body to place ladder Get assistance to carry ladder
4	Climb ladder	Tip over	Maintain body position with belt buckle between rails
		Slip from rungs	Soles of footwear will be in good condition Clean soles of mud, snow, etc.
		Fall	Maintain three points of contact and face the ladder Do not carry any items, dunnage will be moved with the load, not by hand

5	Access top of piece	Slips, trips, falls	Pause prior to leaving the ladder and survey top of piece for debris, dunnage and slack slings Identify any blockout, angle iron attachment and haunches Plan the path of travel to the furthest attachment point Do not travel along a blockout if walkway is less than 28" wide Be aware of changes of elevation
6	Identify Limited Access Zone and Working Zone	Fall	Identify Limited Access Zone as the space beyond the lifter locations to the edge of the piece Identify Working Zone as the area within the lifter locations Perform all work from within the Working Zone Position the body to face the nearest edge at all times; never turn your back to the edge or back up 
7	Attach rigging and taglines, then set dunnage in the center of the load for transport (stacked removal) OR Detach rigging and taglines, then set dunnage in appropriate place for next load (stacked placement)	Laceration Fall Strain Trip	Be aware of broken wire and burrs on hardware before placing hands Position the body to face the nearest edge at all times; never turn your back to the edge Bend at the knees when stooping to attach rigging Walk to other attachment points staying aware of surface hazards, working back towards ladder
8	Descend from top of piece	Fall	Determine best side of the ladder to access Maintain body position with belt buckle between rails Maintain three points of contact and face the ladder Do not carry items, dunnage will be moved with the load Secure or stabilize to prevent accidental displacement
9	Remove ladder	Strain Trip	Position body to remove ladder from vertical position Get assistance to carry ladder Survey path of travel to ladder storage location

Developed By:

Job Hazard Analysis (DRAFT TEMPLATE)
Wall Panel - Flat Stacked Placement, Removal

Date Developed:	Conducted by:	Date Revised:
Location:	Area:	Revised by:

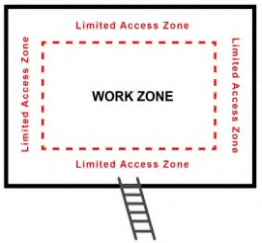
Certification of Hazard Assessment (Management)

Print:	Sign:	Date:

Personal Protective Equipment

Required at all times: Hard hat, safety glasses, high visibility shirt or safety vest, hand protection and safety footwear
Task specific: Gloves, hearing protection when appropriate

Task ID	Task Description	Potential Hazards	Recommended Actions
1	Assess worksite conditions	Weather Lighting Slips, trips, falls	Perform any steps that are required to mitigate weather effects Add lighting if necessary Ensure that walking surfaces are clear of hazards
2	Ensure load is stable	Shifting load	Ensure that rigging is slack and load is completely released by crane (stacked placement) Communicate with crane operator for authorization to approach Inspect load to ensure it will not shift
3	Set up ladder for access	Defective ladder Ladder instability Strain	Inspect ladder according to manufacturer instructions Ensure level ground condition Place ladder at 4:1 angle Select proper ladder foot pad position (soft or hard surface) Extend ladder at least three feet above landing surface Secure or stabilize to prevent accidental displacement Position body to place ladder Get assistance to carry ladder
4	Climb ladder	Tip over Slip from rungs Fall	Maintain body position with belt buckle between rails Soles of footwear will be in good condition Clean soles of mud, snow, etc. Maintain three points of contact and face the ladder Do not carry any items, dunnage will be moved with the load, not by hand
5	Access top of piece	Slips, trips, falls	Pause prior to leaving the ladder and survey top of piece for debris, dunnage and slack slings Identify any blockout, angle iron attachment and haunches Plan the path of travel to the furthest attachment point Do not travel along a blockout if walkway is less than 28" wide Be aware of changes of elevation

6	Identify Limited Access Zone and Working Zone	Fall	Identify Limited Access Zone as the space beyond the lifter locations to the edge of the piece Identify Working Zone as the area within the lifter locations Perform all work from within the Working Zone Position the body to face the nearest edge at all times; never turn your back to the edge or back up 
7	Attach rigging and taglines, then set dunnage in the center of the load for transport (stacked removal) OR Detach rigging and taglines, then set dunnage in appropriate place for next load (stacked placement)	Laceration Fall Strain Trip	Be aware of broken wire and burrs on hardware before placing hands Position the body to face the nearest edge at all times; never turn your back to the edge Bend at the knees when stooping to attach rigging Walk to other attachment points staying aware of surface hazards, working back towards ladder
8	Descend from top of piece	Fall	Determine best side of the ladder to access Maintain body position with belt buckle between rails Maintain three points of contact and face the ladder Do not carry items, dunnage will be moved with the load Secure or stabilize to prevent accidental displacement
9	Remove ladder	Strain Trip	Position body to remove ladder from vertical position Get assistance to carry ladder Survey path of travel to ladder storage location

Developed By:

Job Hazard Analysis (DRAFT TEMPLATE)
Beams and Columns - Stacked Placement, Removal

Date Developed:	Conducted by:	Date Revised:
Location:	Area:	Revised by:

Certification of Hazard Assessment (Management)

Print:	Sign:	Date:

Personal Protective Equipment

Required at all times: Hard hat, safety glasses, high visibility shirt or safety vest, hand protection and safety footwear
Task specific: Gloves, hearing protection when appropriate

Task ID	Task Description	Potential Hazards	Recommended Actions
1	Assess worksite conditions	Weather	Perform any steps that are required to mitigate weather effects
		Lighting	Add lighting if necessary
		Slips, trips, falls	Ensure that walking surfaces are clear of hazards
2	Ensure load is stable	Shifting load	Ensure that rigging is slack and load is completely released by crane (stacked placement) Communicate with crane operator for authorization to approach Inspect load to ensure it will not shift
3	Set up ladder for access	Defective ladder	Inspect ladder according to manufacturer instructions
		Ladder instability	Ensure level ground condition Place ladder at 4:1 angle Select proper ladder foot pad position (soft or hard surface) Extend ladder at least three feet above landing surface Secure or stabilize to prevent accidental displacement
		Strain	Position body to remove ladder from vertical position Get assistance to carry ladder
		Trip	Survey path of travel to ladder storage location
4	Climb ladder	Tip over	Maintain body position with belt buckle between rails
		Slip from rungs	Soles of footwear will be in good condition Clean soles of mud, snow, etc.
		Fall	Maintain three points of contact and face the ladder Do not carry any items, dunnage should be moved with the load, not by hand

5	Access top of piece	Slips, trips and falls	Pause prior to leaving the ladder and survey top of piece for debris, dunnage and slack slings Identify any blockout, angle iron attachment and haunches Plan the path of travel to the furthest attachment point Be aware of changes of elevation
6	Attach rigging and taglines, then set dunnage in the center of the load for transport (stacked removal) **OR** Detach rigging and taglines, then set dunnage in appropriate place for next load (stacked placement)	Laceration Fall Strain Trip	Be aware of broken wire and burrs on hardware before placing hands Position the body to face the widest dimension of the surface at all times Bend at the knees when stooping to attach rigging Walk to other attachment points staying aware of surface hazards, working back towards ladder and always moving in a forward direction
7	Descend from top of piece	Fall	Determine best side of the ladder to access Maintain body position with belt buckle between rails Maintain three points of contact and face the ladder Do not carry items, dunnage shall be moved with the load Secure or stabilize to prevent accidental displacement
8	Remove ladder	Strain Trip	Position body to remove ladder from vertical position Get assistance to carry ladder Survey path of travel to ladder storage location

Developed By:

OPTIMUM™ SAFETY MANAGEMENT

PCI Precast/Prestressed Concrete Institute

Job Hazard Analysis (DRAFT TEMPLATE)
Floor Planks - Flat Stacked Placement, Removal

Date Developed:	Conducted by:	Date Revised:
Location:	Area:	Revised by:

Certification of Hazard Assessment (Management)

Print:	Sign:	Date:

Personal Protective Equipment

Required at all times: Hard hat, safety glasses, high visibility shirt or safety vest, hand protection and safety footwear
Task specific: Gloves, hearing protection when appropriate

Task ID	Task Description	Potential Hazards	Recommended Actions
1	Assess worksite conditions	Weather	Perform any steps that are required to mitigate weather effects
		Lighting	Add lighting if necessary
		Slips, trips, falls	Ensure that walking surfaces are clear of hazards
2	Ensure load is stable	Shifting load	Ensure that rigging is slack and load is completely released by crane (stacked placement) Communicate with crane operator for authorization to approach Inspect load to ensure it will not shift
3	Set up ladder for access	Defective ladder	Inspect ladder according to manufacturer instructions
		Ladder instability	Ensure level ground condition Place ladder at 4:1 angle Select proper ladder foot pad position (soft or hard surface) Extend ladder at least three feet above landing surface Secure or stabilize to prevent accidental displacement
		Strain	Position body to remove ladder from vertical position Get assistance to carry ladder
		Trip	Survey path of travel to ladder storage location
4	Climb ladder	Tip over	Maintain body position with belt buckle between rails
		Slip from rungs	Soles of footwear will be in good condition Clean soles of mud, snow, etc.
		Fall	Maintain three points of contact and face the ladder Do not carry any items, dunnage should be moved with the load, not by hand

5	Access top of piece	Slips, trips and falls	Pause prior to leaving the ladder and survey top of piece for debris, dunnage and slack slings Identify any blockout, angle iron attachment and haunches Plan the path of travel to the furthest attachment point Be aware of changes of elevation
6	Attach rigging and taglines, then set dunnage in the center of the load for transport (stacked removal) **OR** Detach rigging and taglines, then set dunnage in appropriate place for next load (stacked placement)	Laceration Fall Strain Trip	Be aware of broken wire and burrs on hardware before placing hands Position the body to face the widest dimension of the surface at all times Bend at the knees when stooping to attach rigging Walk to other attachment points staying aware of surface hazards, working back towards ladder and always moving in a forward direction
7	Descend from top of piece	Fall	Determine best side of the ladder to access Maintain body position with belt buckle between rails Maintain three points of contact and face the ladder Do not carry items, dunnage shall be moved with the load Secure or stabilize to prevent accidental displacement
8	Remove ladder	Strain Trip	Position body to remove ladder from vertical position Get assistance to carry ladder Survey path of travel to ladder storage location

Fall Protection Plan

Rolling Stock and Motor Vehicles

Developed: May 15, 2017

Implemented:

Revised: Original

This Template Fall Protection Plan has been prepared by Optimum Safety Management™ ("Optimum") and is being presented to the members of the Precast / Prestressed Concrete Institute ("PCI"). The preparation of this plan is being sponsored by PCI, and its contents contain the work and opinions of Optimum.

The document is intended as a guide for the member to use in the development of a plan for its own activities. Direct application to an individual members' organization or circumstances is not intended. The member should take into consideration their particular configuration or practices, and available technology and industry best practices, in final determination of work practices and compliance measures it will utilize.

IN ADDITION, THE METHODS DESCRIBED IN THIS PLAN DO NOT MEET OSHA REQUIREMENTS AT THE TIME OF ITS CREATION. This plan has been developed with the intent of submittal to OSHA as part of a Request for Permanent Variance from 29 C.F.R. 1910.28 (b) (1) for Work Atop Rolling Stock or Motor Vehicles in Precast Plant Yards to Attach/Detach Rigging. **UNTIL SUCH A TIME AS OSHA GRANTS A VARIANCE, EITHER INTERIM, TEMPORARY, OR PERMANENT, UTILIZING THIS PLAN COULD BE CONSIDERED TO BE A VIOLATION OF OSHA STANDARDS AND SUBJECT THE MEMBER COMPANY TO CITATIONS AND PENALTIES.**

OSHA's "Safety and Health Regulations" are continuously being reinterpreted. Therefore, Optimum Safety Management™ is unable to guarantee the exactness of the information conveyed in this publication. Optimum Safety Management™ assumes no responsibility and will be held harmless for any inaccuracies or omissions contained within this manual and will not be held liable to any extent or form for any injury or loss resulting from the manner in which this information is interpreted and/or applied. Precast/Prestressed Concrete Institute member acknowledges that Optimum Safety Management™ has been hired for consultancy and advisory services only. **ENFORCEMENT OF ALL SAFETY AND HEALTH REGULATIONS WILL BE THE SOLE RESPONSIBILITY OF PRECAST/PRESTRESSED CONCRETE INSTITUTE'S MEMBER AND WILL NOT BE THE RESPONSIBILITY OF OPTIMUM SAFETY MANAGEMENT™**. Careful effort has been dedicated in order to provide a simplified, understandable explanation of OSHA regulations based on currently available information. This "Fall Protection Plan" is distributed under the full terms and conditions of the contract in force with Precast/Prestressed Concrete Institute.

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Introduction

This fall protection plan is specific for accessing precast products during loading/unloading operations. Where conventional fall protection is infeasible or creates a greater hazard when preparing products for storage or shipment, the company will only allow properly trained employees to access the product piece for the time necessary to complete rigging activities. This plan establishes that employees are to access the product piece and only for the time necessary to attach or detach rigging. No other activity is allowed or permitted. Multiple employees will be designated and trained to perform the activity on the selected product piece.

Product pieces are manufactured in a variety of shapes and sizes based on the client's design specifications. Typical product pieces include wall panels, architectural wall panels, floor panels, double tees, beams and columns. When produced, the products are moved from the plant to the storage yard. When ready for shipping, they are moved to either a rail car or motor vehicle. This plan is specific to accessing a product piece for the purposes of hooking or unhooking rigging to ready the piece(s) for stacking in storage or shipping via rail car or motor vehicle.

Site Specific Information

- Location:
- Date Prepared:
- Plan Prepared by (Qualified Person):
- Plan Approved by:
- Designated Employees:
    - o
    - o
    - o
    - o
    - o
    - o
    - o
    - o
    - o
    - o
- Competent Persons:
    - o
    - o
    - o
    - o
    - o
    - o
    - o

Definitions

"Competent Person" means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions, which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

"Designated Employee" means an employee who conforms to the following:

- The designated employee will be trained in the proper procedures to be followed to access the "Limited Access Zone" and "Work Zone".
- The designated employee will be named in this plan or designated by a method of identification listed in this plan.

"Limited Access Zone" means an area on top of a precast concrete product that conforms to the following:

- The limited access zone will be restricted to entry by a "Designated Employee" that is passing though for access to the "Work Zone". No other employees will be permitted to enter the zone.
- The limited access zone will consist of the area between the "Work Zone" and the edge of the piece.

"Motor Vehicle" means any commercial van or truck, including tractor trailer or flatbed.

"Qualified Person" means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated their ability to solve or resolve problems relating to the subject matter, the work, or the project.

"Rolling Stock" means any locomotive, railcar, or vehicle operated exclusively on rails.

"Work Zone" means an area on top of a precast concrete panel that conforms to the following:

- The work zone will be separated from the edge by the "Limited Access Zone".
- The work zone will be designated as the area inside the rigging attachment points utilized to lift the concrete product.

Statement of Company Policy

COMPANY NAME is dedicated to the protection of its employees from on the job injuries. All employees have the responsibility to work safely on the job.

The purpose of this plan is:

(a) To supplement our standard safety policy by providing safety standards specifically designed to cover fall protection during securement of products on rolling stock or motor vehicles and:

(b) to ensure that each employee is trained and made aware of the safety provisions which are to be implemented by this plan prior to start of all product loading/unloading actions in the yard.

This fall protection plan addresses employees four feet or more above ground elevation when working on precast products being loaded/unloaded on or from rolling stock or motor vehicles and the use of conventional fall protection is infeasible or creates a greater hazard. Specific Job Hazard Analyses (JHAs) are developed to provide clear instruction for accessing work on these surfaces. These include:

- Beam and Column loading/unloading
- Double Tee loading/unloading
- Wall Panel loading/unloading
- Wall Panel Vertical or A-Frame loading/unloading
- Floor Plank loading/unloading

This plan is designed to enable the company and employees to recognize the fall hazards when on top of precast products for rigging purposes during preparation for loading/unloading and to establish procedures that are to be followed in order to prevent falls to lower levels. Each employee will be trained in these procedures and strictly adhere to them except when doing so would expose the employee to a greater hazard. If, in the employee's opinion, this is the case, the employee will notify the Competent Person of the concern and address it before proceeding.

It is the responsibility of the Competent Person to implement this Fall Protection Plan. The Competent Person is responsible for continual observational safety checks of their work operations and to enforce safety policy and procedures. The Competent Person is also responsible to correct any unsafe acts or conditions immediately. It is the responsibility of the employee to understand and adhere to the procedures of this plan and to follow the instructions of the foreman. It is also the responsibility of the employee to bring to the Competent Person's attention any unsafe or hazardous conditions or acts that may cause injury to either themselves or any other employees. Any changes to this Fall Protection Plan must be approved by the Qualified Person.

Hazard Exposures

Fall from Heights

Employees are exposed to falls greater than four feet when attaching/detaching the rigging on product pieces being prepared for shipment; typically flat wall panels, beams, columns, floor planks, double tees and flat panels secured to vertical or A-frame type support frames.

Trip Hazards

Wall panels sometimes have haunches extending from the surface of the panel. A haunch serves as a support for other components such as beams. These protrude from the surface, but are sizable and easily recognized as a trip hazard. Double tee surfaces sometimes have minimal changes in elevation. Beams and other structural elements often have attachment points and rebar loops protruding from the top surface.

Infeasible / Greater Hazard Controls

OSHA's Walking/Working Surface standard 1910.28(b)(1)(i) "unprotected sides and edges" states that "each employee on a walking-working surface with an unprotected side or edge that is 4 feet or more above a lower level is to be protected from falling by one or more of the following:

- Guardrail systems;
- Safety net systems; or
- Personal fall protection systems (personal fall arrest, travel restraint, or positioning systems).

As it relates to accessing precast product pieces in preparation for loading/unloading, attaching or detaching the rigging, the precast industry has determined that guardrail systems, safety nets, controlled access zones, and safety monitor systems are infeasible. Additionally, the precast industry has determined that personal fall protection systems are infeasible and create a greater hazard.

The following are reasons why the use of conventional fall protection systems (guardrail systems, personal fall arrest systems, or safety net systems) are infeasible or why their use would create a greater hazard.

- Guardrail Systems – INFEASIBLE:
  The time it would take to access the top of a piece and install guard rails would exceed the amount of time that it takes an employee to perform the tasks covered under this fall protection plan. This would lead to more time of exposure to the same fall hazard. Additionally, the extra traffic by fork lifts that would be required to move the necessary equipment would pose more of a risk.

- Safety Nets – INFEASIBLE:
  The time it would take to access the top of a piece and install and test safety nets would exceed the amount of time that it takes an employee to perform the tasks covered under this fall protection plan. This would lead to an increase in the time of employee exposure to the same hazard.

- Personal Fall Arrest Systems – INFEASIBLE:
  The precast pieces are being moved by a mobile gantry crane, lattice or hydraulic boom mobile crane. The mobile gantry crane is a frame work on four wheels that passes over the trailer, therefore preventing installation of overhead anchor points on any structure. The other types of cranes also have boom angles and swing radii movement requirements for proper positioning of the load on the trailer. These crane designs and movements are what makes the installation of personal fall arrest systems infeasible. Due to the necessity of crane operations for handling material, there is no feasible solution for utilizing anchor points for a fall arrest system that would not interfere with the operation of the crane.

- Personal Fall Arrest Systems – GREATER HAZARD:
  Due to the nature of the cranes that are used to move the pieces, entanglement with any devices used to offer an overhead anchor point would pose a greater hazard to the employee

than those offered by this fall protection plan. Additionally, the extra traffic by fork lifts that would be required to move the necessary equipment would pose more of a risk.

- Mobile Fall Protection Systems – INFEASIBLE:
  Mobile fall protection systems cannot be utilized due to the nature of the work, attaching or detaching rigging from the product piece. The piece is secured by a large lifting beam (strongback), typically more than fifty feet long, approximately three to four feet wide and the accompanying chains, wire rope slings and rolling blocks, all placed to maintain the product piece in the loading position. Mobile fall protection devices would have to be moved to a position under the crane. The attachment point would be near or close to the edge because the lifting beam is on the centerline of the product being placed for shipment. Any movement of another piece of equipment in close proximity to the crane poses a great danger of obstructing the crane and potentially damaging the rigging.

  The mobile equipment would also need to be positioned so that it is likely too close to the crane wheels, or placed under the boom structure, creating potential obstruction situations. The movement of a mobile fall protection system also requires a means of transport, either positioned by fork truck or pulled by truck. Vehicular traffic then creates another hazard to employees.

- Warning Line System – INFEASIBLE:
  Due to the engineered design requirements for attachment (lifting) points, there is no feasible way to reach the rigging attachment points while maintaining six feet distance from the edge of the piece. Typical product widths are between 3 and 12 feet. Additionally, the time it would take to access the top of a piece and install a warning line system would exceed the amount of time that it takes an employee to perform the tasks covered under this fall protection plan. This would lead to more time of exposure to the same fall hazard.

- Safety Monitor System – GREATER HAZARD:
  Due to the limited surface area of the precast pieces, the addition of another employee on the same surface would unnecessarily increase the total time in which an employee was exposed to a fall hazard.

Fall Exposure Controls

OSHA's standard 1910.28(b)(1)(ii) states that when the employer can demonstrate that it is not feasible or creates a greater hazard to use guardrail, safety net, or personal fall protection systems on residential roofs, the employer must develop and implement a fall protection plan that meets the requirements of 29 CFR 1926.502(k) and training that meets the requirements of 29 CFR 1926.503(a) and (c).

In applying this variance for residential roofs to precast products on rolling stock or motor vehicles for rigging tasks, this fall protection plan meeting the requirements of 29 CFR 1926.502(k) will be followed.

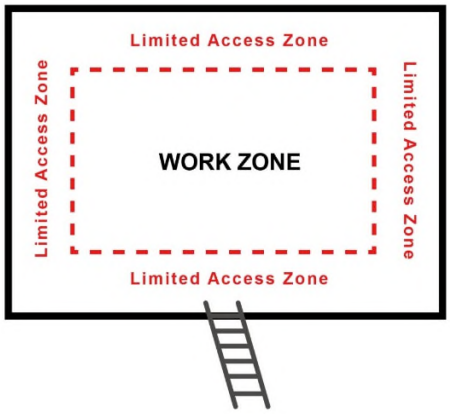
This fall protection plan has been prepared by qualified people and is developed specifically for our company's facility where the loading/unloading of precast concrete products is being performed. This plan will be maintained up to date and any changes to the fall protection plan will be approved by the Qualified Person. A copy of this fall protection plan with all approved changes will be maintained on site at all times. Additionally, the implementation of this fall protection plan will be under the supervision of a Competent Person.

In the event that an employee falls, or some other related serious incident occurs, (e.g., a near miss) the company will investigate the circumstances of the fall or other incident to determine if the fall protection plan needs to be changed (e.g. new practices, procedures, or training). If changes are made they will be implemented to prevent similar types of falls or incidents. These changes will be approved by the Qualified Person.

The Work Zone is designated as the area within the corner lifting device attachment points of the product. The Limited Access Zone is designated as the area outside of the Work Zone, extending to the edge of the product. Designated Employees are trained to access the product and pass through the Limited Access Zone to the Work Zone. All rigging detaching tasks are to be completed within the Work Zone.

On beams, columns and floor planks, the width of the surface may limit the ability of the Designated Employee to establish a Work Zone and a Limited Access Zone. In these instances, the Designated Employee will maintain as much distance between themselves and the edge as possible while on top of the precast concrete piece, and face the wider dimension of the surface.

The attached JHA's describe the tasks, potential hazards and recommended actions to perform the work safely. Employees are exposed to falls at the placement of the first product piece and thus this fall protection plan is in effect at the outset of the work.



Plan View-Flat Panel with means of access, Limited Access Zone and Work Zone

Training

Only individuals with the appropriate experience, skills, and training will be authorized as designated employees. All employees that will be working as designated employees under this fall protection plan will be trained and instructed by a Competent Person in the following areas:

- Recognition of the fall hazards in the work area;
- Avoidance of fall hazards using established work practices which have been specified by a Job Hazard Analysis, and made known to the employees;
- Recognition of unsafe practices or working conditions that could lead to a fall, such as windy conditions; and
- The role of employees in this fall protection plan.

Retraining - When the Competent Person has reason to believe that any designated employee does not have the understanding and skill required to compete tasks according to this plan, the designated employee will be retrained. Circumstances where retraining is required include, but are not limited to, situations where:

- Changes in the workplace render previous training obsolete;
- Changes in the types of fall protection systems or equipment to be used render previous training obsolete; and
- Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.

Fall Protection Plan Enforcement

Constant awareness of and respect for fall hazards, and compliance with all safety rules are considered conditions of employment. The Competent Person, as well as individuals in management, reserves the right to issue disciplinary warnings to employees for failure to follow the guidelines of this program. The form of the discipline will be the responsibility of the management and will comply with the company's discipline policy, up to and including termination.

Developed By:

Job Hazard Analysis (DRAFT TEMPLATE)
Double Tees on Rolling Stock and Motor Vehicles

Date Developed:	Conducted by:	Date Revised:
Location:	Area:	Revised by:

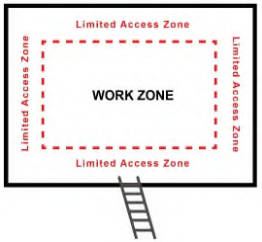
Certification of Hazard Assessment (Management)

Print:	Sign:	Date:

Personal Protective Equipment

Required at all times: Hard hat, safety glasses, high visibility shirt or safety vest, hand protection and safety footwear
Task specific: Gloves, hearing protection when appropriate

Task ID	Task Description	Potential Hazards	Recommended Actions
1	Assess worksite conditions	Weather	Perform any steps that are required to mitigate weather effects
		Lighting	Provide lighting if necessary
		Slips, trips, falls	Ensure that walking surfaces are clear of hazards
2	Offset load to set dunnage	Crush hazard	When setting dunnage on trailer have load positioned so the operation can be completed without working under the suspended load
3	Set up ladder for access	Defective ladder	Inspect ladder according to manufacturer instructions
		Ladder instability	Ensure level ground condition Place ladder at 4:1 angle Select proper ladder foot pad position (soft or hard surface) Extend ladder at least three feet above landing surface Secure or stabilize to prevent accidental displacement
		Strain	Get assistance to carry ladder Position body to place ladder
4	Climb ladder	Tip over	Maintain body position with belt buckle between rails
		Slip from rungs	Soles of footwear will be in good condition Clean soles of mud, snow, etc.
		Fall	Maintain three points of contact and face the ladder Do not carry any items, dunnage will be moved with the load, not by hand

5	Access top of piece	Slips, trips, falls	Pause prior to leaving the ladder and survey top of piece for debris, dunnage and slack slings Identify any blockout, angle iron attachment and haunches Plan the path of travel to the furthest attachment point Do not travel along a blockout if walkway is less than 28" wide Be aware of changes of elevation
6	Identify Limited Access Zone and Working Zone	Fall	Identify Limited Access Zone as the space beyond the lifter locations to the edge of the piece Identify Work Zone as the area within the lifter locations Perform all work from within the Work Zone Position the body to face the nearest edge at all times; never turn your back to the edge or step backwards 
7	Detach rigging and taglines	Laceration Fall Strain Trip	Be aware of broken wire and burrs on hardware before placing hands Position the body to face the nearest edge at all times; never turn your back to the edge Bend at the knees when stooping to attach rigging Walk to other attachment points staying aware of surface hazards, working back towards ladder
8	Descend from top of piece	Fall	Determine best side of the ladder to access Maintain body position with belt buckle between rails Maintain three points of contact and face the ladder Do not carry items Ensure ladder is secured
9	Remove ladder	Strain Trip	Position body to remove ladder from vertical position Get assistance to carry ladder Survey path of travel to ladder storage location

Developed By:

OPTIMUM SAFETY MANAGEMENT

PCI Precast/Prestressed Concrete Institute

Job Hazard Analysis (DRAFT TEMPLATE)
Wall Panels on Rolling Stock and Motor Vehicles - Flat

Date Developed:	Conducted by:	Date Revised:
Location:	Area:	Revised by:

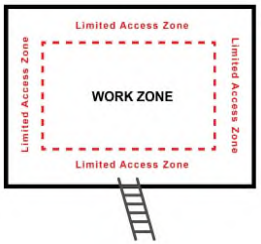
Certification of Hazard Assessment (Management)

Print:	Sign:	Date:

Personal Protective Equipment

Required at all times: Hard hat, safety glasses, high visibility shirt or safety vest, hand protection and safety footwear
Task specific: Gloves, hearing protection if appropriate

Task ID	Task Description	Potential Hazards	Recommended Actions
1	Assess worksite conditions	Weather	Perform any steps that are required to mitigate weather effects
		Lighting	Provide lighting if necessary
		Slips, trips, falls	Ensure that walking surfaces are clear of hazards
2	Offset load to set dunnage	Crush hazard	When setting dunnage on trailer have load positioned so the operation can be completed without working under the suspended load
3	Set up ladder for access OR access trailer from rear of spotter tractor	Defective ladder	Inspect ladder according to manufacturer instructions
		Ladder instability	Ensure level ground condition Place ladder at 4:1 angle Select proper ladder foot pad position (soft or hard surface) Extend ladder at least three feet above landing surface Secure or stabilize to prevent accidental displacement
		Strain	Get assistance to carry ladder Position body to place ladder
4	Climb ladder	Tip over	Maintain body position with belt buckle between rails
		Slip from rungs	Soles of footwear will be in good condition Clean soles of mud, snow, etc.
		Fall	Maintain three points of contact and face the ladder Do not carry any items

5	Access top of piece or trailer	Surface hazards	Pause prior to leaving the ladder and survey top of piece for debris, dunnage and slack slings Identify any blockout, angle iron attachment and haunches Plan the path of travel to the furthest attachment point Do not travel along a blockout if walkway is less than 28" wide Be aware of changes of elevation
6	Identify Limited Access Zone and Working Zone	Fall	Identify Limited Access Zone as the space beyond the lifter locations to the edge of the piece Identify Work Zone as the area within the lifter locations Perform all work from within the Work Zone Position the body to face the nearest edge at all times; never turn your back to the edge or back up 
7	Detach rigging and taglines	Laceration Fall Strain Trip	Be aware of broken wire and burrs on hardware before placing hands Position the body to face the nearest edge at all times; never turn your back to the edge Bend at the knees when stooping to attach rigging Walk to other attachment points staying aware of surface hazards, working back towards ladder
8	Descend from top of piece	Fall	Determine best side of the ladder to access Ensure bottom is secured Maintain body position with belt buckle between rails Maintain three points of contact and face the ladder Do not carry items
9	Remove ladder	Strain Trip	Position body to remove ladder from vertical position Get assistance to carry ladder Survey path of travel to ladder storage location

Developed By:

Job Hazard Analysis (DRAFT TEMPLATE)
Beams & Columns on Rolling Stock and Motor Vehicles

Date Developed:	Conducted by:	Date Revised:
Location:	Area:	Revised by:

Certification of Hazard Assessment (Management)

Print:	Sign:	Date:

Personal Protective Equipment

Required at all times: Hard hat, safety glasses, high visibility shirt or safety vest, hand protection and safety footwear
Task specific: Gloves, hearing protection when appropriate

Task ID	Task Description	Potential Hazards	Recommended Actions
1	Assess worksite conditions	Weather	Perform any steps that are required to mitigate weather effects
		Lighting	Provide lighting if necessary
		Slips, trips, falls	Ensure that walking surfaces are clear of hazards
2	Offset load to set dunnage	Crush hazard	When setting dunnage on trailer have load positioned so the operation can be completed without working under the suspended load
3	Set up ladder for access OR access trailer form rear of spotter tractor	Defective ladder	Inspect ladder according to manufacturer instructions
		Ladder instability	Utilize manufactured trailer ladder if possible. If not; Ensure level ground condition Place ladder at 4:1 angle Select proper ladder foot pad position (soft or hard surface) Extend ladder at least three feet above landing surface Secure or stabilize to prevent accidental displacement
		Strain	Position body to place ladder Get assistance to carry ladder
4	Climb ladder	Tip over	Maintain body position with belt buckle between rails
		Slip from rungs	Soles of footwear will be in good condition Clean soles of mud, snow, etc.
		Fall	Maintain three points of contact and face the ladder Do not carry any items

5	Access top of piece	Slips, trips and falls	Pause prior to leaving the ladder and survey top of piece for debris, dunnage and slack slings Identify any blockout, angle iron attachment and haunches Plan the path of travel to the furthest attachment point Be aware of changes of elevation
6	Detach rigging and taglines	Laceration Fall Strain Trip	Be aware of broken wire and burrs on hardware before placing hands Position the body to face the widest dimension of the surface at all times Bend at the knees when stooping to attach rigging Walk to other attachment points staying aware of surface hazards, working back towards ladder and always moving in a forward direction
7	Descend from top of trailer	Fall	Determine best side to access ladder Maintain body position with belt buckle between rails Maintain three points of contact Do not carry items Secure or stabilize to prevent accidental displacement
8	Remove ladder	Strain Trip	Position body to remove ladder from vertical position Get assistance to carry ladder Survey path of travel to ladder storage location

Developed By:

Job Hazard Analysis (DRAFT TEMPLATE)
Floor Planks on Rolling Stock and Motor Vehicles

Date Developed:	Conducted by:	Date Revised:
Location:	Area:	Revised by:

Certification of Hazard Assessment (Management)

Print:	Sign:	Date:

Personal Protective Equipment

Required at all times: Hard hat, safety glasses, high visibility shirt or safety vest, hand protection and safety footwear
Task specific: Gloves, hearing protection when appropriate

Task ID	Task Description	Potential Hazards	Recommended Actions
1	Assess worksite conditions	Weather	Perform any steps that are required to mitigate weather effects
		Lighting	Provide lighting if necessary
		Slips, trips, falls	Ensure that walking surfaces are clear of hazards
2	Offset load to set dunnage	Crush hazard	When setting dunnage on trailer have load positioned so the operation can be completed without working under the suspended load
3	Set up ladder for access OR access trailer form rear of spotter tractor	Defective ladder	Inspect ladder according to manufacturer instructions
		Ladder instability	Utilize manufactured trailer ladder if possible. If not; Ensure level ground condition Place ladder at 4:1 angle Select proper ladder foot pad position (soft or hard surface) Extend ladder at least three feet above landing surface Secure or stabilize to prevent accidental displacement
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8	Remove ladder	Strain Trip	Position body to remove ladder from vertical position Get assistance to carry ladder Survey path of travel to ladder storage location