



Section 1
Safety Health
and
Environmental
Manual

2025

Introduction

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/14/2008
		Revised:	December 2024
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
		Reviewed	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Introduction		
CROSS REFERENCE:	None		

PURPOSE:

This manual establishes procedures that provide a safe and healthful working environment for all employees and shall be available at the job site for inspecting and copying. These procedures apply to all work or services performed at our operating facility and any jobsite that is managed, or operated by Brieser Construction Co.

The objectives are as follows:

- To provide guidelines for implementing a safety plan that will direct safety and health programs on operating facilities and jobsites to maintain compliance with federal, state and/or local statutory requirements or regulations.
- To prevent occupational injury and illnesses, reduce equipment and property damage, and eliminate recurrences.
- To establish responsibility and accountability for the safety program at all locations.

This manual is intended to list the policies, procedures, and practices of Brieser Construction Co. This manual is subject to change, revision, or revocation at any time without notice. It is not to be construed either as an employment contract or a guarantee of employment, nor does it modify the employee's status as being an employee at will.

If at any time the safety requirements of our customers are more stringent than that of Brieser Construction the customer's safety requirements will be followed.

If there are any questions or concerns, please direct them to your direct supervisor, anyone in the Safety Department, or to the Company President.



Section 2

Safety Health and Environmental Manual

2025

Safety & Health Policy

https://brieserconstruction-my.sharepoint.com/personal/hsouthall_brieserconstruction_com/Documents/Desktop/Safety Manual Updates/SECTION 2 - Safety & Health Policy/Brieser SH&E Manual-Sect 2 Safety & Health Policy.docx

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	11/2013
		Revised	2/21/2020
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	06
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Safety & Health Policy		
CROSS REFERENCE:	Brieser Company Charter		

BRIESER CONSTRUCTION COMPANY SAFETY AND HEALTH POLICY

Brieser Construction Company is committed to providing our employees with a safe and healthy work environment. All employees play an essential role in the success of our company, and we consider them to be part of the Brieser Company family. Safety is a core value that shapes our behavior. It is an essential consideration in all business decisions and is a requirement in the performance of all job tasks.

COMPANY PURPOSE:

We Build to Last

COMPANY VALUES

We, at the Brieser Construction Company, have a great respect for life.

We will maintain and preserve a high quality of life through ***honesty, integrity, hard work, trust,*** and consistent ***dependability and reliability.***

We are committed to achieving ***excellence*** in our endeavors and treating all people with ***dignity and respect.***

We consider these values to be of paramount importance in both our ***personal and business*** conduct.

We encourage people to grow as individuals to their full potential and we praise their contribution to the ***safety practices, growth, and profitability*** of our Company.

MISSION STATEMENT:

The Mission of the Brieser Construction Company is to continually:

Satisfy our customer's needs through superior construction management and technical practices.

Actively improve the safety of our workplace

Focus on the quality and integrity of all our industrial and commercial projects; and

Embrace sound business practices to deliver a fair return on our investment.

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		Revised	2/21/2020
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The Brieser Construction Safety & Health Policy will be communicated as follows:

- The Safety & Health Policy will be reviewed and provided to all employees during orientation.
- The Safety & Health Policy will be prominently displayed at Brieser Construction Company locations and job sites via computer, posters with QR code, and / or TSTI paperwork with QR code.
- The Safety & Health Policy will be re-introduced to all employees by means of email two times per year.

Our Company always expects and accepts positive ideas, encourages constructive suggestions, and stimulates teamwork to enhance the development of our employees, improve our safety procedures, and business and technical practices.

We strive to continually improve on a safe work environment that fosters teamwork, dependability, responsibility, accountability, and creativity. We maintain open communication channels that allow us to remain flexible to meet our customers' needs and get the job done. We base our Company's professional and technical achievements on the expertise of our associates to reinforce our safety record, good reputation, and recognition for more than **40 years** of successful achievements in the marketplace.

The Brieser Construction Company recognizes the important contribution of its employees to its safety practices, business success and growth through fair compensation, benefits and a program of performance-related incentives and rewards. We expect each one of our dedicated professionals to execute their duties in such a manner that will always meet, and preferably exceed, our clients' expectations and needs.

The Company seeks for its owners a fair return on their investment that is consistent and compatible with the risks taken and the capital invested in the business.

Lexi Southall, President

Date

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Employee Notification of VPP Participation & Rights Under OSHA and VPP



The management team at Brieser Construction Company has maintained a long-term commitment to providing our employees with a safe and healthy work environment. Our goal is to provide the employee training, supervision, tools, and management support needed to assure that our employees end each workday safely and arrive home safe and healthy to their families.

Brieser Construction Company has achieved OSHA VPP for Construction recognition. To continuously improve our safety program, we have established specific safety program goals to persevere this approval. We will strive to meet and exceed the four major elements that comprise OSHA VPP.

Major Elements - An effective occupational safety and health program will include the following four elements:

1. **Management Leadership & Employee Involvement:** Management commitment provides the motivating force and the resources for organizing and controlling activities within an organization. In an effective program, management regards workers safety and health as a fundamental value of the organization and applies its commitment to safety and health protection with as much vigor as to other organizational purposes. While the employee involvement provides the means through which workers develop and/or express their own commitment to safety and health protection, for themselves and for their fellow workers.
2. **Worksite Analysis** involves a variety of worksite examinations, to identify not only existing hazards but also conditions and operations in which changes might occur to create hazards. Unawareness of a hazard which stems from failure to examine the worksite is a sure sign that safety and health policies and/or practices are ineffective. Effective management actively analyzes the work and worksite, to anticipate and prevent harmful occurrences.

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Employee Notification of VPP Participation & Rights Under OSHA and VPP continued

3. **Hazard Prevention and Controls** are triggered by a determination that a hazard or potential hazard exists. Where feasible, hazards are prevented by effective design of the jobsite or job. Where it is not feasible to eliminate them, they are controlled to prevent unsafe and unhealthful exposure. Elimination or controls is accomplished in a timely manner, once a hazard or potential hazard is recognized.
4. **Safety and Health Training** addresses the safety and health responsibilities of all personnel concerned with the site, whether salaried or hourly. It is often most effective when incorporated into other training about performance requirements and job practices. Its complexity depends on the size and complexity of the worksite, and the nature of the hazards and potential hazards at the site.

OSHA's Voluntary Protection Program (VPP) recognizes workplaces with excellent safety and health management systems and promotes them as model workplaces. A VPP company must have in place an effective safety and health management system that meets rigorous performance-based criteria. In addition, all relevant OSHA standards must be met. OSHA verifies qualifications through a comprehensive onsite review process.

Achieving VPP demonstrates to our employees, industry, customers, and community that Brieser Construction Company is a leader in safety and health. We believe that a voluntary, cooperative, and proactive safety and health partnership of management, employees and OSHA benefits all parties.

An essential component in the VPP process is the demonstrated involvement and support of all employees. Our Safety and Health Committee members will be asked to participate in the VPP process. I am requesting the support of all employees in our mission to continually improve our safety processes and maintain our VPP for construction designation.

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Another vital component of VPP is to assure that all employees are informed of their rights under OSHA and VPP. I encourage you to bring any condition that you feel is unsafe or unhealthy to the attention of your supervisor to correct it. If this fails to provide a satisfactory correction, I encourage you to contact me to discuss your concern. If you still believe an unsafe or unhealthy condition exists and it is not being satisfactorily addressed, you have the right to register a complaint with OSHA. The OSHA standard provides you specific protection from retaliatory discipline for exercising this right. You may also review and/or obtain reports of safety and health inspections and accident investigations upon request. The company reserves the right to protect the personal privacy of all employees with regards to accident investigations and may edit portions of reports to assure this privacy protection.

As stated in our *Safety and Health Policy*, we consider safety to be a core value that shapes our behavior. Safety is an essential consideration in all business decisions and is a requirement in the performance of all job tasks. Our goal is to work each day with *Zero Accidents, Occupational Illnesses and Injuries* assuring that **all employees will return home safe and healthy to their families.**

Thank you for your support of our safety program and for practicing safety in all your activities both on and off the job.

Lexi Southall, President

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Safety & Health Policy Learning Exercise

Score: **%**

Employees Name:		Date:	
Company:		Instructor:	
Trade:		Job Title:	

Answer each of the following questions by circling the appropriate letter.

1. Brieser Construction Company has achieved OSHA VPP for Construction recognition. To continuously improve our safety program, we have established specific safety program goals to persevere this approval. How many goals are there?
 - a. One
 - b. Three
 - c. Four
 - d. Eight

2. Which of these goals is your involvement mandatory?
 - a. Management Leadership & Employee Involvement
 - b. Worksite Analysis
 - c. Hazard Prevention and Controls
 - d. Safety and Health Training

3. The Safety & Health Policy will be re-introduced to all employees via email _____ times per year.
 - a. 1
 - b. 2
 - c. 3
 - d. 4

4. The Safety & Health Policy will be prominently displayed at Brieser Construction Company locations and job sites via computer, posters with QR code, and / or TSTI paperwork with QR code.
 - a. True
 - b. False

5. Brieser's goal is to work each day with _____ Accidents, Occupational Illnesses and Injuries assuring that all employees will return home safe and healthy to their families.
 - a. Three
 - b. Two
 - c. One
 - d. Zero

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Safety & Health Policy Learning Exercise

Answer Sheet

1. Brieser Construction Company has achieved OSHA VPP for Construction recognition. To continuously improve our safety program, we have established specific safety program goals to persevere this approval. How many goals are there?
 - a. One
 - b. Three
 - c. Four**
 - d. Eight

2. Which of these goals is your involvement mandatory?
 - a. Management Leadership & Employee Involvement**
 - b. Worksite Analysis
 - c. Hazard Prevention and Controls
 - d. Safety and Health Training

3. The Safety & Health Policy will be re-introduced to all employees via email _____ times per year.
 - a. 1
 - b. 2**
 - c. 3
 - d. 4

4. The Safety & Health Policy will be prominently displayed at Brieser Construction Company locations and job sites via computer, posters with QR code, and / or TSTI paperwork with QR code.
 - a. True**
 - b. False

5. Brieser's goal is to work each day with _____ Accidents, Occupational Illnesses and Injuries assuring that all employees will return home safe and healthy to their families.
 - a. Three
 - b. Two
 - c. One
 - d. Zero**



Section 3
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Job Descriptions

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	01/2018
		Revised:	2/21/2020
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	15
STANDARD OPERATING PROCEDURE:		Reviewed	12/17/24 KMC
CROSS REFERENCE:	None		

PURPOSE

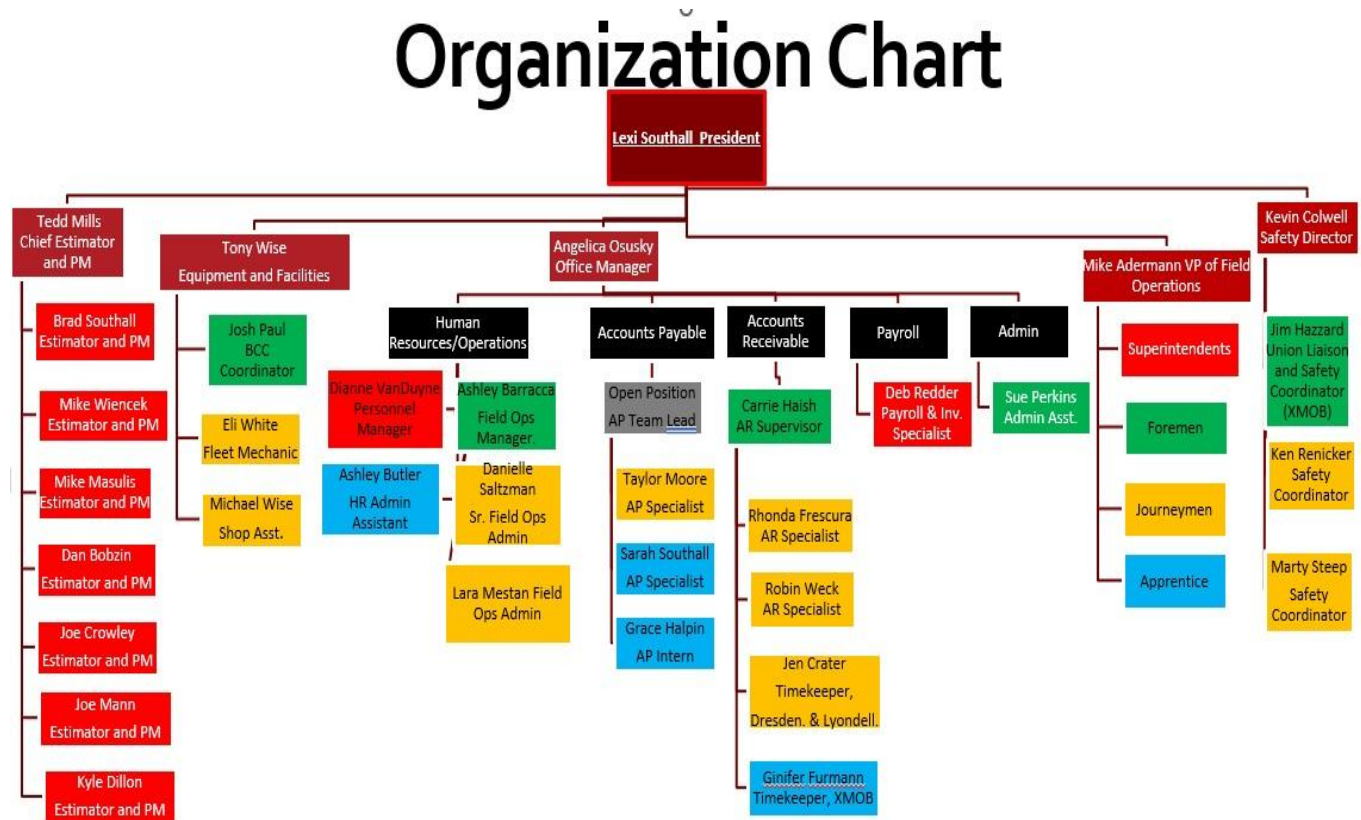
The purpose of this section is to establish a defined company hierarchy and their associated responsibilities.

DEFINITIONS

Title – The name of the position held by a specific person or group of people within the company organization.

Summary – A brief description of this person, or persons job duties. These duties are to include any in office or administrative responsibilities. This can also mean any responsibilities while in the field on contracted site properties.

Organizational Chart as of February 2023



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STANDARD OPERATING PROCEDURE:	Job Descriptions		
CROSS REFERENCE:	None		

TITLE

(As related to safety): President, Lexi Southall (Since 2017)

SUMMARY: The President of Brieser Construction Co. shall demonstrate a positive attitude toward the achievement of a strong safety program, with the objective of preventing personal injury and property damage through their direct and active support.

PRIMARY SAFETY RESPONSIBILITY:

1. Know the safety records of all the Supervisors and insist on accountability.
2. Communicate about safety on visits to the construction area, in the same way you communicate about costs and schedules.
3. Include the discussion of safety programs at staff meetings.
4. Request status reports (monthly) on safety activities and progress within Brieser Construction Co.
5. Ensure newly hired employees receive Brieser Construction Co. safety orientation before beginning work.
6. Make the necessary appropriations to meet the requirements of an effective safety program.
7. Continually support and enforce the Brieser Construction Co. Safety Program.
8. Practice safety through good example.

Violation of any of these rules may be cause for immediate disciplinary action. I have read and understand the rules stated above and accept them as a condition of continued employment.

Employee Signature

Date

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CROSS REFERENCE:	None		

TITLE

(As related to safety): V.P. Operations/General Superintendent, Mike Adermann (Since 2017)

SUMMARY: Currently the V.P. of Operations is acting as General Superintendent. The V.P. of Operations is directly responsible for the control and activities of the field Supervision and field employees. The V.P. of Operations is responsible for maintaining a strong safety culture at all Brieser Construction sites. He has the authority to immediately stop or modify any activity or procedure which is likely to result in an injury or property loss.

PRIMARY SAFETY RESPONSIBILITY:

1. Directly Reports to the Brieser Construction Company President.
2. Ensure Field Supervision is meeting their safety obligations as outlined in the Brieser Construction Safety Manual.
3. Conduct work site safety inspections and hazard corrections monthly.
4. Interview field employees to ensure a positive attitude toward safety are maintained.
5. Notify Safety Manager or his designee immediately of any incident.
6. Assist the with incident investigations to ensure proper reporting and documentation is followed by field Supervision.
7. Follow up incidents with prompt corrections to eliminate recurrences.
8. Ensure a robust hiring process with safety in the forefront of the hiring decision.
9. Practice safety through good example.
10. Promote safety programs.
11. Correct any safety gaps using Brieser Constructions VPP program and all the elements therein.
12. Ensure field Supervision is adequately training field employees on all equipment and safety disciplines as outlined in the Brieser Construction Safety Manual.

Violation of any of these rules may be cause for immediate disciplinary action. I have read and understand the rules stated above and accept them as a condition of continued employment.

Employee Signature

Date

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CROSS REFERENCE:	None		

TITLE

(As related to safety): Director of Safety, Kevin Colwell (Since 2020)

SUMMARY: The Director of Safety shall be responsible for the direction of the safety program. He must provide direction for all safety activities within Brieser Construction Co. The Safety Director has the authority to immediately stop or modify any activity or procedure which is likely to result in an injury or property loss.

PRIMARY SAFETY RESPONSIBILITY:

1. Directly Reports to the Brieser Construction Company President.
2. Manage the duties and responsibilities of the company Safety Coordinator(s).
3. Coordinate safety activities and implement new safety procedures for the operations of Brieser Construction Co.
4. Coordinate and conduct safety education program for the management, supervision, and employees.
5. Ensure work area inspections are performed on a regular basis and train the personnel to conduct effective self-inspections.
6. Submit monthly reports to the Project Managers and Field Supervisors regarding the status of the safety performance statistics.
7. Monitors operations to assure compliance with applicable OSHA and local safety regulations.
8. Monitor sub-contractors' safety performance.
9. Review safety manual and program for compliance with new or changed regulations on a yearly basis.
10. Review and document all Brieser Permits (ex. – Confined Space, Lockout/Tagout, Hot Work, etc.) on a yearly basis.
11. Practice safety through good example.
12. Monitor employee activities and behaviors to determine if employee should be removed from the worksite.

Violation of any of these rules may be cause for immediate disciplinary action. I have read and understand the rules stated above and accept them as a condition of continued employment.

Employee Signature

Date

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CROSS REFERENCE:	None		

TITLE

(As related to safety): Safety Coordinator, Jim Hazzard (since 2018), Ken Renicker (Since 2022), & Marty Steep (Since 2023)

SUMMARY: The Safety Coordinator shall be responsible for the execution of the safety program. He must provide support for all safety activities within Brieser Construction Co. The Safety Coordinator has the authority to immediately stop or modify any activity or procedure which is likely to result in an injury or property loss.

PRIMARY SAFETY RESPONSIBILITY:

1. Reports directly to the company Director of Safety
2. Check, verify, audit, fix and report daily the effective compliance by all employees and subcontractors of all the mandated safety policies, norms and requirements established by the company and OSHA.
3. Train new employees in the company's safety policies and regulations.
4. Act as the company and the Company Safety Director's representative for the enactment and strict enforcement of all mandated safety rules and regulations.
5. Ensure the proper safe maintenance and utilization of equipment, materials, and tools to meet the safety mandated standards and requirements established by the company.
6. To establish and keep a good working relationship with owners, clients, subcontractors, and company employees for the continual improvement of the company's safety standards.
7. Practice safety through good example.
8. Monitor employee activities and behaviors to determine if employee should be removed from the worksite.

Violation of any of these rules may be cause for immediate disciplinary action. I have read and understand the rules stated above and accept them as a condition of continued employment.

Employee Signature

Date

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TITLE

(As related to safety): Project Managers.

SUMMARY: The Project Managers are responsible for identifying the hazards of their projects and communicating to supervisors. Accident prevention procedures for Brieser Construction Co. supervisors will be included in job planning activities. The Project Manager has the authority to immediately stop any activity or procedure which is likely to result in an injury or property loss.

PRIMARY SAFETY RESPONSIBILITY:

1. Directly Reports to the Brieser Construction Company VP of Operations.
2. Promote full support of the safety program by enthusiastically advocating the program.
3. Ensure that all supervisors are aware of and are following safety procedures established for Brieser Construction Co.
4. Monitor safety records of their construction areas.
5. Establish safety rules with special attention to unusual conditions on work sites.
6. Visit the construction areas frequently with special attention to hazard recognition and accident prevention.
7. Practice safety through good example
8. Monitor employee activities and behaviors to determine if employee should be removed from the worksite.

Violation of any of these rules may be cause for immediate disciplinary action. I have read and understand the rules stated above and accept them as a condition of continued employment.

Employee Signature

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CROSS REFERENCE:	None		

TITLE

(As related to safety): Human Resources, Dianne VanDuyne

SUMMARY: The Human Resources Manager is responsible for collecting and storing medical & employee exposure records. They will also provide access to those records upon request of an employee who wishes to examine his/her own records.

Employee medical record means:

- A record concerning the health status of an employee which is made or maintained by a physician, nurse, or other health care personnel, or technician.

Employee exposure records means:

- Environmental (workplace) monitoring or measuring of a toxic substance or harmful physical agent, including personal, area, grab, wipe, or other form of sampling, as well as related collection and analytical methodologies, calculations, and other background data relevant to interpretation of the results obtained.
- Biological monitoring results which directly assess the absorption of a toxic substance or harmful physical agent by body systems (e.g., the level of a chemical in the blood, urine, breath, hair, fingernails, etc.) but not including results which assess the biological effect of a substance or agent, or which assess an employee's use of alcohol or drugs.

PRIMARY SAFETY RESPONSIBILITY:

1. Directly Reports to the Brieser Construction Company President.
2. Retain medical records for the duration of employment plus 30 years.
3. Maintain employee exposure records for 30 years.
4. Ensure that all supervisors are aware of and are following safety procedures established for Brieser Construction Co.
5. Provide access to records in a reasonable time, place, and manner. If access to records cannot reasonably be provided within fifteen (15) working days, the employer shall within the fifteen (15) working days apprise the employee or designated representative requesting the record of the reason for the delay and the earliest date when the record can be made available.
6. Whenever an employee or designated representative requests a copy of a record, that record must be provided at no cost.
7. Upon an employee's first entering into employment, and at least annually thereafter, information must be given to current employees of the existence, location, availability, and the person responsible for maintaining and providing access to records and each employee's rights of access to these records. This is accomplished during Orientation I.

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PRIMARY SAFETY RESPONSIBILITY continued:

8. Coordinate and complete any transfer of records. If Brieser ceases to do business, the Human Resources manager shall transfer all records subject to this section to the successor employer. Whenever Brieser either is ceasing to do business and there is no successor employer to receive and maintain the records, or intends to dispose of any records required to be preserved for at least thirty (30) years, the Brieser shall notify affected current employees of their rights of access to records at least three (3) months prior to the cessation of the employer's business.
9. Whenever access is requested to an analysis which reports the contents of employee medical records by either direct identifier (name, address, social security number, payroll number, etc.) or by information which could reasonably be used under the circumstances indirectly to identify specific employees (exact age, height, weight, race, sex, date of initial employment, job title, etc.), personal identifiers must be removed before access is provided.

Violation of any of these rules may be cause for immediate disciplinary action. I have read and understand the rules stated above and accept them as a condition of continued employment.

Employee Signature

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TITLE

(As related to safety): Field Supervisor (Job Foreman)

SUMMARY: Supervisors are directly responsible for the control and activities of the employees. They play a key role in the implementation and maintenance of an effective safety program. The Field Supervisor has the authority to immediately stop any activity or procedure which is likely to result in an injury or property loss.

Supervisors must plan their safety activity with the same care and effort as they do other portions of their work program.

PRIMARY SAFETY RESPONSIBILITY:

1. Directly Reports to the assigned Brieser Construction Company Superintendent or VP of Operations.
2. Provide, and require the use of personal protective equipment deemed necessary by the process, equipment, or materials.
3. Conduct their own work site safety inspections and hazard corrections on a daily basis.
4. Hold safety meetings with their employees on as needed basis or at least once per week.
5. Notify Safety Manager or his designee immediately of any incident.
6. Call for professional medical assistance for injured employee and ensure prompt medical care is provided.
7. Assist with incident investigations to ensure proper reporting and documentation.
8. Follow up incidents with prompt corrections to eliminate recurrences.
9. Ensure all employees follow safety policies and procedures without exception.
10. Practice safety through good example.
11. Monitor employee activities and behaviors to determine if employee should be removed from the worksite.

Violation of any of these rules may be cause for immediate disciplinary action. I have read and understand the rules stated above and accept them as a condition of continued employment.

Employee Signature

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CROSS REFERENCE:	None		

TITLE

(As related to safety): Employee

SUMMARY: Good safety practices and incident prevention is the responsibility of every Brieser Construction Co. employee. Each employee is responsible to know and to follow the general provisions of the Company Safety Policy, the specific rules of their trade or work site and the rules enumerated below. The Employee has the authority to immediately stop any activity or procedure which is likely to result in an injury or property loss. Documentation is required from employees as proof that they are qualified to perform their job duties.

ALL EMPLOYEES WILL ABIDE BY THE FOLLOWING RULES:

1. Directly Reports to the assigned Brieser Construction Company Site Foreman or office manager.
2. Know, understand, and follow all Brieser Construction safety rules and host facility safety rules.
3. Seatbelts shall be worn by all occupants at all times whenever a vehicle is in motion.
4. All Brieser employees have the authority and obligation to stop any task or operation where concerns or questions regarding the control of Health, Safety or Environmental risk exist. The Stop Work Authority program is intended to promote safe work environments as monitored by the very people who perform the work, without the fear of retribution from the company or harassment from fellow workers. Any form of retribution or intimidation directed at any individual or company for exercising their right to issue a stop work authority will not be tolerated. Once a Stop Work Condition has been issued, no work will resume until all Stop work issues and concerns have been adequately addressed. Immediately report all injuries, incidents and near misses to your immediate supervisor.
5. Authorized drivers will report any collision or traffic violation while driving on company duties to the appropriate personnel.
6. Only perform tasks in the designated area that has been assigned by a Brieser Construction Company supervisor or his designee. If directed to do other tasks or similar tasks in a different area, obtain supervisor approval. Before any work can begin a task specific review (TSTI) must be completed.
7. Employees who will miss work must report by calling the office by 9:00AM of the day missed. Employees failing to report any absence after the third missed day are presumed to have abandoned their job.
8. Employees involved in a work-related incident, regardless of injury, are required to fill out and sign an Accident/Incident Report Form.
9. When an employee has work restrictions placed upon them by their doctor, they are to notify their immediate supervisor and follow these restrictions. Anyone not following their doctor's guidelines for safe work could be subject to immediate termination.

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		Revised:	2/21/2020
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	15
		Reviewed	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Job Descriptions		
CROSS REFERENCE:	None		

ALL EMPLOYEES WILL ABIDE BY THE FOLLOWING RULES continued:

10. Employees must provide and wear short sleeve shirts, long pants, and construction grade safety toed boots with a defined heel. Loose clothing or jewelry (especially rings) should not be worn.
11. Industrial head protective helmets meeting the requirements of the 2003 standard are classified as Type I for top protection. All hard hat components should be inspected daily for signs of dents, cracks, penetration, and any damage due to impact, rough treatment, or wear. In addition to everyday wear and tear, ultraviolet (UV) radiation can pose a problem for hats constructed of plastic materials. Damage caused by UV radiation is easy to spot: the hat will lose its glossy finish and eventually take on a chalky appearance. Further degradation could cause the shell to start flaking away. Once the effects of UV radiation are detected, the hard hat shell should be immediately replaced. Safety glasses must be always worn on all job sites. Appropriate gloves must be worn when doing construction activities. Ear plugs must be with you and ready for use. Your personal protection equipment must be on the job each workday.
12. Use safety glasses or goggles with a face shield during operations involving concrete breaking or cutting, metal chipping or cutting, welding, or grinding. A face shield used in acetylene cutting or welding must have the appropriate filter lens. A U.S. Safety Double Matrix face shield is required when using a grinder.
13. Properly care for, and be responsible for, all personal protective equipment (PPE). All PPE must be inspected by the employee prior to each use. Replace lost or damaged equipment. Protective clothing and PPE are provided by Brieser Construction Co. and must be worn in specific areas and when performing specific tasks. PPE will be issued upon employment and will be replaced with the return of the used or worn-out PPE. The purchase of safety toed boots and prescription safety glasses are the responsibility of the employee. Also please refer to Brieser's PPE Matrix sheet for help with required PPE for certain tools or equipment used.
14. During an emergency evacuation employee are to report to their supervisor at the pre-established safe re-grouping location.
15. Report all theft immediately to your supervisor. Mark all personal tools with your identifying mark. All theft will be prosecuted to the fullest extent of the LAW. Report any equipment owned by Brieser Construction that is unmarked to your supervisor.
16. The use of or being under the influence of intoxicating beverages or illegal drugs while on the job is prohibited. Violations will be subject to disciplinary action as outlined in the drug & alcohol policy. Prescription or over-the-counter drugs which may cause drowsiness must be reported to your supervisor.
17. Brieser Construction enforces the NASAP & DOT drug and alcohol policies. Screening for pre-employment, post-accident, or random as prescribed by the host facility or these policies are in effect at the time of hire.
18. Horseplay, practical jokes, harassment, and fighting shall not be permitted on the job or customer property, before, during and after work hours and is grounds for dismissal. In addition, fighting on Brieser Construction Property or Company functions shall not be permitted and is grounds for dismissal.

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ALL EMPLOYEES WILL ABIDE BY THE FOLLOWING RULES continued:

19. Some Brieser Construction Customers require contractor employees to stretch before working. At all other locations Brieser Construction Co. recommends stretching before work.
20. Be alert and keep out from under overhead loads.
21. Loads shall be secure and shall not exceed the manufacturer's specifications and legal limits for the vehicle.
22. All Brieser owned vehicles shall be of the correct size and used for its purpose.
23. Good housekeeping shall be practiced by all Brieser Construction Co. employees. Excess material shall be properly stacked and stored in a secure place. Protruding nails, wire, etc., shall be bent over, cut, or pulled. Debris shall not be allowed to accumulate in aisles, stairways or near ladders. Scrap should be properly disposed of, and tables and floors should not have clutter.
24. Gasoline must be stored and securely transported in proper labeled safety containers with flashback liners in place. Engines must be shut off and allowed to cool before refueling. No smoking anywhere near flammable liquids.
25. Compressed gas cylinders (Propane, Oxygen, Acetylene, etc.) must be secured in an upright position. When not in use, caps must be securely on. Oxygen and Fuel Gasses shall not be stored together unless they are on a transport cart.
26. Never operate any equipment unless all guards and safety devices are in place and in proper operating condition. Never operate or use equipment unless properly trained as per the Equipment Safety & Training Manual. All Safety Warning Labels must be legible.
27. Verify all tools are in safe working condition. Never use or repair defective tools or equipment.
28. Report all defective equipment to your supervisor to be tagged and taken out of service. Do not use altered or manmade tools and lifting devices without the approval from the safety manager.
29. Machinery shall be properly oiled, cleaned, adjusted, refueled, and operated only by qualified operators. Only qualified personnel are allowed to make repairs and all machinery and equipment must be shut off, locked out and/or tagged out before maintaining or repairing. No person shall ride any boom, forklift, or material handling equipment except operator. Riding in the rear of the pickup truck is prohibited.
30. All Brieser vehicles shall be maintained in safe working order. An inspection shall be conducted daily or before use to determine if the vehicle is safe for operation.
31. When performing operations that may produce a spark or ignition source including burning and welding, concrete cutting and breaking, metal chipping and cutting, and grinding, a 20lb fire extinguisher must be close at hand at all times and a hot work permit must be issued. Only qualified persons shall weld and torch and each shall wear protective face shields, eye protection and appropriate clothing (no polyester). Training and review of welding and torching operations and hot work permit procedure are to be provided on each job by the Supervisor. Electrical tools that during operation do not create sparks can be used in non-hazardous areas without a hot work permit.

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ALL EMPLOYEES WILL ABIDE BY THE FOLLOWING RULES continued:

32. Scaffold units are to be used in preference to ladders. Step ladders shall be used only in the open and locked position. The last step prior to the top will never be used. Place ladders on a substantial base and do not use ladders with broken, split, or missing rungs or rails. All access ladders are to extend at least three feet above the landing platform and be securely fastened. Proper ladder placement is: 4:1 height/base. All ladders must be inspected daily prior to use and inspection sticker dated and signed. Jumping off any ladder, scaffold or from any height is grounds for dismissal. While ascending any ladder the three-point contact rule (2 hands - 1 foot; 2 feet - 1 hand) must be used. Use a rope to lift tools.
33. Elevated work platforms are to be used by Brieser Construction Co. employees ONLY. Only companies with written approval at the office may use scaffolding erected by Brieser Construction Co.
34. Lift correctly, using your legs to take the strain. Turn by placing the proper foot into direction of the turn (do not twist with the back). Lock your lower back curve; tighten stomach muscles before you lift. Stretch your muscles before lifting.
35. WALK. Never Run. Be cautious when approaching swinging doors, corners, and congested areas.
36. Brieser Construction Co. has a Hazard Communication Program (HCP). The purpose of this program is to inform you of the hazards of the chemicals we work with to reduce chemical source injuries and illness. If you have a question about any chemical, we work with see your supervisor.
37. You must understand the supervisor's instruction. If you do not know how to do the job safely, ask your supervisor.
38. Never seek medical attention concerning a work-related injury or illness after work hours without first attempting to notify the President; Lexi Southall, (815) 955-3972 or V.P. of Operations; Mike Adermann, (815)405-3092.
39. If you are injured while not in Brieser Construction Co. employment, (ex. at home) that will affect your job performance, notify your supervisor.
40. If your state driver's license becomes suspended or revoked, or changes in your medical condition negate licensing this must be reported to your supervisor immediately.
41. All electrical cable, welding cables or hoses run across aisles and through work areas shall be covered or otherwise protected if subject to vehicle or equipment traffic. If possible, run cable and hoses overhead to minimize hazard. Hoses and cables across aisle ways must be taped. Barricaded or otherwise identified to prevent trip hazard.
42. Smoking is only permitted during breaks and lunch in designated areas. Smoking is not allowed while working.
43. Smoking is not allowed in company vehicles. Smoking is not allowed on company property except in designated outdoor smoking areas.

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ALL EMPLOYEES WILL ABIDE BY THE FOLLOWING RULES continued:

44. Illness and disease related to Bloodborne pathogens is transmitted through blood, and body fluids (i.e., semen, vaginal secretions, vomit, saliva, loose skin, and body tissue). Under no circumstances is a person to administer first aid or any other emergency care without proper training such as certified by American Red Cross or equivalent.
45. Due to the nature of our work overtime could be available. Any overtime that is offered is voluntary and will not affect your job as we recognize prior commitments or family events could prevent your ability to work overtime.
46. Never work more than 14 days in a row without a fatigue day. Notify your job foreman on your 13th day of working without a day off so a fatigue day can be scheduled. Working more than 14 days without a day off is grounds for dismissal. You are also responsible for notifying your job foremen if you are fatigued to the point of not being able to perform your job tasks. Your job is to notify your supervisor if you are feeling fatigued. The Supervisors job is to worry about job rotation schedules to control fatigue. Supervisory personnel will make safety critical decisions and take appropriate actions to prevent loss.
47. A job trailer or comparable area with chairs will be provided for workers to sit periodically and will provide periodic rest breaks for personnel.
48. Employees must not chronically use over the counter or prescription drugs to increase mental alertness. All Employees should refrain from taking any substance known to increase fatigue, including fatigue that sets in after the effects of the drug wear off.
49. If working a 4-10's work schedule and you change jobsite locations during the week, it is the employee's responsibility to inform the job foreman when you reach 40 straight time hours for the week.
50. Safely operating equipment and motor vehicles requires the operator's total attention. Equipment operators and drivers may not use cellular phones, communication devices and computers or perform distracting activities except when the equipment is stopped, or the vehicle is properly parked.
51. Employees must be physically fit to perform their work.
52. Any Brieser employee who has a Conviction record anytime during employment must notify V.P. of Operations, Mike Adermann. Conviction record is defined as information indicating that a person has been convicted of any felony, misdemeanor, or other offense, has been judged delinquent, has been less than honorably discharged, or has been placed on probation, fined, imprisoned, or paroled by any law enforcement or military authority.

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ALL EMPLOYEES WILL ABIDE BY THE FOLLOWING RULES continued:

53. The driver must not operate a vehicle at any time when his/her ability to do so is impaired, affected, influenced by alcohol, illegal drugs, prescribed or over-the-counter medication, illness, fatigue, or injury.
54. Drivers must abide by the federal, state, and local motor vehicle regulations, laws, and ordinances.

REMEMBER, you could prevent a serious incident to fellow workers if you warn them when you see them performing an unsafe act or observe an unsafe condition.

Violation of any of these rules may be cause for immediate disciplinary action. I have read and understand the rules stated above and accept them as a condition of continued employment.

Training Module/Class: _____

Date of Training: _____

I confirm that I received the training listed above. I listened, read, and understood the training. I understand that as an employee, it is my responsibility to abide by Brieser Construction Co.'s work rules, policies, and procedures.

If I have questions about the training, materials presented or any of Brieser Construction Co.'s work rules, policies, or procedures, I understand it is my responsibility to seek clarification from my supervisor.

Employee Signature: _____

Date: _____

Print Name: _____

Printed name of Trainer (s): _____

Employee Signature

Date

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DISCIPLINE AND ENFORCEMENT OF SAFETY RULES

This procedure is established to provide a mechanism for the discipline of employees who repeatedly violate safety rules. Safety rules are written and enforced to protect employees from injury and provide a "safe and healthful place of employment."

Supervisors are responsible for the enforcement of the safety and health program at Brieser Construction Co. In order to accomplish this, they must ensure that each employee is properly instructed in the use of safe equipment and safe work practices, warn employees when they violate a safety rule, and notify the safety manager of any employee who refuses to comply with the rules.

When an employee violates a safety rule, Brieser Construction Company will follow the discipline procedure below as deemed appropriate:

1. First offense – verbal or written warning
2. Second offense – written or three-day possible suspension without pay.
3. Third offense - within a 12-month period is grounds for immediate termination.

The listing of infractions and penalties above is intended only as a general guideline, and Brieser Construction Co. specifically retains the right to modify the penalties and/or impose the appropriate disciplinary action or other forms of discipline, based upon the specific circumstances involved in each individual case, including discipline or termination on the first offense.

Each written warning will advise the employee of the nature of the violation and the correct safe practice and procedure.

A copy of the violation will be provided to the employee, the employee's Supervisor, and the employee's personnel file.

The employee's termination papers will be noted that he/she has been terminated for violation of safety rules and is not eligible for rehire.

NOTE: DOCUMENTATION OF THE ABOVE ACTION IS NECESSARY TO COMPLY WITH GOVERNMENT REGULATIONS AND THE LABOR AGREEMENT.

EMPLOYEE WARNING RECORD				
WRITTEN ☐		INFO ONLY ☐		VERBAL ☐
Employee's Name			Payroll No.	
Date of Warning		Trade		Shift
VIOLATION			REASON FOR WARNING	
Date		Absence ☐		Safety ☐
Time		Tardiness ☐		Disobedience ☐
Place		Carelessness ☐		Other ☐
COMPANY REMARKS - Explain pertinent facts in detail				
EMPLOYEE REMARKS - Absence of statement by EMPLOYEE indicates agreement with this report.				
I have entered my version of the matter above				
Employee's Signature				Date
ACTION TO BE TAKEN				
PREVIOUS WARNINGS When and By Whom			I have read this "Warning Record" and understand it.	
1 st Warning			Employee Signature	
Date	Verbal ☐	Written ☐	Date	
2 nd Warning			Supervisors Signature	
Date	Verbal ☐	Written ☐	Date	
3 rd Warning			Signature of Witness	
Date	Verbal ☐	Written ☐	Date	
Distribution				
Original	Personnel Manager			
2 nd Copy	Employee			
3 rd Copy	Supervisor			

Personnel Manager to Scan/employee files/employee/confidential/mmddy Employee Warning Record

Job Descriptions Learning Exercise

Score:

%

Employees Name:		Date:	
Company:		Instructor:	
Trade:		Job Title:	

Answer each of the following questions by circling the appropriate letter.

1. The Brieser Safety Director will monitor operations to assure compliance with applicable _____ and local safety regulations.
 - a. MSHA
 - b. NIOSH
 - c. NSC
 - d. OSHA
2. Despite what the organizational chart states, who is ultimately in charge of your safety?
 - a. Company President
 - b. Safety Director
 - c. Foreman
 - d. You
3. Employees involved in a work-related incident, regardless of injury, are required to fill out and sign an Accident/Incident Report Form.
 - a. True
 - b. False
4. All PPE must be inspected by the employee prior to each use. Replace lost or damaged equipment. Protective clothing and PPE are provided by Brieser Construction Co. and must be worn in specific areas and when performing specific tasks. PPE will be issued upon employment and will be replaced with the return of the used or worn-out PPE. The purchase of safety toed boots and prescription safety glasses are the responsibility of the employee.
 - a. True
 - b. False
5. Brieser Construction does not enforce the NASAP & DOT drug and alcohol policies.
 - a. True
 - b. False
6. At the end of your New Hire / Orientation class you are asked to sign a form stating you understand and will follow all the rules and procedures within this policy.
 - a. True
 - b. False

Job Descriptions Learning Exercise

Answer Sheet

1. The Brieser Safety Director will monitor operations to assure compliance with applicable _____ and local safety regulations.
 - a. MSHA
 - b. NIOSH
 - c. NSC
 - d. OSHA**
2. Despite what the organizational chart states, who is ultimately in charge of your safety?
 - a. Company President
 - b. Safety Director
 - c. Foreman
 - d. You**
3. Employees involved in a work-related incident, regardless of injury, are required to fill out and sign an Accident/Incident Report Form.
 - a. True**
 - b. False
4. All PPE must be inspected by the employee prior to each use. Replace lost or damaged equipment. Protective clothing and PPE are provided by Brieser Construction Co. and must be worn in specific areas and when performing specific tasks. PPE will be issued upon employment and will be replaced with the return of the used or worn-out PPE. The purchase of safety toed boots and prescription safety glasses are the responsibility of the employee.
 - a. True**
 - b. False
5. Brieser Construction does not enforce the NASAP & DOT drug and alcohol policies.
 - a. True
 - b. False**
6. At the end of your New Hire / Orientation class you are asked to sign a form stating you understand and will follow all the rules and procedures within this policy.
 - a. True**
 - b. False



Section 4
Safety Health
and
Environmental
Manual

2025

**Job Hazard Analysis & ~~Incident Reporting~~
Permitting (Under Revision to separate Incident
Reporting and Investigation.)**

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/2010
		Revised:	10/31/2017
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		Reviewed:	12/17/24 KMC
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CROSS REFERENCE:	OSHA Publication 3071 Job Hazard Analysis 2002 (revised) 29 CFR 1904 Reporting fatalities, hospitalizations, amputations, and losses of an eye because of work-related incidents to OSHA.		

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JOB HAZARD ANALYSIS & INCIDENT REPORTING

PURPOSE

The purpose for this procedure is to establish guidelines to notify management personnel in writing about conditions that appear hazardous, to identify potential hazards before a job task is started and for reporting and investigating incidents.

An incident includes:

- A serious or minor injury or occupational illness to a Brieser Construction Company employee.
- A serious or minor injury or occupational illness to a non-employee or visitor.
- Property damage to Brieser Construction Company equipment.
- Property damage to non-company property or equipment involving a Brieser Construction Company employee.
- Damage or structural failure to a building.

All incidents must be reported to the Company President immediately.

Brieser Construction and its management provide the absolute best care possible. The company also pledges that any incident reported immediately will be free from discipline and reprisal. We are fanatical about continually improving our safety culture and if we do not take the opportunity to gain experience from incidents, we would defeat the purpose of our culture here at Brieser. We encourage every employee to report all incidents willingly and purposely.

We do not look at incidents as a failure but an opportunity to improve.

This procedure is to be followed by all Brieser Construction employees when reporting and investigating all incidents involving; Illness, Significant Near-Misses, Near-Hits, First Aid and Medical Clinic Treatment, Environmental Spills and/or Releases, Property Damage, Fire or Explosions and Vehicle Incidents.

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RESPONSIBILITIES

The Program Administrator: Brieser President

This person is responsible for:

- Issuing and administering this program and making sure that all employee complaints, suggestions, hazard concerns and incidents are addressed and completed.
- Entering data into the Safety Initiatives form. This form is used to assign responsible parties and track completion of any items listed in this policy.
- Ensuring that employees receive initial and annual training on the proper use of all forms presented in this policy.
- Maintaining records of all forms used in this policy including details of all incidents.

The Program Manager: Human Resources Manager

This person is responsible for:

- All medical records are kept on a need-to-know basis and are in a locked file or protected file.
 - **Serious Injury or Illness**
 - Notify injured employee's family or next of kin.
 - Notify the customer where the incident occurred.
 - If a fatality occurs or 3 or more are hospitalized, verbally notify OSHA within 8 hours provide written notification 1-800-321-OSHA or the local area office.
 - Within twenty-four (24) hours after the in-patient hospitalization of one or more employees or an employee's amputation or an employee's loss of an eye, because of a work-related incident, you must report the in-patient hospitalization, amputation, or loss of an eye to OSHA.
 - By telephone to the OSHA toll-free central telephone number, 1-800-321-OSHA (1-800-321-6742).

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○ **Minor Injury or Illness**

- Provide job foreman with further instructions.
- Notify company doctor of injuries. Physicians Immediate Care is our local Occupational Health and Medical Facility
- Notify the customer where the incident occurred.

○ **All Incidents**

- Gather Supervisor's Incident Investigation Report and all other supplemental reports.
- Initiate the Incident/Near Miss Checklist spreadsheet.
- Complete any additional reports or paperwork requested by the customer and route to the customer within 24 hours.
- Conduct additional investigation and complete any additional investigation reports that may be needed including the "Incident Alert Report."
- The Incident Alert is a document that will be prepared by the Brieser Safety Department after every incident. This document addresses the root cause and offers lessons learned. It is then emailed to the entire workforce and is discussed at the job site as part of a morning toolbox talk.
- Obtain a clear diagnosis of ALL complaints, as well as an evaluation as to the possible connection to the incident history from the treating physician. Any alleged injury, which does not appear medically possible in relationship to the event, will be carefully analyzed and reviewed with the treating physician.
- Update Incident Review worksheet.
- Follow up with the insurance company regarding the injured employee weekly.
- Verify that the customer has all information needed.
- Review Supervisor's Incident Investigation Report and all other supplemental reports and completes the Illinois Form 45

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○ **All Incidents continued.**

- If incident results in the loss of more than 3 days from work, send the Form 45 to the Illinois Industrial Commission
- Send information to the insurance company with a copy to the agent.
- Set up individual incident report file.
- Within 6 working days from incident log all recordable injuries or illnesses on the OSHA 301, 300A and 300 Log and keep for 5 years.
- Orally report to OSHA the death of any employee from a work-related incident or the in-patient hospitalization of three or more employees as a result of a work-related incident within eight (8) hours.
- Send additional reports, doctor bills, etc. to the insurance company and agent.

Project Managers, Superintendents/Foreman

These people are responsible for:

- Knowing the hazards in their work areas and reviewing TSTI's before job start.
 - Assuring those safe operations are maintained within their departments to prevent injuries.
 - Enforcing that TSTI's is completed by the work crew at the job site before any tasks are performed.
 - Report all incidents to the President immediately.
 - Determine the severity of the injury.
- **Serious Injury-** An injury that could result in mortality, such as body disfigurement, loss of limb or body part or renders the employee incapacitated.
- **THE FIRST CONCERN** at the incident scene is to care for the injured person. Secure the incident scene and provide initial care for the injured person. **DO NOT MOVE A SERIOUSLY INJURED OR UNCONSCIOUS PERSON** unless he/she is in further danger.
 - If serious injury or illness occurs at an industrial site request an ambulance or other emergency services response team from the host company.
 - If a serious injury or illness occurs at other locations, call for an ambulance.
 - Communicate the exact location on the job site where the injured person is located.

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- **Serious Injury continued**
 - Provide general information regarding the nature of the injury (shock, amputation, fall, etc.) to the emergency responders when the call is made.
 - Assign someone to secure access to the injured employee and to meet the emergency responders at the job entrance to guide them to the injured employee.
 - Protect other employees and property.
 - Notify the President ASAP office (815) 521-0900
 - Secure the incident scene and complete a thorough investigation.
- **Minor Injury** - Minor injury or illness incidents include cuts and muscle strains which do not impair the ability to work. These injuries involve first aid treatment and must be reported.
 - Assure that first aid treatment is provided.
 - Notify the President for further instruction office (815) 521-0900
 - Do not allow the injured employee to leave the jobsite alone.
 - Secure the incident scene and complete a thorough investigation.
- **Preparation & Investigation**
 - Posting Emergency Telephone Numbers.
 - Assuring that the first aid kit remains on site and is stocked.
 - Report all incidents and injuries to the Brieser President.
 - Determine severity of injury
 - Complete as many steps as possible outlined in the Incident Investigation section of this procedure.

Employees

These people are responsible for:

- Participate in the preparation of the TSTI each day.
- Report all incidents to your supervisor immediately.

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HAZARD IDENTIFICATION

How do I identify workplace hazards?

A job hazard analysis is an exercise in detective work. Your goal as an employee and any subcontractor under Brieser control is to discover the following:

- What can go wrong?
- What are the consequences?
- How could it arise?
- What are other contributing factors?
- How likely is it that the hazard will occur?

To make your job hazard analysis useful, document the answers to these questions in a consistent manner on the backside of your TSTI. Describing a hazard in this way helps to ensure that your efforts to eliminate the hazard and implement hazard controls help target the most important contributors to the hazard.

Good hazard scenarios describe:

- Where it is happening (environment),
- Who or what it is happening to (exposure),
- What precipitates the hazard (trigger),
- The outcome that would occur should it happen (consequence), and
- Any other contributing factors.

Please reference the backside of the Brieser TSTI. Risk Assessment is the evaluation of the chance of injury, illness, or disease resulting from exposure to a particular form of matter or energy. Simply put, now that you have completed your TSTI for your job task, we are asking that you implement one more layer of safety and that is assigning your task a Risk Assessment Code.

RISK=PROBABILITY OF EVENT AND SEVERITY OF OUTCOME.

First ask yourself and your team what is the hazard to occur on this job?

An example out in the field for Brieser would be the task of installing concrete forms inside an excavation. Here let us consider lacerations due to the amount of wood cutting, use of hammers (line-of-fire) and use of knives as our risk or injury that could happen. Now ask how severe a laceration would be if it occurred (given the fact that you are following all the action items listed in the TSTI) let us rate this "Marginal" under the severity codes. Secondly ask what the probability a cut/laceration will occur is. Again, implementing all the TSTI action items let us select "Unlikely" under the Probability Code. This is saying that if a cut incident happened it would be anywhere from a First Aid to Lost Work, but we are not anticipating this happening because I have all my hazard corrections in place. You would then cross-reference the two codes and I produce "Low."

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What do the codes mean? In the upper right-hand corner of the chart lists these codes along with a brief explanation.

H=HIGH - Operation is not permissible. This means the job is at such an elevated risk that work cannot start until Brieser's Safety Director assesses the job. This job cannot be performed safely.

S=SEVERE - High Priority Remedial Action. Again, this job cannot stop, until Brieser's Safety Director assesses the job. The crew and the Safety Director will re-assess this job and see if a safer way can be established. A job listed as Severe may be re-classified as Medium and work would then be permitted.

M=MEDIUM - Take Action. This means that a job task must be evaluated by a Brieser Foreman, Superintendent or Safety to proceed with work.

L=LOW - Acceptable. This means no further evaluation is needed beyond normal TSTI functions.

TSTI (Total Safety Task Instruction)

Brieser Construction employs a hybrid Job Hazard Analysis. This hybrid is called the TSTI (Total Safety Task Instruction) the TSTI is completed at the work site by the work crew. The form will be completed at the start of each day; all hazards shall be identified and mitigated prior to job start. Also, the TSTI must be reviewed and updated if needed; at any point in the day when a new activity is undertaken and at any point in the day when new conditions effecting the execution of the work are evident. The TSTI form must be reviewed if a new crew member is assigned to the work activity after the work has started. Since the TSTI quality is a pro-active leading indicator of performance, Brieser's Safety Department and site supervision will be evaluating the TSTI quality on an ongoing basis.

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TSTI Quality Evaluation Form

The TSTI Quality Evaluation Form is a leading indicator used at Brieser Construction to ensure a consistent delivery of information across the company that is needed to complete each task while achieving the lowest possible risk of injury.

WORKING ALONE

In some circumstances, it may become necessary to assign a Brieser employee a task that will be performed alone. One instance would be the need to have an employee fuel generator used to power portable heaters to keep freshly poured concrete within customer specification. All situations cannot be identified therefore it is Brieser's policy that the Brieser TSTI or equivalent job hazard analysis shall address hazards and identify control measures to minimize risk associated with working alone. This jobsite analysis shall be reviewed with the V.P. of Operations before any employee can Work Alone.

If permission is granted the following rules shall be followed and noted on the TSTI.

- Workers must carry a cellular phone or electronic monitoring device always while working alone.
- A check-in/check-out process where employees are monitored or contacted at regular intervals will be identified.
- The TSTI must address an individual or job title responsible for check-in with the lone employee at regular intervals. The program must address a backup form of communication in the event primary correspondence is unavailable as well as documentation including employee status at the check in intervals.
- The TSTI must specify procedures for emergency response including provisions for contacting appropriate local officials. The TSTI shall identify specific criteria to determine when an employee search is necessary.

Training

All Brieser employees receive training in the hazard identification & correction process via the TSTI worksheet and continuing education in the field through auditing and use of the TSTI evaluation form located within this policy. All safety equipment including the use and care of proper PPE are covered via the Brieser Equipment Training located online at www.brieserconstruction.com.

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INCIDENTS

Minor Incidents

If an employee is involved in a personal injury or occupational health incident that results in minor injuries or illnesses, a Brieser Construction Co. Supervisor shall assure that effective first aid or medical treatment is provided. Under no circumstances is a person to administer first aid or any other emergency care without proper training such as certified by Red Cross or equivalent. Notify President after first aid or medical treatment is provided, the Supervisor's Incident Investigation Report must be completed and delivered to the President's office the day of the incident.

Serious Incidents

After the employee has been provided with urgent medical care, the Supervisor must contact Lexi Southall, President to assure that all necessary personnel are properly notified. The next step is to complete the Supervisor's Incident Investigation Report completely. The form must be delivered to the President's office on the day of the incident. It is essential that the Supervisor's Incident Investigation Report be completed accurately with all the information that is requested.

Property/Equipment Damage or Vehicle Incident

Initiate steps to bring incident under control. If incident occurs at an industrial site request the emergency services response team from the host company. If incident occurs at other locations, call for necessary emergency services. Take necessary steps to prevent additional damage to property or equipment. Follow the same reporting and investigation protocol as outlined in this policy for a Serious Incidents. The next step is to complete the *Supervisor's Property/Equipment Incident Report*. The form must be delivered to the President's office on the day of the incident. It is essential that the Supervisor's Incident Investigation Report be completed accurately with all the information that is requested.

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INCIDENT INVESTIGATION

Incident investigation must be fact finding, not fault finding. The purpose is to learn the true cause of the incident so that similar incidents can be prevented and to determine facts bearing on legal liability. Another purpose of the investigation or fact finding is to prepare accurate documentation in case of litigation. Incident investigation must be initiated as promptly as possible, following the incident and corrective actions shall be documented and maintained for 5 years. Personnel must be trained in their roles and responsibilities for incident response and incident investigation techniques. All personnel involved in incident response must be trained in First Aid/CPR. Brieser Construction will supply the incident team with all the necessary equipment to complete a throughout investigation. Equipment may include the following items: pens/paper, tape measures/rulers, cameras, small tools, PPE, and this section of the safety manual.

KEY POINTS TO REMEMBER

- Get medical attention for all injured parties and notify the President immediately.
- Protect the scene's physical evidence.
- Remove all damaged or faulty equipment or materials and preserve for further investigation.
- Take photographs or videos of incident scene and mark them noting the date, area, description, and name of person taking the photo.
 - **NOTE:** *No photographs shall be released to any third party, insurance company, vendor, lawyer, subcontractor, or owner without authorization of the Brieser Construction Co. legal counsel.*
- Obtain the names, addresses, and phone numbers of all witnesses.
- Keep the press and news media as far away from the incident scene as possible.
- No Employee shall make any statements to the media.
- The ONLY person to make a statement for Brieser Construction Company shall be the President.
- Submit all investigation reports to the President the day of the incident.
- Thorough, complete, and careful investigation of the incident and preparation of the report will reduce the time needed for further investigation and reduce the probability of a similar incident in the future.

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Routine Transport of employees to the Occupational Health and Medical Facility- Physicians Immediate Care

- The directions to the medical clinic must be posted at the trailer or readily available for all employees to see.
- A Company vehicle will be used as first aid transportation from the plant to the doctor's office, clinic, or hospital. All employees are treated at the Occupational Health and Medical Facility unless it is life or limb threatening.
- Employees are not permitted to leave the jobsite without the President's approval or to provide their own transportation for the initial visit to the doctor for a job-related injury.

Emergency Transportation

The following guidelines are to be followed for emergency transportation:

- Supervision within Brieser Construction Co. will decide what type of transportation will be used. If medical attention is necessary during transport, an ambulance will be used. If there is any doubt, an ambulance will always be the first choice. The ambulance phone number is posted at the jobsite or call 911.
- The hospital emergency room or the clinic will be notified when the transportation vehicle leaves the plant. All available information regarding the nature and extent of the injury or illness should be given to the emergency room staff.
- The injured employee will be accompanied by their supervisor or designee as directed by our President when being transported to a clinic or hospital (non-ambulance).
- The injured employees nearest relative must be notified by the President or designee after first aid has been rendered and he/she is on their way to the hospital.

Medical Protocol Procedure

- Contact: President at our office at (815) 521-0900. Workers' Compensation requires prior approval for benefits to be assigned. The President must be notified of any employee alleging injury or illness.
- Billing must be directed to our office attention President.
- All appointments must be followed by a phone contact with President regarding medical updates, scheduled treatment, the choice of provider of treatment, possible graded return to work (prior to full release), copies of job functional capacity evaluations, and any missed appointments.

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Medical Protocol Procedure continued

- When an employee returns from the physician, hospital, or clinic, he/she must present a medical release to return to work.
- Our primary medical provider has been contacted directly by the Director of Safety at Brieser Construction. An in person is arranged and the provider is given the details of this section, including Return to Work and OSHA recordkeeping rules. Other providers that are out of our local area are scrutinized by our WC Insurance broker who provides Brieser with a website to locate a preferred provider close to the jobsite.

Graded return to work

- Brieser Construction Company has written Job Descriptions for all positions. A functional capacity evaluation is on file for each job description.
- Graded increases in the return-to-work program are a routine aspect of all return-to-work cases.
- Brieser Safety Department ensures that modified work being offered is consistent with the medical restrictions listed by the health care provider. Workers must ensure that changes in the scope of the modified work must adhere to the medical restrictions. Modified work is temporary and should be managed with a goal to return the individual to full time work as soon as deemed medically fit.
- Modified work will be offered, wherever possible, to employees who are unable to return to their regular duties following a workplace injury or illness. The benefits of offering modified duty include, but are not limited to, reduced Workers Compensation costs, improved employee retention, enhanced employee morale, reduction in lost time days, and a strengthening of the company's relationship with its employees.
- Employees are informed of Brieser's Return to Work by communicating the company policy via a safety meeting or toolbox talk, reviewing the policy as part of the new employee orientation, and/or posting the policy in a conspicuous location at our jobsite trailers.
- Supervisors are made aware of the restrictions to ensure the modified work meets the physician's orders.

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Home & Other off the job injuries:

In the case of a home or other off-the-job injury, the employer may send an employee to be evaluated prior to his return to work.

Reporting of non-referred medical treatment

Employees who obtain medical treatment for alleged work-related injuries without being referred by the Brieser Construction Co. President should be aware that this MAY RESULT IN THE DENIAL of any claim for Worker's Compensation benefits and may be cause for discharge.

Near Miss Reporting

A **near miss** is an unplanned event that did not result in injury, illness, or damage – but had the potential to do so. Most safety activities are reactive and not initiative-taking. Many organizations wait for losses to occur before taking steps to prevent a recurrence. Near miss incidents often precede loss producing events but are ignored because nothing (no injury, damage, or loss) happened. Employees are not enlightened to report these close calls as there has been no disruption or loss in the form of injuries or property damage. Thus, many opportunities to prevent the accidents that the organization has not yet had are lost. Recognizing and reporting near miss incidents can make a major difference to the safety of workers within organizations. In terms of human lives and property damage, near misses are cheaper, zero-cost learning tools for safety than actual injury or property loss.

- An ideal near miss event reporting system includes both mandatory (for incidents with high loss potential) and voluntary, non-punitive reporting by witnesses. A key to any near miss report is the "lesson learned". Near miss reporters can describe what they observed of the beginning of the event, and the factors that prevented loss from occurring.
- The events that caused the near miss may be subjected to root cause analysis to identify the defect in the system that resulted in the error and factors that may either amplify or improve the result.
- To prevent the near miss from happening again, Brieser Construction must institute teamwork training, feedback on performance and a commitment to continued data collection and analysis, a process called continuous improvement.
- Near misses are smaller in scale, relatively simpler to analyze and easier to resolve. Thus, capturing near misses not only provides an inexpensive means of learning, but also has some equally beneficial spin offs.

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Near Miss Reporting continued

- Captures sufficient data for statistical analysis, trending studies.
- Provides immense opportunity for "employee participation," a basic requirement for a successful EHS Program. This embodies principles of behavior shift, responsibility sharing, awareness, and incentives.
- One of the primary workplace problems Near Miss incident reporting attempts to solve directly or indirectly is to try to create an open culture whereby everyone shares and contributes in a responsible manner. Near-Miss reporting has been shown to increase employee relationships and encourage teamwork in creating a safer work environment.

Reporting and conducting complete incident investigations for near misses is encouraged. This will allow identification of root causes and preventive measures to avoid similar more serious future incidents. Complete the Supervisor's Incident Investigation Report completely or for simpler Near Misses (i.e., those that would not warrant an in-depth investigation and is assigned to a Middle Manager of Brieser Construction) simply fill out the Near Miss Incident Alert Worksheet and turn into the office.

Filling out the Near Miss Alert Worksheet

This worksheet will be the responsibility of a Brieser Middle Manager, preferably where the Near Miss occurred. If a Middle Manager is not responsible for a site that the Near Miss is reported, then the V.P. of Operations will assign an alternate to complete this form.

Fill out the top of the form with the information asked.

- Describe where the Near Miss took place, include the date and time. Explain what happened and explain the possible injuries that could have resulted if this were not a Near Miss but rather an incident. Make-up a mock injury of sorts.
- Obtain permission from your customer and take digital photos of the scene to help explain to others within the organization what exactly happened. Number the pictures and explain what we are seeing in each photo.
- Lessons learned: What went right? Obtain all safety documentation such as vehicle inspections, JSA's, TSTI or any of the specialized permits Brieser uses. Examine these documents and determine what was done according to our safety paperwork. This could be the use of correct PPE as stated on the TSTI or that an Excavation permit was filled out properly satisfying all expectations listed. This section should explain what the individual(s) did right according to our established policy and procedures.

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- Lessons learned: Facts? This section should list only the facts of the Near Miss. What we know for sure should be listed here. A piece of equipment broke, or a procedure or policy was not followed.
- Lessons learned: What can we do to improve? This section should address any safety and health system that broke down or suggest a new system be put into place. This could be:
 - Engineering Controls-The first and best strategy is to control the hazard at its source. Engineering controls do this, unlike other controls that focus on the employee exposed to the hazard. The basic concept behind engineering controls is that, to the extent feasible, the work environment and the job itself should be designed to eliminate hazards or reduce exposure to hazards.
 - Engineering controls can be simple in some cases. They are based on the following principles:
 - If feasible, design the facility, equipment, or process to remove the hazard or substitute something that is not hazardous.
 - If removal is not feasible, enclose the hazard to prevent exposure in normal operations.
 - Where complete enclosure is not feasible, establish barriers or local ventilation to reduce exposure to the hazard in normal operations.
 - Work Practice Controls-Safe work practices include Brieser Construction's general workplace rules and other operation-specific rules. This will include policy from the safety manual, TSTI, permits, site specific safety plans or JSA's. Determine if our current work practice adequately protect people and the environment for the particular task our are investigating.
 - Administrative Controls-These measures include training, additional relief workers, exercise breaks and rotation of workers.
 - Personal Protective Equipment-When exposure to hazards cannot be engineered completely out of normal operations or maintenance work, and when safe work practices and other forms of administrative controls cannot provide sufficient additional protection, a supplementary method of control is the use of protective clothing or equipment. This is collectively called personal protective equipment, or PPE. PPE may also be appropriate for controlling hazards while engineering and work practice controls are being installed. Determine if the PPE involved in the Near Miss was defective, properly selected for the given task or perhaps maintenance of the PPE was misused.

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FIRST AID EQUIPMENT & SUPPLIES

Every Brieser Construction Co. facility, truck and job site will be equipped with a first aid kit. The Facilities and Equipment Manager shall check contents of First Aid Kit before putting into service. The Job Foreman shall check each First Aid Kit weekly and ensure expended items are replaced. The size and the contents of the first aid kit will be determined by Brieser Construction Co. Other medical and first aid supplies will be ordered as necessary for the employees' safety. Personnel of Brieser Construction Co. do not dispense medication. The first aid kit will be in a weatherproof container with individual sealed packages for each type of item and equipped with the following items as a minimum:

- Band aids - 3/4" and 1"
- Gauze - 1" and 2"
- Sterile pads - 3" x 3" or 4" x 4"
- Eye wash
- Antiseptic wipes or cleansing towelettes.
- Scissors
- Adhesive tape - 1"
- Gauze bandages - 1"
- Bandage compress - 4"
- Instant cold packs
- Breathing barrier
- Rubber gloves
- Biohazard Bag
- Large triangular bandages

BRIESER CONSTRUCTION CO.
SUPERVISORS PROPERTY/EQUIPMENT INCIDENT REPORT

EMPLOYEE NAME: _____	DATE OF HIRE _____
PAYROLL #: _____	TRADE: _____
CLAIM NUMBER: _____	DATE NOTIFIED: _____
DATE OF LOSS: _____	A.M./P.M. _____
TIME OF LOSS: _____	A.M./P.M. _____
INCIDENT LOCATION: _____	
DESCRIPTION OF INCIDENT: _____	
DESCRIPTION OF INJURY: _____	
CLAIMANT VEHICLE YEAR: _____ MAKE: _____ MODEL: _____	
COMPANY VEHICLE YEAR: _____ MAKE: _____ MODEL: _____	

WITNESS:

1. _____ Name _____ _____ _____ Address _____ Telephone _____	2. _____ Name _____ _____ _____ Address _____ Telephone _____	3. _____ Name _____ _____ _____ Address _____ Telephone _____

INCIDENT TYPE:

HEAD ON, TURNING, SIDESWIPE, REAR END, BACKING, OVERHEAD,
STATIONARY, INTERSECTION, PEDESTRIAN, OVERTURN, OTHER.

INCIDENT CAUSE:

FOLLOWING TO CLOSE, SPEED, TOO FAST FOR CONDITIONS,
IMPROPER/TURNING, BACKING, PASSING, TRAFFIC LANE, PARKING,
MISJUDGED CLEARANCE, UNSAFE LOADING/UNLOADING, NO UNSAFE ACT,
OTHER.

PREVENTABLE:

YES/NO, ALLEGED, NO EMPLOYEE INVOLVED, WAITING FOR REVIEW.

INCIDENT SITE:

COMMERCIAL, RESIDENTIAL, INDUSTRIAL, EXPRESSWAY, PARKING LOT

LIGHTING CONDITIONS:

DAWN/DUSK, DAYLIGHT, DARK/NO LIGHT OR ARTIFICIAL, N/A, UNKNOWN

**BRIESER CONSTRUCTION CO.
SUPERVISORS PROPERTY/EQUIPMENT INCIDENT REPORT**

WEATHER CONDITIONS:

_____ CLEAR, RAINING, SNOWING, SLEETING, FOG, OTHER, N/A, UNKNOWN.

CORRECTIVE ACTION TO BE TAKEN TO PREVENT RECURRENCE:

_____ DOCUMENTED VERBAL INSTRUCTION, RETRAIN, DISCIPLINE,
_____ TERMINATION, OTHER, NONE

DID EQUIPMENT MALFUNCTION? _____ **YES** _____ **NO; IF YES, DESCRIBE:** _____

DESCRIBE DAMAGE TO EQUIPMENT OR PROPERTY:

EMPLOYEE STATEMENT:

SUPERVISOR'S STATEMENT:

FOLLOW-UP ACTION:

SUPERVISOR'S SIGNATURE AND DATE

BRIESER CONSTRUCTION CO. WITNESS/INJURED INCIDENT REPORT

This form must be completed in full and sent to the President within 24 hours of injury. This report must be signed by the Foreman and Superintendent.

Brieser Construction Company is vitally interested in the health and safety of all employees. We, therefore, request your assistance in completing this report to help us prevent future incidents to yourself or your fellow employees.

Name of Injured Person: _____

Date of INCIDENT: _____ Hour: _____

Witness: _____ Job Title: _____

Department: _____ Supervisor: _____

Describe fully, in your own words, how the INCIDENT happened:

[illegible]

Recommendations (to avoid a recurrence)

(Date)

(Witness/Injured Signature)

**BRIESER CONSTRUCTION CO.
SUPERVISORS INCIDENT/INJURY INVESTIGATION REPORT**

EMPLOYEE NAME: _____	DATE OF HIRE: _____
PAYROLL #: _____	TRADE: _____
CLAIM NUMBER: _____	
DATE OF INCIDENT: _____	DATE NOTIFIED: _____
TIME OF INCIDENT: _____	A.M./P.M. _____
INCIDENT LOCATION: _____	
DESCRIPTION OF INCIDENT: _____ _____	
TYPE OF INCIDENT: ☐ NEAR MISS ☐ FIRST AID ☐ INCIDENT ONLY ☐ RECORDABLE ☐ LOST TIME ☐ ENVIRONMENTAL	
TIME LOST:	ESTIMATED ACTUAL
RESTRICTED:	ESTIMATED ACTUAL

WITNESS: PLEASE FILL OUT WITNESS/INJURED REPORT

1. _____ Name _____ _____ Address _____ Telephone	2. _____ Name _____ _____ Address _____ Telephone	3. _____ Name _____ _____ Address _____ Telephone

INCIDENT TYPE:

_____ FALL SAME/DIFFERENT LEVEL, STRUCK AGAINST/BY, OVEREXERTION,
CAUGHT BETWEEN, INHALATION, VEHICLE, ELECTRICAL, SLIP/TRIP, OTHER.

INCIDENT CAUSE:

NATURE OF INCIDENT:

_____ SPRAIN/STRAIN, CONTUSION, BURN, DISLOCATION, FRACTURE, HEART
ATTACK, HEARING LOSS, CUMULATIVE DISORDER, AMPUTATION
DERMATITIS, OTHER.

BODY PART EFFECTED:

_____ HEAD, FACE, EYES, EARS, NECK, SHOULDER, ARM, ELBOW, HAND WRIST,
FINGER, BACK, CHEST, HIPS, LEGS, KNEE, ANKLE, FOOT, TOES, MULTIPLE
BODY PARTS, INTERNAL ORGAN.

UNSAFE CONDITION? EXPLAIN:

UNSAFE ACT? EXPLAIN:

BRIESER CONSTRUCTION CO.
SUPERVISORS INCIDENT/INJURY INVESTIGATION REPORT

PREVENTABLE:

_____ YES/NO, ALLEGED, NO EMPLOYEE INVOLVED, WAITING FOR REVIEW

WAS PERSONAL PROTECTIVE EQUIPMENT APPLICABLE:

_____ YES/NO, EXPLAIN: _____

LIGHTING CONDITIONS:

_____ DAWN/DUSK, DAYLIGHT, DARK/NO LIGHT OR ARTIFICIAL, N/A, UNKNOWN

WEATHER CONDITIONS:

_____ CLEAR RAINING, SNOWING, SLEETING, FOG, OTHER, N/A, UNKNOWN

CORRECTIVE ACTION TO BE TAKEN TO PREVENT RECURRENCE:

_____ DOCUMENTED VERBAL INSTRUCTION, RETRAIN, DISCIPLINE, TERMINATION
_____ NONE, OTHER

EMPLOYEE STATEMENT:

SUPERVISOR'S STATEMENT:

FOLLOW-UP ACTION:

SUPERVISOR'S SIGNATURE AND DATE

**BRIESER CONSTRUCTION CO.
PHOTO MOUNTING SHEET**

Claim Number: _____
Date of Occurrence: _____

Date Taken: _____

By: _____

Description: _____

Date Taken: _____

By: _____

Description: _____

Claim Number: _____
Date of Occurrence: _____

[illegible][illegible]

BRIESER CONSTRUCTION CO. FIRST AID TREATMENT EXAMPLES

- Using a non-prescription medication at nonprescription strength (for medications available in both prescription and non-prescription form, a recommendation by a physician or other licensed health care professional to use a non-prescription medication at prescription strength is considered medical treatment for recordkeeping purposes).
- Administering tetanus immunizations (other immunizations, such as Hepatitis B vaccine or rabies vaccine, are considered medical treatment).
- Cleaning, flushing or soaking wounds on the surface of the skin.
- Using wound coverings such as bandages, Band-Aids™, gauze pads, etc.; or using butterfly bandages or Steri-Strips™ (other wound closing devices such as sutures, staples, etc., are considered medical treatment).
- Using hot or cold therapy.
- Using any non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc. (devices with rigid stays or other systems designed to immobilize parts of the body are considered medical treatment for recordkeeping purposes).
- Using temporary immobilization devices while transporting an INCIDENT victim (*e.g.*, splints, slings, neck collars, back boards, etc.).
- Drilling of a fingernail or toenail to relieve pressure or draining fluid from a blister.
- Using eye patches.
- Removing foreign bodies from the eye using only irrigation or a cotton swab.
- Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs or other simple means.
- Using finger guards.
- Using massages (physical therapy or chiropractic treatment are considered medical treatment for recordkeeping purposes); or
- Drinking fluids for relief of heat stress.

ANY TREATMENT BEYOND THIS FIRST AID LIST WOULD BE CONSIDERED MEDICAL TREATMENT AND MAY LEAD TO OSHA RECORDABILITY AND/OR RESTRICTED OR LOST TIME.

TSTI Quality Evaluation Form

Activity	1	2	3	4	5	Rating	Weight	Score
Task Assignment	Crew Assigned to a location without pre-discussion on task	Vague, difficult to clearly identify task or exact location	Clear, but not reviewed with all crew members	Clear review with all crew members	Clear review with all crew members, tested for understanding		1	0
Information Availability	Conducted or started without all required information				All required info avail. - Permit, dwgs., etc.		1	0
Location	Discussion outside of work location without pre inspection			Discussion outside of work location with pre inspection	Discussion at the work location with pre inspection of area		1	0
Interactive Discussion	Discussion without all crew members present - One person writing, others missing or engaged elsewhere	Discussion with most crew members present	All crew members present, no group discussion	Most crew members present, with group discussion	All crew members present, with a good, interactive group discussion		2	0
Hazard Identification	Generic items only: - PPE - Slips & falls - Weather - Pinch points	Generalized discussion related to work activities		Good hazard ID with interactive discussion - What could go wrong related to work steps	Excellent hazard ID w/ interactive discussion - What could go wrong related to work steps - Other trade impacts - Operations impacts - Worse case scenario		5	0
Documented Risks	Mostly generic: 4 Gas/ Monitor/Toxics - PPE - Slips & Falls - Pinch points			Somewhat generic but some distinct hazards included	Specific hazards clearly identified and documented . - "What if" - "Worst case" - "If this happens"		5	0
Documented Controls	Some attempt to document risk control. - Wear H2S monitor - Watch footing - Watch pinch points - Wear PPE			Somewhat generic but some distinct controls documented	Clear "instructional" controls documented which could include "stop and reevaluate"		5	0
							Score:	0

Evaluator: _____

Date: _____

Team Evaluated: _____

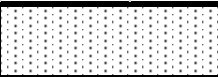
Company: _____

Comments: _____

Job Locations	☐ Exelon-Dresden	☐ Midwest Generation	☐ Caterpillar-Joliet	☐ Exxon Pipeline
	☐ Stepan Chemical	☐ Lyondell Chemical	☐ Aux Sable	☐ BP Pipeline ☐ Other _____

Scan: Safety/TSTI Quality Eval Form

Task									
Project			Location					Date	
Emergency Information								Date	
Evacuation Route			Alarm					Date	
Assembly Area			Tornado Shelter					Date	
Nearest Fire Ext.			Nearest Eye Wash					Date	
Task Hazard Checklist									
All items must be checked Yes or No. If Yes the hazard must be noted on JSA on back page. Item with an asterisk (*) need additional permitting									
Pre-Task Preparation									
Personal Protective Equipment			Surrounding Work Area Hazard			Inspection			
Yes - No	Gloves		Yes - No	Poor Weather		Yes - No	Right tool for the job	Yes - No	Barricades
Yes - No	DbI Hearing Protect		Yes - No	Overhead Electrical		Yes - No	Electrical Cords	Yes - No	Safety Mtg
Yes - No	Filtered Lens		Yes - No	Underground utilities		Yes - No	GFCI	Yes - No	First Aid Kit/BBP
Yes - No	Face Shield		Yes - No	Heat/Cold Stresses		Yes - No	Ladders	Yes - No	Drinking Water
Yes - No	DbI Mtrx Face Shield		Yes - No	Hot/Cold Objects		Yes - No	Power tools	Yes - No	Fire Extinguisher
Yes - No	Rubber Boots		Yes - No	Low Lighting		Yes - No	Hand Tools	Yes - No	Fall Protection*
Yes - No	Toe Clips		Yes - No	High Noise*		Yes - No	Mechanical Equip.	Yes - No	Respirators*
Yes - No	Fall Protection*		Yes - No	Sharp Objects		Yes - No	Rigging*	Yes - No	Scaffold*
Yes - No	Per. Monitor		Yes - No	Overhead Work*		Yes - No	Self Check -PPE	Yes - No	Excavations*
Yes - No	Safety Vest		Yes - No	Heavy Traffic*		Yes - No	Fuel Containers	Yes - No	Welding Equip.*
Yes - No	FR Coveralls		Yes - No	Adjacent Work*		Yes - No	Work Truck	Yes - No	MSDS Obtained
Yes - No	FR Sleeves/Jacket		Yes - No	Tight Spaces		Yes - No	Specialized Permits	Yes - No	Housekeeping
Jobsite Hazard Analysis Checklist									
Specialized Permits		Physical Hazards					Chem/Ergonomic Hazards		
Yes - No	Lockout/Tagout	Yes - No	Line of Fire	Yes - No	Flying Particles	Yes - No	Toxic/Corrosive		
Yes - No	Confined Spaces	Yes - No	Rotating Parts	Yes - No	Hazardous Energy	Yes - No	Excessive Dust		
Yes - No	Excavations	Yes - No	Fall Potential*	Yes - No	Hand Tool Hazards	Yes - No	Chem. Reaction		
Yes - No	Hot Work	Yes - No	Pinch Points	Yes - No	Power Tool Hazards*	Yes - No	Plants/Insects		
Yes - No	Rigging/Lifting	Yes - No	Struck by/Crushed by	Yes - No	Sharp Objects	Yes - No	Vibration		
Yes - No	PPE Matrix Review	Yes - No	Electrical	Yes - No	Holes,Pits,Shafts	Yes - No	Repetitive task		
Yes - No	Fall Protection	Yes - No	Unguarded Machinery	Yes - No	Uneven Surfaces	Yes - No	Fumes		
Yes - No	Respiratory Fit Test	Yes - No	Fire/Flammables	Yes - No	Radiation	Yes - No	Poor Posture		
Yes - No	Sound Level Survey	Yes - No	Excessive Force	Yes - No	Lifting	Yes - No	Carcinogens		
Yes - No	Scaffold								
TSTI Quality Review									
Stand backs (circle)	MTWTFSS	Name (Print)				TSTI Review (circle)	MTWTFSS	Name (Print)	
Yes - No	Sometime Before Break					Yes - No	Sometime Before Break		
Yes - No	Sometime After Break					Yes - No	Sometime After Break		
Yes - No	Sometime After Lunch					Yes - No	Sometime After Lunch		
Yes - No	Is the task assignment clear to all crew members?					Yes - No	Was this TSTI discussed at the task location?		
Yes - No	Are all permits attached to this TSTI?					Yes - No	All hazards identified understood by crew?		
Review for next day									
Yes - No	Is this TSTI being used for consecutive days?					Yes - No	Have I added or subtracted hazards from JSA?		
Yes - No	If above is YES have I reviewed and added date?					Yes - No	Did I discuss this TSTI with my crew		
Yes - No Will I be performing activities such as creating concrete or wood dust, welding/cutting/grinding, High noise									
If yes to the above question please contact Safety to schedule personal monitoring.									

JSA - Job Safety Analysis										
Job Steps				Potential Hazards			Actions to Eliminate or Reduce the Hazard			
H	Operation not permissible	Risk Assessment Code →					Severity Codes			
S	High priority remedial action						Catastrophic-Death or total disability			
M	Take Action						Critical- Disability in excess of three months			
L	Acceptable						Marginal - Minor injury, lost workday accident			
S e v e r i t y	Probability						Negligible - First aid or minor medical treatment			
		Frequent	Likely	Occasional	Seldom	Unlikely				
	Catastrophic	High	High	High	Serious	Medium				
	Critical	High	High	Serious	Medium	Low	Probability Codes			
	Marginal	Serious	Serious	Medium	Medium	Low	Frequent- Likely to occur repeatedly			
	Negligible	Medium	Medium	Low	Low	Low	Likely- Likely to occur several times			
							Occasional- Likely to occur sometime			
							Seldom- Not likely to occur			
							Unlikely- May assume exposure will not happen			
I acknowledge receiving these instructions, understand the instructions and fully comply with the assigned job task.										
Employee Signature				Employee Signature						

Near Miss Incident Alert Worksheet		
Date		Middle Manager Assigned to Manage this Near Miss
Site		Name:
EWGI	Contributors	Names:

Please refer to the Near Miss Reporting paragraph in Section 4 of the Brieser Safety Manual for an explanation of how to fill this report out.		
1. Describe when and how the Near Miss happened.		
2. Take pictures (email to: lsouthall@brieserconstruction.com)		
3. Lessons learned: What went right?		

Near Miss Incident Alert Worksheet		
Date		Middle Manager Assigned to Manage this Near Miss
Site		Name:
EWGI	Contributors	Names:

4. Lessons Learned: Facts- list only the facts of the Near Miss. The contributing factors.
5. Lessons Learned: What can we do to improve?

Near Miss Incident Alert Worksheet		
Date		Middle Manager Assigned to Manage this Near Miss
Site		Name:
EWGI	Contributors	Names:

ROUTING	SAFETY ADMINISTRATOR	Complete the <u>Brieser Incident Alert</u> and email to field
	SCAN	SAFETY/NEAR MISS REPORTING/MMDDYY-SITE-MIDDLE MANAGER



Section 5
Safety Health
and
Environmental
Manual

2025

Disaster Planning & Emergency Evacuation

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed	3/28/2008
		Revised:	01/31/2023
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PURPOSE

The purpose for this procedure is to identify organizational responsibilities needed to manage in the event of a disaster or emergency evacuation. This section also outlines the procedures to follow in the event of a fire, explosion, weather emergency or bomb threat.

ORGANIZATIONAL FUNCTIONS AND RESPONSIBILITIES

The Field Superintendent shall make the Emergency Action and Evacuation Plan available to all employees of every site. These plans will vary depending on the site. It will be the superintendents and the foreman's priority that these Emergency Actions & Evacuations plans are documented on each TSTI created. These plans should also be practiced on a regular basis at all of our nested facilities. This can be done independently or in conjunction with the site safety or emergency teams.

The Office Manager shall make the Emergency Action and Evacuation Plan available to all employees. Should the number of office employees fall to 10 or less the plan shall be reviewed orally with all employees. The office manager shall make available any contact information necessary for those employees needing further information on the evacuation plan or their respective duties within the plan. The Office Manager shall maintain a list of outside emergency services such as ambulance, hospital, doctors, fire department, police and other emergency services that may be necessary to call for assistance during a disaster or other emergency. This list shall be specific for each job site.

If an emergency develops at the office and shop, the Office Manager shall determine if there is a need for evacuation, give the order for the alarm to be sounded, direct the contact of emergency services, and manage evacuation activities. If an emergency develops at a work site, the Field Supervisor shall determine if there is a need for evacuation and follow the emergency procedures established by the host facility. If the host facility does not have established emergency procedures or if their procedures are not as comprehensive as the Brieser Construction procedures, the Field Supervisor shall take the steps necessary for the safety of our employees which may include giving the order for the alarm to be sounded, directing the contact of emergency services and ordering, and managing evacuation activities.

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Management shall direct the care and treatment of the injured until medical assistance arrives. Individuals trained in First Aid and CPR may provide aid to the injured until medical assistance arrives.

NOTE: Brieser Construction does not make administration of First Aid and CPR mandatory for any employee. Training will be provided to interested volunteers. The decision to provide aid to the injured rests on the trained First Aid and CPR responder.

Emergency telephone calls take priority during any disaster or emergency. All telephone receptionists shall maintain the switchboard and refuse incoming calls until directed otherwise by the Office Manager or Field Supervisor. Immediately following an evacuation, the Office Manager or Field Supervisor shall make an accounting for all their employees. The Office Manager or Field Supervisor shall expedite and manage the search for any missing employees.

The President shall direct, screen and approve all press releases and contact with the media.

WARNING SYSTEMS

Brieser Office – Fire Alarm

Employees are required to familiarize themselves with the emergency alarms maintained by the host facility. The alarm for the main office is an automatic and manually activated fire alarm.

Outdoor Warning Sirens – WILL COUNTY AREA

Probably the most common and widely recognized method of warning is using outdoor warning sirens. They are used by communities for a variety of purposes:

- **Testing** - (1st Tuesday of each month at 10:00 AM)
- **Alerting** - (members of a volunteer fire department of a fire)
- **Severe Weather**
- **Major Hazardous Material or Chemical Spill** - (in the local community)

During emergencies residents will hear a 3-to-5-minute steady signal of the sirens, horns, or other devices. When you hear the siren and are unsure what it is sounding for, **go indoors and tune your radio to one of the Emergency Alert System (EAS) Stations**, and listen for essential emergency information (see below).

DO NOT call local fire or police agencies to ask why the sirens are sounding. If it is an emergency, they are busy getting equipment and manpower to the emergency scene.

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Remember, outdoor warning sirens are just that, outdoor warning. The sirens are meant to be heard outside to signal you to go indoors and tune your radio or television station to the local Emergency Alert System (EAS) Station. As homes continue to become more energy efficient and sound proofing enhanced, outdoor warning sirens that once could be heard decades ago inside of a home can no longer be heard. That's why other means of warning are in place.

In Will County, an ALL-CLEAR signal is **NOT** sent. That's why it's important to monitor your local radio station during times of emergency for further information. Too much confusion trying to differentiate between the signals can result from issuing an "All Clear". No activation of sirens occurs for weather watches or "All Clear".

During times of severe weather, the National Weather Service issues a Severe Thunderstorm Watch or Tornado Watch for a six-hour period. The Weather Service may terminate a watch early if weather conditions change or the threat of severe weather no longer exists.

Severe Thunderstorm Warnings and Tornado Warnings are normally issued for a period of one hour. Warnings are usually allowed to expire on their own, without an early termination from the Weather Service.

In Will County, when you hear sirens sound in your community, tune to your local Emergency Alert System (EAS) station for further information. Primary EAS stations for Will County include:

WJOL – 1340 AM

WCCQ – 98.3 FM

WSSR – 96.7 FM

WRXQ – 100.7 FM

You may also want to have a Weather App installed on your phone so you can get the most up to date notifications on approaching or current weather situations. Examples are:

- WeatherBug
- MyRadar
- NOAA, etc.

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SHELTER-IN-PLACE

What is Shelter-In-Place? Shelter-In-Place simply means staying inside your home, business, or other facility, or seeking shelter in the nearest available building.

During an accidental release of toxic chemicals or emergencies involving hazardous materials where air quality may be threatened, Shelter-In-Place keeps you inside a protected area and out of danger.

WHEN SHOULD I USE SHELTER-IN-PLACE?

Local authorities are responsible for issuing orders for Shelter-In-Place during chemical or hazardous material emergencies. You may receive notice directly from police or fire officials, siren notification, telephone notification, or through radio or television broadcasts.

As soon as you are notified that an emergency exists in your area, tune your local Emergency Alert System (EAS) station for further information. Primary EAS stations for Will County include:

- WJOL (1340 AM)
- WSSR (96.7 FM)
- WCCQ (98.3 FM)
- WRXQ (100.7 FM)

Emergency information and steps to be taken will be broadcast regularly until the emergency is over.

If you are asked to Shelter-In-Place, take the following actions:

- Close and lock all doors and windows to the outside.
- Seal gaps around window-type air-conditioners, fireplace dampers, doors and windows with plastic sheeting, wax paper, aluminum wrap or any other suitable material and tape.
- Seal bathroom exhaust fans or fills, range vents, dryer vents, and any other openings to the best extent possible.
- Stay away from windows.
- Ensure that all ventilation systems are set to 100 percent recirculation so that no outside air is drawn into the building.
- If 100 percent recirculation is not possible, ventilation systems should be turned off.
- Again, remain in place until you receive notice from police or fire officials, or radio/television broadcasts that it is safe to leave.

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ASSEMBLY AREAS

Employees are required to familiarize themselves with the assembly areas and evacuation routes posted at the office and host facility. Office and shop employees are required to familiarize themselves with the assembly areas and evacuation routes posted in the office and shop.

GENERAL EVACUATION PROCEDURES

Upon hearing the evacuation announcement, employees shall shut down their equipment and discontinue the operation of any vehicle. Required personal protective equipment is to remain in use. Employees shall proceed quickly but in a safe and orderly manner to their assigned assembly areas and shall remain there, pending further instructions from their supervisor. The Office Manager or Field Supervisor shall take a head count and compare that number to employees that clocked in for that day's work. This is done to account for all of their employees.

If there is time, secure the building.

- Unplug appliances.
- Turn off natural gas, propane, or other fuel valves where they enter the building. In a flood hazard area, propane tanks should be secured to a structure.
- Turn off the main water valve.
- Take any actions needed to prevent damage to water pipes by freezing weather if this is a threat.
- Securely close and lock all doors, windows, and garage.

FIRE or EXPLOSION

- If a fire is discovered, report it immediately following the host company procedures if at a job site.
- Attempt to extinguish the fire if it appears to be controllable.
- Shut down equipment in your area, if possible.
- Evacuate to designated assembly point if instructed.

THUNDERSTORM SAFETY PROCEDURE

Know the terms used to describe severe thunderstorm threats:

Severe Thunderstorm Watch -- Severe thunderstorms are possible. Watch the sky and listen to the radio or television for more information. Be prepared to take shelter.

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Severe Thunderstorm Warning -- Severe thunderstorms are occurring. Take shelter. Turn on a battery-operated radio or television to receive warnings and severe weather statements.

- Employees shall seek shelter indoors during a thunderstorm when possible.
- Stay away from windows and avoid contact with electrical appliances, conductive surfaces, and structures. **Avoid using a corded telephone or other electrical appliances** until the storm passes.
- If instructed to take cover, stay away from windows, take shelter under sturdy benches or tables, sit with your head tucked between your legs and cover with arms.
- Employees driving during a thunderstorm must exercise extra caution. When poor visibility is encountered, the driver shall stop the vehicle until visibility improves. When lightning is in the immediate area, the employee shall seek shelter indoors, or remain in the vehicle away from interior metal parts. When high winds, or flooding accompany the thunderstorm, the employee shall seek shelter in an appropriate protected area.
- **If you are driving, pull safely to the shoulder away from trees and power lines.** Lightning can flash from trees or power poles and strike a vehicle. The rubber tires do NOT keep lightning from striking a vehicle. Normally, in the open, a vehicle is a safe shelter from lightning. Avoid touching metal parts of the vehicle when lightning is nearby.

TORNADO SAFETY PROCEDURE

Know the terms used to describe tornado threats:

Tornado Watch -- **Tornadoes are possible.** Watch the sky and listen to the radio or television for more information. Be prepared to take shelter. If you see any rotating funnel-shaped clouds, report them immediately by telephone to your local law enforcement agency.

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Tornado Warning -- A tornado has been sighted or indicated by weather radar. Take shelter immediately. Turn on a battery-operated radio or television and wait for updated information for your area.

- If a tornado watch/warning is in effect for the area, stay posted to a source of weather information, such as a local radio station.
- If a tornado is sighted nearby, sound the emergency alarm, or initiate an announcement over the facility phone or public address system.
- Open all doors and windows if time permits.
- Employees should evacuate to the tornado evacuation assembly areas or other safe areas. Stay away from windows and take shelter under sturdy benches or tables. Sit in the evacuation area; tuck your head between your legs and cover it with arms.
- If an employee is outdoors and unable to reach a designated evacuation area, lie flat on the ground in a low area or ditch and cover head with arms.
- If an employee is driving a vehicle, stop in a safe location, turn off the vehicle and exit it. If unable to reach a designated evacuation area, lie flat on the ground in a low area or ditch and cover your head with your arms. Be alert to potentially hazardous environments in low lying areas and ditches.

BOMB THREAT

- If a bomb threat phone call is received, remain CALM.
- Keep the caller on the line as long as possible. Ask the time the bomb is to explode, the location of the bomb and the possible reason for the threat. Show concern. Write the information down, if possible.
- If the caller is reluctant to tell where and when the bomb will explode, inform him of the destruction and possible deaths that could occur. Explain that it takes a long time to evacuate your facility and you want to first evacuate the area where the bomb is located to save lives.

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- You should attempt to identify background noises that may help determine where the call was made.
- Make an educated guess about the caller's voice, write it down.
 - Sex: Male or Female?
 - Age: Young, Middle Aged or Old?
 - Accent?
 - Race?
 - Under the influence of drugs or alcohol?
 - Is the voice familiar? If so, who does it sound like?
 - Note any background noises.
 - Try to keep the caller on the line, keep talking to him, don't hang up on him, and wait for him to hang up on you.
- Notify the Office Manager or Field Supervisor who will initiate the following steps:
 - Contact President immediately
 - Call local police and fire department.
 - Assure shutdown of all equipment if safe to do so.
 - Notify any other people on the property who are not company employees.
 - Order evacuation of the facility if deemed necessary.
 - Cease all radio transmissions within 1,000 feet of property.
 - Turn off natural and/or propane gas lines if possible.
 - Coordinate with police and fire to facilitate bomb search activities.

ACTIVE SHOOTER INCIDENT

All incoming new hires to Brieser Construction will go through active shooter awareness training. This training will be given via a short video and a discussion. The video and the discussion will cover the procedure written here:

HOW TO RESPOND WHEN AN ACTIVE SHOOTER IS IN YOUR VICINITY

Please note that some or all our contracted work sites may have similar or more stringent procedures for this type of incident. Please refer to these while on site. Quickly determine the most reasonable way to protect your own life. Remember that it is human nature to follow the leader and employees are likely to follow the lead of other employees and managers during an active shooter situation.

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Evacuate

If there is an accessible escape path, attempt to evacuate the premises. Be sure to:

- Have an escape route and plan in mind.
- Evacuate regardless of whether others agree to follow.
- Leave your belongings behind
- Help others escape, if possible
- Prevent individuals from entering an area where the active shooter may be.
- Keep your hands visible.
- Follow the instructions of any police officers.
- Do not attempt to move wounded people.
- Call 911 when you are safe.

Hide out.

If evacuation is not possible, find a place to hide where the active shooter is less likely to find you.

Your hiding place should:

- Be out of the active shooter's view.
- Provide protection if shots are fired in your direction (i.e., an office with a closed and locked door)
- Not trap you or restrict your options for movement.

To prevent an active shooter from entering your hiding place:

- Lock the door.
- Blockade the door with heavy furniture.

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If the active shooter is nearby

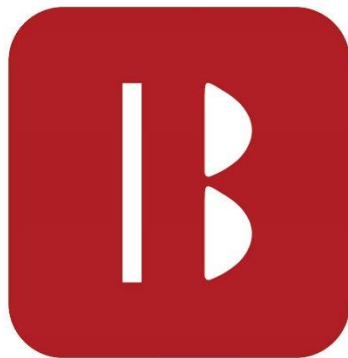
- Pull silent alarm (at office / if you are near)
- Lock the door.
- Silence (Do not just put on vibrate) your cell phone and other electronic devices.
- Turn off any source of noise (i.e., radios, televisions)
- Hide behind large items (i.e., cabinets, desks)
- Remain quiet If evacuation and hiding out are not possible:
- Remain calm.
- Dial 911, if possible, to alert police to the active shooter's location
- If you cannot speak, leave the line open and allow the dispatcher to listen.
- Take action against the active shooter as a last resort, and only when your life is in imminent danger, attempt to disrupt and/or incapacitate the active shooter by:
- Acting as aggressively as possible against him/her
- Throwing items and improvising weapons
- Yelling
- Committing to your actions

TRAINING AND DRILLS

Employees will be trained regarding these disaster and emergency evacuation procedures as part of their New Employee Safety Orientation. A review of this procedure will be provided to all employees annually in a safety meeting. If this procedure is changed significantly, the changes will be reviewed with all employees. An annual emergency evacuation drill will be administered by the Safety Department and will be held bi-annually unannounced.

Employees assigned to customer sites will be aware of the provisions of site-specific contingency/emergency plans and participate in drills.

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		Revised:	01/31/2023
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		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Disaster Planning & Emergency Evacuation		
CROSS REFERENCE:	Will County Emergency Management Agency		



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 5
DISASTER PLANNING & EMERGENCY
EVACUATION TRAINING**

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed	3/28/2008
		Revised:	01/31/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
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Disaster Planning & Emergency Evacuation Brieser Construction

Score %

Employees Name:
Date:
Company:
Instructor:

Answer each of the following questions “True” or “False” by circling the appropriate letter.

T	F	1. It is the responsibility of Field superintendents, foreman, and office manager to make the Emergency Action and Evacuation Plan available.
T	F	2. The lungs can tell the difference between clean air and contaminated air.
T	F	3. The two major types of respiratory hazards are oxygen deficiency and contamination.
T	F	4. Engineering controls can provide 100% protection against respiratory hazards.
T	F	5. Air-purifying respirators protect against oxygen deficiency.
T	F	6. Filters and chemical cartridges can be combined to protect against multiple respiratory atmospheres.
T	F	7. Air-supplied respirators supply uncontaminated breathing air from the surrounding atmosphere.
T	F	8. Demand-airflow respirators supply air only when the user inhales.
T	F	9. SCBA respirators can be used in IDLH atmospheres.
T	F	10. Tested and approved respirators can be identified by the letters “NIOSH/MSHA” on the facepiece.

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Disaster Planning & Emergency Evacuation

Brieser Construction

Answer Sheet

T	1. It is the responsibility of Field superintendents, foreman, and office manager to make the Emergency Action and Evacuation Plan available
F	2. The lungs can tell the difference between clean air and contaminated air. Lungs take in air whether it's contaminated or not.
T	3. The two major types of respiratory hazards are oxygen deficiency and contamination.
F	4. Engineering controls can provide 100% protection against respiratory hazards. In many situations, engineering controls aren't sufficient to remove all contaminants. In these situations, administrative controls and respirators may be needed.
F	5. Air-purifying respirators protect against oxygen deficiency. Air-purifying respirators only purify air; they do not supply it. In oxygen-deficient atmospheres, air-supplied respirators must be used.
T	6. Filters and chemical cartridges can be combined to protect against multiple respiratory atmospheres.
F	7. Air-supplied respirators supply uncontaminated breathing air from the surrounding atmosphere. Air-supplied respirators provide uncontaminated air from a source other than the surrounding atmosphere.
T	8. Demand-airflow respirators supply air only when the user inhales.
T	9. SCBA respirators can be used in IDLH atmospheres.
F	10. Tested and approved respirators can be identified by the letters "NIOSH/MSHA" on the facepiece. Tested and approved respirators can be identification number preceded by the prefix "TC" (for "Tested and Certified")



Section 6
Safety Health
and
Environmental
Manual

2025

Hazard Communication

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	11/2017
		Revised	03/20/20
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	11
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HAZARD COMMUNICATION PROGRAM

PURPOSE

The purpose of this plan is to establish a program and procedures for hazardous chemical substances at Brieser Construction. The company is passionately committed to providing each of its employees a safe and healthy work environment. It is recognized that various operations may require the use of or exposure to chemicals that have potentially hazardous properties.

This program supports compliance with the Occupational Safety and Health Administration's Hazard Communication Standard, as found in 29 CFR 1910.1200 and 29 CFR 1926.59. This program has been developed and implemented according to applicable standards. It contains a list of hazardous chemicals and describes how to use and maintain material safety data sheets (s) and labels. It will assist in ensuring that containers are labeled, and our construction and corporate facility workers are trained on the chemical hazards in the workplace. In addition, we will also provide this information to subcontractors involved in a specific project so that they may provide information and training to their employees.

This program applies to all company employees involved in work operations in which they may be exposed to hazardous substances under normal working conditions or during an emergency situation. Active employee participation in our Hazard Communication Program will result in the continued prevention of chemical-related illnesses and injuries at our company.

This program shall be made available, upon request, to employees, their designated representatives, the Assistant Secretary & the Director in accordance with requirements of 29 CFR 1910.20 (e).

DEFINITIONS

Ambient Temperature – The temperature of an environment surrounding a hazardous material.

Chemical – Any element, chemical compound or mixture of elements and/or compounds.

Combustible liquid – Any liquid having a flash point at or above 100°F (37.8°C), but below 200°F (93.3°C).

Common Name – The lay term used to identify a chemical. The common name can be a trade name, brand name, generic name or code name used to identify a chemical.

Container – Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel or storage tank that contains a hazardous chemical.

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DEFINITIONS continued

Engineering Controls – Specialized equipment, process and practices that can reduce employee exposure to hazardous materials.

Explosive – A chemical that causes a sudden, almost instantaneous release of pressure, gas or heat when subjected to sudden shock, pressure, or high temperature.

Exposure – Coming into contact with a hazardous chemical through inhalation, ingestion, skin contact or absorption.

Flammable – A chemical that falls into one of the following categories:

- Aerosol, Flammable - a gas that can project a flame over eighteen (18) inches at full valve opening, or a flashback (a flame extending back to the valve) at any degree of full valve opening.
- Gas, Flammable - a gas that becomes flammable when mixed with air.
- Liquid, Flammable - any liquid that can be ignited at less than 100° F (37.8° C)

Flash Point – The minimum temperature at which a liquid gives off enough vapors to burn.

Hazard Warning – Any words, pictures, or symbols (or combination of them) that appear on a label or other appropriate form of warning which conveys the hazards of the chemical(s) in the container(s).

Hazardous chemical – Any chemical, which is a physical or health hazard.

Health Hazard – Immediate or long-term harm to the body, such as an illness or disease, caused by exposure to hazardous materials.

Safety Data Sheet – Written or printed material from the manufacturer/distributor which has information about the hazardous chemical.

Oxidizer – A chemical other the blasting agent or explosive that initiates or promotes combustion in other materials, causing fire either of itself or through the release of oxygen or other gases.

Physical Hazard – Negative effects to the employee's physical surroundings as well as the employee's health, caused by exposure to hazardous materials.

Pyrophoric – A chemical that will ignite spontaneously in air at a temperature of 130 F (54.4 C) or below.

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DEFINITIONS continued

Threshold Limit Value (TLV) – The average concentration for a normal eight-hour workday and forty-hour workweek to which an employee may be repeatedly exposed, day after day, without adverse effect.

Toxicity Level – The amount of hazardous material that is necessary to cause harm to the body.

Unstable (Reactive) – A chemical which, under conditions of shock, pressure or temperature, will release heat or other energy, resulting in a hazardous condition.

Water Reactive – A chemical that reacts with water to release a gas that is either flammable or presents a health hazard.

Written Hazard Communication Program – The primary requirement of the OSHA Standard, which provides details about:

- The hazardous materials used at the workplace.
- The procedures used to collect and maintains.
- Proper labeling for containers.
- The content and methods for training and informing employees.
- How non-standard work practices will be conducted safely.
- How contractors and other non-employees will be informed of the hazardous materials within the workplace.

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RESPONSIBILITIES

The Program Administrator –Safety Coordinator

These people are responsible for:

- Maintaining the training records of all employees included in the training sessions.
- Reviewing and updating this program, as necessary.
- Maintaining a master file of the Chemical Inventory List and Material Safety Data Sheets.
- Issuing and administering this program and making sure that the program satisfies the requirements of applicable federal, state or local hazard communication requirements.
- Reviewing the safe use of new chemical products brought into the company.
- Providing initial and annual training of employees on the hazard communication program.
- Conducting random inspections within the corporate facility and at construction sites to ensure labels and SDS booklets or portable drives are in place.
- Reviewing and updating label information when necessary and ensuring that labels that fall off or become unreadable are replaced in a timely manner.

The Receiving Department – Equipment Manager

This department is responsible for:

- Reviewing incoming chemical materials to verify correct labeling.
- Holding chemical materials in the receiving area until receipt of the SDS for the product.
- Issuing chemical products and the SDS to requesting departments upon receipt of the SDS.
- Forwarding received SDS to the Program Administrator upon receipt of a hazardous chemical shipment.

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The Job Superintendent/Foreman

This person is responsible for:

- Making sure all site employees know how and where to reach the SDS information for their site and for the company.
- Immediately responding to any employee concerns and requests for information.
- Assessing the risks and providing training to employees on the use and storage of chemicals.
- Making sure that the SDS inventory is consistent and complete.
- Identifying hazardous chemicals used in non-routine tasks, assessing their risks, and providing appropriate training to control the risks.
- Review processes on the job site and provide training on hazardous chemicals to assure hazards have been properly addressed in employee training sessions.
- Keeping a file of the written program and the current SDS's in his/her vehicle, in the job site office trailer, or in the job gang box.
- Assure that hazardous chemicals in containers on the job site are properly labeled.

Employees

These people are responsible for:

- Staying alert to the potential hazards of materials in work area
- Consulting the Safety Data Sheets website for the specifics concerning the hazardous chemicals they work with.
- Following the appropriate work practices that have been established by the company.
- Employees will be aware of the client's contingency plan provisions including evacuation routes and alarms. Employees should participate in emergency evacuation drills and practice rescue procedures.

PROGRAM ACTIVITIES

General

- The work environment will be kept clean and safe from recognized health hazards to protect the health and safety of employees.
- Employees will be trained to recognize health hazards, to use appropriate engineering controls when possible, and to wear personal protective equipment.
- Efforts will be made to minimize the amounts of hazardous chemicals in the workplace, and to minimize employee exposure to such hazardous chemicals.

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General continued

- Each employee shall use a portable gas detector as required in all high gas hazard areas.
 - The gas monitor must be calibrated per manufacturer's recommendations and contain a current calibration sticker on the monitor providing the date of calibration.
 - Bump tests are required to be completed at the beginning of each day the monitor is in use, per the requesting client and manufacturer's guidelines, to ensure the monitor is functioning correctly.

HAZARD EVALUATION PROCEDURES

Brieser Constructions is not a chemical manufacturer, importer, or distributor. Therefore, the company is not required to assess the hazards or evaluate chemicals. The company will not generate SDS's. However, *Brieser Construction* will always evaluate to the best of our ability the potential health exposure of a particular chemical product before we decide to use it.

The Brieser management will be responsible for the evaluation of new hazardous chemicals that may be used in the workplace. The evaluation will be based upon the information contained within the respective SDS and how the chemical is used in the workplace.

Chemical Inventory

The company will rely on the manufacturer's hazard evaluation for all hazardous materials purchased. An alphabetized chemical inventory of all hazardous chemicals used by *Brieser Construction* will be made and maintained by the Program Administrators. The master Chemical Inventory List is located electronically online at Brieserconstruction.kha.com. Any employee may access this list either through the internet via typing in the address or using a phone to scan a QR code. These QR codes will also be printed on every TSTI along with being posted on every job site by a poster or vehicle magnet. You can download this SDS information to your phone to use in an offline or no internet connection area for quick review. The online site can be accessed by typing or clicking (if viewing this document on a computer) Brieserconstruction.kha.com. You can also scan this QR code here:



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It is the responsibility of the receiving department to forward an SDS received with a shipment of hazardous chemicals to the Brieser Program Administrator. This will be any member of the Safety Department. The Program Administrator will then reference the current chemical inventory to maintain and update the most current SDS, and to file the outdate ones. Each chemical on the list will have the most current SDS on file.

The full instructions on how to best complete this can be found on the Safety Department YouTube Channel. <https://www.youtube.com/watch?v=uBwQCyaBujE>

SDS SHEETS

The SDS's we use are fact sheets for chemicals which may pose a physical or health hazard in the workplace. SDS's provide our employees with specific information on the chemicals they use. A SDS containing the information required by the Hazard Communication Standard will be kept for each substance listed on the "Chemical Inventory." The SDS will be the most current one supplied by the chemical manufacturer, importer, or distributor. This inventory will be broken down into sections. These sections will be named for the specific sites we perform work at. Please note these are for our nested or larger work sites. If your site is not listed you can find all chemicals in the master list.

The Program Administrator is responsible for obtaining/maintaining the SDS's at our facility. He must be notified when a new chemical is added to the SDS library and clear all new procurements for the company. Anyone ordering a new product will first obtain a copy of the SDS from the supplier for review.

- The SDS will be reviewed by the Program Administrator.
- If the product is approved for purchase, the original copy of the SDS will be added to database located at Brieserconstruction.kha.com
- A copy of the SDS for the new product will be sent to the Job Superintendent/Foreman where the new chemical is to be used. It will then be the responsibility of the Job Superintendent/Foreman to assure that the SDS is included in the SDS book if applicable.
- If a request for an SDS is needed the mobile version is to be used. You will be able to scan the UPC barcode to see if an SDS exists in the Brieser library or the KHA database. If it not a quick photo of the UPC barcode and the front of the container showing the name of the product can be sent within the KHA app. KHA's people will then contact that manufacturer for the most updated SDS and can have it in our library within 24-48 hours.

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In addition, it is a condition of purchase that a hazardous chemical shipped directly from the manufacturer/supplier to the job site will be accompanied by appropriate SDS's. The standard requires the manufacturer or importer to determine if a material is covered under the standard. If there is a determination that a product is not covered, the purchase order will require a statement to that effect, and the statement will be available in the same manner that the SDS's are furnished. Upon receipt of the chemical, verification that an updated SDS has been received. That SDS then must be sent to the Safety Department for uploading to the brieserconstruction.KHA.com SDS site.

The Safety Data Sheets are kept at the following locations:

- Office of the Program Administrator /MSDS Online (Master Copy)
- Job Superintendent/Foreman (MSDS Online)
- Receiving Department

All employees working with chemicals can view copies of Safety Data Sheets for chemicals to which they are exposed on the site can quickly scan the QR code on the TSTI's or on the posters / magnets on each site.

LABELING OF CHEMICAL CONTAINERS

At a minimum, labels should list the chemical identity and appropriate hazard warnings. The chemical identity is found on the label, the SDS, and the chemical inventory. Therefore, the chemical identity links these three sources of information. The chemical identity used by the supplier may be a common or trade name, or a chemical name. The hazard warning is a brief statement of the hazardous effects of the chemical (i.e., "flammable," or "causes lung damage"). Labels frequently contain other information, such as precautionary measures (i.e., "do not use near open flame"), but this information is provided voluntarily by our company and is not required by the rule. Our labels are legible and prominently displayed though their sizes and colors can vary.

You can use the Brieserconstruction.kha.com website to print out a label for any chemical if it is missing one, or is in need of a new one due to wear or damage.

In addition to the manufacturer's labels, the Hazardous Material Identification System (HMIS III) and/or the National Fire Protection Association (NFPA) 704 System can be used on containers to describe health, fire, and reactivity hazards and the proper personal protection equipment (PPE) to be worn in normal handling of the chemical.

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HMIS is intended to be used by employers and workers daily and provides information on acute and chronic health hazards, flammability, physical hazard, and personal protective equipment. The system is preferred by Brieser Construction because the emphasis of *HMIS* on personal protective equipment and hazard communication make it the better choice for keeping employees informed about every day workplace hazards and how they can minimize exposure.

NFPA label information is intended for use by emergency response personnel (fire fighters, hazardous materials workers, police, etc.) under emergency conditions. Labels contain information on acute health hazards, flammability, physical hazard and special characteristics that might require special firefighting techniques, such as reactivity with water. This labeling system shall also be familiar to Brieser Construction personnel due to the ubiquitous nature of this system.



NFPA Color Code Warning System

There are many different color-code warning systems, but the most common is the National Fire Protection Association (NFPA) system. The NFPA system uses a diamond-shaped system warning symbol which has four color-code sections.

The top (red diamond) is the Flammability Hazard rating. The left (blue diamond) is the Health Hazard. The right (yellow diamond) is the Reactivity Hazard. And the bottom (white diamond) contains special symbols to indicate the properties and categories not explained by the other sections.

A number-based rating system is used within each section, ranging from 0- least dangerous to 4- extremely dangerous.

Health Hazard - Blue Diamond

Class Definition

0. Materials which do not present a health hazard.
1. Material which on exposure would cause irritation, but only minor residual injury even if no treatment was given.
2. Material which on intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical treatment is given.
3. Materials which on short exposure could cause serious temporary or residual injury even though prompt medical treatment was given.
4. Materials which on very short exposure could cause death or major residual injury even though prompt medical treatment was given.

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Flammability Hazard - Red Diamond

Class Definition

0. Materials that will not burn.
1. Materials that must be preheated to high temperatures before ignition can occur.
2. Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.
3. Liquids and solids that can be ignited under almost all ambient temperature conditions.
4. Materials which will burn readily, rapidly, or completely vaporize at atmospheric pressure and normal ambient temperature.

Reactivity Hazard - Yellow Diamond

Class Definition

0. Materials which, in themselves, are normally stable and which are not reactive with water.
1. Materials that in themselves are normally stable, but which can become unstable at elevated temperatures and pressure.
2. Materials which, in themselves, are normally stable, but which can become unstable at high temperatures and pressures and may react with water, with some release of energy, but not violently.
3. Materials which, in themselves, are capable of detonation or explosive reaction, but require a strong initiating source or which must be heated under confinement before initiation or which react explosively with water.
4. Materials which, in themselves, are readily capable of explosive detonation or of explosive decomposition or reaction at normal temperatures and pressures.

Other Hazard - White Diamond

W Use no water
Acid Acids
Base Alkalis, cyanides, Neutral salts
Oxy Oxidizing agents
Flam Flammable materials - Flammable Classes 2, 3, & 4
Rad Radioactive
Pyro Pyrophoric Gasses

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HMIS III System

The National Paint and Coatings Association (NPCA) developed the Hazardous Materials Identification System (HMIS) in order to provide employers with a tool designed to aid employers in the development and implementation of a comprehensive Hazard Communication Program.



HMIS involves:

- Hazard assessment.
- Labeling.
- Safety Data Sheets (SDS); and
- Employee training.

HMIS communicates hazard information through training and the use of colors, numbers, letters of the alphabet, and symbols that include pictograms of types of personnel protective equipment (PPE) and icons for Target Organs and Physical Hazards.

The program is based on a hazard rating scheme designed to be compatible with hazard communication systems of such organizations as American National Standards Institute (ANSI), National Institute of Occupational Safety and Health (NIOSH), U.S. Environmental Protection Agency (U.S. EPA), and National Fire Protection Association (NFPA) that are found in workplaces across the nation.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM	
HAZARD INDEX	PERSONAL PROTECTION INDEX
4 = SEVERE HAZARD 3 = SERIOUS HAZARD 2 = MODERATE HAZARD 1 = SLIGHT HAZARD 0 = MINIMAL HAZARD An asterisk(*) or other designation corresponds to additional information on a data sheet or separate chronic effects notification Additional Information	A B C D E F G H I J K X Consult your supervisor or S.O.P. for "SPECIAL" handling directions
PERSONAL PROTECTION EQUIPMENT	
A Safety Glasses n Splash Goggles o Face Shield & Eye Protection p Gloves q Boots r Synthetic Apron s Full Suit t Respirator u Vapor Respirator w Chem & Vapor Respirator y Full Face Respirator z Hearing Aid or Muffs	

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No hazardous chemicals will be accepted for use at the company unless labeled. Original chemical product containers or packaging containing hazardous chemicals will be labeled with the following information.

- Trade name or chemical name of the hazardous substance
- Name and address of the chemical product manufacturer
- Appropriate hazard warning in the form of words, pictures or symbols that convey the hazard of the substance in the container.
- Target organs affected by the chemical.

The Program Administrator and all Job Superintendent/Foreman are responsible for ensuring that all hazardous chemicals in containers are properly labeled. The Program Administrator and the Job Superintendent/Foreman also ensure that newly purchased materials are checked for labels prior to use.

The receiving/shipping department and the site Job Superintendent/Foreman are responsible for ensuring the proper labeling of any shipped containers.

The Program Administrator, Job Superintendent/Foreman, and the Receiving/Shipping Department will refer to the corresponding SDS to assist employees in verifying label information.

Brieser Construction employees shall not remove or deface existing labels. If an employee notices an unmarked container or defaced label, they shall report it to their Job Superintendent/Foreman or the Program Administrator, who will then label the container with the proper information.

Labels and other forms of warnings shall be legible and in English. If an employee does not understand English, the required information shall also be provided on the container in the native language of the non-English speaking employee if possible. It is the Job Superintendent/Foreman responsibility to ensure that compliance with this requirement is met.

LABELS ON PORTABLE CONTAINERS

If a chemical is transferred from a labeled container to a portable container that is intended only for their IMMEDIATE use by the employee who is going to make the transfer, no labels are required on the portable container. However, if the employee leaves the container unattended, or if the portable container still contains a hazardous chemical in it at the end of the work shift, the HMIS or NFPA labeling system and product identification must be placed on the container. These labels can be easily printed by following the directions on page 10 paragraph 2.

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CONTRACTORS

Contractors, vendors, and service personnel who have employees assigned to work on the job site or at the corporate facility in areas where accidental exposures to hazardous chemicals may exist must be informed of chemical hazards. In addition, the SDS sheet should be attached to their TSTI or equivalent form.

All contractor employees are also to disclose any hazardous substances they will bring onto any Brieser Construction work site. If any are brought onto the site, the contractor is to supply the proper labels and SDS information as required by the Hazard Communication Standard.

HAZARDS OF NON-ROUTINE TASKS

When employees are required to perform non-routine tasks or a new task that may have the potential to expose workers to hazardous chemicals, the employees will be informed of these hazards by the Site Job Superintendent/Foreman.

HAZARDS OF UNLABELED PIPES

We will inform employees of the hazards of chemicals contained in unlabeled pipes in their work areas. It will be the client's responsibility to inform *Brieser Construction* if such labeled pipes are located on a job site.

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TRAINING

Everyone who works with or is potentially exposed to hazardous chemicals will receive initial training and an annual refresher training pertaining to the safe use of those hazardous chemicals. Exposure means that "an employee is subjected to a hazardous chemical in the course of employment through any route of entry (inhalation, ingestion, skin contact or absorption, etc.) and includes potential (e.g., accidental or possible) exposure." Whenever a new hazard is introduced or old hazard changes, additional training will be provided.

When a Brieser employee is working at a customer's site. The site-specific plan shall be used to train on site specific gas hazards that are part of plant processes. A Gas Hazard awareness training shall be a part of the sites specific safety plan and administered to employees before initial assignment and annually thereafter.

- Gas Hazard Awareness training shall be documented and available for review. Gas Hazard Awareness Training is part of the Brieser Site Specific Safety Plan for the site Brieser is currently under contract. The title of the training shall be called: Brieser Site Specific Safety Plan for [Insert Your Sites Name]
- Gas Hazard Awareness training shall be documented and available for review and include at a minimum:
 - a) Locations of alarm stations
 - b) Gas Monitoring Equipment- portable and Fixed Detection
 - c) Gas Alarms
 - d) Gas Hazards- Characteristics of gases, to include oxygen deficiency, oxygen or nitrogen enrichment, carbon monoxide and hydrogen sulfide at a minimum. Hazard training must also include any plant or department specific gases of concern. Training must include signs and symptoms of overexposure.
 - e) Personnel Rescue Procedures
 - f) Use and care of PPE such as Self-Contained Breathing Apparatus (SCBA)- includes donning and emergency procedures (if applicable)
 - g) Evacuation Procedures
 - h) Staging Areas – Primary and Secondary

Information and training are a critical part of the Hazard Communication Program. We will train our employees to read and understand the information on labels and SDS's, to determine how the information can be obtained and used in their own work areas, and to understand the risks of exposure to the chemicals in their work areas as well as control measures to protect themselves. Input from employees is encouraged regarding the training they have received, and their suggestions for improving it. In this way, we hope to reduce any incidence of chemical source illnesses and injuries.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	11/2017
		Revised	03/20/20
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	11
		Reviewed	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Hazard Communication	
CROSS REFERENCE:	29 CFR 1926.59 Hazard Communication. 29 CFR 1910.1200 Hazard Communication		

TRAINING continued

Office employees who are not expected to work with or around chemicals will be provided awareness training. Those employees who handle or work around hazardous chemicals will receive more in-depth training.

TRAINING CONTENT

Training content is organized according to the types of hazards Brieser employees typically encounter in the workplace, as non-routine hazards arise, Brieser Superintendents/Project Managers will assess, and train as needed. Brieser specifically trains on the following hazards: Silica, Hydrocarbons; Benzene, Xylene, Hydrogen Sulfide or Toluene and Welding fumes. All training will be performed prior to performing work at Brieser using this policy as an aid. Prior to performing work means that training will be given by the crew leader utilizing the corresponding SDS before each day's task. This method ensures that the potentially exposed employee will receive both initial and periodic refresher training for the hazard they may encounter at the jobsite. The format of the training program used may include audio/visual aids, classroom lecture and discussion, and demonstrations. Training will emphasize the following elements:

- Summary of OSHA 29 CFR 1910.1200 & 29 CFR 1926.59 and Brieser Construction's written program.
- The names of the hazardous chemicals used in the work area, the characteristics such as appearance or odor of hazardous chemicals or gases when released in the work area, the physical hazards and health effects of chemicals, and the measures employees can take to protect themselves such as selecting the appropriate Personal Protective Equipment, Engineering & Administrative controls.
- How to use the company's labeling system and who to contact for additional information.
- Where SDS's are kept and how to use the portable hard drives.
- Work practices and engineering control procedures to minimize exposures.
 - Engineering controls such as ventilation or wet methods must be used to control silica-containing dusts.
- How to use, maintain, and properly select and inspect PPE such as gloves, coveralls, respirators and eye protection.
 - Personal protective equipment such as gloves, coveralls and eye protection should be used to control silica exposures.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	11/2017
		Revised	03/20/20
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	11
		Reviewed	12/17/24 KMC
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CROSS REFERENCE:	29 CFR 1926.59 Hazard Communication. 29 CFR 1910.1200 Hazard Communication		

TRAINING CONTENT continued

- Monitoring equipment needed at host facilities such as H2S personal monitors and portable atmospheric 4 gas type direct read instruments needed in high gas hazardous areas.
- New employees that will be exposed to hazardous chemicals will be trained prior to using them. In addition, if a new chemical is introduced, each affected employee will be given appropriate training and information regarding the chemical. Annual follow-up training will be given to all other employees covered under this standard.
- Records of training will be kept on file with the Program Administrator and will include the date of the session, the type of session, and a list of the topics covered.

ATTACHMENTS

- Chemical Inventory Sheet
- Hazardous Material Review
- Safety Data Sheet
- Sample SDS Letter
- Hazard Communication Training Record
- Hazard Communication Learning Exercise and Answer Sheet
- Hazard Communication SDS Learning Exercise and Answer Sheet

Hazardous Material Review

Company _____ Location _____ Department _____
 Work Area _____ Date Completed _____ Completed By _____

This form provides a review of labeling and safe use of hazardous chemicals.

- Conduct this review in each work area.
- List all chemicals used in the work area.
- Inspect all container labels for name, manufacturer/distributor, appropriate hazard warning and target organ.
- State specific action taken to correct deficiencies.

Chemical Name	Trade Name	Use of Material	Adequate Safety Procedures		Quantity Used Per Month	Safe Storage		Properly Labeled		Corrective Action Taken
			Yes	No		Yes	No	Yes	No	
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										
13.										
14.										
15.										

SAFETY DATA SHEET

IDENTITY (As Used on Label and List)	Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name	Emergency Telephone Number
Address (Number, Street, City, State, and Zip Code)	Telephone Number for Information
	Date Prepared
	Signature of Preparer (optional)

Section II — Hazardous Ingredients/identity information

Hazardous Components Specific Chemical Identity: Common Names(s)	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)

Section III — Physical/Chemical Characteristics

Boiling Point		Specific Gravity (H ₂ O = 1)	
Vapor Pressure (mm Hg.)		Melting Point	
Vapor Density (AIR = 1)		Evaporation Rate	
Solubility in Water			
Appearance and Odor			

Section IV — Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
Extinguishing Modes			
Special Fire Fighting Procedures			
Unusual Fire and Explosion Hazards			

Section V — Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable		
Incompatibility (Materials to Avoid)			
Hazardous Decomposition or Byproducts			
Hazardous Polymerization	May Occur		Conditions to Avoid

Section VI — Health Hazard Data

Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
Health Hazards (Acute and Chronic)			
Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
Signs and Symptoms of Exposure			
Medical Conditions			
Generally Aggravated by Exposure			
Emergency and First Aid Procedures			

Section VII — Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled
Waste Disposal Method
Precautions to be Taken in Handling and Storing
Other Precautions

Section VIII — Control Measures

Respiratory Protection (Specify Type)		
Ventilation	Local Exhaust	Special
	Mechanical (General)	Other
Protective Gloves		Eye Protection
Other Protective Clothing or Equipment		
Work/Hygienic Practices		



**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 6
HAZARD COMMUNICATION
SUB-SECTION TRAINING**

Hazard Communication Learning Exercise

Brieser Construction

Score: _____ %

Employees Name: _____	Date: _____
Company: _____	Instructor: _____
_____	Job Title: _____

Answer the following questions by circling the correct letter.

- 1. The temperature at which a flammable gives off enough vapor to burn is called:**
 - A. The Ignition Temperature.
 - B. The Flash Point.
 - C. The Combustion Point.

- 2. Hazardous materials can be found as:**
 - A. Solids.
 - B. Liquids.
 - C. Gasses.
 - D. All the Above.

- 3. When you are working in an area with either a lack of oxygen to breathe or there are high levels of toxic materials in the air, which type of respirator may be required?**
 - A. Air Supplied.
 - B. Air Purifying.
 - C. None of The Above.

- 4. If you are told that your exposure to a material requires you to wash your hands before eating or smoking, the primary route of entry into your body for that material is probably through:**
 - A. Inhalation.
 - B. Absorption.
 - C. Ingestion.
 - D. Hearing.

- 5. Where can you find access to our SDS library?**
 - A. Job Site Trailer Posters
 - B. Vehicle Magnets
 - C. TSTI Forms
 - D. All the Above.

Answer each of the following questions by listing the correct answer.

- 6. When working with corrosives, what personal protective equipment should be worn?**

- 7. What are three common methods for controlling or reducing the exposure to a toxic material?**

8. List at least two sources of information about hazardous materials in the workplace

Hazard Communication Learning Exercise
Brieser Construction
Answer Sheet

Answer the following questions by circling the correct letter.

1. **The temperature at which a flammable gives off enough vapor to burn is called:**
A. The Ignition Temperature.
B. The Flash Point.
C. The Combustion Point.
2. **Hazardous materials can be found as:**
A. Solids.
B. Liquids.
C. Gasses.
D. All the Above.
3. **When you are working in an area with either a lack of oxygen to breathe or there are high levels of toxic materials in the air, which type of respirator may be required?**
A. Air Supplied.
B. Air Purifying.
C. None of The Above.
4. **If you are told that your exposure to a material requires you to wash your hands before eating or smoking, the primary route of entry into your body for that material is probably through:**
A. Inhalation.
B. Absorption.
C. Ingestion.
D. Hearing.
5. **Where can you find access to our SDS library?**
A. Job Site Trailer Posters
B. Vehicle Magnets
C. TSTI Forms
D. All the Above.

Answer each of the following questions by listing the correct answer.

6. **When working with corrosives, what personal protective equipment should be worn?**
Gloves, Goggles, Gown, Boots, Face shield
7. **What are three common methods for controlling or reducing the exposure to a toxic material?**
Ventilation, Personal Protective Equipment, Substitute with a less hazardous material.
8. **List at least two sources of information about hazardous materials in the workplace**
Container Label, SDS

Hazard Communication SDS Exercise

Brieser Construction

Score: _____ %

Employees Name: _____	Date: _____
Company: _____	Instructor: _____
Social Security No.: _____	Job Title: _____

Answer the following questions by looking up the chemical SDS provided.

1. What is the name of this material?

2. Who is the manufacturer?

3. If this material is flammable or combustible, what is the material's flash point?

4. If this material is a potential health hazard, what is the TLV (in ppm or mg/m³)

- T F 5. This is a reactive material.
- T F 6. Gloves and or eye protection are suggested when exposed to this material.
- T F 7. Use this material in well-ventilated areas, away from sparks or flames.
- T F 8. This material evaporates quickly, so do not worry about cleaning it up.
- T F 9. There is never a need to wear a respirator when exposed to high concentrations of this material.

10. What are the possible health effects from overexposure to this material?

11. What are the First Aid procedures when using this material?

12. What are the steps to be followed in case of a spill or accidental release of this material into the atmosphere?

13. What precautions must be taken when using this material during normal operations?

Hazard Communication SDS Exercise
Brieser Construction
Answer Sheet

Answer the following questions by looking up the chemical SDS provided.

1. What is the name of this material?

See SDS Section I of chosen chemical.

2. Who is the manufacturer?

See SDS Section I of chosen chemical.

3. If this material is flammable or combustible, what is the material's flash point?

See SDS Section IV of chosen chemical.

4. If this material is a potential health hazard, what is the TLV (in ppm or mg/m³)

See SDS Section II of chosen chemical.

T F 5. This is a reactive material.

*See SDS Section V of
chosen chemical*

**T F 6. Gloves and or eye protection are suggested when
exposed to this material.**

*See SDS Section VIII of
chosen chemical*

**T F 7. Use this material in well-ventilated areas, away from
sparks or flames.**

*See SDS Section VII of
chosen chemical*

**T F 8. This material evaporates quickly, so do not worry
about cleaning it up.**

*See SDS Section VII of
chosen chemical*

**T F 9. There is never a need to wear a respirator when
exposed to high concentrations of this material.**

*See SDS Section VIII of
chosen chemical*

10. What are the possible health effects from overexposure to this material?

See SDS Section VI of chosen chemical.

11. What are the First Aid procedures when using this material?

See SDS Section VI of chosen chemical.

**12. What are the steps to be followed in case of a spill or accidental release of this
material into the atmosphere?**

See SDS Section VII of chosen chemical.

**13. What precautions must be taken when using this material during normal
operations?**

See SDS Section VI of chosen chemical.



Section 7
Safety Health
and
Environmental
Manual

2025

Respiratory Protection Program

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/7/2008
		Revised:	6/4/2015
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Respiratory Protection Policy		
CROSS REFERENCE:	29 CFR 1910.134 Respiratory Protection		

RESPIRATORY PROTECTION PROGRAM

PURPOSE

This written Respiratory Protection Program for Brieser Construction has been established in accordance with the respiratory protection requirements of OSHA standard 29 CFR 1910.134.

OSHA requires implementation of feasible engineering controls and/or work practice controls as the primary means of maintaining exposures within permissible limits. This Respiratory Protection procedure provides standards for the selection based on the hazards to which the employee is exposed, proper use and limitations, cleaning and disinfecting, storage, inspection, appropriate surveillance of work area conditions, regular inspection, and evaluation. These elements will be used to protect the life and health of employees when working in oxygen deficient or contaminated atmospheres.

This program covers all Brieser Construction employees using any type of respiratory protection, including but not limited to; filtering facepieces (dust masks), such as used for concrete cutting or welding operations; air-purifying cartridge respirators, such as used for petroleum vapors - organic vapors; and supplied-air respirators (self-contained breathing apparatus-SCBA) such as may be used for immediately dangerous to life and health environments (IDLH).

Employees shall review a copy of the program. Copies of this program may be obtained from the corporate office and within each Superintendent/Foreman's/Foreman's manual. The Director of Safety or Designee has full authority to make the necessary decisions to ensure the success of this program. This authority includes decisions for the selection and purchasing of the respiratory equipment, and determination of proper respiratory procedures. Periodic spot checks will be made to ensure compliance with established guidelines, procedures, and applicable regulations. It is the responsibility of the Manager of Safety or Designee to implement the requirements of this program and ensure that Superintendent/Foreman and employees follow policies.

GENERAL

In the Respiratory Protection program, hazard assessment and selection of proper respiratory PPE is conducted in the same manner as for other types of PPE. In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used. References: OSHA Standards *Respiratory Protection* (29 CFR 1910.134)

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/7/2008
		Revised	6/4/2015
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
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DEFINITIONS

Air-purifying respirator – A respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

Assigned protection factor (APF) – The workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory protection program as specified by this section.

Atmosphere-supplying respirator – A respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

Canister or cartridge – A container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.

Demand respirator – An atmosphere-supplying respirator that admits breathing air to the facepiece only when a negative pressure is created inside the facepiece by inhalation.

Emergency situation – Any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an airborne contaminant.

Employee exposure – Exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.

End-of-service-life indicator (ESLI) – A system that warns the respirator user of the approach of the end of adequate respiratory protection, for example, that the sorbent is approaching saturation or is no longer effective.

Escape-only respirator – A respirator intended to be used only for emergency exit.

Filter or air purifying element – A component used in respirators to remove solid or liquid aerosols from the inspired air.

Filtering facepiece (dust mask) – A negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

Fit factor – A quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/7/2008
		Revised:	6/4/2015
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
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DEFINITIONS - Continued

Fit test – Use of a protocol to evaluate the fit of a respirator qualitatively or quantitatively on an individual. (See also Qualitative fit test QLFT and Quantitative fit test QNFT.)

Helmet – A rigid respiratory inlet covering that also provides head protection against impact and penetration.

High efficiency particulate air (HEPA) filter – A filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.

Hood – A respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.

Immediately dangerous to life or health (IDLH) – An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

Interior structural firefighting – The physical activity of fire suppression, rescue, or both, inside of buildings or other enclosed structures which are involved in a fire situation beyond the incipient stage. (See 29 CFR 1910.155)

Loose-fitting facepiece – A respiratory inlet covering that is designed to form a partial seal with the face.

Maximum use concentration (MUC) – The maximum atmospheric concentration of a hazardous substance from which an employee can be expected to be protected when wearing a respirator and is determined by the assigned protection factor of the respirator or class of respirators and the exposure limit of the hazardous substance. The MUC can be determined mathematically by multiplying the assigned protection factor specified for a respirator by the required OSHA permissible exposure limit, short-term exposure limit, or ceiling limit. When no OSHA exposure limit is available for a hazardous substance, an employer must determine an MUC based on relevant available information and informed professional judgment.

Negative pressure respirator (tight fitting) – A respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.

Oxygen deficient atmosphere – An atmosphere with an oxygen content below 19.5% by volume.

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		Revised:	6/4/2015
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DEFINITIONS - Continued

Physician or other licensed health care professional (PLHCP) – An individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all the health care services required by paragraph (e) of this section.

Positive pressure respirator – A respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

Powered air-purifying respirator (PAPR) – An air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

Pressure demand respirator – A positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation.

Qualitative fit test (QLFT) – A pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

Quantitative fit test (QNFT) – An assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

Respiratory inlet covering – That portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both. It may be a facepiece, helmet, hood, suit, or a mouthpiece respirator with nose clamp.

Self-contained breathing apparatus (SCBA) – An atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

Service life – The period that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer.

Supplied-air respirator (SAR) or airline respirator – An atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

Tight-fitting facepiece – A respiratory inlet covering that forms a complete seal with the face.

User seal check – An action conducted by the respirator user to determine if the respirator is properly seated to the face.

Dusts – Particles released during work operations such as grinding and sawing.

Fit Testing – The process of making sure that an employee's respirator fits properly and will provide the necessary protection without any leaks.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/7/2008
		Revised:	6/4/2015
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Fumes – Vaporized, condensed metals such as lead that may be present during a welding operation.

Gases – Examples include nitrogen, methane, and carbon monoxide.

Mists – Particles of liquid released during operations such as spray painting.

NIOSH – National Institute for Occupational Safety & Health; an agency that establishes minimum performance standards for respirators and test and approves respirators for various uses.

Vapors – Gaseous forms of a liquid such as paint solvents.

RESPONSIBILITIES

The Program Administrator: Brieser Safety Director

These people are responsible for:

- Issuing and administering this program and making sure that the program satisfies the requirements of applicable federal, state, or local respiratory protect requirements.
- Providing initial and periodic training to employees on respiratory protection, including the selection, use, cleaning, inspecting and storage of respirators
- Maintaining the training records of all employees included in the training sessions.
- Conducting hazard assessments where respiratory hazards may be present.
- Assisting the respiratory protection program to ensure its continued effectiveness.
- Coordinating annual medical examinations as necessary and maintaining associated records
- Purchasing respiratory protection equipment
- Assuring that all respirators purchased are NIOSH-certified.

Superintendent/Foreman, Whose Employees Are Required to Wear Respiratory Protection

These people are responsible for:

- Knowing the hazards in their areas that require respiratory protection.
- Knowing the types of respirators that need to be used.
- Enforcing the wearing of respirators when needed
- Making sure employees are knowledgeable about the respiratory requirements for the areas in which they work.
- Providing training on hazardous chemicals and gases to employees who are new to the jobsite or demonstrate a lack of knowledge.
- Reporting unknown or new exposure situations or deficiencies of respiratory equipment to the Manager of Safety or Designee

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		Revised:	6/4/2015
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Employees Who Are Required to Wear Respiratory Protection

These people are responsible for:

- Wearing appropriate respiratory protection
- Properly maintaining their respiratory protection equipment and keeping it clean and in an operable condition
- Reporting any problems associated with the use of respirators and new conditions that may require investigation.
- Conducting self-fit tests of their respirators each time a respirator is worn.
- Know the change out schedule for the filter being used with their respirator.

VOLUNTARY USE OF RESPIRATORS IS PROHIBITED

OSHA requires that voluntary use of respirators, when not required by the company, must be controlled as strictly as under required circumstances. To prevent violations of the Respiratory Protection Standard, employees of Brieser Construction are not allowed voluntary use of their own or company supplied respirators of any type. **Exception:** Employees whose only use of respirators involves the voluntary use of filtering (non-sealing) face pieces (dust masks). When a dust mask is used in a voluntary manner then at a minimum Brieser Construction must give Appendix D to this standard, entitled "Information for Employees Using Respirators When Not Required under the Standard."

It is the policy of Brieser Construction that all respirators, training, and medical surveillance will be provided to the employee at no cost.

PROGRAM EVALUATION

Evaluations of the workplace are necessary to ensure that the written respiratory protection program is being properly implemented and includes consulting with employees to ensure that they are using the respirators properly. Evaluations shall be conducted as necessary to ensure that the provisions of the current written program are being effectively implemented.

Program evaluation will include discussions with employees required to wear respirators in order to assess their views on the program's effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:

- Respirator fit (including the ability to use the respirator without interfering with effective workplace performance).
- Appropriate respirator selection for the hazards to which the employee is exposed.
- Proper respirator use under the workplace conditions the employee encounters; and
- Proper respirator maintenance.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/7/2008
		Revised:	6/4/2015
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TRAINING AND INFORMATION

Effective training for employees who are required to use respirators is essential. The training must be comprehensive, understandable, and recur annually and more often if necessary. Training will be provided prior to requiring the employee to use a respirator in the workplace. The training shall ensure that each employee can demonstrate knowledge of at least the following:

- Why the respirator is necessary and how improper fit, usage, and maintenance can compromise the protective effect of the respirator.
- Limitations and capabilities of the respirator
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions
- How to inspect, put on and remove, use, and check the seals of the respirator
- What the procedures are for maintenance and storage of the respirator
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.
- The general requirements of this program

Retraining shall be conducted annually, and when:

- Changes in the workplace or the type of respirator render previous training obsolete.
- Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill.
- Other situation arises in which retraining appears necessary to ensure safe respirator use.

Training is divided into the following sections:

Classroom Instruction

- ✓ Overview of the Company Respiratory Protection Program & OSHA Standard
- ✓ Respiratory Protection Safety Procedures
- ✓ Respirator Selection
- ✓ Respirator Operation and Use
- ✓ Why the respirator is necessary.
- ✓ How improper fit, usage, or maintenance can compromise the protective effect.
- ✓ Limitations and capabilities of the respirator
- ✓ How to use the respirator effectively in emergency situations, including respirator malfunctions
- ✓ How to inspect, put on and remove, use, and check the seals of the respirator
- ✓ What the procedures are for maintenance and storage of the respirator
- ✓ How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.
- ✓ Change out schedule and procedure for air purifying respirators.

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		Revised	6/4/2015
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Hands-on respirator Training

- ✓ Respirator Inspection
- ✓ Respirator cleaning and sanitizing
- ✓ Record Keeping
- ✓ Respirator Storage
- ✓ Respirator Fit Check & Test
- ✓ Emergencies

BASIC RESPIRATORY PROTECTION SAFETY PROCEDURES

- Only authorized and trained employees may use respirators. Those employees may use only the respirator that they have been trained on and properly fitted to use.
- Only physically qualified employees may be trained and authorized to use respirators. A pre-authorization and annual certification by a qualified physician will be required and maintained. Any changes in an employee's health or physical characteristics will be reported to Brieser Construction management and will be evaluated by a qualified physician.
- Only the proper prescribed respirator may be used for the job or work environment. Air cleansing respirators may be worn in work environments when oxygen levels are between 19.5 percent to 23.5 percent and when the appropriate air cleansing canister, as determined by the Manufacturer and approved by NIOSH or MSHA, for the known hazardous substance is used. SCBAs will be worn in oxygen deficient and oxygen rich environments (below 19.5 percent or above 23.5 percent oxygen).
- Employees working in environments where a sudden release of a hazardous substance is likely to occur will wear an appropriate respirator for that hazardous substance.
- Only SCBAs will be used in oxygen deficient environments, in environments with an unknown hazardous substance or unknown quantity of a known hazardous substance, or in any environment that is determined "Immediately Dangerous to Life or Health" (IDLH).
- Employees with individual respirators will be responsible for the sanitation, proper storage, and security of their respirator. Respirators damaged by normal wear will be repaired or replaced by the company when returned.
- The last employee using a respirator that is available for general use will be responsible for proper storage and sanitation. All respirators will be inspected after each use and monthly.
- All respirators will be in a clean, convenient, and sanitary location.

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- In the event that employees must enter a confined space, work in an environment with hazardous substances dangerous to life or health (a SCBA is required in this environment), and/or conduct a HAZMAT entry, a "buddy system" will be used. A "Safety Watchman" with constant voice, visual or signal line communication must be used. Employees will follow the established Emergency Response Program and/or Confined Space Entry Program when applicable.
- Management will establish and maintain surveillance of jobs and workplace conditions and degree of employee exposure or stress to maintain the proper procedures and to provide the necessary respiratory protective equipment.

RESPIRATOR USER POLICIES

Adherence to the following guidelines will help ensure the proper and safe use of respiratory equipment:

- Wear only the respirator you have been instructed to use. For example, do not wear a self-containing breathing apparatus if you have been assigned and fitted for a half-mask respirator.
- Wear the correct respirator for the hazard. For example, some situations, such as chemical spills or other emergencies, may require a higher level of protection than your respirator can handle. Also, the proper cartridge must be matched to the hazard (a cartridge designed for dusts and mists will not provide protection for chemical vapors).
- Check the respirator for a good fit before each use. Positive and negative fit checks should be conducted.
- Check the respirator for deterioration before and after use. Do not use a defective respirator.
- Recognize indications that cartridges and canisters are at their end of service. If in doubt, change the cartridges or canisters before using the respirator.
- Practice moving and working while wearing the respirator so that you can get used to it.
- Clean the respirator after each use, thoroughly dry it and place the cleaned respirator in a sealable plastic bag.
- Store respirators carefully in a protected location away from excessive heat, light, and chemicals.

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SELECTION OF RESPIRATORS

Since Brieser Construction sites are so varied, the site Superintendent/Foreman, in conjunction with the client's representative, will identify what site operations may expose the employee to airborne contaminants. If airborne contaminants exist in the breathing zone, the Site Superintendent/Foreman will provide the appropriate respirator to all exposed employees. Air monitoring will be performed by the client, Brieser Construction, and any other qualified person with air monitoring instrumentation on-site. The results of any site air monitoring will be provided to the site employees.

A major concern for construction workers is exposure to Respirable crystalline silica dust during construction activities. Silicosis, a scarring and hardening of lung tissue can result when particles of crystalline silica are inhaled and become embedded in the lung. The disease can be progressively debilitating and fatal. Employees of Brieser Construction have the potential of being exposed to silica when using rock containing silica or concrete and masonry products that contain silica sand, when performing such tasks as chipping, hammering, drilling, crushing, or hauling rock; performing abrasive blasting; and sawing, hammering, drilling, or sweeping concrete or masonry. Even materials containing small amounts of crystalline silica may be hazardous if they are used in ways that produce high dust concentrations. Therefore, it is extremely important for employees to use adequate respiratory protection when source controls cannot keep silica exposures below published exposure levels.

Brieser Construction has identified the general job/working conditions that may expose employees to silica and other respiratory hazards (See Section 26 Industrial Hygiene). Respirators have been chosen by evaluating the type of hazards employees are exposed to.

Again, due to the variation in construction sites and activities, additional working conditions may be identified at specific sites. If air contaminants exist in a breathing zone, the Site Superintendent/Foreman will provide appropriate respirators to all exposed employees. Any employee who fails to wear a respirator when required or to follow the procedures outlined in this program will face disciplinary action in accordance with those listed in the Brieser Construction Safety, Health & Environmental Manual Section 3.

Particulate filter respirators, commonly referred to as dust-filter respirators, properly fitted, may be used for short, intermittent, or occasional dust exposures such as cleanup, dumping of dust collectors, or unloading shipments of sand at a receiving point, when it is not feasible to control the dust by enclosure, exhaust ventilation, or other means. Respirators used shall be approved for protection against the specific type of dust encountered.

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Assigned Protection Factors (APFs) Brieser Construction will use the assigned protection factors listed in Table 1 to select a respirator that meets or exceeds the *required level of employee protection*.

Table 1. -- Assigned Protection Factors⁵

Type of respirator ^{1, 2}	Quarter mask	Half mask	Full facepiece	Helmet/hood	Loose-fitting facepiece
1. Air-Purifying Respirator	5	³ 10	50	.....	.....
2. Powered Air-Purifying Respirator (PAPR)	.....	50	1,000	⁴ 25/1,000	25
3. Supplied-Air Respirator (SAR) or Airline Respirator					
• Demand mode	.....	10	50	.....	.....
• Continuous flow mode	.....	50	1,000	⁴ 25/1,000	25
• Pressure-demand or other positive-pressure mode	.....	50	1,000	.....	.....
4. Self-Contained Breathing Apparatus (SCBA)					
• Demand mode	.....	10	50	50	.....
• Pressure-demand or other positive-pressure mode (e.g., open/closed circuit)	.....	.....	10,000	10,000	.....

Notes:

¹Employers may select respirators assigned for use in higher workplace concentrations of a hazardous substance for use at lower concentrations of that substance, or when required respirator use is independent of concentration.

²The assigned protection factors in Table 1 are only effective when the employer implements a continuing, effective respirator program as required by this section (29 CFR 1910.134), including training, fit testing, maintenance, and use requirements.

³This APF category includes filtering facepieces, and half masks with elastomeric facepieces.

⁴The employer must have evidence provided by the respirator manufacturer that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. This level of performance can best be demonstrated by performing a WPF or SWPF study or equivalent testing. Absent such testing, all other PAPRs and SARs with helmets/hoods are to be treated as loose-fitting facepiece respirators and receive an APF of 25.

⁵These APFs do not apply to respirators used solely for escape. For escape respirators used in association with specific substances covered by 29 CFR 1910 subpart Z, employers must refer to the appropriate substance-specific standards in that subpart. Escape respirators for other IDLH atmospheres are specified by 29 CFR 1910.134 (d)(2)(ii).

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Filter Classifications - These classifications are marked on the filter or filter package.

N-Series: Not Oil Resistant

- Approved for non-oil particulate contaminants.
- Examples: dust, fumes, mists not containing oil

R-Series: Oil Resistant

- Approved for all particulate contaminants, including those containing oil.
- Examples: dusts, mists, fumes
- Time restriction of 8 hours when oils are present.

P-Series: Oil Proof

- Approved for all particulate contaminants including those containing oil.
- Examples: dust, fumes, mists
- See Manufacturer's time use restrictions on packaging.

Respirators for IDLH atmospheres

- The following respirators should be used in IDLH atmospheres:
 - A full-face piece pressure demand SCBA certified by NIOSH for a minimum service life of thirty minutes, or
 - A combination full-face piece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.
- Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

Respirators for atmospheres that are not IDLH.

The respirators selected shall be adequate to protect the health of the employee and ensure compliance with all other OSHA statutory and regulatory requirements, under routine and reasonably foreseeable emergency situations. The respirator selected shall be appropriate for the chemical state and physical form of the contaminant.

Identification of Filters & Cartridges

All filters and cartridges shall be labeled and color-coded with the NIOSH approval label. The label should not be removed and should remain legible.

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Respirator Filter & Canister Replacement

An important part of the Respiratory Protection Program includes identifying the useful life of canisters and filters used on air-purifying respirators. Each filter and canister shall be equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant; or if there is no ESLI appropriate for conditions, a change schedule for canisters and cartridges that is based on objective information or data that will ensure that canisters and cartridges are changed before the end of their service life. Affected employees will be provided with new respirators every day or more often if they become visibly contaminated or dirty. Each employee is responsible for maintaining and inspecting their own respirator.

Filter & Cartridge Change Schedule (If no ESLI)

A stock of spare respirators shall be maintained by the Site Superintendent/Foreman to allow immediate change when required.

The service life of a cartridge depends upon many factors, including environmental conditions, breathing rate, cartridge filtering capacity, and the number of contaminants in the air. The Brieser Safety Manager will acquire the help of a Certified Industrial Hygienist if needed in order to fully assess workers exposure to hazardous environments in order to identify and apply a cartridge change schedule or implement more stringent controls such as the use of air supplying respirators. Brieser Construction will apply a safety factor to the service life estimate to assure that the change schedule is a conservative estimate.

You may not rely on odor thresholds and other warning properties as the primary basis for determining the service life of gas and vapor cartridges and canisters.

MEDICAL EVALUATION

Using a respirator may place a physiological burden on employees, which can vary with the type of respirator worn, the job and workplace conditions in which the respirator is used, and the medical status of the employee. Brieser Construction will provide a medical evaluation at no cost to the employee to determine the employee's ability to use a respirator. This evaluation will be conducted before the employee is fit tested or required to use a respirator in the workplace.

MEDICAL EVALUATION PROCEDURES

A medical evaluation can be done by giving an employee a medical examination or by allowing the employee to fill out a Respiratory Medical Evaluation Questionnaire. A Primary Licensed Health Care Provider must then evaluate the questionnaire. The medical evaluation will take place during normal working hours and will be kept confidential.

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The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire shall be administered in a manner that ensures that the employee understands its content. The company shall provide the employee with an opportunity to discuss the questionnaire and examination results with the Primary Licensed Health Care Provider.

SUPPLEMENTAL INFORMATION

The following information must be provided to the Licensed Health Care Provider before he/she makes a recommendation concerning an employee's ability to use a respirator:

- The type and weight of the respirator to be used by the employee.
- The duration and frequency of respirator use (including use for rescue and escape)
- The expected physical work effort
- Additional protective clothing and equipment to be worn.
- Temperature and humidity extremes that may be encountered.
- Any supplemental information provided previously to the Physician regarding an employee need not be provided for a subsequent medical evaluation if the information and the Physician remain the same.
- The company will provide the evaluating provider with a copy of the written respiratory protection program and a copy of the OSHA Standard 1910.134

MEDICAL DETERMINATION

In determining the employee's ability to use a respirator, Brieser Construction shall obtain a written recommendation regarding the employee's ability to use the respirator from the Primary Licensed Health Care Provider.

The written recommendation shall provide only the following information:

- Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator.
- The need, if any, for follow-up medical evaluations
- A statement that the Physician has provided the employee with a copy of the Physician's written recommendation.
- If the respirator is a negative pressure respirator and the Physician finds a medical condition that may place the employee's health at increased risk if the respirator is used, the Company shall provide a APR if the Physician's medical evaluation finds that the employee can use such a respirator; if a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then the Company is no longer required to provide a APR

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FOLLOW-UP MEDICAL EXAMINATION

The company shall ensure that a follow-up medical examination is provided for an employee who gives a positive response to any question among questions in Part B of the questionnaire or whose initial medical examination demonstrates the need for a follow-up medical examination. The follow-up medical examination shall include any medical tests, consultations, or diagnostic procedures that the Physician deems necessary to make a final determination.

ADDITIONAL MEDICAL EVALUATIONS

At a minimum, Brieser Construction will provide additional medical evaluations that comply with the requirements of this section if:

- An employee reports medical signs or symptoms that are related to ability to use a respirator.
- A physician, Superintendent/Foreman, or one of the program administrators informs the company that an employee needs to be reevaluated.
- Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation.
- A change occurs in workplace conditions (e.g., physical work effort, protective clothing, temperature) that may result in a substantial increase in the physiological burden placed on an employee.

RESPIRATOR FIT TESTING

Before an employee is required to use any respirator with a negative or positive pressure tight-fitting face piece, the employee must be fit tested with the same make, model, style, and size of respirator that will be used. Brieser Construction will ensure that an employee using a tight-fitting face piece respirator is fit tested prior to initial use of the respirator, whenever a different respirator face piece (size, style, model or make) is used, and at least annually thereafter.

The company has established a record of the qualitative and quantitative fit tests administered to employees including:

- The name or identification of the employee tested.
- Type of fit test performed.
- Specific make, model, style, and size of respirator tested.
- Date of test
- The pass/fail results for Qualitative Fit Tests or the fit factor and strip chart recording or other recording of the test results for Quantitative Fit Tests

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Additional fit tests will be conducted whenever the employee, the company, the physician, the Superintendent/Foreman, or the program administrators make visual observations of changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight. If after passing a fit test, the employee notifies any of the people listed above that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator face piece and to be re-tested.

TYPES OF FIT TESTS

The fit test shall be administered using an OSHA-accepted Qualitative Fit Test (QLFT) or Quantitative Fit Test (QNFT) protocol. The OSHA-accepted QLFT and QNFT protocols and procedures are contained in Appendix A of OSHA Standard 1910.134.

- QLFT may only be used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less.
- If the fit factor, as determined through an OSHA-accepted QNFT protocol, is equal to or greater than 100 for tight-fitting half face pieces, or equal to or greater than 500 for tight-fitting full-face pieces, the QNFT has been passed with that respirator. (NOTE: If a particular OSHA standard requires the use of a full facepiece air purifying respirator capable of providing protection in concentrations up to 50 times the PEL, the respirator must be Quantitatively Fit Tested).
- Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.
- Qualitative fit testing of these respirators shall be accomplished by temporarily converting the respirator user's actual face piece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator face piece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator face piece.
- Quantitative fit testing of these respirators shall be accomplished by modifying the face piece to allow sampling inside the face piece in the breathing zone of the user, midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate face piece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the face piece.

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- Any modifications to the respirator face piece for fit testing shall be completely removed, and the face piece restored to NIOSH approved configuration before that face piece can be used in the workplace.
- Fit test records shall be retained for respirator users until the next fit test is administered. Written materials required to be retained shall be made available upon request to affected employees.

RESPIRATOR OPERATION AND USE

Respirator users will be required to follow the respiratory protection safety procedures established in this program. The Operations and Use Manuals supplied by the manufacturer for each type of respirator will be maintained by the Program Administrators and be made available to all qualified users.

Each time an employee dons a respirator; a positive and a negative fit check should be performed to ensure a proper fit. These can be completed as follows:

Positive pressure check

Close the exhalation valve(s) and exhale gently into the face piece. This should build a slight positive pressure inside the face piece without any air leaking out at the seal.

Negative pressure check

Close the inhalation valve(s) and inhale gently. The face piece should collapse against the employee's face. Hold breath for 10 seconds. The face piece should stay collapsed with no air leaks.

The Site Superintendent/Foreman will conduct surveillance of the work area conditions and the degree of employee exposure or stress. When there is a change in work area conditions or the degree of employee exposure or stress that may affect respirator effectiveness, Brieser Construction will reevaluate the continued effectiveness of the respirator.

For continued protection of respirator users, the following general use rules apply:

- Users shall not remove respirators while in a hazardous environment.
- Respirators are to be stored in sealed containers out of harmful atmospheres.
- Store respirators away from heat and moisture
- Store respirators such that the sealing area does not become distorted or warped.
- Store respirator such that the face piece is protected.

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FACIAL HAIR POLICY

Testing and research have shown that excessive facial hair prevents a good seal from forming between the skin and respirator sealing surface. It is the policy of Brieser Construction that employees required to use a respirator must be clean-shaven and have no hair in the facial areas where a specific respirator must seal. A properly trimmed and groomed mustache is acceptable. However, beards, extended sideburns and goatees are unacceptable. This policy does not apply to employees who use a helmet or hood type respirator where a tight face seal is not required.

In addition, any other condition that interferes with the face-to-face piece seal or valve function will not be allowed. If an employee wears corrective glasses or goggles or other personal protective equipment, the Company shall ensure that such equipment is worn in a manner that does not interfere with the seal of the face piece to the face of the user.

CONTINUING EFFECTIVENESS OF RESPIRATORS

The company shall ensure that employees leave an area requiring respirator use under the following situations:

- To wash their faces and respirator face pieces as necessary to prevent eye or skin irritation associated with respirator use.
- If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece.
- To replace the respirator or the filter, cartridge, or canister elements.

If an employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece, Brieser Construction will replace or repair the respirator before allowing the employee to return to the work area.

PROCEDURES FOR IDLH ATMOSPHERES

It is the policy of Brieser Construction that if an IDLH breathing zone environment exists or may exist, then the work operation should be stopped, and engineering controls put in-place to reduce the contaminants to a safe level. SAR and SCBA usage are not encouraged and therefore if a potentially IDLH site condition cannot be reduced to safe levels or eliminated, then the work should be stopped, and the Manager of Safety or Designee should be contacted before work resumes.

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For all IDLH atmospheres, the following emergency guidelines should be followed:

- One employee or, when needed, more than one employee is located outside the IDLH atmosphere.
- Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere, and the employee(s) located outside the IDLH atmosphere.
- The employee(s) located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue.
- The Safety Manager is notified before the employee(s) located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue.
- The Safety Manager, once notified, provides necessary assistance appropriate to the situation.

Employee(s) located outside the IDLH atmospheres will be equipped with:

- Pressure demand or other positive pressure SCBAs, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and either appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry; or equivalent means for rescue where retrieval equipment is not required.

Supplied Air Respirators (SAR) provides positive-pressure breathing air from a remote air cylinder via a hose to the face-piece. SARs allow longer working times at reduced stress levels. They also serve as a long duration work device and as an escape device. A SAR permits the wearer to work and move freely, within the limits of the approved hose length. At the present time, Brieser Construction employees will immediately leave any IDLH atmosphere, and will not be required to wear SARs.

As general information, the limitations of SARs are as follows:

- Air supply must be independent of ambient air.
- Maximum hose length is 300 feet.
- Hose may become entangled or cut by equipment or machinery.
- Maximum inlet pressure is 125 psig, with normal operating pressures between 60-80 psig.
- Breathing air must be at least ASTM Grade "D."

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CLEANING AND DISINFECTING

Brieser Construction will provide each respirator user with a respirator that is clean, sanitary, and in good working order. Cleaning and Storage of respirators is the responsibility of each employee assigned a respirator. Respirators should be cleaned and disinfected using the following procedures:

1. Before leaving the work area, each user must “wipe-down” the respirator with a wet cloth to remove any contaminants which may have settled on the equipment.
2. Respirator facepieces should be washed with detergent in warm water temperature not to exceed 120° F and scrub using a soft brush. If possible, detergents containing a bactericide should be used. Organic solvents should not be used, as they deteriorate the rubber facepiece. If bactericide detergent is not available, the detergent wash should be followed with a disinfecting rinse. Two types of disinfectant may be made from readily available household solutions. A hypochlorite solution (50 ppm) can be made by adding 5 tablespoons (50ml) of chlorine bleach to 2.5 gallons of water. An aqueous solution of iodine (50 ppm) can be made by adding 2 /12 teaspoons (6.25 ml) tincture of iodine to 2.5 gallons of water. A two-minute immersion of the respirator into either solution would be sufficient for disinfecting. It should be noted that a Zephiran Chloride solution can be used along with gauze pads as a convenient spot disinfectant.
3. Respiratory equipment shall be thoroughly rinsed in warm clean water (120° F maximum) to remove all traces of detergent, cleaner, sanitizer, and disinfectant. It is very important that all proper rinsing takes place in order to prevent dermatitis.
4. Respiratory equipment shall be allowed to air dry on a clean surface or hung from a horizontal wire.

Respirators shall be cleaned and disinfected when:

- Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.
- Respirators issued to more than one employee shall be cleaned and disinfected before being worn by different individuals.
- Respirators maintained for emergency use shall be cleaned and disinfected after each use.
- Respirators used in fit testing and training shall be cleaned and disinfected after each use.

RESPIRATOR INSPECTION

All respirators will be inspected after each use and at least monthly. Should any defects be noted, the respirator will be taken to the Program Administrator. Damaged Respirators will be either repaired or replaced.

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Respirators shall be inspected as follows:

- All respirators used in routine situations shall be inspected before each use and during cleaning.
- All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations and shall be checked for proper function before and after each use.
- Emergency escape-only respirators shall be inspected before being carried into the workplace for use.

Respirator inspections should include:

The primary defects to look for in the inspection of respirators and corrective actions to take are itemized below:

- 1) Single Use Disposable Respirators (Filtering Face pieces)
 - a) Holes
 - b) Proper Elasticity of Straps
 - c) Condition of the metal nose clip
- 2) Air purifying respirators (quarter-mask, half-mask, and full facepiece)

Rubber facepiece - Check for:

- Excessive dirt (clean all dirt from facepiece)
- Cracks, tears, or holes (obtain new facepiece)
- Distortion (allow facepiece to “sit” free from any constraints and see if distortion disappears; if not, obtain a new facepiece), and
- Cracked, scratched, or loose-fitting lenses (contact respirator manufacturer to see if replacement is possible; otherwise obtain a new facepiece)

Head straps - Check for:

- Breaks or tears (replace head straps)
- Loss of elasticity (replace head straps)
- Broken or malfunctioning buckles or attachments (obtain new buckles), and
- Allow the facepiece to slip (replace head strap)

Inhalation valve, exhalation valve - Check for:

- Detergent residue, dust particles, or dirt on valve or valve seat (clean residue with soap and water)
- Cracks, tears, or distortion in the valve material or valve seat (contact manufacturer for instructions), and
- Missing or defective valve cover (obtain valve cover from manufacturer)
- Make sure the gaskets are properly seated.

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		Revised:	6/4/2015
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		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Respiratory Protection Policy		
CROSS REFERENCE:	29 CFR 1910.134 Respiratory Protection		

Filter element(s) - Check for:

- Proper filter for the hazard
- Approval designation
- Missing or worn gaskets (contact manufacturer for replacement)
- Worn threads - both filter threads and facepiece threads (replace filter or facepiece, whichever is applicable)
- Cracks or dents in filter should be replaced by manufacturer.

3) Atmosphere Supplying Respirators

Check facepiece head straps, valves, and breathing tube, as for air-purifying respirators.

Hood helmet, blouse, or full suit, if applicable - Check for:

- Headgear suspension (adjust properly for you)
- Cracks or breaks in face shield (replace face shield), and
- Protective screen to see that it is intact and fits correctly over the face shield, abrasive blasting hood, and blouses (obtain new screen)

4) Air supply system - Check for:

- Breathing air quality
- Breaks or kinks in air supply hoses and end fitting attachments (replace hose and/or fitting)
- Tightness of connections
- Proper setting of regulators and valves (consult manufacture's recommendations)
- Correct operation of air-purifying elements and carbon monoxide or high-temperature alarms

Additional requirements for Emergency Use Respirators

- Certify the respirator by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator.
- Provide this information on a tag or label that is attached to the storage compartment for the respirator, is kept with the respirator, or is included in inspection reports stored as paper or electronic files. This information shall be maintained until replaced following a subsequent certification.

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RESPIRATOR STORAGE

Respirators are to be stored as follows:

- All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals, and they shall be packed or stored to prevent deformation of the face piece and exhalation valve.
- Emergency Respirators shall be kept accessible to the work area; stored in compartments or in covers that are clearly marked as containing emergency respirators; and stored in accordance with any applicable manufacturer instructions.

REPAIR OF RESPIRATORS

Respirators that fail an inspection or are otherwise found to be defective will be removed from service to be discarded, repaired, or adjusted in accordance with the following procedures:

- Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator.
- Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed; and
- Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer, or a technician trained by the manufacturer.

BREATHING AIR QUALITY AND USE

Should it become necessary for an employee to wear an SCBA or SAR in an emergency, Brieser Construction will ensure that compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration accords with the following specifications:

- Compressed and liquid oxygen shall meet the United States Pharmacopoeia requirements for medical or breathing oxygen; and
- Compressed breathing air shall meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include:
 - Oxygen content (v/v) of 19.5-23.5%.
 - Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less.
 - Carbon monoxide (CO) content of 10 ppm or less.
 - Carbon dioxide content of 1,000 ppm or less; and
 - Lack of noticeable odor

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- Compressed oxygen will not be used in atmosphere-supplying respirators that have previously used compressed air.
- Oxygen concentrations greater than 23.5% are used only in equipment designed for oxygen service or distribution.
- Cylinders used to supply breathing air to respirators meet the following requirements:
 - cylinders are tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 173 and part 178)
 - cylinders of purchased breathing air have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing air.
 - moisture content in breathing air cylinders does not exceed a dew point of -50°F (-45.6°C) at 1 atmosphere pressure.
 - Breathing air couplings are incompatible with outlets for non-respirable worksite air or other gas systems. No asphyxiating substance shall be introduced into breathing air lines.
 - breathing gas containers shall be marked in accordance with the NIOSH respirator certification standard, 42 CFR part 84.

MONITORING

The Program Administrators and Superintendent/Foreman will monitor respirator usage at Brieser Construction work sites. These people will conduct random inspections to assure that respirators are being used; that the respirator in use is appropriate for the work conditions; and those respirators are being worn properly and are in good working condition.

PROGRAM EVALUATION

This respirator program shall be evaluated at least annually to determine the overall effectiveness of the program in assuring the proper selection and use of respiratory protective equipment. Special attention will be given to proper record keeping, which includes training, fit testing, and medical records.

RECORD KEEPING

The Personnel Manager or Designee will retain written information regarding medical evaluations, fit testing, and the respirator program. This information will facilitate employee involvement in the respirator program, assist Brieser Construction in auditing the adequacy of the program, and provide a record for compliance determinations by OSHA. Records pertaining to the respiratory written program will be retained at the corporate office and made available in accordance with 29 CFR 1910.1020.

Brieser Construction
24101 S. Municipal Drive
Channahon, IL 60410
815-521-0900 Fax: 815-521-0999

This form is for all sites:

(Mandatory) Information for Employees Using Respirators When not required Under the
Standard

Respirators are an effective method of protection against designated hazard when properly selected and worn. Respirator use is encouraged even when exposures are below the exposure limit to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the workers. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by the OSHA standards. If your employer provides respirators for your voluntary use or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, cleaning and care, and warnings regarding the respirator's limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

I hereby certify that I have read and understand the information presented on this form.

EMPLOYEE'S NAME

EMPLOYEE'S SIGNATURE

Print

Sign and Date

ROUTING	PERSONNEL MANAGER	Add to Training Database
	SCAN	SAFETY/RESPIRATORY RECORDS/VOLUNTARY USE/MMDDYY

AIR PURIFYING RESPIRATOR FACEPIECE QUALITATIVE FIT TESTING RECORD

Company Name:	Brieser Construction Company	Company Representatives Name:	
Address:	24101 S. Municipal Drive Channahon, IL 60410	Telephone Number:	
		Fax Number:	
Date:			

INSTRUCTED ON (PLEASE CHECK ✓)

Donning Respirator:	Negative Pressure Check:
Doffing Respirator:	Positive Pressure Check:
Cleaning Respirator:	Irritant Smoke Test:
Inspecting Respirator:	Banana Oil/Amyl Acetate:
Storing Respirator:	Bitrex Taste Test:

EMPLOYEE'S NAME	BRAND	MODEL #	MATERIAL	TYPE (HF or FF)	SIZE	TEST MEDIA	PASS/FAIL

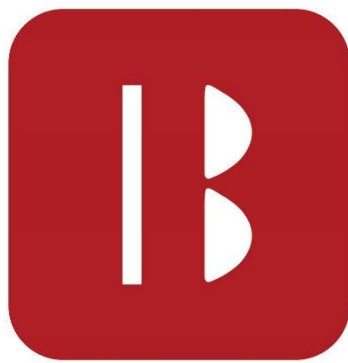
Trained/Fit Tested By:

**Employee's Name
(Print):**

Signature:

Employee's Signature:

ROUTING	PERSONNEL MANAGER	Add to Training Database
	SCAN	SAFETY/RESPIRATORY RECORDS/FIT TESTS/MMDDYY



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 7
RESPIRATORY PROTECTION
SUB-SECTION TRAINING**

Respiratory Protection Learning Exercise

Brieser Construction

Score %

Employees Name:

Company:

Date:

Instructor:

Job Title:

Answer each of the following questions "True" or "False" by circling the appropriate letter.

T	F	1. The Brieser Construction Safety Director is responsible for inspecting your respirator.
T	F	2. Respirators should be inspected before and after each use.
T	F	3. Solvents should never be used to clean plastic or rubber parts of a respirator.
T	F	4. Respirators should be stored away from sunlight, heat, extreme cold, excessive moisture, or damaging chemicals.
T	F	5. Engineering controls can provide 100% protection against respiratory hazards.
T	F	6. The two major types of respiratory hazards are oxygen deficiency and contamination.
T	F	7. The lungs can tell the difference between clean air and contaminated air.
T	F	8. Air-purifying respirators protect against oxygen deficiency.
T	F	9. Filters and chemical cartridges can be combined to protect against multiple respiratory atmospheres.
T	F	10. Air-supplied respirators supply uncontaminated breathing air from the surrounding atmosphere.
T	F	11. Fit tests must be performed by a physician.
T	F	12. You are responsible for your respiratory protection.
T	F	13. SCBA respirators can be used in IDLH atmospheres.
T	F	14. Any respirator will fit correctly if you tighten the straps enough.
T	F	15. Beards, hair, and glasses can interfere with a good facepiece seal.
T	F	16. SCBAs for emergency use should be stored inside the danger area.

Respiratory Protection Learning Exercise
Brieser Construction
Answer Sheet

- F** The Brieser Construction Safety Director is responsible for inspecting your respirator.
- T** Respirators should be inspected before and after each use.
- T** Solvents should never be used to clean plastic or rubber parts of a respirator.
- T** Respirators should be stored away from sunlight, heat, extreme cold, excessive moisture, or damaging chemicals.
- F** Engineering controls can provide 100% protection against respiratory hazards.
- T** The two major types of respiratory hazards are oxygen deficiency and contamination.
- F** The lungs can tell the difference between clean air and contaminated air.
- F** Air-purifying respirators protect against oxygen deficiency.
- T** Filters and chemical cartridges can be combined to protect against multiple respiratory atmospheres.
- F** Air-supplied respirators supply uncontaminated breathing air from the surrounding atmosphere.
- F** Fit tests must be performed by a physician.
- T** You are responsible for your respiratory protection.
- T** SCBA respirators can be used in IDLH atmospheres.
- F** Any respirator will fit correctly if you tighten the straps enough.
- T** Beards, hair, and glasses can interfere with a good facepiece seal.
- F** SCBAs for emergency use should be stored inside the danger area.



Section 8
Safety Health
and
Environmental
Manual

2025

Demolition

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/1/2012
		Revised:	2/18/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	04
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Demolition Operations		
CROSS REFERENCE:	29 CFR 1926, Subpart T Demolition. ANSI/ASSE A10.6 Safety Requirements for Demolition Operations National Demolition Association Safety Manual		

DEMOLITION

PURPOSE

This written program documents the steps *Brieser Construction* has taken to protect and safeguard the public and employees and to prevent damage to property resulting from various hazards during Demolition operations present at our construction sites. This policy applies to “Gut-Rehab,” Renovations as well as any structural removal or partial removal.

Brieser Construction Management has overall responsibility for coordinating safety and health programs in this company. Copies of the written program may be obtained at the job site or in the Corporate Office.

If, after reading this program, you find that improvements can be made, please contact Brieser Construction. We encourage all suggestions because we are committed to creating a safe workplace for all our employees and to the success of our Demolition Program. We strive for clear understanding, safe behavior, and involvement with the program from every level of the company.

SCOPE

To define the requirements, responsibilities, and procedures necessary for an Engineering Survey of projects that require Demolition Operations. The purpose of the survey is to assess existing conditions at the work site, and to identify engineering and administrative control measures which should be used to prevent occupational injuries to Brieser personnel, subcontractors, and the public.

RESPONSIBILITIES

The Program Administrator: Brieser Safety Manager

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.
- Ensuring that employees receive initial and refresher training on the use of this policy.
- Maintaining training records for all employees included in the training sessions.

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Project Managers, Superintendents and Foremen

These people are responsible for:

- Ensuring an Engineering Survey is completed of each job site prior to commencement of demolition activities.
- Reviewing the Engineering Survey between Project Manager and site Superintendent or Job Foremen
- Knowing the hazards in their areas that require the use of this policy.
- Assuring that safe operations are maintained within their departments to prevent injuries demolition operations.
- Enforcing the use of this policy in the areas in which it is required.

Employees

- Understanding what constitutes demolition activities.
- Adhering to and completing all required permits for demolition operations
- Seek guidance when you do not understand a particular section or permit within this policy.

DEFINITIONS

Allowable Floor Load – The established carrying capacity rating, expressed in pounds per square foot, based upon engineering design and calculation.

Catch Platform – A temporary structure erected around, attached to, and abutting the building being demolished for the purpose of safeguarding and protecting the employees and the public by catching a retaining falling objects or debris.

Chute – A trough or tube used to guide and transport sliding objects, material, or debris from a higher to a lower level.

Competent Person – One who can identify existing and predictable hazards in the surrounding or working conditions that are unsanitary, hazardous, or dangerous to employees and who has the authorization to take prompt corrective measures to eliminate them.

Demolition – Dismantling, razing, destroying, or wrecking any building or structure or any part thereof.

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DEFINITIONS continued

Qualified Persons – Those who by possession of a recognized degree, certificate, or professional standing or by extensive knowledge, training and experience in the demolition industry have successfully demonstrated their ability to solve or resolve problems relating to the subject matter of this standard.

PREPARATORY OPERATIONS

General

Immediately after a contract is awarded and prior to commencement of work on site, an Engineering Survey will be conducted. The Engineering Survey must be conducted by a Brieser trained competent person and/or a team. The team should consist of knowledgeable people of the appropriate disciplines and/or certifications, Brieser General Superintendent, Brieser Safety Dept., Owner, Brieser Project Manager, local authorities, and a fire and emergency resource. A report on the findings of the engineering survey must be written. The survey will aid in project planning and identify specific hazard conditions at the site. The survey will identify engineering and administrative controls to be implemented to minimize employee exposure to potentially hazardous conditions during demolition, dismantlement, and renovation activities.

Planning

- Inspect the condition of the framing, floors, and walls. Make note of any apparent modifications. Review record drawings for accuracy and compare to current observations.
- Locate all utility line locations (for example, gas, electricity, steam, water, and sewer) and ensure that such service lines have been capped or otherwise controlled outside of the building lines.
- If utility service must remain within the jobsite they shall be marked with RED tapes or paints to identify that the line is “LIVE.” This is a last resort and needs to be approved by the Safety Director. All utility lines should otherwise be locked and tagged out of service per OSHA and Brieser policies on lockout/tagout.
- All Brieser employees performing demolition operations are required to have in their possession a non-contact AC Voltage tester (tick tracer) that has both a visual and audible warning. This instrument is used for a final check before an employee touches any electrical conductor. De-energize or Lockout/Tagout is required before use of this instrument.

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Planning continued

- Determine if hazardous materials or substances have been used in any pipes, above or underground tanks, pieces of equipment, or processes on the site. When the presence of any such hazard is suspected or identified, perform testing and purging and eliminate the hazard prior to beginning demolition. The Owner's Survey should identify this information.
- Remove existing glass prior to beginning demolition work. Protect or reroute any pedestrian or vehicle traffic ways. Provide barricades to ensure that unauthorized personnel are not allowed entry to the work site.
- Ensure that employee entrances to multi-story structures being demolished are completely protected by sidewalk sheds, canopies, or both, providing protection from the face of the building for a minimum of 8 feet. All such canopies must be at least 2 feet wider than the building entrances (1 foot wider on each side) and must be capable of sustaining a load of 150 pounds per square foot.
- Some systems may have instruments that contain radioactive isotopes. In these cases, ensure that the shutter on the instrument is closed and deadlocked before disconnecting or removing. Deliver the removed instrument to the appropriate personnel immediately for controlled storage and/or disposal.
- Contain organic dust material using water and shielding to prevent explosion where a possible ignition source exists.
- Fire safety is a critical part of the plan. Items to consider include:
 - Fire watches
 - Hot Work Permits
 - Wall Openings
 - When to shut down fire systems
 - Extended fire watch coverage (after hours)
- Develop emergency action plans for each phase of demolition and share with local authorities, site security, and affected personnel.
- Segregate and dispose of demolished materials, as local regulatory authorities require. The Owner's Survey should note the presence of hazardous materials.
- Do not remove insulation materials from vessels or piping until it has been determined that they do not contain asbestos fiber. The Owner's Survey should note any Asbestos Building Inspections performed. Obtain a copy of this inspection with the project file and communicate to site supervision.
- Do not disturb painted surfaces until it has been determined if lead is present.
- A copy of this plan must be forwarded to the Brieser Safety Dept. for review and filing.

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Execution

- Hold updates as required with local authorities, security, and affected site personnel to address changing work conditions, as well as Emergency Action Plan changes.
- If it is necessary to maintain any services or utilities to the site, locate temporary lines as required and protect them from damage (for example, Fire Systems).
- Begin demolition of exterior walls and floor construction at the top of the structure and proceed downwards. The only exception is cutting holes in floors for chutes and similar preparatory work.
- Remove load-bearing walls/floors only after all stories above have been demolished and removed.
- In buildings of a skeletal steel type construction, the steel framing may be left in place during the demolition of masonry walls provided that all beams, girders, and similar structural supports have been cleared of all loose material as the demolition progresses downward. In the structural survey, it must be determined that these walls are not loadbearing.
- Support floors that are weakened or otherwise unsafe so they can support loads of materials being removed from demolition areas.
- Use only those entrances, stairways, passageways, and ladders designated as a means of access to the structure. All other ways must be entirely always closed.
- Do not allow any wall section more than one story in height to stand alone without lateral bracing. All walls must be left in a stable condition at the end of each shift.
- Provide fall prevention at all wall openings.
- Identify all floor openings and cover with secured covers substantial enough to support the weight of any load that may be imposed.
- A competent person(s) must make frequent inspections as the work progresses to detect hazards resulting from weakened floors, walls, or loosened materials.

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Execution continued

- Do not drop any material to any point lying outside the exterior walls of the structure unless the area is effectively protected. Approved chutes must be used to contain materials.
- Block off areas where demolished materials are stored except for openings for removal. Keep such openings always closed when not in use.
- Adequately support all penetrating walls or partitions to be demolished on both sides of the wall or partition so the load will not swing or move freely.
- During demolition, keep personnel out of high-risk areas such as pinch points or crush points.
- Thoroughly inspect the job site after demolition is completed. Clean and restore the site to a usable condition (for example, permanently close any temporary openings).
- Avoid use of explosives wherever possible. If demolition by use of explosives is required, refer to the requirements set forth in OSHA 1926 SUBPART U, "BLASTING AND THE USE OF EXPLOSIVES," or as local regulatory authorities require. Blasting requires the use of specially trained and certified experts and will not be undertaken by Brieser personnel.

Concrete/Asphalt Demolition

- Prior to chipping, drilling, or removing concrete or asphalt from floors or other locations the construction superintendent or job foremen will check all maps and prints for the location of possible existing lines.
- A Competent person trained in the use of Brieser's line locate equipment will sweep the area for sub-surface interferences.
- The location of such lines will be marked for the guidance of the Brieser employees performing the work.

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UTILITIES

- Each piping, electrical and communication system will be assessed to identify any required disconnection and/or relocation work to be performed.
- It will be the responsibility of the Brieser Construction Competent person to determine whether electrical lines can be de-energized during the excavating or concrete breaking work. If not, the following must be included as specified instructions on the permit:
 - Grounding of tools or equipment
 - Insulating employees (Electrically rated gloves for example)
 - Non-destructive techniques such as hand digging or vacuum excavation.

ENVIRONMENTAL

An assessment of environmental documentation which may exist such as Phase I, II reports, asbestos surveys, environmental audits etc. to determine the presence of hazardous materials shall be obtained by the owner and reviewed before demolition activities commence. A visual inspection will be conducted to identify underground storage tanks; asbestos; drums; visual staining; air pollution control equipment; stored chemicals; industrial wastes; transformers; contaminated sumps; and catch basins which could expose employees to hazards requiring special personal protection.

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TRAINING

Employees required to conduct Demolition Operations will be trained in the following:

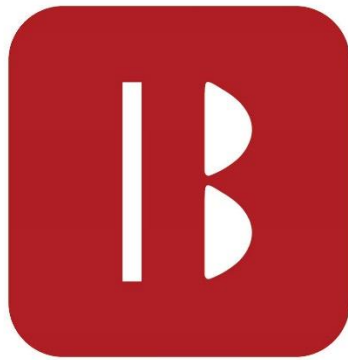
- This Policy/Procedure: Brieser Safety Manual Section 8 Demolition or Orientation II
- Use of Line Location Equipment
- Asbestos Awareness
- Lead Awareness

Brieser Construction employees must demonstrate an understanding of the above training, and the ability to safely execute all the tasks that go into the execution of a safe demolition job. This includes proper training on all tools and equipment used, all special permitting that is required as a result of the Engineering Survey and lastly respiratory protection in hazardous environments. Employee training must be certified and documented.

When the company has reason to believe that any affected employee who has already been trained does not have the understanding and skill required, Brieser Construction shall retrain each such employee. Circumstances where retraining is required include, but are not limited to, situations where:

- Changes in the workplace render previous training obsolete; or
- Changes in the types of demolition techniques used render previous training obsolete; or
- Inadequacies in an affected employee's knowledge or use of assigned task indicate that the employee has not retrained the requisite understanding or skill.

Brieser Construction shall verify that each affected employee has received and understood the required training through a written certification that contains the name of each employee trained, the date(s) of training, and that identifies the subject of the certification.



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 8
DEMOLITION
SUB-SECTION TRAINING**

DEMOLITION

Brieser Construction

Score:

%

Employees Name:	Date:
Company:	Instructor:
	Job Title:

Answer the following questions "True" or "False" by circling the appropriate letter.

T	F	1. This policy applies to "Gut-Rehab," Renovations as well as any structural removal or partial removal of building materials.
T	F	2. Project Manager, Superintendents or Foremen are responsible for ensuring an Engineering Survey is performed before engaging in any demolition activity.
T	F	3. Only a Qualified person can conduct an Engineering Survey?
T	F	4. A Brieser Competent person in Demolition safe practices may conduct an Engineering Survey
T	F	5. All utilities should be capped or otherwise disconnected from the building envelope.
T	F	6. All utility lines must be capped or otherwise disconnected form the building envelope
T	F	7. I need to have Asbestos Awareness training before I am eligible to perform demolition activities for Brieser Construction
T	F	8. I need to have Lead Awareness training before I am eligible to perform demolition activities for Brieser Construction.
T	F	9. I am not required to have an AC voltage tester (tick tracer) on my body ready for use while performing Demolition activity
T	F	10. I must be trained to use the Brieser locate equipment

DEMOLITION

Brieser Construction

Personal Protective Learning Exercise

Brieser Construction

Answers

<i>T</i>	<i>F</i>	1.	This policy applies to “Gut-Rehab,” Renovations as well as any structural removal or partial removal building materials.
<i>T</i>	<i>F</i>	2.	Project Manager, Superintendents or Foremen are responsible for ensuring an Engineering Survey is performed before engaging in any demolition activity.
<i>T</i>	<i>F</i>	3.	Only a Qualified person can conduct an Engineering Survey? A Qualified person may be necessary if the difficulty of the work is beyond the knowledge level of the Competent Person. An example would be a multi-story building that is going to be leveled.
<i>T</i>	<i>F</i>	4.	A Brieser Competent person trained in Demolition safe practices may conduct an Engineering Survey
<i>T</i>	<i>F</i>	5.	All utilities should be capped or otherwise disconnected from the building envelope.
<i>T</i>	<i>F</i>	6.	All utility lines must be capped or otherwise disconnected from the building envelope
<i>T</i>	<i>F</i>	7.	I need to have Asbestos Awareness training before I am eligible to perform demolition activities for Brieser Construction
<i>T</i>	<i>F</i>	8.	I need to have Lead Awareness training before I am eligible to perform demolition activities for Brieser Construction.
<i>T</i>	<i>F</i>	9.	I am not required to have an AC voltage tester (tick tracer) on my body ready for use while performing Demolition activity.
<i>T</i>	<i>F</i>	10.	I must be trained to use the Brieser locate equipment

BRIESER CONSTRUCTION GENERAL CONTRACTORS		DATE:	PROCEDURE:
		2-1-12	Demolition
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	PAGE:
		01	13
STANDARD OPERATING PROCEDURE:		Demolition Operations	
CROSS REFERENCE:	29 CFR 1926, Subpart T Demolition. ANSI/ASSE A10.6 Safety Requirements for Demolition Operations National Demolition Association Safety Manual		

BRIESER CONSTRUCTION

SAFETY & HEALTH MANUAL

SECTION 8 DEMOLITION

SUB-SECTION DEMOLITION ENGINEERING SURVEY

Prior to starting all demolition operations, OSHA Standard [1926.850\(a\)](#) requires that an engineering survey of the structure must be conducted by a competent person. The purpose of this survey is to determine the condition of the framing, floors, and walls so that measures can be taken, if necessary, to prevent the premature collapse of any portion of the structure. When indicated as advisable, any adjacent structure(s) or improvements should also be similarly checked. The demolition contractor must maintain a written copy of this survey. Photographing existing damage in neighboring structures is also advisable. **If the knowledge & experience level of the competent person performing this survey is beyond the scope of this project, the Brieser Safety Dept must be contacted before work starts. A structural Engineer may need to sign off on this permit as a Qualified Person.**

PERMIT INFORMATION	DEMOLITION PROCEDURE	
	COMPETENT EMPLOYEE	
	DATE	
	LOCATION	
	SAFETY APPROVAL	
ROUTING	CUSTOMER	
	PERSONNEL MANAGER	
	SCAN	SAFETY/PERMITS COMPLETED/DEMO ENG. SURVEY/MMDDYY /LOCATION

Job Name		Job Location	

Job Contact			Phone Number		
Name of Structure			Date Built		
Structure Description					
Materials	Foundation		Walls		Floors
	Roof				
Method of Demolition					
Underground Utility Confirmation No.			Brieser Line Locate Device Operator Name		
If Concrete/Asphalt Breaking ONLY	Construction Defects section only need to be completed			Rev. 1	

Construction Defects

Check if applicable	Details	Comments
☐	Identify soil condition of site for voids, instability, & other harmful conditions	
☐	Identify existing utilities both in and near construction area. Use of the Brieser Line Locating Equipment is mandatory, and the use of JULIE is required if applicable.	
☐	Are surrounding businesses also using utilities found on site & will they be shut down if accidentally breached?	

Engineering Survey for Demolition or Remodeling

Check if Applicable	Details	Comments
☐	If building has been damaged by fire, flood &/or explosion, do walls & floors need additional bracing?	
☐	Has an asbestos/lead survey been completed in work areas? If so and if positive, abatement plans must be made	
☐	Identify all utilities: electric, gas (oxygen, natural gas), water, fire sprinklers, sewer, steam, unlabeled pipes, process piping	
☐	Identify all load-bearing walls	
☐	Identify all hazardous chemical systems and storage areas	
☐	Identify all windows, doors, sidewalks, entrances that must be protected with canopies	
☐	Examine adjacent structures around construction area for pre-existing damage. Video or photograph conditions to mitigate damage claims later	
☐	Identify ground water or water tables. Water can apply pressure to walls & intrude or seep	

Environmental Issues

Check if Applicable	Details	Location/Description
☐	Asbestos	
☐	Underground Storage Tanks (UST's)	
☐	Backfill Material	
☐	Storm water Runoff	
☐	Waste Oil	
☐	Solvents	
☐	Contaminated Soil	
☐	Unidentified Drums	
☐	Special Waste	
☐	Hazardous Waste	
☐	Lead Disposal	
☐	PCB Transformers	
☐	PCB Ballasts	
☐	Galbestos	
☐	Contaminated Water	
☐	Heavy Greases	
☐	Contaminated Bricks	
☐	Process Wastes	
☐	Radioactive Devices	
☐	Mercury Thermostats	

Clean Room, Healthcare, Infection Control Considerations

Check if Applicable	Details	Comments
☐	Identify Separation Wall locations around project. This is a critical part of dust control plan	
☐	Ensure all fire system components remain intact and unencumbered	
☐	Develop atmospheric controls to create negative pressure in all construction areas 24/7, include filtration and exhaust to outside as needed	
☐	Ensure all Return Air Ducts in construction area are sealed.	
☐	Route client/public personnel through areas outside of construction areas. Post adequate signage to detail correct route	
☐	Post warning signs on all Construction Area Entrances	
☐	Place sticky mats and other dust controls at all construction exits	
☐	All debris carts exiting construction areas must be covered	
☐	Identify critical areas that might be impacted by construction noise or vibration. Develop communication plans around scheduling and notification	
☐	Post Emergency Procedures and Contact Information at all locations	
☐	Identify hazard chemicals that will be used and develop vapor/fume control plans	
☐	If fire alarm, fire sprinkler, fire exits, breach in fire walls, electrical, water, oxygen, sewer, or HVAC is to be impacted, Interim Life Safety Measures (ILSM) will need to be implemented.	
☐	Identify if air monitoring is needed: preconstruction levels, periodic during construction, and after construction	
☐	Will any ceiling tile be removed that exposes dust into space that may enter clean areas?	
☐	Will any other chase areas be opened that lead into clean areas?	
☐	Clean areas with HEPA filtered units prior to removal of any barriers	

Survey Completed by	
Name	Name
Signature	Signature
Date	Date



Section 9
Safety Health
and
Environmental
Manual

2025

Jobsite Survey & Behavior Observation

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	6/26/2008
		Revised:	10/16/2017
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	09
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Jobsite Survey & Behavior Observation		
CROSS REFERENCE:	None		

JOBSITE SURVEY & BEHAVIOR OBSERVATION

PURPOSE

The purpose of this plan is to establish a program and procedures for the evaluation of self, peers and overall jobsite safety behaviors, unsafe acts, and unsafe conditions at *Brieser Construction*. Our Company is firmly committed to providing each of its employees a safe and healthy work environment. The purpose for this procedure is to outline requirements for conducting daily, weekly and monthly jobsite safety inspections & behavioral observations.

DEFINITIONS

Attitude – Refers to the ‘feel’ part of your work. It relates to how you feel about your work and your approach towards work. Hence, work attitude behavior is intangible. You cannot see it. Your colleagues cannot see it. But people can feel it.

People whom you work with can feel your work attitude behavior. They can feel it if you carry out your tasks with pride. They can feel whether your belief in your work or not. They know if you have passion in your work. These positive attitudes at work are a ‘subconscious’ transfer of feelings.

Behavior – Refers to the ‘do’ part of your work. It relates to how you do your work and how you get your work done. Work behavior attitude can be seen. It is the actual work. You can see the result of your work behavior attitude be it a report or a finished good. Your colleagues can see it. It is the action.

They could see if you worked hard. They can see if you do your work with skills and applied the knowledge you know into the work. They can see for themselves if you are the "all talk and no work" type. Work behavior attitude is the real thing. You cannot fool people into believing that your work behavior attitude is good when it is not.

Unsafe Act – The actions of a person in a manner which vary from the accepted or legislated safe practice and create a hazard to themselves, another person, or equipment.

Unsafe Condition – A condition in which something exists that varies from a normal accepted safe condition and, if not corrected, could cause injury, death, or property damage.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	6/26/2008
		Revised:	10/16/2017
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	09
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Jobsite Survey & Behavior Observation		
CROSS REFERENCE:	None		

RESPONSIBILITIES

The Program Administrator – Safety Director

These people are responsible for:

- Maintaining the training records of all employees included in the training sessions.
- Reviewing and updating this program as necessary.
- Reviewing and analysis of trending
- Preparing action plans to address unsafe behaviors
- Providing initial and annual training of employees on program objectives and incident metrics. How to conduct observations and completion of the Brieser jobsite survey and behavior observation form.
- Conduct jobsite surveys and behavior observations daily

Management – Key Management Team

These people are responsible for:

- Reviewing and analysis of trending
- Assist the Safety Department in preparing action plans to address unsafe behaviors
- Conduct a jobsite survey monthly

Personnel Manager

This department is responsible for:

- Maintaining the training records of all employees included in the training sessions.
- Data entry from Brieser jobsite survey and behavior observation form to trend unsafe behaviors.
- These Jobsite Survey & Behavior Observations are no longer completed on paper. We have an account with Safety Culture (iAuditor) at www.safetyculture.com Where this and many other forms are stored.
- These results and many type of analytics can also be pulled and shared to management and the company when needed.
- If you think you need access to this site to participate in these observations, please contact the Safety Department.

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STANDARD OPERATING PROCEDURE:	Jobsite Survey & Behavior Observation		
CROSS REFERENCE:	None		

The Job Superintendent/Foreman

This person is responsible for:

- Immediately responding to any employee concerns and requests for information.
- Perform one behavior observation and jobsite survey a week.
- Ensure observations remain anonymous and positive in nature
- Turn in Brieser jobsite survey and behavior observation forms to office to be scanned and entered system for trend analysis
- Correct any unsafe behavior or unsafe act or condition in a positive fashion
- Verify that employees are trained on the observation process
- Ensure that each jobsite survey & behavior observation has been signed for their jobsite.

Employees

These people are responsible for:

- Perform at least one behavior observation per week and at least one jobsite survey a week
- Ensure observations remain anonymous and positive in nature
- Turn in Brieser jobsite survey and behavior observation forms to office to be scanned and entered system for trend analysis
- Correct any unsafe behavior or unsafe act or condition in a positive fashion

GENERAL

Conducting the Observation

The key to a successful observation is the initial contact between the observer and the worker or workers that are the subject of the observation. Observers are trained to establish a friendly contact and explain the purpose of the observation and that he/she will identify both the positive observations and the behavior or unsafe condition that requires correction. The Observer will solicit the observed employee's comments as to a solution for the unsafe behavior and recorded on the form. It is also stressed that except for an intentional and flagrant safety violation, there are no names to be associated with the observation. If the worker being observed fails to correct or respond positively to the observer, the supervisor is called, and the observation is halted. Normally, however, the observer finds nothing but safe behavior and thanks the worker for their cooperation and gives the worker praise for doing their job safely.

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STANDARD OPERATING PROCEDURE:	Jobsite Survey & Behavior Observation		
CROSS REFERENCE:	None		

TRAINING

Any Brieser employee wishing to perform Jobsite Surveys and Behavior Observations must be qualified as defined under training requirements in this section.

Training Content

Training will include:

- Program objectives and incident metrics that will be measured on the behavioral observation form
- Hazard identification techniques
- A review of all Brieser Construction critical permits
- History and theory of Behavior Based Safety
- Hands-on or tabletop exercises to improve human interaction
- OSHA VPP elements and overall review of a Safety and Health Management System

TRAINING REQUIREMENTS

Classroom training: 2 Hours

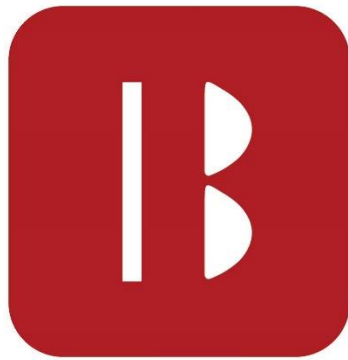
Hands-on: A minimum of five observations under a trained employee, initially management or safety will conduct this training. To be considered an Instructor in Jobsite Survey & Behavior Observations, an individual must complete the 2-hr classroom training and also the required five onsite observations with a qualified instructor.

DATA COLLECTION & TREND ANALYSIS

All Jobsite Survey and Behavior Observations will be sent to the office to be scanned into our network in addition; all Behavior Observations will be entered into a data base which will be grouped according to the forms criteria section and trended for percentage of safe & unsafe behaviors.

ACTION PLAN

The Safety Director in conjunction with the key Management Team provides action plans to address unsafe behaviors. The action plan items will be transferred to our annual VPP submissions to OSHA under the Voluntary Protection Program which is reviewed throughout the year and action items are completed per this list.



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 9
JOBSITE SURVEY & BEHAVIOR
OBSERVATION
TRAINING**

Brieser Construction
Jobsite Survey & Behavior Observation

Company name	Brieser Construction	Job Number	
Supervisor		Surveyed By	
Date/time		Supervisor Signature	
Jobsite location		Project Manager	

S= Safe Condition N/A= Not Applicable R= At Risk Condition

JOBSITE CRITERIA	S	N/A	R	COMMENTS - Positive & Reinforcement

Individual Observation Section

Personal				
Head	☐	☐	☐	
Eyes & Face	☐	☐	☐	
Ears	☐	☐	☐	
Legs & Feet	☐	☐	☐	
Arms & Hands	☐	☐	☐	
Body use and positioning:				
Lifting/Pulling/Pushing	☐	☐	☐	
Striking Against or Being Struck by Objects	☐	☐	☐	
Contacting Temperature Extremes	☐	☐	☐	
Contacting Electric Current	☐	☐	☐	
Exposure to a Hazardous Substance	☐	☐	☐	
Repetitive Motions	☐	☐	☐	
Awkward Positions/Static Postures	☐	☐	☐	
Caught In, On, or Between Objects	☐	☐	☐	
Falling	☐	☐	☐	
Tools and Equipment:				
Proper Selection and Use	☐	☐	☐	
Tool and Equipment Condition	☐	☐	☐	
Cords/Lights Condition and Tagged Properly	☐	☐	☐	
GFCI's/Tested & Being Used	☐	☐	☐	
Scaffolds Tagged & Inspected	☐	☐	☐	
Housekeeping Condition				
At audit start	☐	☐	☐	
During audit	☐	☐	☐	

Jobsite Survey Section

Work				
Housekeeping Condition	☐	☐	☐	
Area Flagged Off Properly	☐	☐	☐	
Proper Storage of Materials	☐	☐	☐	
Walking and Working Surfaces	☐	☐	☐	
Adequate Lighting	☐	☐	☐	
Jobsite General:				
TSTI complete & reviewed	☐	☐	☐	
Emergency Procedures Posted	☐	☐	☐	
First Aid Kit Available and Properly Stocked	☐	☐	☐	
Barricades installed where needed	☐	☐	☐	
Are Anonymous Safety Risk Report Forms Available onsite?	☐	☐	☐	
Safety Meetings Held Weekly	☐	☐	☐	
Operating				
Hot Work/Entry Permits	☐	☐	☐	
Fall Protection Permits	☐	☐	☐	
Confined Space Entry Signs Posted	☐	☐	☐	
Excavation Permits	☐	☐	☐	
Lifting/Rigging Permits	☐	☐	☐	
Demolition-Engineering Survey	☐	☐	☐	
Pre-Lift Permit	☐	☐	☐	
Lock Out/Tag Out Permits	☐	☐	☐	

Jobsite Survey & Behavior Observation Learning Exercise

Score:

%

Employees Name:	<table border="1" style="width: 240px; height: 25px;"></table>	Date:	<table border="1" style="width: 240px; height: 25px;"></table>
Company:	<table border="1" style="width: 240px; height: 25px;"></table>	Instructor:	<table border="1" style="width: 240px; height: 25px;"></table>
Trade:	<table border="1" style="width: 240px; height: 25px;"></table>	Job Title:	<table border="1" style="width: 240px; height: 25px;"></table>

Answer each of the following questions by circling the appropriate letter.

1. If you would like to complete this form you will need to now do this online. Who do you contact for access to the web site?
 - a. Company President
 - b. VP of Operations
 - c. Safety Department
 - d. Equipment Director

2. How long is the classroom portion of the training?
 - a. 1 Hour
 - b. 2 Hours
 - c. 3 Hours
 - d. 8 Hours

3. Which of the following items will NOT be covered during your training?
 - a. Program objectives and incident metrics that will be measured on the behavioral observation form.
 - b. Hazard identification techniques
 - c. A review of all Brieser Construction critical permits
 - d. History and theory of Behavior Based Safety
 - e. Hands-on or tabletop exercises to improve human interaction.
 - f. Tour of the Nuclear Reactor in Braidwood, IL

Jobsite Survey & Behavior Observation Learning Exercise

Answer Sheet

1. If you would like to complete this form you will need to now do this online. Who do you contact for access to the web site?
 - a. Company President
 - b. VP of Operations
 - c. Safety Department**
 - d. Equipment Director

2. How long is the classroom portion of the training?
 - a. 1 Hour
 - b. 2 Hours**
 - c. 3 Hours
 - d. 8 Hours

3. Which of the following items will NOT be covered during your training?
 - a. Program objectives and incident metrics that will be measured on the behavioral observation form.
 - b. Hazard identification techniques
 - c. A review of all Brieser Construction critical permits
 - d. History and theory of Behavior Based Safety
 - e. Hands-on or tabletop exercises to improve human interaction.
 - f. Tour of the Nuclear Reactor in Braidwood, IL**



Section 10
Safety Health
and
Environmental
Manual

2025

Safety Education & Training

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	1/2018
		Revised:	06/06/22
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	19
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Safety Education & Training	
CROSS REFERENCE:	29 CFR 1926.21 Safety Training & Education OSHA Publication 2254 Training Requirements in OSHA Standards		

Safety Education & Training Brieser Construction

PURPOSE

The purpose of this program is to address the types of training and educational classes that a Brieser employee is expected to complete during their time here. Brieser recognizes several functional responsibilities as it relates to field craft. They are:

- SSE employees
- Transitional Employees
- Established Employees
- Competent Person
- Field Manager (Under development)

RESPONSIBILITIES

The Program Administrator: Brieser Safety Manager

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable requirements in Section 10 of Brieser Construction Safety Manual.
- The Safety Manager or his designee will conduct Orientation Training needed by the Short Service Employee (SSE) by job description.
- Adequately training all designees to properly administer Orientation Training
- Ensuring that (SSE) employees receive “new” composition handbook identifying the Date, Site, Foreman, and Mentor assigned to new employee at each job location.
- Maintaining training records for all employees included in the training sessions.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	1/2018
		Revised:	06/06/22
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Project Managers, Superintendents and Foremen

These people are responsible for:

- Ensuring the Short Service Employee is appropriately identified as per this plan and makes initial assignment of Mentor/Coach.
- Ensuring that the Short Service Employee mentor maintains proper knowledge and skills in particular jobs he assigns to the SSE.
- Will assign and serve as a mentor and has reviews with the Short Service Employee regarding any additional hazards associated with any specific task, as well as any emergency equipment of procedures under his job responsibilities.
- Ensure that Short Service Employee Mentor is adequately training SSE.
- Ensure Short Service Employee is gaining the knowledge and skills listed in Brieser Safety Manual, Section 10, for SSE- I, SSE-II, and SSE-III.
- Will notify customer of SSE Program and SSE personnel on site when required.
- Follow all Brieser Construction Company safety rules and policies.

Mentors

These people are responsible for:

- Mentors should have a complete and thorough understanding of their role, responsibility, and accountability for the SSE.
- Have the desire, a patient disposition, and be willing to devote the necessary time to succeed as a mentor.
- Will be the designated person(s) at the site who is responsible and accountable for guiding and monitoring the performance of the Short Service Employee.
- Possess the knowledge and skills in the job tasks that are assigned to a Short Service Employee.
- Be willing and able to effectively listen to SSE to determine if the SSE is learning and retaining the knowledge being shared.
- Provide a “Positive” Safety Attitude, avoid criticism, and strive to build confidence and self-esteem in the SSE.
- Be able to teach SSE Brieser Construction Safety and Health policies and Safety Culture.
- Refrain from taking short cuts and doing anything hazardous to health or safety.
- Print your name and contact hours in the SSE’s composition handbook each time you help, train, or otherwise instruct an SSE.
- Follow all Brieser Construction Company safety rules and policies.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	1/2018
		Revised:	06/06/22
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Short Service Employee

These people are responsible for:

- The SSE will attend Orientation training. SSE will follow instructions as set forth by the SSE Mentor and the site Foreman or Superintendent.
- SSE must complete all three phases of the SSE program and pass with a minimum score of 80% on each section test. Only after meeting these prerequisites will an employee be removed from the Short Service Employee process.
- Will be required to wear a Brieser hardhat with SSE green sticker signifying he/she is a Short Service Employee until such time as the Short Service term hours and testing have been successfully completed.
- Be willing to gain the knowledge and skill to be able to perform in a safe and environmentally sound manner.
- Stop and report unsafe conditions at any time.
- Report all injuries immediately.
- Participate in safety meetings, TSTI's/JHA.
- Have knowledge and documentation in the SSE composition handbook with the Date, Site, Foreman, and Mentor that is assigned to the SSE.
- Follow all Brieser Construction Company safety rules and policies.

DEFINITIONS

Short Service Employee (SSE) - Employees who apply to Brieser with less than 900 hours of experience working for Brieser Construction and has completed the Brieser Orientation.

Established Employee- An employee who has completed the SSE program and Brieser Orientation or has over 900 hours of experience working in the field for Brieser Construction

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DEFINITIONS continued

Competent Person- Employees, who have met the requirements of an Established Employee, completed the Brieser Foreman training and have also completed the required Safety training classes such as Excavation or Confined Spaces. All three aspects must be met to be considered a Brieser Competent Person in each employee's area of expertise. Do not confuse the term Brieser Competent Person as being ubiquitous, one employee may be competent in many areas such as Excavation Competent Person or Fall Protection Competent Person.

A record of Brieser Competent Person's is maintained by the Brieser HR Department and may be requested at any time.

The OSHA definition: "competent person" is defined as "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". By way of training and/or experience, a competent person is knowledgeable of applicable standards, is capable of identifying workplace hazards relating to the specific operation and has the authority to correct them. Some standards add additional specific requirements which must be met by the competent person.

Mentoring – a process of transferring skills and knowledge from one person to another in a work environment. A mentor must have 900 hours of service as a Brieser employee as a minimum.

Supervisor/Foreman- This individual shall be responsible for the direct supervision of the employee.

Short Service Employee (SSE) – Person with less than 900 hours of current continuous service with Brieser Construction are considered a “Short Service Employee”, (unless exempt)

This definition is based on recognition of the following:

1. New hires that are fresh to their craft, whether coming fresh from union hall or another line of work, we understand that these individuals do not have the knowledge base to immediately recognize and understand the hazard in the workplace.
2. Personnel coming to work for Brieser Construction Company from within the industry may not have the safety focus expected of our employees here at Brieser Construction.
3. When a change in work environment occurs, the ability of an individual to fully recognize all the hazards in his work environment is diminished due to their unfamiliarity. Time is required, along with coaching and training, for the (SSE) to safely acclimate to the Brieser Safety Culture.

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CROSS REFERENCE:	29 CFR 1926.21 Safety Training & Education OSHA Publication 2254 Training Requirements in OSHA Standards		

DEFINITIONS continued

Short Service Employee Mentor - a Brieser employee with no less than 900 hours of experience is assigned to the SSE by a field Foremen or Superintendent. This employee serves as a mentor and has reviews with the Short Service Employee regarding any additional hazards associated with any specific task as well as any emergency equipment or procedures under his job responsibilities. This employee will also administer Orientation in the field upon being assigned an SSE employee.

Composition Handbook –This booklet is given to the SSE at Orientation. The book is to be kept available for inspection at the jobsite at all times. The booklet must contain the date, site name, active foreman and SSE mentors' name.

Safety Trainer Designee – A trained Established Brieser employee or 3rd party safety consultant that have been trained by the Brieser Safety Department to administer the Brieser Orientation

PROGRAM ELEMENTS

SSE Employee

The purpose of this program is to identify, adequately supervise, train, and manage Brieser Construction field SSE's who have less than 900 hours of experience in order to prevent injury and harm to themselves, others, and the property which they are servicing and the surrounding area.

Policy

Any Brieser Construction field employee or subcontractor of Brieser Construction who has less than 900 hours of service in the same job/position with Brieser Construction is considered to be a Short Service Employee (SSE).

Training- Orientation

A minimum level of orientation training will be provided for all Short-Service Employees regardless of job assignment. The training content known as Orientation will be taken from our Brieser Employee Safety Handbook. In addition, workplace specific training will be necessary based on the hazards at each job-site location and the tasks the SSE is expected to perform. These hazards will be identified by a Brieser Foreman/Superintendent and training of identified hazards will either be addressed in the classroom or out in the field, depending upon the complexity. Topics which are covered in Orientation are:

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Training- Orientation

1. Safety and Health Policy
2. Introduction
3. Core Values
4. Mission Statement
5. Substance Abuse Policy
6. Sexual Harassment Policy
7. Employee Notice of Rights under OSHA VPP
8. Short Service Employee
9. Hazard Identification and Incident Reporting
10. Disaster Planning, Emergency Preparedness
11. GHS/HAZCOM
12. Respiratory Protection
 - a. Silica
 - b. Asbestos
 - c. Lead
13. Lockout/Tagout
14. Small Tool Safety
15. Rigging and Lifting
16. Confined Spaces
17. Fire Prevention
18. Hot Work
19. Hearing Conservation
20. Ladder Safety
21. Scaffolding
22. Fall Protection
23. Aerial Lifts
24. Material Handling
25. Excavation and Trenching
26. Electrical Safety
27. Bloodborne Pathogens
28. First Aid
29. Heat/Cold Stress
30. PPE
31. Safety Information on brieserconstruction.com
32. Weekly Safety Meeting
33. Workplace Violence

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SSE FIELD RATION

An SSE is not permitted to work alone and crew sizes of less than five shall have no more than one SSE. Brieser Supervision will notify customers of the SSE Program and SSE personnel on site when required.

VISIBLE IDENTIFIER

Short Service Employees hard hats will wear a distinctive **green** sticker whenever they are in the field. Until such time as the Short Service term has lapsed and successfully completed. This allows a quick and sure identification of the SSE by other team members and serves as a reminder of each person's responsibility for the safety of others.

SSE GRADUATION

To remove an employee from Short Service Employee status, the Brieser Mentor must be convinced that the Short Service Employee has a good working knowledge of both our Company as well as the Client's safety policies and has demonstrated safe work behavior for 900 hours of service. In addition to the mentors' verbal approval, the SSE must complete all three phases of the program and pass with a minimum score of 80% when the test is applied. Only after meeting these prerequisites will an employee be removed from the Short Service Employee process and be considered a Transitional employee.

RECORD KEEPING

- The site Superintendent or site Foreman shall maintain a current file of all SSE and Mentors who are assigned to one another at their jobsite.
- The SSE shall keep record of his current and past mentors, project sites and foreman arranged by date in their SSE booklets.
- All contact hours must be logged into the SSE's composition booklets from each of his mentors along with any recommendations.
- All SSE employees are tracked by Brieser office and tests are administered at the end of each phase of the program.
 - SSE I- 300 hrs.
 - SSE II- 600 hrs.
 - SSE III- 900 hours.
- At the end of 900 hours of service, assuming the SSE past all requirements, the SSE will be sent a congratulatory letter and considered an Established Employee.

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ESTABLISHED EMPLOYEE

The purpose of this program is to identify, adequately supervise, train, and manage Brieser Construction field employees (Established Employees) who has completed the SSE program and Brieser Orientation or has over 900 hours of experience working in the field for Brieser Construction.

POLICY

Any Brieser Construction field employee who has completed the SSE program and Brieser Orientation or has over 900 hours of experience working in the field for the same job/position with Brieser Construction is considered to be an Established Employee (EE). Established employees are considered to have met the core competency and are considered competent for general hazards on the jobsite.

DEFINITIONS

Established Employee- An employee who has completed the SSE program and Brieser Orientation or has over 900 hours of experience working in the field for Brieser Construction

RESPONSIBILITIES

The Program Administrator: Brieser Safety Manager

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable requirements in Section 10 of Brieser Construction Safety Manual.
- The safety Manager or his designee will conduct Orientation Training needed by the Established Employee (EE)
- Adequately training all designees to properly administer Orientation Training
- Maintaining training records for all employees included in the training sessions.

V.P. Field Operations

These people are responsible for:

- Ensuring the Established Employee is scheduled to participate in Brieser.
- person training on an as needed basis.

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Project Managers, Superintendents and Foremen

These people are responsible for:

- Knowing the hazards in their areas that require specific training such as Confined Spaces, Excavation competent person or Lockout/Tagout
- Assuring that employees are trained before a job task can be completed.
- Verify that training is current.

Established Employee

These persons are responsible for:

- Be willing to gain the knowledge and skill to be able to perform in a safe and environmentally sound manner.
- Stop activity and report unsafe conditions at any time.
- Report all injuries immediately.
- Participate in safety meetings, TSTI's/JHA.
- Always carry the Brieser Employee Safety Handbook
- Follow all Brieser Construction Company safety rules and policies.
- Update their core safety training to remain qualified to make critical safety decisions in the field.

VISIBLE IDENTIFIER

Established Employees will wear a white hard hat whenever they are in the field.

EE GRADUATION

To consider an Established Employee, one must complete all phases of the SSE program as well as the TE program and pass with a minimum score of 80% whenever knowledge is evaluated. Only after meeting these prerequisites will an employee be considered an Established Employee.

RECORDKEEPING

- All Established Employee training shall be tracked by the Brieser office.

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BRIESER COMPETENT PERSON

The purpose of this program is to identify, adequately supervise, train, and manage Brieser Construction Field Supervision employees who meet the requirements of an Established Employee.

POLICY

Any Brieser Construction field employee who has met the requirements of an Establish Employee and wishes to further their safety education and be considered a Brieser Job Foreman/Supervisor may apply to their supervisor to be placed in the Brieser Competent Person program. The employee should ask to be place in the Brieser Job Foreman/Supervisor class. Successful completion of the Job Foreman/Supervisor training as well general training in an area of discipline would then qualify the employees as Competent in their area of discipline.

However, Brieser understands that each area of discipline requires additional training such as Confined Spaces or Excavation. Each Brieser employee will be required to attend a class in each discipline area to be considered Competent in a specialized area. Example: Jim Jones is an Establish Employee and is considered competent for general hazards on the jobsite. Jim also has training certificates in Fall Protection and Excavations. Therefore, Jim would be considered Competent in those two areas mentioned but not in another area that he is not trained in, such as Confined Spaces. Jim would need to take a class or show certification of past Confined Space training. Only the VP of Operations can override the training certification qualification if the individual is considered competent through experience on the job.

DEFINITIONS

Employees who have met the requirements of an Established Employee completed the Brieser Job Supervisor class and have also completed the required Safety training classes such as Excavation or Confined Spaces. All three aspects must be met to be considered a Brieser Competent Person in each employee's area of expertise. Do not confuse the term Brieser Competent Person as being ubiquitous, one employee may be competent in many areas such as Excavation Competent Person or Fall Protection Competent Person.

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RESPONSIBILITIES

The Program Administrator: Brieser Safety Manager

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable requirements in Section 10 of Brieser Construction Safety Manual.
- The safety Manager or his designee will conduct Job Foreman/Supervisor Training needed by the Established Employee (EE)
- Adequately training all designees to properly administer Job Foreman/Supervisor Training
- Maintaining training records for all employees included in the training sessions.

Project Managers, Superintendents and Foremen

These people are responsible for:

- Knowing the hazards in their areas that require specific training such as Confined Spaces, Excavation competent person or Lockout/Tagout
- Assuring that employees are trained before a job task can be completed.
- Verify that training is current.

V.P. Field Operations

These people are responsible for:

- Ensuring that Job Foreman or Job Supervisors are properly trained and has completed the definition of Competent Person listed in this policy.

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Competent Person Employee

These persons are responsible for:

- Be willing to gain the knowledge and skill to be able to perform in a safe and environmentally sound manner.
- Stop activity and report unsafe conditions at any time.
- Report all injuries immediately.
- Participate in safety meetings, TSTI's/JHA.
- Always carry the Brieser Employee Safety Handbook
- Follow all Brieser Construction Company safety rules and policies.
- Update their core safety training to remain qualified to make critical safety decisions in the field.
- Sign off on all Brieser Specialized Permits, that you are trained for, located in various sections of this Safety Manual, and indicated on the Brieser TSTI form that is completed for each work task.

VISIBLE IDENTIFIER

Competent Employees will wear a white hard hat whenever they are in the field.

COMPETENT PERSON GRADUATION

To consider a Competent Employee, one must complete all phases of the Competent Person program and pass with a minimum score of 80% whenever knowledge is evaluated. Only after meeting these prerequisites will an employee be considered a Competent Employee.

RECORDKEEPING

- All Established Employee training shall be tracked by the Brieser office.

ONGOING TRAINING

The following list must be completed by any Brieser employee within the first year of employment (Initial) and in some circumstances annually (Refresher). In some circumstances training may be repeated if the employee does not demonstrate competency in the area of instruction while performing tasks in the field. Some classes may be limited to a specific craft, change of tool or equipment.

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Initial

- Asbestos Awareness
- Back Safety
- Basic Construction Safety
- Behavior-based Safety Training for Supervisors-Orientation
- Blood-borne Pathogens
- Compressed Gas Safety
- Confined Space Entry General Awareness
 - Specific to duties and activities-Changes
- Defensive Driving
- Drug & Alcohol Awareness 60/60
- Electrical Safety
 - Unqualified
 - Qualified
- Emergency and Disaster Preparedness
 - Retraining if plan changes
- Ergonomics/Fatigue Mgt
- Ergonomics/Fatigue Mgt for Supervisors
- Eye and Face Protection
 - When necessary, after changes in the workplace warrant it, change to type of PPE when employee has not retained the requisite understanding and skill.
- Fall Protection Program
- Fire Prevention and Safety
- First Aid, CPR & AED
- Forklift Safety Program
 - (Equipment Specific)
- Hand and Finger Safety
 - When necessary, after changes in the workplace warrant it, changes to type of PPE when employee has not retained the requisite understanding and skill.
- Hand and Power Tool Safety
 - Equipment Specific
- Hazard Communication General & Site Specific
- Hearing Conservation
- Hoisting and Rigging
 - Specific to Qualified Riggers only
- Indoor Air Quality
- Indoor Crane and Sling Safety
 - Specific to Qualified Riggers only
- Ladder and Scaffolding Safety
- Lead Safety Awareness
- Lockout/Tagout
- Machine Guarding Safety-Annually-Types of & Specific equipment.
- Material Handling and Storage Procedures- Initial
- Office Safety- Initial
- OSHA 10 hr. (no expiration)
- Personal Protective
- Preventing Discrimination in the Workplace
- Preventing Strains and Sprains
- Process Safety Management Program
- Respiratory Protection- Initial & Annual Refresher
- Safety Data Sheets-Initial
- Sexual Harassment Prevention
- Slips, Trips, and Falls
- Spill Prevention and Control
- Stress Management

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Initial continued

- Trenching and Excavation Safety
- Welding, Cutting and Brazing
 - Specific to Iron Workers only
- Winter Driving Safety
- Working In Extreme Temperatures
- Working Safely: Job Safety Analysis
- Working Safely: Job Safety Analysis for Supervisors
- Workplace Safety Orientation
- Workplace Violence

Annually

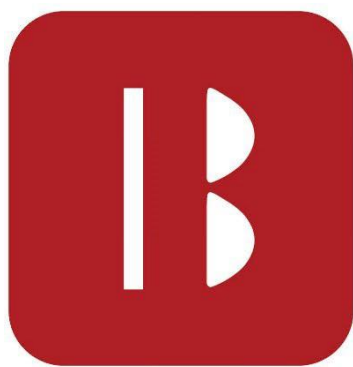
- Asbestos Awareness
- Blood-borne Pathogens Refresher
- Ergonomics/Fatigue Mgt
- Fall Protection Program
- Fire Extinguisher
- Ergonomics/Fatigue Mgt for Supervisors
- Hearing Conservation (Vac Truck Operators Only)
- Lead Safety Awareness
- Lockout/Tagout Awareness
- Respiratory Protection
- Spotter / Signal Person

Every 3 Years

- First Aid & CPR
- Process Safety Management Program

Every 5 Years

- Hoisting and Rigging



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 10
SAFETY EDUCATION & TRAINING
SUB-SECTION TRAINING**

Short Service Employee I Brieser Construction

Score: _____ **%**

Employees Name: _____

Date: _____

Company: _____

Mentor: _____

Job Title: _____

- 1) What section of the Brieser SH&E Manual contains our Company Values & Mission Statement?
 - a) Section 2
 - b) Section 10
 - c) Section 3
 - d) Section 12

- 2) What does the acronym VPP stand for?
 - a) Valuable Protection Program
 - b) Valued Personal Protection
 - c) Voluntary Protection Program
 - d) Voluntary Personal Protection

- 3) Brieser Construction Safety, Health & Environmental Committee is made up of:
 - a) Brieser Management and Foreman.
 - b) Hourly representatives and Foreman
 - c) The Owner & Management.
 - d) Just hourly representatives (foreman are not allowed on the committee)

- 4) Before any job task is started for Brieser Construction what form must be completed?
 - a) Pre-task evaluation sheet
 - b) 2-minute drill
 - c) Pre-lift form
 - d) TSTI

- 5) During a user inspection of the tools and equipment that will be used for a job, you find that a saw appears to have a guard missing. What is your next step?
 - a) Use the saw if it appears to be in good condition even without the guard.
 - b) Put it back in the job box and get one that is in good working condition.
 - c) Tell my supervisor.
 - d) Tell my supervisor and tag the tool out of service so nobody else uses it.

- 6) If you are going to be performing operations that may produce a spark or ignition source what permit must be filled out?
 - a) Hot Work Permit
 - b) Fire Permit
 - c) Low Energy Permit
 - d) High Energy Permit

Short Service Employee I Brieser Construction

Employees Name: _____

Date: _____

- 7) How many days in a row are employees allowed to work at Brieser?
- a) 10
 - b) 11
 - c) 12
 - d) 14
- 8) If the employee identifies a condition that appears to be hazardous or has a safety suggestion, the best person to notify is:
- a) OSHA
 - b) Brieser's Safety Director
 - c) Your supervisor
 - d) Brieser's President
- 9) How many specialized permits are listed on the TSTI?
- a) 16
 - b) 9
 - c) 13
 - d) 8
- 10) Before I use any piece of equipment or tool at Brieser Construction I must be trained to properly and safely use that tool or equipment.
- a) True
 - b) False
- 11) What is the purpose of the PPE Matrix sheet?
- a) It lists all Health hazards for any job task.
 - b) It is a list of selected tools & equipment and required Personal Protective Equipment
 - c) It is a list of Environmental hazards that I might encounter on the jobsite.
 - d) None of the above
- 12) The PPE Matrix can be found...
- a) Both C & D
 - b) In the OSHA Construction Standards
 - c) Section 30 of the Brieser SH&E Manual
 - d) In the front cover of a Brieser safety paperwork binder

Short Service Employee I Brieser Construction

SSE-I Answer Key

1	A
2	C
3	B
4	D
5	D
6	A
7	D
8	C
9	C
10	A
11	B
12	A

Score: _____ %

Employees Name: _____

Date: _____

Company: _____

Mentor: _____

Job Title: _____

1. Who would be an example of an “Affected Employee” under the Lockout/Tagout Program?
 - a) The person locking out.
 - b) A machine operator whose machine is being serviced and thus locked out.
 - c) A Forklift driver whose job is to pick up material produced by the machine being locked out.
 - d) Both B & C
2. Which is the correct sequence to follow when performing a LOTO, what are the energy control procedures?
 - a) Preparation for Shutdown, Machine or Equipment Shutdown, Machine or Equipment Isolation, Lockout Device Application, Stored Energy, Verification of Isolation
 - b) Preparation for Shutdown, Machine or Equipment Isolation, Machine or Equipment Shutdown, Lockout Device Application, Stored Energy, Verification of Isolation
 - c) Verification of Isolation, Preparation for Shutdown, Machine or Equipment Shutdown, Machine or Equipment Isolation, Lockout Device Application, Stored Energy
 - d) None of the Above
3. What level must I be trained to in order to perform LOTO?
 - a) Other Employee
 - b) Affected Employee
 - c) Authorized Employee
 - d) Electrician
4. A Confined Space is defined as:
 - a) Limited means of access
 - b) Not designed for occupancy
 - c) Large enough for an employee to enter.
 - d) All the above
5. Confined Spaces always require a permit to enter?
 - a) True
 - b) False
6. Which one of these hazards will require a confined space to be permit-required?
 - a) An excavation with no additional hazards beyond normal hazards associated with an excavation.
 - b) An excavation with atmospheric hazards, such as low oxygen content
 - c) A vessel with converging walls that could potentially entrap an entrant.
 - d) Both B & C

Short Service Employee II Brieser Construction

Employees Name: _____

Date: _____

7. A confined space Attendant is always needed when working with confined spaces, even non-permit space?
 - a) True
 - b) False
8. Who determines whether a “space” will be classified as a Permit Required Confined Space or a Non-Permit Required Confined Space?
 - a) Attendant
 - b) Entrant
 - c) Anyone
 - d) Brieser Foreman who is qualified in Confined Spaces
9. Who can function as an Entry Supervisor once a Confined Space has been classified as a Permit Required Confined Space for Brieser Construction?
 - a) Entrant
 - b) Attendant
 - c) Brieser Foreman
 - d) None of the above
10. Before any employee of **Brieser Construction** enters the space, the internal atmosphere shall be evaluated with a calibrated, direct reading instrument for the following conditions in the following order:
 - a) Flammable gases & vapors, Oxygen content, other toxic contaminants
 - b) Oxygen content, Flammable gases & vapors, other toxic contaminants
 - c) Other toxic contaminants, Oxygen content, Flammable gases & vapors
 - d) Oxygen content, Other toxic contaminants, Flammable gases & vapors
11. How long is a permit good for during a confined space entry?
 - a) 8 hours
 - b) Expires when the task is completed or 12 hours whichever comes first.
 - c) 10 hours
 - d) Only when the entry supervisor cancels it.
12. For vertical entry confined spaces, the detector (air monitoring equipment) shall be lowered into the space to evaluate each ___ section for ____ minutes in each position.
 - a) Third – 3
 - b) Half – 2
 - c) Third – 4
 - d) Quarter – 4

Short Service Employee II Brieser Construction

Employees Name: _____

Date: _____

13. After a Permit Required Confined Space has been issued a permit and all items have been documented on that permit. Who must sign the permit to make it valid for work to begin?
- a) Attendant
 - b) Entrant
 - c) Entry Supervisor (Brieser Foreman)
 - d) None of the above
14. How close is powered equipment allowed to dig beforehand digging is required within a known interference (e.g., utility lines)?
- a) 6 inches
 - b) 1 foot
 - c) 2 feet
 - d) 6 feet
15. How far back from the slope of an excavation must a piece of heavy equipment be?
- a) 6 inches
 - b) 1 foot
 - c) 2 feet
 - d) 5 feet
16. How far back must a spoil pile be from the slope of an excavation?
- a) 6 inches
 - b) 1 foot
 - c) 2 feet
 - d) 6 feet
17. In trenches/excavation equal to or greater than 4 feet what precautions must a competent person take to perform the work safely if an employee enters the hole?
- a) A means of egress/ingress, Atmospheric testing, Cave-in protection
 - b) Nothing needs to be done.
 - c) Atmospheric Testing is sufficient.
 - d) None of the above
18. Every excavation regardless of depth must have...
- a) Competent Person
 - b) A permit
 - c) Julie/Brieser locate performed.
 - d) All the Above

Short Service Employee II Brieser Construction

Employees Name: _____

Date: _____

19. Which of the following would be examples of “Hot Work”?
- a) Welding
 - b) Grinding
 - c) Use of Battery-Operated tools
 - d) Only A & B
20. Hot work is any operation that generates _____, _____ or _____.
- a) Low voltage, Radiation or Corrosion
 - b) Heat, Spark, or open flame
 - c) Low voltage, High Voltage, or Electrical Current
 - d) None of the Above
21. What is the minimum rating of a portable fire extinguishers while performing under a Hot Work permit?
- a) APW
 - b) CO2
 - c) 3A-10B:C
 - d) 2A-20B:C
22. How far out must you go from the center of your Hot Work activity in order to protect against potential fire hazards?
- a) 10 feet
 - b) 25 feet
 - c) 35 feet
 - d) 100 feet
23. A Fire Watch is always required when performing Hot Work activities?
- a) True
 - b) False
24. A pre-lift permit is required for:
- a) Lifting a load with a powered industrial truck equipped with forks where the load is secured to a pallet.
 - b) Lifting a load with a crawler excavator by way of rigging.
 - c) Lifting a load with a powered industrial truck where the load is secured to a jib attachment and nylon sling.
 - d) Both b & c
25. Training requirements for powered industrial truck operators must include the following:
- a) Formal instruction, practical training, and evaluation
 - b) Only evaluation for operators that have had previous certification on like machines.
 - c) After training is completed, a certificate must be kept for recordkeeping purposes.
 - d) All the Above

Short Service Employee II Brieser Construction

SSE-II Answer Key

1	D
2	A
3	C
4	D
5	B
6	D
7	B
8	D
9	C
10	B
11	B
12	D
13	C
14	C
15	D
16	C
17	A
18	D
19	D
20	B
21	D
22	C
23	B
24	D
25	D

Short Service Employee III Brieser Construction

Employees Name:		Date:	
Company:		Mentor:	
		Job Title:	

- 1) What word defines the “do” part of your work in Section 9 of the SH&E Manual?
 - a. Attitude
 - b. Unsafe Act
 - c. Behavior
 - d. None of the Above

- 2) Where could you find this phrase? **We encourage people to grow as individuals to their full potential and we praise their contribution to the *safety practices, growth, and profitability* of our Company.**
 - a) Brieser SH&E Manual Section 2
 - b) On the card I was given at orientation
 - c) Both A & B
 - d) None of the Above

- 3) What elements below describe an effective occupational safety & health program under OSHA VPP safety & health management system?
 - a) Management Commitment & Employee Involvement
 - b) Worksite Analysis
 - c) Hazard Prevention & Controls & Safety Training
 - d) All the above

- 4) Mentoring can be a challenging and rewarding experience. How long must you be an employee at Brieser to be eligible to mentor a new hire?
 - a) After I complete the Short Service Program
 - b) I must have permission from Safety.
 - c) After one year of service as a Brieser employee
 - d) After two years as a Brieser employee

- 5) Daily inspection of equipment on the pre-lift permit means...
 - a) Walk around and kick the tires.
 - b) At a minimum, the manufacturers recommendation for daily inspections
 - c) Just the Brakes
 - d) This is Maintenance’s job.

- 6) When identifying the load weight to be picked that includes.
 - a) Weight of the load
 - b) Weight of the rigging equipment (slings, shackles, lifting beams, etc.)
 - c) Components, (blocks, jibs, etc.)
 - d) All the above

**Short Service Employee III
Brieser Construction**

Employees Name: _____

Date: _____

- 7) Two ways to identify the weight of a load are:
 - a) Assumed & Measured
 - b) Presumed & Calculated
 - c) Calculated Only
 - d) Measured & Calculated

- 8) A lift of a load becomes critical, and therefore not allowed, when the boom passes over or within ____ feet of electrical power lines rated at 50kV or less.
 - a) 5
 - b) 25
 - c) 15
 - d) 10

- 9) A tag line is required 100% of the time during a lift.
 - a) True
 - b) False

- 10) What is the purpose of the PPE Matrix sheet?
 - a) It lists all Health hazards for any job task.
 - b) It is a list of selected tools & equipment and required Personal Protective Equipment
 - c) It is a list of Environmental hazards that I might encounter on the jobsite.
 - d) None of the above

- 11) The PPE Matrix can be found...
 - a) Both C & D
 - b) In the OSHA Construction Standards
 - c) Section 30 of the Brieser SH&E Manual
 - d) In the front cover of a Brieser safety paperwork binder

- 12) When operating a Jumping Jack, the following PPE is required in addition to Hardhat & Safety glasses.
 - a) Face shield
 - b) Toe clips/Safety Toe Boots
 - c) Hearing Protection & Gloves
 - d) Both B & C

Short Service Employee III Brieser Construction

Employees Name: _____

Date: _____

- 13) Referring to the Fall Protection policy what is the Employees responsibility(s)?
- a) Participating in fall protection training
 - b) Reviewing and understanding the components of the written program.
 - c) Following the requirements of this program
 - d) All the Above
- 14) At what height must a fall protective system be employed?
- a) 4 ft.
 - b) 5 ft.
 - c) 6 ft.
 - d) Either 4 or 6 feet dependent upon the rules officially I am working in.
- 15) Anytime anyone puts on a full body harness for the use of fall protection, a competent person must fill out what form?
- a) Fall Protection list.
 - b) Fall Arrest System form.
 - c) Fall Protection Permit
 - d) None of the above
- 16) There are two exceptions to the Fall Protection/Body Harness Permit, they are:
- a) Aerial Lifts
 - b) Scissors Lifts
 - c) Both A & B
 - d) No exceptions, always fill out the permit when wearing a body harness.
- 17) Employees Who Are Required to Wear Respiratory Protection are responsible for:
- a) Wearing appropriate respiratory protection
 - b) Properly maintaining their respiratory protection equipment and keeping it clean and in an operable condition. Reporting any problems associated with the use of respirators and new conditions that may require investigation.
 - c) Conducting self-fit tests of their respirators each time a respirator is worn.
 - d) All the above
- 18) One exception to voluntary use of respirators under the Brieser policy is the use of what type of respirator?
- a) Filtering Face piece
 - b) SCBA
 - c) Half Mask
 - d) Full Face

Short Service Employee III Brieser Construction

Employees Name: _____

Date: _____

- 19) What is the major difference between wearing a respirator voluntarily or when required by the company?
- a) Voluntary use constitutes that a respiratory hazard does not exist or is below OSHA permissible limits and the wearer is simply wearing it for “peace of mind.” Whereas required means a hazard exists and the use of a properly selected respirator is needed to provide acceptable protection from that hazard.
 - b) Voluntary use is allowed under any circumstance, even in a hazardous atmosphere, as long as it is a filtering face piece respirator.
 - c) Anytime I put on a respirator it is considered required under Brieser policy and I must inform my foreman.
 - d) None of the above
- 20) The top rail of scaffolding must be how high (inches)?
- a) 35
 - b) 36
 - c) 42
 - d) 46
- 21) When using rolling tower scaffolding what is the maximum height you can build to without using outriggers or tying it down to prevent tipping?
- a) 4 times minimum base dimension
 - b) 2 times minimum base dimension
 - c) 6 times minimum base dimension
 - d) 8 times minimum base dimension

Short Service Employee III Brieser Construction

SSE-III Answer Key

1	C
2	C
3	D
4	A
5	B
6	D
7	D
8	D
9	B
10	B
11	A
12	C
13	D
14	D
15	C
16	C
17	D
18	A
19	A
20	C
21	B



Section 11
Safety Health
and
Environmental
Manual

2025

OSHA Inspection Procedure

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	02/16/2005
		Revised	4/10/2008
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	01
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Procedure for an OSHA inspection		
CROSS REFERENCE:	29 CFR 1903 Inspections, Citations, and Proposed Penalties		

STANDARD PROCEDURES FOR AN OSHA INSPECTION

Preparation for Inspection - Notify Safety Director immediately. The Safety Director will notify site owner and other potentially affected contractors and will coordinate the inspection.

- Request to see the compliance officer's credentials and document his/her name.
- Inquire as to the reason for the visit.
 - Employee complaint
 - General or scheduled inspection
 - Referral
 - Fatality or catastrophe investigation

INSPECTION PROCEDURES

- Opening Conference
 - Is to inform management of OSHA's purpose and identify the scope of the inspection.
 - The representative should begin taking notes.
 - The Safety Director will be the management's representative.
 - Be prepared to show the compliance officer the OSHA 200 & 300 Logs, OSHA 300A, 1st Report of Injuries and OSHA poster.
 - Be knowledgeable of what is contained in the safety manual.
- Walkaround
 - Try to correct any violation immediately, if possible.
 - If the inspection is the result of a specific employee complaint or targeting a specific work area or task, walk the compliance officer via the most direct route to the designated area only.
 - Walk to the job site with the compliance officer and take notes.
 - Note any areas where pictures are taken by the compliance officer. Take pictures every time the compliance officer takes pictures.

***Note:** Site owner must authorize the taking of any pictures.*
- Closing Conference
 - The compliance officer will review all violations.
 - Take good notes pertaining to alleged violations.
 - Be certain as to the time allowed for abatement of the alleged violation.
 - **Do not argue with the compliance officer.**

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		Revised	4/10/2008
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OSHA Inspection Learning Exercise

Score: %

Employees Name:		Date:	
Company:		Instructor:	
Trade:		Job Title:	

Answer each of the following questions by circling the appropriate letter.

1. When an OSHA inspector arrives on your work site you should immediate contact who?
 - a. The Director of Operations
 - b. The President of the Company
 - c. The Safety Director
 - d. OSHA

2. Brieser Construction has no issue with an OSHA inspector walking the site by themselves.
 - a. True
 - b. False

3. When the OSHA inspector finds something wrong at your site Brieser requires you to argue with the inspector.
 - a. True
 - b. False

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OSHA Inspection Learning Exercise

Answer Sheet

1. When an OSHA inspector arrives on your work site you should immediate contact who?
 - a. The Director of Operations
 - b. The President of the Company
 - c. The Safety Director**
 - d. OSHA

2. Brieser Construction has no issue with an OSHA inspector walking the site by themselves.
 - a. True
 - b. False**

3. When the OSHA inspector finds something wrong at your site Brieser requires you to argue with the inspector.
 - a. True
 - b. False**



Section 12
Safety Health
and
Environmental
Manual

2025

Lockout/Tagout

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/16/2015
		Revised:	01/2023
CORPORATE SAFETY MANUAL		Revision:	06
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Lockout Tagout Program	
CROSS REFERENCE:	29 CFR 1910.147 Lockout Tagout. 29 CFR 1926.416 & 417 NFPA 70E Standard for Electrical Safety in the Workplace		

PURPOSE

The purpose of this program is to establish procedures for the safe control of energy through locking and tagging of equipment and machinery at *Brieser Construction*. This procedure establishes the minimum requirements for controlling hazardous energy whenever maintenance or repair is done on machinery at the corporate facility and at construction sites. It is used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources, and locked out before employees perform any servicing or maintenance where the unexpected energization or start-up of the machine or equipment or release of stored energy could cause injury. Hazards being guarded against include being caught in, being crushed by, being struck by, being thrown from, or contacting live electrical circuits/parts. This program supports compliance with the Occupational Safety and Health Administration Lockout/Tagout Standard as found in 29 CFR 1910.147.

The procedure herein established will ensure that machines and equipment are properly isolated from hazardous or potentially hazardous energy sources during servicing and maintenance and properly protect against reenergization as required by 29 CFR 1910.147.

While any employee is exposed to contact with parts of fixed electrical equipment or circuits which have been deenergized, the circuits energizing the parts shall be locked out and tagged in accordance with the requirements of 29 CFR 1910.333(b)(2). **Brieser Employees shall not work around deenergized circuits/parts that do not have locks/tags applied as part of either the customers' LOTO plan or Brieser's.**

OSHA's Construction Industry Standard 29 CFR 1926 Subpart K states; No employer shall permit an employee to work in such proximity to any part of an electric power circuit that the employee could contact the electric power circuit in the course of work, unless the employee is protected against electric shock by deenergizing the circuit, grounding it or by guarding it effectively by insulation or other means.

Brieser Construction employees are also faced with underground utilities during excavation. Some of which are underground electrical lines. It is our policy that no employee of Brieser Construction will be allowed to excavate by any means when it known that an underground/buried live electrical line is present unless properly guarding it effectively by insulation perform and set in place by a qualified person.

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		Revised:	01/2023
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PURPOSE continued

NFPA 70E Standard for Electrical Safety in the Workplace covers electrical safety-related work practices and procedures for employees who work on or near exposed energized electrical conductors or circuit parts in the workplace. Article 110.8 Working on or Near Electrical Conductors or Circuit Parts states: Safety-related work practices shall be used to safeguard employees from injury while they are working on or near exposed electric conductors or circuit parts that are or can become energized. Live parts to which an employee might be exposed shall be put into an *electrically safe work condition* before an employee works on or near them.

Only when disconnecting means or other devices are incapable of being locked out, and until lockout capability is provided, will a tagout procedure (without lockout), be utilized. See Appendix A

Copies of the NFPA 70E written program may be obtained from the corporate office.

ENFORCEMENT

Any employee who fails to follow these procedures will face disciplinary action in accordance with those listed in the Brieser Construction Safety Manual Section 3. The Site Superintendent has the responsibility to ensure that the program is followed and enforced.

DEFINITIONS

Affected Employee – An employee whose job requires him/her to operate or use a machine or equipment on which service or maintenance is being performed under lockout/tagout, or whose job requires him/her to work in an area in which such service or maintenance is being performed. Affected employees must be informed when lockout/tagout is being performed.

Authorized Employee – A person who locks and tags machines or equipment to perform service or maintenance on that machine or equipment. Each authorized employee will receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.

Electrically Safe Work Condition – A state in which the conductor or circuit part to be worked on or near has been disconnected from energized parts, locked/tagged in accordance with established standards, tested to ensure the absence of voltage, and grounded if determined necessary.

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DEFINITIONS continued

Energy – A device is energized if it is connected to an energy source or if it contains any residual or stored energy. An energy source is any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, nuclear, or other energy.

Energy Isolating Device – A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: a manually operated electrical circuit breaker, a disconnect switch, a line valve, slip blind, slip gate, or a block and any similar device used to block or isolate energy.

The following are not considered to be energy isolating devices:

- Push Button
- Selector Switch

An energy isolating device will be capable of being locked out if:

- It is designated with a hasp or other attachment or integral part of which, or through which, a lock can be affixed.
- It has a locking device built into it.

For the purpose of this program, if a device is capable of being locked out, then it shall be locked out to provide maximum safety to all employees. If an energy isolating device is not capable of being locked out, the tagout procedure shall be utilized.

Lockout – The process used to identify, cut off and secure all energy sources before beginning repairs, adjustments, or maintenance. A lockout device is used to secure equipment or machinery in the off position, ensuring that the equipment or machinery cannot be operated.

Lockout Device – A lock (either key or combination type) that holds an energy isolating device in a safe position and prevents the machine or equipment from energizing.

Group Lockout Device – A group lockout device is a device to which more than one lockout device may be attached by more than one authorized employee to provide protection for a group of employees working on the same machinery or equipment.

Qualified Person – One who has demonstrated skills and knowledge related to the construction and operation of electrical equipment and installations and has received safety training to identify and avoid the hazards involved.

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DEFINITIONS continued

Servicing and/or Maintenance – Workplace activities that require lockout/tagout on the equipment before beginning the activities because employees may be exposed to the unexpected energization or startup of the equipment or the release of hazardous energy. Servicing and/or maintenance includes constructing, installing, setting up, adjusting, inspecting, modifying, lubricating, cleaning or un-jamming and making tool changes.

Tagout Device – A warning tag (weather & chemical resistant) standardized in size, color, with wording warning of hazardous energy.

Zero Energy State – All energy has been controlled in machinery or equipment.

RESPONSIBILITIES

The Program Administrator-Brieser Safety Department

These people are responsible for:

- Issuing and administering this program and making sure that the program satisfies the requirements of all applicable standards.
- Providing initial and annual training of employees on lockout/tagout procedures
- Maintaining the training records of all employees included in the training sessions.
- Verifying through periodic audit that the energy control program effectively protects employees servicing powered equipment.

Superintendent/ Supervisors whose Job Sites/Areas Contain Energized Equipment

These people are responsible for:

- Assuring that all employees who are authorized to service equipment within the facility have received training on appropriate lockout/tagout procedures and energy control plans.
- Completing energy control plans for each specific piece of equipment or process at their jobsite.
- Assuring that appropriate energy isolation devices are available for all equipment or processes.
- Assigning locks to authorized employees.
- Coordinating activities of contractors that may affect lockout/tagout and energy control procedures within the company.

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RESPONSIBILITIES continued

Authorized Employees

These people are responsible for:

- Complying with the company's energy control program
- Following all safe shutdown and startup procedures
- Communicating activities to all affected employees and other authorized employees
- Ensuring the security of their own lock and key
- Ensuring that the appropriate procedures for Lockout/Tagout are in place when a group of employees works on the same equipment or machinery.

Affected Employees

These people are responsible for:

- Following the direction of the authorized employee as it affects the operation of their equipment.

PROGRAM ACTIVITIES

Site/Client Specific Energy Control Procedures

Due to the nature of *Brieser Construction* activities and that *Brieser Construction* projects are of short duration at one specific geographic location, the development of site-specific Energy Control Procedures cannot be reasonably developed. Therefore, it will be the responsibility of the Superintendent and the client's representative to identify what work practices at a specific site will require an Energy Control Procedure. Once identified, site specific procedures can be developed. Quite often the client will have written current procedures in-place.

For these situations, *Brieser Construction* will collaborate with the client's site representative and follow the requirements of the client's programs. Site-specific training will be provided to all *Brieser Construction* employees on the site who may be exposed to energy sources. **Individual locks and tags will be provided for all Brieser Construction employees to use in conjunction with the customers specified energy control procedures.**

The Site Superintendent will provide the client a list of Authorized and Affected employees for that specific construction site.

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PROGRAM ACTIVITIES continued

Other situations such as working near an excavation or steep slope have procedures that may require personnel to use mobile equipment as an anchorage point. Specific procedures have been developed to address those instances: *Mobile Equipment LOTO for Fall Protection Anchorage* and *Vac Truck LOTO for Fall Protection Anchorage* and are attached as **Appendix I** and **Appendix J** respectively as part of this document.

GENERAL

- All machines/equipment that contain energy shall be locked out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Lockout will also apply when working on or near exposed deenergized electrical circuits/parts.
- Appropriate employees will be instructed in the safety significance of the lockout procedures. **Appendix C** is a list of job titles authorized to lockout. **Appendix D** are lists of job titles for affected and other employees.
- All employees who are authorized to work on equipment or machinery in the company will follow appropriate company lockout/tagout procedures.
- Contractors who perform work on company equipment will comply with company lockout/tagout procedures.
- An **Energy Control Plan** will be completed for all pieces of equipment requiring lockout. This plan will identify all energy isolation points to be locked and tagged, as well as any special information required to safely achieve a zero-energy state.
- A **Lockout Checklist** (App. G) and a **Safe Startup Checklist** (App I) will be used during all service and maintenance activities to ensure the safety of both authorized and affected employees.
- Lockout devices shall be singularly identified. They shall be the only devices used for controlling energy and shall not be used for other purposes.
- The lockout devices shall indicate the identity of the employee applying the devices.

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GENERAL continued

- No employee shall attempt to operate any switch, valve, or other energy-isolating device which is locked out.
- Each lockout device shall only be removed by the employee who applied the device. (Exception; see Removal of Lockout Devices section of this program.
- All machines/equipment shall be locked out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Lockout will also apply when working on or near exposed deenergized electrical circuits/parts.

ENERGY CONTROL PROCEDURE

- Preparation for Shutdown:
 - In preparation for lockout, an initial survey must be made to locate and identify all energy isolating devices to be certain which switch, valve, or other energy isolating devices apply to the machine/equipment to be locked out. (See **Appendix E** for the Energy Source Evaluation). More than one energy source (electrical, hydraulic, pneumatic, chemical, thermal, or others) may be involved.
 - Before an authorized or affected employee turns off a machine or piece of equipment, the authorized employee must have knowledge of the type and magnitude of the energy to be controlled, and the methods or means to control the energy (See **Appendix F** Lockout Checklist).
- Machine or Equipment Shutdown:
 - All affected employees shall be notified that a lockout system is going to be utilized and the reason for it before the controls are applied.
 - If the machine or equipment is operating, shut it down by normal stopping procedure. (Depress stop button, open toggle switch, etc.). Next, follow the procedures established for the machine or equipment (see **Appendix G- Lockout/Tagout Procedures for Specific Equipment**).
- Machine or Equipment Isolation
 - Physically locate and operate the switch, valve, or other energy isolating devices so that the equipment is isolated from its energy sources and apply adequate hardware.

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		Revised:	01/2023
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ENERGY CONTROL PROCEDURE continued

- Lockout Device Application
 - Authorized employees shall lockout the energy isolating devices with assigned individual locks.
 - Lockout devices shall be applied so that they will hold the energy isolating devices in a “Neutral” or “Off ” position.
- Tagout Device Application
 - Only when disconnecting means or other devices are incapable of being locked out, and until lockout capability is provided, will a tagout procedure (without lockout), be utilized.
 - Tagout devices, where used, shall be affixed in such a manner as will clearly indicate that the operation or movement of energy isolating devices from the safe or off position.
 - Where tagout devices are used with energy isolating devices designed with the capability of being locked, the tag attachment shall be fastened at the same point at which the lock would have been attached.
 - Where a tag cannot be affixed directly to the energy isolating device, the tag shall be located as close as safely possible to the device in a position that will be immediately obvious to anyone attempting to operate the device.
- Stored Energy
 - All stored or residual energy in rams, flywheels, springs, pneumatic, or hydraulic systems, etc. shall be blocked or dissipated. If there is a possibility of reaccumulation of stored energy, verification of isolation must be continued until servicing or maintenance is completed.
- Verification of Isolation
 - Prior to starting work on machines or equipment that have been locked and after ensuring that no personnel are exposed, the authorized employee shall operate the push button or normal operating controls to verify that the appropriate equipment or machine has been deenergized and make certain it will not operate.
 - CAUTION: Return Operating Controls to the “Neutral” or “Off ” position after the test.

The machine/equipment is now locked out. Servicing or maintenance may now occur.

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		Revised:	01/2023
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REMOVAL OF LOCKOUT

- After the servicing and/or maintenance are completed and before the lockout devices are removed and energy is restored, the sequence of specific activities in **Appendix H** shall be completed by the authorized employee(s). The general procedure to follow is:
 - Clear away all tools.
 - Remove employees from the area.
 - Remove the LO/TO device(s).
 - Energize and proceed. (If this is a temporary removal, reapply LO/TO devices).
- If the authorized employee who applied the lock is not available, the supervisor shall take the following steps:
 - Verify that the authorized employee who locked out the equipment is not on plant property.
 - Verify that the servicing and/or maintenance are complete.
 - Contact the authorized employee to inform him/her that his/her lock will be removed from the machine. (Communication must be made, Voice mail is not acceptable)
 - Remove the lock.
 - Make sure the employee is notified that his/her lock has been removed before he/she resumes work at the facility.
- In situations in which lockout devices **MUST** be temporarily removed from the isolating device and the machine or equipment energized to test or position the machine, equipment, or component, the following sequence of actions will be followed:
 - Clear the machine or equipment of tools and materials.
 - Remove employees from the machine or equipment.
 - Energize and proceed with testing or positioning.
 - Deenergize all systems and reapply energy control measures in accordance with procedures set forth under Lockout Procedures & Techniques.

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		Revised:	01/2023
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GROUP LOCKOUT

In the preceding steps, if more than one individual is required to lockout machines/equipment (group lockout), the following procedures shall be implemented to provide protection to all employees.

- A primary authorized employee will be designated and responsible for the number of people working under the protection of the group lockout device. The primary authorized employee will ascertain the exposure status of the individual member participating in the group lockout to ensure continuity of protection for each individual. In addition, this primary authorized employee will be responsible for notifying affected employees before and after lockout procedures are performed.
- Each authorized employee will place his/her own personal lockout device on the energy isolating device(s).
- When an energy isolating device cannot accept multiple locks, a multiple lockout system must be used.

If lockout is used, a single lock may be used to lockout the machine or equipment with the key being placed in a lockout box or cabinet which allows the use of multiple locks to secure it. Each employee will then use his/her own lock to secure the box or cabinet. As each person no longer needs to maintain his/her lockout protection, that person will remove his/her lock from the box or cabinet.

SHIFT OR PERSONNEL CHANGES

If a lockout procedure will extend into the following shift, the authorized employee who originally placed the lock will remove it and it will immediately be replaced with the lock of the authorized employee who is to continue the repair or maintenance on that equipment or machine for the following shift.

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LEAVING THE JOB SITE / PREMISES

If the Brieser Construction employee is going to leave the job site/premises, they should contact the authorized person from the customer or the Brieser Construction project manager and determine if the Brieser Construction Lockout/Tagout device will remain in place or removed. Then the following steps should be taken:

- Leaving the Lockout or Tagout Device in Place:
 - Notify the authorized person of the customer or job site that you are leaving the premises and that your device is still in place.
 - Provide a telephone number for contact in the event of an emergency.
 - Complete the Lockout/Tagout Record Sheet (see **Appendix K**).
- Removing the Lockout or Tagout Device:
 - Notify the authorized person of the customer or job site that you are leaving the premises and that you are removing your device.
 - Have the authorized person of the customer or job site substitute their device for your device. (Do not remove your device until a substitute has been secured).
 - Record changes on the Lockout/Tagout Record Sheet (see **Appendix K**).

CORD AND PLUG CONNECTED

Equipment - if servicing or maintenance is performed on cord and plug connected equipment the following procedures shall be performed to protect employees:

- Unplug equipment from its electrical socket.
- Place a lockable cover over the plug and a lock on the plug cover during machine/equipment servicing or maintenance.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/16/2015
		Revised:	01/2023
CORPORATE SAFETY MANUAL		Revision:	06
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Lockout Tagout Program	
CROSS REFERENCE:	29 CFR 1910.147 Lockout Tagout. 29 CFR 1926.416 & 417 NFPA 70E Standard for Electrical Safety in the Workplace		

OUTSIDE CONTRACTORS

If outside contractors perform servicing or maintenance that requires lockout, a Brieser Construction Superintendent/supervisor, or designated employee shall take the following steps:

- Inform the outside contractor of Brieser Construction's lockout procedures and provide a copy.
- Obtain and review a copy of the outside contractor's lockout procedures.
- Ensure that our employees understand and comply with the responsibilities and prohibitions of the outside contractor's lockout procedures.

TRAINING

Training shall be provided by the company to ensure that the purpose and function of the energy control program are understood by employees and that the knowledge and skills required by employees for the safe application, usage, and removal of energy controls shall be met. When tags are used, employees will be trained as to the specific limitations of using the tagout system.

Authorized employees shall receive the following training:

- Recognition of hazardous energy sources.
- Types and magnitude of hazardous energy in the workplace.
- Methods, devices, and procedures used to lockout, verify lockout, and otherwise control hazardous energy on all pieces or types of equipment (including cord and plug connected equipment).
- Procedures for removing locks and returning a machine or piece of equipment to operation.
- When tagout systems are used and the limitations of tags
- Transfer of lockout responsibilities.
- Group lockout procedures.

Affected and all "other" employees shall receive training so that they are able to:

- Recognize when energy control procedures are being implemented, and.
- Understand the purpose of the procedures and the importance of not attempting to start up or use the machine/equipment that has been locked.
- When tagout systems are used including the limitations of a tag and that a tag is not to be removed without authorization. The tag is never to be ignored or defeated in any way.
- All training will be certified (See page 20 Training Subsection)

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/16/2015
		Revised:	01/2023
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RETRAINING

Authorized and affected employees shall receive retraining in proper application of lockout procedures when there is a change in:

- Job assignments that expose an authorized employee to new hazards or lockout procedures.
- Machines, equipment, or processes that present a new hazard or require modified lockout procedures.
- Energy control procedures for a piece or type of equipment.
- Or when an employee incorrectly performs lockout procedures.

Retraining will re-establish employee proficiency in lockout and ensure that employees are knowledgeable of new or revised procedures. All retraining will be documented and will include the employees' names and dates of training. All training and retraining will be documented, signed & certified.

Periodic Inspections

- An inspection of the energy control procedures will be conducted annually and will be certified (See **Appendix B**). It will be performed under the guidance of the Manager of Safety.
- Energy control procedures for each or type of machine must be inspected.
- The inspection shall include a review of lockout responsibilities with each individual authorized to lockout the machine/equipment.
- The person who performs the inspection must be authorized to perform the lockout procedures being inspected. The inspector cannot, however, review his/her own use of lockout procedures.
- Any deviations or inadequacies identified shall be immediately addressed

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APPENDIX A

TAGOUT PROCEDURES

- When a disconnecting means or other energy-isolating device is incapable of being locked out tagout systems shall be utilized. A tag used without a lock, shall be supplemented by at least one additional safety measure that provides a level of safety equivalent to that obtained using a lock such as opening an additional disconnecting device, removal of an isolating circuit element, blocking of a controlling switch or the removal of a valve handle to reduce the likelihood of inadvertent energization.
- Only tags furnished by Brieser Construction, which meet the requirements of 1910.14 (c) (5) (ii) and (iii) shall be used.
- **All** employees shall be trained in the use and limitations of tags as described in 1910.147 (c) (7) (ii) and (d) (4) (iii).
- **All** employees must be able to understand the hazard warning written on the tags such as: DO NOT START; DO NOT OPEN; DO NOT CLOSE; DO NOT ENERGIZE; and DO NOT OPERATE.
- On machines and equipment where tagout is used in lieu of lockout, the periodic inspection required by 1910.147 (c) (6) shall include the **affected** as well as the **authorized** employee(s). The periodic inspection shall be certified on **Appendix B**.
- If tagout is used, all other lockout rules and procedures apply.

NOTE: Should the machine/equipment require upgrade or modification, it will have lockable switches, fittings, valves, etc. added so that it becomes possible to lockout.

Due to the nature and various geographic locations of *Brieser Construction* activities, the Site Superintendent will be responsible for providing each client a list of Authorized and Affected employees for the job. Site Superintendent, Maintenance Personnel, and various Operators and Laborers are the job titles that can be classified as “Authorized employees,” provided they have received the proper training.

Appendix B

PERIODIC INSPECTION CERTIFICATION

Facility: _____ Date: _____
Evaluator Name: _____ Title: _____

Describe the job being evaluated:

Names of persons working on the job:	Check the persons being interviewed
1. _____	☐
2. _____	☐
3. _____	☐
4. _____	☐
5. _____	☐
6. _____	☐
7. _____	☐
8. _____	☐

	Yes	No	Comments
Did authorized employees understand their responsibilities under the Lockout/tagout Program? Verify training Pg. 26	☐	☐	
Was a lock number identified? Pg. 26 Column "Lock Number"	☐	☐	
Were affected employees notified? Either Affected or Other? Pg. 27	☐	☐	
Was the Energy Source Evaluation completed? Pg. 28	☐	☐	
Was the Lockout/Tagout checklist completed? Pg. 29	☐	☐	
Was the Lockout/Tagout Procedure Form completed? Pg. 30	☐	☐	
Was the Safe Startup Checklist completed? Pg. 31	☐	☐	

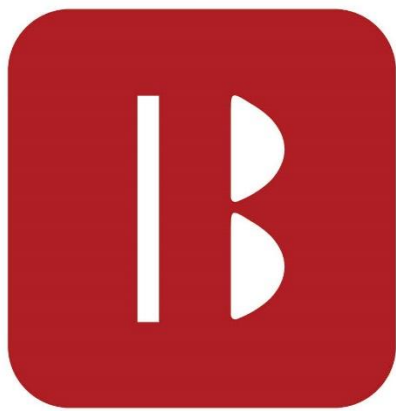
Appendix B

Annual LOTO Program Audit

11 Jan 2023 / Kevin Colwell

Complete

Score	0%	Flagged items	0	Actions	0
Conducted on		01/11/2023 8:22 AM CST			
Prepared by		Kevin Colwell			
Location		24533 S Edwin Dr, Channahon, IL 60410, USA (41.4371793, -88.1974052)			
Annual LOTO Program Audit					
Number of Permits Reviewed		1			
Overall Permit Compliance		Excellent			
Are there any permit issues?		Yes			
If your answer was YES, please check the items that needed improvement below:					
Affected/Other Employees - Proper Training		☒			
Affected/Other Employees Overall compliance		Excellent			
Comments		Describe best practices or opportunities here.			
Appendix F: Lockout Checklist		☒			
Lockout Checklist Overall Compliance		Excellent			
Comments		Describe best practices or opportunities here.			
Appendix G: Lockout/Tagout Form		☒			
Lockout/Tagout Form Overall Compliance		Excellent			
Comments		Describe best practices or opportunities here.			
Appendix H: Safe Startup Checklist		☒			
Safe Startup Checklist Overall Compliance		Excellent			
Comments		Describe best practices or opportunities here.			
Appendix I: Lockout/Tagout Record Sheet		☒			
Lockout/Tagout Overall Compliance		Excellent			
Comments		Describe best practices or opportunities here.			
Confined Space Entry Log		☒			
Confined Space Entry Log Overall Compliance		Excellent			
Comments		Describe best practices or opportunities here.			
Recommended Actions		Describe actions necessary to close gaps in the process here.			



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 12
CONTROL OF HAZARDOUS ENERGY
SUB-SECTION TRAINING**

Energy Control Learning Exercise Brieser Construction

Score: %

Each question is worth 7% passing score is 11 out of 14 correct = 77%

Employees Name:

Date:

Company:

Instructor:

Employee ID #:

Job Title:

Answer the following questions "True" or "False" by circling the appropriate letter.

T	F	1. All energy sources, no matter how remote, should be locked and tagged out to insure a zero-energy state.
T	F	2. Electrical, pneumatic/hydraulic, process fluids and gases, and mechanical are all types of energy sources.
T	F	3. All energy sources can be locked out.
T	F	4. Lockout/tagout procedures are only necessary for complex machinery.
T	F	5. Every employee working on the same piece of equipment must attach a personal lockout device.
T	F	6. Routine maintenance and equipment repair does not require lockout/tagout procedures.
T	F	7. Each lock should have the name or identification number of the employee that owns it.
T	F	8. Before beginning any work, the machine or equipment should be tested for a zero-energy state.
T	F	9. Pulling fuses is a method for locking out a piece of equipment.

Answer the following questions by circling the appropriate letter.

10. A lockout device must be placed at:
- a. All isolation points.
 - b. The main switch
 - c. The fuse box.
11. There must be only _____ key(s) per lock:
- a. One duplicate
 - b. One
 - c. Two
12. Removal of someone else's lock is okay when:
- a. All efforts to locate the person have been unsuccessful.
 - b. The person has left to go on break.
 - c. You need to use the machine.
13. If there will be a shift change during the maintenance or repair, the second shift employees should:
- a. Cut off the first shift's locks.
 - b. Add their locks to the first shift's locks.
 - c. Wait for the first shift to remove their locks, then attach the second shift locks.
14. Compliance with lockout/tagout procedures is the responsibility of:
- a. The manufacture of the equipment
 - b. The company
 - c. OSHA

Energy Control Learning Exercise
Brieser Construction
Answer Sheet

- T** 1. All energy sources, no matter how remote, should be locked and tagged out to insure a zero-energy state.
- T** 2. Electrical, pneumatic/hydraulic, process fluids and gases, and mechanical are all types of energy sources.
- T** 3. All energy sources can be locked out.
- F** 4. Lockout/tagout procedures are only necessary for complex machinery. *Lockout/tagout procedures are necessary for all equipment and machinery.*
- T** 5. Every employee working on the same piece of equipment must attach a personal lockout device.
- F** 6. Routine maintenance and equipment repair does not require lockout/tagout procedures. *Lockout/tagout procedures are required for all service and maintenance activities.*
- T** 7. Each lock should have the name or identification number of the employee that owns it.
- T** 8. Before beginning any work, the machine or equipment should be tested for a zero-energy state.
- F** 9. Pulling fuses is a method for locking out a piece of equipment. *Pulling fuses should not be substituted for lockout/tagout.*

Answer the following questions by circling the appropriate letter.

10. A lockout device must be placed at:

a. all isolation points

11. There must be only _____ key(s) per lock:

b. one

12. Removal of someone else's lock is okay when:

a. all efforts to locate the person have been unsuccessful.

13. If there will be a shift change during the maintenance or repair, the second shift employees should:

b. add their locks to the first shift's locks.

14. Compliance with lockout/tagout procedures is the responsibility of:

b. the company

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 12
CONTROL OF HAZARDOUS ENERGY
SUB-SECTION
LOCKOUT/TAGOUT PERMIT PACKET**

Each permit covers pages 26-32. All pages including this page must be filled out completely and turned into the office to our personnel manager. Under the Routing section please note if you have given a copy to our customer and initial next to personnel manager when finish and turned in to be routed to the office.

PERMIT INFORMATION	PROCEDURE	
	AUTHORIZED EMPLOYEE	
	DATE	
	LOCATION	
	SAFETY APPROVAL (Must have signature before work begins)	
ROUTING	CUSTOMER	
	PERSONNEL MANAGER	
	SCAN	SAFETY/PERMITS COMPLETED/LOCK OUT TAGOUT/MMDDYY /LOCATION

APPENDIX C

LIST OF "AUTHORIZED" LOCKOUT INDIVIDUALS

(In order to be an authorized lockout employee, you must have training)

FULL NAME (PRINT)	JOB TITLE (PRINT)	LOCK NUMBER	HAVE YOU BEEN TRAINED?		VERIFY TRAINING DATE
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	
			YES	NO	

DATE:

LOCATION:

FOREMAN SIGNATURE: _____

APPENDIX D

LIST OF "AFFECTED" & "OTHER" LOCKOUT INDIVIDUALS

Affected employee: An employee whose job requires him/her to operate or use a machine or equipment on which servicing, or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Other Employee: An employee who may be under a different or the same Lockout Tagout process that a Brieser employee is performing. This standard requires on-site employers and outside employers to inform each other of their respective lockout/tagout procedures.

JOB TITLES "AFFECTED"	MACHINERY, EQUIPMENT, OR PROCESS
JOB TITLES "OTHER"	MACHINERY, EQUIPMENT, OR PROCESS

DATE: __/__/__

LOCATION: _____

SITE FOREMAN SIGNATURE _____

APPENDIX E

ENERGY SOURCE EVALUATION

DATE: __/__/__

CONDUCTED BY: _____

To determine all energy sources for each piece or type of machine or equipment, fill in the following table.

LOCATION: _____

EQUIPMENT LOCKED OUT: _____

MODEL: _____ SERIAL #: _____

ENERGY SOURCE/ *MAGNITUDE	LOCATION(S) OF ISOLATING DEVICE(S)	WHAT METHOD USED TO LOCKOUT**
ELECTRICAL		
ENGINE		
SPRING		
COUNTERWEIGHT		
FLYWHEEL		
HYDRAULIC		
PNEUMATIC		
CHEMICAL		
THERMAL		
OTHER		

***MAGNITUDE Example - ELECTRICAL = 480V three phase - PNEUMATIC = 125 p.s.i.**

****METHODS USED MAY BE A KEYED LOCK WITH # OR A PIPE VALVE COVER
WITH LOCK #**

APPENDIX F

Lockout Checklist

Step 1: Before Beginning to Service Equipment	Yes	No	N/A
Have the type and amount of energy source on the equipment been identified?	☐	☐	☐
Have the possible dangers related to the energy source being controlled been identified?	☐	☐	☐
Are the steps necessary to control the energy source understood?	☐	☐	☐
Have affected employees been notified when the equipment will be shut off for service?	☐	☐	☐
Step 2: Shut Down Equipment			
Have the company's safety procedures been followed?	☐	☐	☐
Have the manufacturer's instructions been referred to?	☐	☐	☐
Step 3: Isolate the Machine or Equipment			
Has the main breaker or control switch been shut off?	☐	☐	☐
Have valves been closed?	☐	☐	☐
Have process lines been disconnected?	☐	☐	☐
Step 4: Attach Lock and Tag			
Have the lock and tag been attached?	☐	☐	☐
Step 5: Control Stored Energy			
Has the electrical capacitance been bled?	☐	☐	☐
Have pressure or hydraulic lines from the work area been vented or isolated?	☐	☐	☐
Are switches or levers that could be moved into the start position blocked, clamped, or chained?	☐	☐	☐
Are lines containing process materials that are toxic, hot, cold, corrosive, or asphyxiating cleared?	☐	☐	☐
Step 6: Verify That the Energy State is at Zero			
Have the start switches on the equipment been tested?	☐	☐	☐
Have pressure gauges been checked to ensure that lines are depressurized?	☐	☐	☐
Are blocks or cribs secured?	☐	☐	☐
Have electrical circuits been checked to verify that voltage is at zero energy?	☐	☐	☐
Are blanks, used to block feed chemicals, secure and not leaking?	☐	☐	☐
Step 7: If you have answered yes to the above steps, begin working.			

APPENDIX G

Lockout Tagout Procedure Form <i>Brieser Construction</i>		
Company Vehicles	File name:	
Location:	Energy Sources: Taken from Energy Source Evaluation Form	1) 2) 3) 4)
Failure to utilize the lockout procedure will result in disciplinary action. Unauthorized removal of a lock could result in discharge.		
LOCKOUT STEPS 1. Know the types and magnitudes of hazardous energy. 2. Shut down the equipment. 3. Isolate the equipment from hazardous energy. 4. Apply the lockout tagout procedures. 5. Relieve stored energy. 6. Verify isolation try to start the equipment	RELEASE FROM LOCKOUT 1. Remove non-essential materials. 2. Make sure all employees are safely positioned and notified. 3. Remove locks. Their owners may only remove locks. 4. If exceptions, your supervisor must be contacted.	
SPECIFIC LOCKOUT STEPS		

Safe Startup Checklist

[illegible]

APPENDIX I

Mobile Equipment Lock-Out Tag-Out for Fall Protection Anchorage

STEPS:

1. Complete Brieser Construction Fall Protection Permit, Rescue Plan and LOTO forms.
2. Identify a proper tie off point. Typically lifting/retrieval lugs are the best locations. If the point does not look capable of supporting 5,000 pounds, or you are unsure, contact the safety department for assistance: Kevin Colwell 815-341-1728, Jim Hazzard 815-592-1067, Ken Renicker 815-641-1541
3. Ensure equipment is inoperable by removing ignition key and master-switch key (typically located in the engine compartment) and keeping those keys in your pocket. If more than yourself is affected by the LOTO, the key must be kept in a lockbox with each affected person having a lock on the lockbox.
4. Complete LOTO tag and place on controls of machine in operator compartment.
5. Perform Daily Visual inspection of all fall protection equipment.
6. Don Fall Protection Harness and adjust as needed.
7. Install Retractable Lanyard with carabiner to machine to identified tie off point.
8. Ensure machine position and tie off point will protect you in the event of a fall (will not allow you to fall farther than the fall you are exposed to
9. Once work is complete, perform steps in reverse.

APPENDIX J

Vac Truck Lock-Out Tag-out for Fall Protection Anchorage

Steps:

1. Complete Brieser Fall Protection Permit, Rescue Plan, and LOTO forms.
2. Start Vehicle
3. Place Vehicle in Park
4. Pull out Air Brake Knob
5. Place Lock on Air Brake Knob.
6. Remove key from lock and place in your pocket. If more than yourself is affected by the LOTO, the key must be kept in a lockbox with each affected person having a lock on the lockbox.
7. Place LOTO tag on lock
8. Place Wheel Chocks
9. Perform Daily Visual inspection of all fall protection equipment.
10. Don Fall Protection Harness and adjust as needed.
11. Install cross arm strap by wrapping the strap around the rear bumper, frame, or front pull ring. Strap must be installed between cross members, vertical supports, or other means to prevent horizontal movement.
12. Once work is complete, perform steps in reverse.

APPENDIX K
LOCKOUT / TAGOUT RECORD SHEET
Leaving the Job Site/Premises

If the Brieser Construction employee is going to leave the job site/premises, they should contact the authorized person from the customer or the Brieser Construction project manager and determine if the Brieser Construction Lockout/Tagout device will remain in place or removed.

If you are going to leave the lockout devices intact, then fill this sheet out and leave with paperwork at lockout location.

If the lockout device will be removed, then complete your permit under standard procedure or fill this form out so the next crew that will apply their locks knows the details of the job.

Person Performing Lockout/Tagout:	Date/Time:
System or Component:	Lock No.
Reason For Lockout/Tagout:	
Personnel/Equipment Hazards Involved:	
Work Necessary to Clear Locks/Tags (include tests, inspections, QA, etc.):	



Section 13
Safety Health
and
Environmental
Manual

2025

Scaffolding

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/23/2013
		Revised	04/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	05
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Scaffolding	
CROSS REFERENCE:	29 CFR 1926 Subpart L Scaffold. ANSI/ASSE A10.8-2001 Safety Requirements for Scaffold		

PURPOSE:

It is the policy of Brieser Construction Co. that only Brieser Construction Co. employees are allowed to use company owned or leased equipment. The following exceptions will be allowed only after authorization of the Safety Manager.

Any requesting user must have a hold harmless signed by an officer of the requesting company. Further, a valid certificate of insurance must accompany the hold harmless adding Brieser Construction Co. as an additionally insured on the requesting company's policy.

Scaffolding on the job site can expose our employees and our subcontractor's employees to serious accidents. The Competent Person must oversee all scaffolding that is erected or used on the Brieser Construction Co. job sites. Only competent persons can build, dismantle, modify, or repair a scaffold. Only trained personnel may work from a scaffold. Only employees trained by a qualified person may work from a scaffold. Retraining is required if employee lacks the necessary skill or understanding for scaffolding work, demonstrates inadequacies involving scaffolding, or worksite hazards change.

The following rules must be followed to maintain a safe work environment:

GENERAL RULES:

- The footings or sills for scaffolds shall be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, loose bricks, or concrete blocks shall not be used to support scaffolding or planks.
- Guardrail System shall be installed on all open sides and ends of scaffolds more than 6 feet above the ground or floor. The Guardrail System shall consist of top rail, mid rail, and toe board.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/23/2013
		Revised:	04/2023
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TOP RAIL

- Must be 42 inches high (plus or minus 3 inches)
- When stilts are used, the top rail must be increased an amount equal to the height of the stilts.
- Mid rails must then be installed at a height midway between the walking/working level and top edge of top rail.
- Must withstand a force of at least 200 lbs. in any outward or downward direction at any point along the top rail.
- When 200 lbs. of force are exerted on the top rail during inspection the top rail must not deflect to a height less than 39 inches above the working level.
- The ends of all top rails shall not overhang the terminal posts, except where the overhang does not present a projection hazard.
- Steel or plastic banding shall not be used as top rails.
- Must be at least 1/4-inch nominal diameter or thickness.
- If wire rope is used as a top rail, it must be flagged every 6 feet with highly visible material.
- Manila, plastic, or synthetic rope being used for top rails shall be inspected as frequently as necessary to ensure that it continues to meet the strength requirements.

MID-RAIL

- Shall be used when there is no wall or parapet wall at least 21 inches high.
- Shall be installed at a height midway between the top rail and the walking/working level.
- Shall withstand, without failure, a force of 150 lbs. in any outward or downward direction at any point along the mid-rail.
- The ends of the mid-rails shall not overhang the terminal posts, except where the overhang does not present a projection hazard.
- Steel or plastic banding shall not be used as mid-rails.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/23/2013
		Revised	04/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	05
		Reviewed:	12/17/24 KMC
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CROSS REFERENCE:	29 CFR 1926 Subpart L Scaffold. ANSI/ASSE A10.8-2001 Safety Requirements for Scaffold		

TOE BOARD

- Shall be utilized with all guardrail systems.
- Shall be erected along the edge of the overhead walking/working surface and capable of withstanding a force of at least 50 pounds applied in a downward or outward direction.
- Shall be solid, a minimum of 3 1/2 inches high and not over a 1/4 inch above the working surface. When materials are piled higher than the toe board, paneling or screening shall be erected from the toe board to the mid rail or top rail, as necessary.

*****NOTE:** Guard rail systems shall be surfaced as to prevent injury to an employee from punctures, lacerations, and to prevent snagging of clothing.*

GENERAL RULES continued:

- Scaffold 4 - 6 feet in height, with a minimum horizontal dimension in either direction of less than 45 inches, shall have guardrails installed.
- All working platforms must be fully planked.
- All planking shall be scaffold grade plank or full dimensional lumber.
- The ends of planking must extend over a horizontal support a minimum of 6 inches. Overlapping planks must overlap each other at least 12 inches and be supported by a horizontal support.
- All planking must be secured from movement (cleats).
- Screw jacks shall be used to level the scaffold.
- The height of a scaffold cannot exceed 4 times the minimum base dimension without outriggers or being tied off to a stable part of the building.
- Scaffolds shall be capable of supporting without failure at least 4 times the maximum intended load.
- Daily inspection of scaffolding on the job site must be made by a competent person. Inspections must be documented.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/23/2013
		Revised	04/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	05
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GENERAL RULES continued:

- Prior to each use the scaffolding must be inspected by the user. Defective scaffolds should be reported immediately and should not be used until satisfactorily repaired.
- All scaffold users shall periodically inspect scaffolds throughout the shift.
- Scaffold must be properly tagged before it can be used. Only competent persons are allowed on a red tag scaffold. Other employees are only allowed to use scaffold that is tagged with a yellow or green tag. A yellow tag identifies the restrictions or hazard of scaffold use. Example: Fall protection required, Overhead clearance limited. A green tag scaffold has no restrictions or specific hazards.
- Guardrails shall be 2x4 approximately 42" high with mid-rail secured to vertical supports at intervals not to exceed 8'.
- Toe boards shall be a minimum of 3.5" in height.
- Provide screen between toe board and top rail where persons are required to work or pass under the scaffold.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/23/2013
		Revised:	04/2023
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**TABLE I
Permissible Span**

	Light Duty	Medium Duty	Heavy Duty
Working Load (Pounds per sq. ft)	25	50	75
Permissible Span (ft.)	6	8	10

Any questions concerning scaffold installation and safety on your job site should be directed to the Safety Director.

TUBULAR WELDED FRAME

- All braces shall be in place.
- Scaffold legs shall be set on adjustable bases or bases placed on mudsills to adequately support the maximum rated load.
- All scaffold sections and casters must be secured by pins or wire intended for scaffold use.
- All casters shall be provided with a positive locking device to hold the scaffold in position.
- To prevent movement, the scaffold shall be secured to the building or structure at intervals NOT to exceed 30 feet horizontally and 26 feet vertically.
- Guardrails and toe boards shall be installed on all scaffolds more than 6 feet above the ground or floor.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/23/2013
		Revised	04/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	05
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Scaffolding	
CROSS REFERENCE:	29 CFR 1926 Subpart L Scaffold. ANSI/ASSE A10.8-2001 Safety Requirements for Scaffold		

BAKER (Rolling) SCAFFOLD

- Guardrails shall be installed on Baker Scaffolds more than 4 feet in height.
- Baker Scaffolds greater than 10 feet in height must be equipped with outriggers or secured to the building.
- The height to base width ratio of the scaffold during movement is two to one or less unless the scaffold is designed and constructed to meet or exceed nationally recognized stability test requirements.
- All casters shall be provided with a positive locking device to hold the scaffold in position.
- When the scaffold is in use by any person, the wheels or casters shall be locked to prevent any movement.
- When the Baker Scaffold platform is 6 feet or higher, bracing must be installed near the floor level for increased stability.

SCAFFOLD TAGGING

PURPOSE

On scaffolds that will remain on projects in either a fully or partially erected state that may be used or potentially used by persons other than Brieser employees, who is responsible for their erection, dismantlement, alteration or modification, a notification system shall be used to inform workers of the status and condition of the scaffold.

Scaffold tagging will supplement the inspection portion of this scaffold policy to ensure the protection of employees from the hazards associated with the erection, dismantling, modification and use of scaffold and elevated work platforms.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/23/2013
		Revised	04/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	05
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STANDARD OPERATING PROCEDURE:		Scaffolding	
CROSS REFERENCE:	29 CFR 1926 Subpart L Scaffold. ANSI/ASSE A10.8-2001 Safety Requirements for Scaffold		

RESPONSIBILITIES

The Program Administrator: Brieser Safety Director

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local PPE requirements.
- Ensuring that employees receive initial and refresher training on scaffold use or erection and dismantling.
- Maintaining training records for all employees included in the training sessions.

Project Managers, Superintendents & Foreman

These people are responsible for:

General Superintendents

- Ensure that all aspects of this scaffold policy are implemented.
- Ensure that competent foreman and supervisor are assigned to carry out this program.
- Scaffold Erection Foremen
- Ensure all scaffolding is erected in accordance with OSHA regulations and the Brieser Scaffold Policy
- Implement the required fall protection and general safety precautions associated with the erection, modification, and dismantling of scaffolds.
- Tag incomplete scaffold with yellow CAUTION tag. (see Figure 1)
- Tag completed scaffolds with green ATTENTION tag (see Figure 2)
- Document inspection in the Scaffold Log

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/23/2013
		Revised:	04/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	05
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Scaffold Use Supervisor

- Inspect each scaffold within his/her area of responsibility at the beginning of each shift.
- Initial and date the Scaffold Use Tag for each inspection
- Maintain the Scaffold Log as required.
- Tag incomplete scaffold with red WARNING tag (see Figure 3)

Employees

1. Use only scaffold that have been thoroughly inspected with green **ATTENTION** tags and current Scaffold Use Tags

Training

- Training in this procedure, and the scaffold Safety Program are incorporated into Brieser's Orientation.
- Training will be consistent with the definition of Scaffold User. The program must include hazards (fall, electrical, falling objects), fall protection, use, and load capacity.
- Periodic training on the contents of this procedure will be done in weekly safety meetings and daily TSTI analysis.
- Scaffold Erection Foremen and Scaffold Use Foremen will be trained to ensure competency in the applicable requirements involving scaffold erection and use.

**Brieser Construction Co.
Scaffold Log**

Scaffold Tag #	Erection Foremen	Location	Special Precautions	Date Erected	Date Dismantled
Scan to: Safety/Permits Completed/Scaffold/Year/Yr. MTh. Day					

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/23/2013
		Revised:	2/21/2020
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	04
		Reviewed:	03/17/23KMC
STANDARD OPERATING PROCEDURE:	Scaffolding		
CROSS REFERENCE:	29 CFR 1926 Subpart L Scaffold. ANSI/ASSE A10.8-2001 Safety Requirements for Scaffold		

CAUTION

This scaffold does NOT
MEET Federal/State
OSHA Specifications.

ALL employees working
from this scaffold must
wear and use an approved
safety harness

DO NOT ALTER

DATE:
COMPETENT PERSON:
SIGNATURE:
COMMENTS:

Figure 1

**DAILY INSPECTION
RECORD**

DATE	SIGNATURE

SEE OTHER SIDE

OK

This scaffold has
been erected to meet
Federal/State OSHA
Standards and is safe
for all craft work.

DO NOT ALTER

DATE:
COMPETENT PERSON:
SIGNATURE:
COMMENTS:

Figure 2

**DAILY INSPECTION
RECORD**

DATE	SIGNATURE

SEE OTHER SIDE

DANGER

**DO NOT USE
THIS SCAFFOLD
KEEP OFF**

This scaffold is being
erected, taken down or
has been found defective.

DO NOT ALTER

DATE:
COMPETENT PERSON:
SIGNATURE:
COMMENTS:

Figure 3

**DAILY INSPECTION
RECORD**

DATE	SIGNATURE

SEE OTHER SIDE

STATIONARY SCAFFOLD SAFETY CHECK LIST

PROJECT: _____

ADDRESS: _____

CONTRACTOR: _____

DATE OF INSPECTION: _____ INSPECTOR: _____

	YES	NO	ACTION/COMMENTS
1. Are scaffold components and planking in safe condition for use and is plank graded for scaffold use?			
2. Is the frame spacing and sill size capable of carrying intended loadings?			
3. Have competent persons been in charge of erection?			
4. Are sills properly placed and adequate size?			
5. Have screw jacks been used to level and plumb scaffold instead of unstable objects, such as concrete blocks, loose bricks, etc.?			
6. Are base plates and/or screw jacks in firm contact with sills and frame?			
7. Is scaffold level and plumb?			
8. Are all scaffold legs braced with braces properly attached?			
9. Is guard railing in place on all open sides and ends above 6'			
10. Has proper access been provided?			
11. Has overhead protection or screening been provided where necessary?			
12. Has scaffold been tied to structure at least every 30' in length and 26' in height?			
13. Have free standing towers been guyed or tied every 26' in height?			
14. Have brackets and accessories been properly placed:			
Brackets?			
Putlogs?			
Tube and Clamp?			
All nuts and bolts tightened?			
15. Is scaffold free of makeshift devices or ladders to increase height?			
16. Are working level platforms fully planked between guard rails?			
17. Does plank have minimum 12" overlap and extend 6" beyond supports?			
18. Are toe boards installed properly?			
19. Have hazardous conditions been provided for:			
Power lines?			
Wind loading?			
Possible washout of footings?			
Uplift and overturning moments due to placement of brackets, Putlogs, or other causes			
20. HAVE PERSONNEL BEEN INSTRUCTED IN THE SAFE USE OF THE EQUIPMENT			
21. Is scaffold tagged?			

ROLLING TOWER SAFETY CHECK LIST

PROJECT: _____

ADDRESS: _____

CONTRACTOR: _____

DATE OF INSPECTION: _____ INSPECTOR: _____

	YES	NO	ACTION/COMMENTS
1. Are scaffold components and planking in safe condition for use and is plank graded for scaffold. use?			
2. Have competent persons been in charge of erection?			
3. Is the tower level and plumb?			
4. Is tower height less than four times the minimum base width?			
5. Are casters of proper size with effective locking devices?			
6. Are screw jacks extended less than 12"?			
7. Are casters and all frames locked together?			
8. Is tower fully braced on both sides?			
9. Has horizontal diagonal bracing been positioned properly at base and intermediate levels of 20"?			
10. Has proper guard railing been provided?			
11. Has safe access been provided?			
12. Is platform fully planked and are toe boards provided Where necessary?			
13. Are planks secured to prevent displacement or uplift?			
14. HAVE PERSONNEL BEEN INSTRUCTED IN THE SAFE USE OF THE EQUIPMENT?			
15. Is scaffold tagged?			

Scaffolding Learning Exercise

Score:

%

Employees Name:

 Date:

Answer each of the following questions by circling the appropriate letter.

1. Scaffolding on the job site can expose our employees and our subcontractor's employees to serious accidents. The _____ must oversee all scaffolding that is erected or used on the Brieser Construction job sites.
 - a. Qualified Person
 - b. Competent Person
2. The top rail of any scaffolding must be 42 inches plus or minus 3 and be able to withstand a force of 200 pounds in an outward and downward direction at any point.
 - a. True
 - b. False
3. Mid Rail shall be installed at a height _____ the top rail and the walking/working level.
 - a. 11 ½ inches below
 - b. 6 inches below
 - c. Midway between
 - d. Appropriate to
4. Inspections of scaffolding is required weekly by the foreman.
 - a. True
 - b. False
5. A yellow tag identifies the restrictions or hazard of scaffold use. Example: Fall protection required, Overhead clearance limited. A green tag scaffold has no restrictions or specific hazards.
 - a. True
 - b. False
6. When it comes to Baker Scaffolds the height to base width ratio of the scaffold during movement is two to one or less unless the scaffold is designed and constructed to meet or exceed nationally recognized stability test requirements.
 - a. True
 - b. False

Scaffolding Learning Exercise

Answer Sheet

1. Scaffolding on the job site can expose our employees and our subcontractor's employees to serious accidents. The _____ must oversee all scaffolding that is erected or used on the Brieser Construction job sites.
 - a. Qualified Person
 - b. **Competent Person**
2. The top rail of any scaffolding must be 42 inches plus or minus 3 and be able to withstand a force of 200 pounds in an outward and downward direction at any point.
 - a. **True**
 - b. False
3. Mid Rail shall be installed at a height _____ the top rail and the walking/working level.
 - a. 11 ½ inches below
 - b. 6 inches below
 - c. **Midway between**
 - d. Appropriate to
4. Inspections of scaffolding is required weekly by the foreman.
 - a. True
 - b. **False**
5. A yellow tag identifies the restrictions or hazard of scaffold use. Example: Fall protection required, Overhead clearance limited. A green tag scaffold has no restrictions or specific hazards.
 - a. **True**
 - b. False
6. When it comes to Baker Scaffolds the height to base width ratio of the scaffold during movement is two to one or less unless the scaffold is designed and constructed to meet or exceed nationally recognized stability test requirements.
 - a. **True**
 - b. False



Section 14
Safety Health
and
Environmental
Manual

2025

Ladder Safety

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2008
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Ladder Safety	
CROSS REFERENCE:	29 CFR 1926.1053 Ladders Stairways and Ladders - A Guide to OSHA Rules, OSHA Publication 3124 2003		

This section is intended to prescribe rules and establish minimum requirements for the care and use of portable ladders to ensure safety under normal conditions of usage.

BASIC REQUIREMENTS

- All portable ladders should be equipped with slip-resistant bases.
- Ladders shall not be used beyond the maximum intended load for which they were built, or beyond the manufacturer's rated capacity.
- Ladders shall be inspected for conformity to safety regulations and to ascertain that they are not damaged or missing parts before putting them into service. After inspection and before use the ladder inspection sticker must be dated and initialed.

USE OF LADDERS

- Never place a ladder in front of a door that opens toward the ladder unless the door is locked, blocked, or guarded.
- Place a portable ladder so that all side rails and legs have secure footings.
- Never lean a ladder against unsecured backing, such as boxes.
- Do not place a ladder close to electric wiring or any operational piping (acid, chemical, sprinkler systems, etc.) where damage may be done.
- Ladders are for only one person at a time.
- Ladder rungs, cleats, and steps shall be parallel, level and uniformly spaced when the ladder is in position for use.
- Be sure that a stepladder is fully open, and the metal spreader is locked before you start to climb it.
- Do not climb higher than the third rung from the top on straight or extension ladders.
- Do not climb higher than the second tread from the top on stepladders.
- When setting up a straight or extension ladder, the base should extend 1 foot from the vertical support for each 4 feet of the vertical height. The ladder must be held by another employee or tied off, blocked, or otherwise secured at the top to prevent being displaced.
- Keep ladders clean and free from dirt and grease, which can hide defects and cause falls. Ladders shall never be painted.
- Ladders shall only be used for the purpose for which they were designed. Ladders shall never be used in a horizontal position as a runway, ramp, or scaffold.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2008
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
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ASCENDING OR DESCENDING LADDERS

- Maintain three points of contact when ascending or descending the ladder.
- If material must be handled, raise, or lower it with a rope either before going down or after climbing to the desired level.
- Tools may be carried on a tool belt.
- Always face the ladder when ascending or descending.

INSPECTION OF LADDERS

- Ladders shall be inspected by a competent person for visible defects daily before use and after any occurrence that could affect their safe use.
- Ladders that are weak, improperly repaired, damaged, have missing rungs, or appear unsafe, shall be removed from the work site for repair or disposal.
- If the ladder is to be disposed of, it must be destroyed so that no one can use it.
- All ladders should be inspected for:
 - Loose steps or rungs
 - Cracked, split, or broken uprights, braces, steps, or rungs.
 - Damaged or worn non-slip braces.
 - Damaged casters
- Stepladders should be inspected for:
 - Stability
 - Loose or bent hinge spreaders.
 - Broken, split, or worn steps.
 - Loose hinges

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2008
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Ladder Safety		
CROSS REFERENCE:	29 CFR 1926.1053 Ladders Stairways and Ladders - A Guide to OSHA Rules, OSHA Publication 3124 2003		

GENERAL REQUIREMENTS

- The use of ladders with broken or missing rungs or steps, broken or split side rails, or other faulty or defective construction is prohibited.
- The feet of portable ladders shall be placed on a solid base and the area around the top and bottom of the ladder shall be kept clear.
- Metal and wood ladders are not allowed to be used by employees of Brieser Construction
- The side rails of the ladder shall extend at least 36" above the landing or work platform.
- If a step ladder is used for platform access the ladder must be secured to prevent tipping or moving.

JOB-MADE LADDERS

Job made ladders are not allowed on Brieser Construction sites without approval of the Safety Director. If a job made ladder is approved, it must be built to the following specifications.

- Single cleat ladders shall not exceed 30 feet in length.
- Double cleat ladders shall not exceed 24 feet in length.
- 2 x 4 lumber shall be used for side rails of single cleat ladders up to 16 feet long.
- 2 x 6 lumber shall be used for side rails of single cleat ladders from 16 to 30 feet long.
- 2 x 4 (or greater) lumber shall be used for side and middle rails of double cleat ladders up to 12 feet long.
- 2 x 6 lumber shall be used for side and middle rails for double cleat ladders from 12 to 24 feet long.
- Cleats on single cleat ladders shall be made from 1 x 4 (or greater) lumber.
- The cleats cannot exceed 20" in length on single cleat ladders.
- Cleats on double cleat ladders shall be made from 2 x 4 lumber.
- Cleats shall be inset into the edges of the side rails, or filler blocks shall be used on the rails between the cleats.
- Cleats shall be uniformly spaced, 12" top-to-top.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2008
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Ladder Safety		
CROSS REFERENCE:	29 CFR 1926.1053 Ladders Stairways and Ladders - A Guide to OSHA Rules, OSHA Publication 3124 2003		

Ladder Safety Learning Exercise

Score: %

Employees Name:

Date:

Answer each of the following questions by circling the appropriate letter.

1. All portable ladders should be equipped with slip-resistant bases.
 - a. True
 - b. False
2. Ladders can be used beyond the maximum intended load for which they were built, so long as your foreman says its approved.
 - a. True
 - b. False
3. Ladders shall be inspected for conformity to safety regulations and to ascertain that they are not damaged or missing parts before putting them into service. After inspection and before use the ladder inspection sticker must be dated and initialed.
 - a. True
 - b. False
4. Ladders shall be inspected by a competent person for visible defects daily before use and after any occurrence that could affect their safe use.
 - a. True
 - b. False
5. All ladders should be inspected for: (Circle all that Apply)
 - a. Loose steps or rungs
 - b. Cracked, split, or broken uprights, braces, steps, or rungs.
 - c. Damaged or worn non-slip braces.
 - d. Damaged casters
6. Job made ladders are preferred on Brieser Construction sites,
 - a. True
 - b. False

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2008
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Ladder Safety	
CROSS REFERENCE:	29 CFR 1926.1053 Ladders Stairways and Ladders - A Guide to OSHA Rules, OSHA Publication 3124 2003		

Ladder Safety Learning Exercise

Answer Sheet

All portable ladders should be equipped with slip-resistant bases.

- a. True**
- b. False

Ladders can be used beyond the maximum intended load for which they were built, so long as your foreman says its approved.

- a. True
- b. False**

Ladders shall be inspected for conformity to safety regulations and to ascertain that they are not damaged or missing parts before putting them into service. After inspection and before use the ladder inspection sticker must be dated and initialed.

- c. True**
- d. False

Ladders shall be inspected by a competent person for visible defects daily before use and after any occurrence that could affect their safe use.

- a. True**
- b. False

All ladders should be inspected for: (Circle all that Apply)

- a. Loose steps or rungs**
- b. Cracked, split, or broken uprights, braces, steps, or rungs.**
- c. Damaged or worn non-slip braces.**
- d. Damaged casters**

Job made ladders are preferred on Brieser Construction sites,

- e. True
- f. False**

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2008
		Revised:	12/2023
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		Reviewed:	12/17/24 KMC
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Section 15
Safety Health
and
Environmental
Manual

2025

Material Handling & Storage

BRIESER CONSTRUCTION GENERAL CONTRACTORS		DATE:	02/16/2005
		Revised	04/15/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	10
		Reviewed	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Powered Industrial Trucks & Material Handling	
CROSS REFERENCE:	29 CFR 1926, Construction Standards. ASME B30.1-2009 Jacks, Industrial Rollers, Air Casters, and Hydraulic Gantries 29 CFR 1910.244, Other Portable Tools 29 CFR 1926.305, Jack-Lever and Ratchet, Screw, and Hydraulic 29 CFR 1926.250, Materials Handling, Storage, Use & Disposal		

Material Handling & Storage

PURPOSE

Material Handling is the process of moving material using devices that are not classified as rigging and lifting tools. (i.e., be moving material using carts, forklifts, pallet jacks, dollies, jacks, and rope).

Handling and storing materials involve diverse operations such as hoisting tons of steel with a crane; driving a truck loaded with concrete blocks; carrying bags or materials manually; and stacking palletized bricks or other materials such as drums, barrels, kegs, and lumber.

Brieser Construction has a several other policies in the Safety Health & Environmental Manual that work in conjunction with each other and are needed for safe execution of moving all the different types of materials. You are required to reference these documents to ensure all rules are being followed when moving materials. Those policies are:

- Section 27 Aerial Lifts
- Section 33 Lifting & Rigging
- Section 39 Best Practices
- Section 40 Powered Industrial Trucks
- Section 41 Materials Handling Equipment

This policy will focus on the manual lifting by oneself and using common assistive devices such as dollies and carts. In addition, all jacks, industrial rollers, air casters and hydraulic gantries as well as other portable tools are covered here.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/16/2005
		Revised:	4/15/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	10
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Powered Industrial Trucks & Material Handling	
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RESPONSIBILITIES

The Program Administrator: Brieser Safety Director

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.
- Ensuring all necessary inspections are maintained by conducting field audits.

Project Managers, Superintendents and Foremen

These people are responsible for:

- Review any current revision of the Material Handling policy prior to implementation.
- Ensuring personnel assigned to manually lift materials or utilize assistive devices outlined in this policy are sufficiently trained.
- Supervision must periodically evaluate work areas and employees' work techniques to assess the potential for and prevention of injuries. New operations should be evaluated to engineer out hazards before work processes are implemented.
- Performance of proper planning, pre-use inspection, safe and correct operating practices.

Employees

These people are responsible for:

- All employees using specialized equipment used to assist in manipulating materials must be trained for that specific piece (s) of equipment that they operate.
- Not engaging in any practice that could divert attention while actually engaged in equipment operation.
- Being physically or otherwise fit for the proficient and safe lifting of materials under his/her controls.
- Always choose to team lift and never lift any material over 50 pounds.
- Defects observed in any rigging and lifting equipment shall be reported to a supervisor and must be ~~or~~ replaced before being used again.
- Wear / Don the appropriate PPE for the task and material being handled.
- Avoid overloading equipment when moving materials mechanically by letting the weight, size, and shape of the material being moved dictate the type of equipment used.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/16/2005
		Revised:	4/15/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	10
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DEFINITIONS

Ergonomics – Ergonomics is defined as the study of work and is based on the principle that the job should be adapted to fit the person rather than forcing the person to fit the job. Ergonomics focuses on the work environment, such as its design and function, as well as items such as the design and function of workstations, controls, displays, safety devices, tools, and lighting to fit the employees' physical requirements and to ensure their health and well-being.

Ergonomics includes restructuring or changing workplace conditions, to make the job easier, and reducing stressors that cause musculoskeletal disorders. In the area of materials handling and storing, ergonomic principles may require controls such as reducing the size or weight of the objects lifted, installing a mechanical lifting aid, or changing the height of a pallet or shelf.

Although no approach eliminates back injuries resulting from lifting materials, you can prevent a substantial number of lifting injuries by implementing an effective ergonomics program and by training your employees in appropriate lifting techniques

GENERAL REQUIREMENTS

- Always choose to team lift and never lift any material over 50 pounds.
- Before manual lifting is performed, a hazard assessment must be completed. Brieser utilizes the TSTI or Total Safety Task Instruction (See Brieser Construction Safety Health & Environmental Manual Section 4 Job Hazard Analysis & Incident Reporting for details). The assessment must consider size, bulk, and weight of the object(s), if mechanical lifting equipment is required, if two-man lift is required, whether vision is obscured while carrying and the walking surface and path where the object is to be carried.
- Musculoskeletal injuries caused by improper lifting must be investigated and documented. Incorporation of investigation findings into work procedures must be accomplished to prevent future injuries.
- Manual lifting equipment such as dollies, hand trucks, lift-assist devices, jacks, carts, hoists are provided for employees. Other engineering controls such as conveyors, lift tables, and workstation design are considered and shall be assessed by field supervision. See page 9 in this policy for more details.
- Manual lifting equipment should be used instead of manual lifting where possible. Field Supervisors shall enforce the use of lifting equipment.
- Defects observed in equipment shall be reported to a supervisor and must be repaired or replaced before being used again.
- Wear the appropriate PPE for the task and material being handled.
- Avoid overloading equipment when moving materials mechanically by letting the weight, size, and shape of the material being moved dictate the type of equipment used.

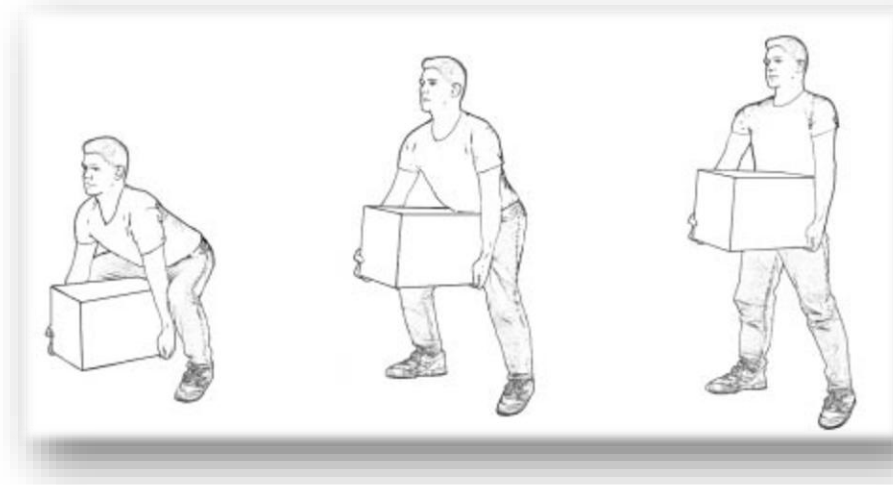
BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/16/2005
		Revised:	4/15/2023
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GENERAL REQUIREMENTS continued

- Inspect materials for slivers, jagged, or sharp edges, burns, rough, or slippery surface.
- Grasp the object with a firm grip.
- Keep fingers away from pinch and shear points, especially when setting down materials.
- Wipe off greasy, wet, slippery, or dirty objects before trying to handle them.

MANUAL LIFTING TECHNIQUES

- Squat/Power Lift:



1. Put one foot in front of the other using a wide stance.
2. Keep your back straight, push your buttocks out and use your legs and hips to lower yourself down to the object.
3. Move the load as close to you as possible.
4. Grasp the object firmly with both hands.
5. Prepare for the lift: look forward.
6. Lift upwards following your head and shoulders. Hold the load close to your body. Lift by extending your legs with your back straight, your buttocks out (exaggerate this position), and breathe out as you lift.

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MANUAL LIFTING TECHNIQUES continued

- Basic Lift (Diagonal Lift)

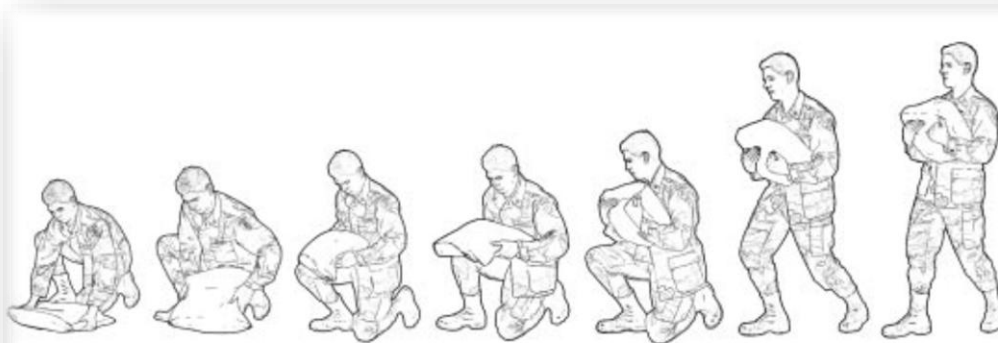


1. Get close to the object.
2. Stand with a wide stance: put one foot forward and to the side of the object.
3. Keep your back straight, push your but-tocks out, and use your legs and hips to lower yourself down to the object.
4. Move the load as close to you as possible.
5. If the box has handles, grasp the handles firmly and go to step 9.
6. Put the hand (that is on the same side of your body as the forward foot) on the side of the object furthest from you.
7. Put the other hand on the side of the object closest to you. Your hands should be on opposite corners of the object.
8. Grasp the object firmly with both hands.
9. Prepare for the lift: look forward.
10. Lift upwards following your head and shoulders. Hold the load close to your body. Lift by extending your legs with your back straight, your buttocks out, and breathe out as you lift.

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MANUAL LIFTING TECHNIQUES *continued*

- Tripod Lift – Use the tripod lift for object with uneven weight distribution (example: sacks of concrete or grout) *Recommended for people with decreased arm strength. Not recommended for people with bad knees*



1. Put one foot next to the object. Keep your back straight, push your buttocks out and slowly lower yourself down onto one knee. (For support as you lower yourself down, put one hand on a stool or on your thigh for support)
2. Position the object close to the knee on the ground.
3. Grasp the object firmly with both hands.
4. Slide the object from the knee on the ground to mid-thigh. Keep your head forward, your back straight, and your buttocks out, and lift the object onto the opposite thigh.
5. Put both of your forearms under the object (with your palms facing upward) and hug the object to your stomach and chest.
6. Prepare for the lift: look forward.
7. Lift upwards following your head and shoulders. Hold the load close to your body. Lift by extending your legs with your back straight, your buttocks out, and breathe out as you lift.

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MANUAL LIFTING TECHNIQUES continued

- Team Lifting- When two or more people carry a load.
 1. Both persons should be about the same height
 2. One person should be in charge of the lift so that you are working together not against each other.
 3. Lift together, walk in step and lower the load together.
 4. When carrying long sections of material such as rebar or lumber, they should carry the material on the same shoulder. This way, if a load must be abandoned, it will clear both persons.
- Boxes, Cartons & Sacks
 1. Grasp the alternate top and bottom corners.
 2. Draw a corner between legs.
 3. Sacked materials should be grasped at opposite corners (see Tripod lift)
 4. Upon reaching an upright position
 - a) Let the sack rest against the hip and belly.
 - b) Then swing the sack to one shoulder.
 - c) As the sack reaches the shoulder, the worker should stoop slightly; put a hand on the hip so that the sack rest partly on the shoulder and partly on the arm and back.
- Barrels & Drums
 1. When handling a drum, one should request assistance or use a drum tilter or other mechanical assistance designed to move larger 55-gallon type of drums.
 2. If necessary to roll a barrel or drum, the worker should push against the sides with the hands, tipping the barrel on edge. This is only permitted for empty drums in desirable working conditions such as a level concrete floor or similar.

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HAND TRUCKS, CARTS & DOLLIES

- Two-Wheeled Trucks
 1. Tip the load to be lifted forward slightly so that the tongue of the truck goes under the load.
 2. Push the truck all the way under the load to be moved.
 3. Keep the center of gravity of the load as low as possible. Place heavy objects below lighter objects.
 4. Place the load well forward so the weight will be carried by the axle, not by the handles.
 5. Place the load so it will not slip, shift, or fall.
 6. Load only to a height that will allow a clear view ahead.
 7. Let the truck carry the load. The operator should only balance and push.
 8. For extremely bulky items or pressurized items, such as gas cylinders, strap or chain the item to the truck.
 9. When going down an incline, keep the truck ahead so that it can be always observed.
- Four-Wheeled Trucks or Cart
 1. Trucks or cart should be evenly loaded to prevent tipping.
 2. Trucks should be pushed rather than pulled.
 3. They should be loaded so that the operators can see where they are going.
 4. Contents of load should be arranged so that they will not fall.
- Pallets
 1. Splintered, broken, or loose parts should be repaired or replaced. Loose nails or chunks of wood can cause injury to workers and damage to the trucks.
 2. Pallets should be neatly stacked so that they are stable and secure against falling.
 3. They should not be left standing on edge or in a leaning position from which they may topple onto our workers.
 4. Large stacks of pallets should be maintained outside.
 5. Pallets should be hoisted with powered or hand trucks.
 6. The pallets should be inspected before loading or stacking for defects by the operator.

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LIFTING WITH EQUIPMENT

A Lifting & Rigging ~~permit~~ must be completed whenever a sling is attached to a piece of equipment or whenever a piece of equipment is used that is typically not used for lifting. (Ex. Backhoe Loader, Crawler Excavator). Please reference Brieser SH&E manual Section 33. For this permit. Prior to utilizing a Forklift, please refer to Brieser SH&E Manual Section 40 Powered Industrial Trucks. You must be trained in the proper use of this equipment and that training must be logged with the Brieser training department.

MATERIALS STORAGE

Stored materials must not create a hazard for employees. Employers should make workers aware of such factors as the materials' height and weight, how accessible the stored materials are to the user, and the condition of the containers where the materials are being stored when stacking and piling materials. To prevent creating hazards when storing materials, employers must do the following:

- Always refer to the materials SDS sheet for safe storage if applicable.
- Keep storage areas free from accumulated materials that cause tripping, fires, or explosions, or that may contribute to the harboring of rats and other pests.
- Place stored materials inside buildings that are under construction and at least 6 feet from hoist ways, or inside floor openings and at least 10 feet away from exterior walls.
 - Separate non-compatible material
- In addition, workers should consider placing bound material on racks, and secure it by stacking, blocking, or interlocking to prevent it from sliding, falling, or collapsing.

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FLOOR JACKS

A jack is an appliance for lifting and lowering or moving horizontally a load by application of a pushing force.

Jacks may be of the following types:

- Lever
- Ratchet
- Screw
- Hydraulic



The rating of a jack is the maximum working load for which it is designed to lift safely that load throughout its specified amount of travel.

which

NOTE: To raise the rated load of a jack, the point of application of the load, the applied force, and the length of lever arm should be those designated by the manufacturer for the jack considered.

PROCEDURE

- A. **Labeling-** all jacks shall be labeled with the rate load. If this information is compromised a replacement label shall be placed on the equipment immediately. The rating load shall be legibly and permanently marked in a prominent location on the jack by casting, stamping, or other suitable means.
- B. **Before Use:**
 1. The operator shall make sure that the jack used has a rating sufficient to lift and sustain the load.
 2. Visually inspect jacks and keep them in good working order.
 3. Make sure the jack is safe to lift the load

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BASIC OPERATION & LIFTING

The most common hazard associated with jack use is collapse from trying to lift beyond the capacity of the jack; jack placement on uneven surfaces; and load slipping off the jack. The OSHA requirements are designed to minimize these hazards.

The fluid used in hydraulic power tools must be an approved fire-resistant fluid and must retain its operating characteristics at the most extreme temperatures to which it will be exposed. The exception to fire-resistant fluid involves all hydraulic fluids used for the insulated sections of Heavy Equipment, aerial lifts, and hydraulic tools that are used on or around energized lines. This hydraulic fluid shall be of the insulating type.

Brieser Construction will follow the manufacturer's recommended safe operating pressure for hoses, valves, pipes, filters, and other fittings must not be exceeded.

All jacks—including lever and ratchet jacks, screw jacks, and hydraulic jacks—must have a stop indicator, and the stop limit must not be exceeded. Also, the manufacturer's load limit must be **permanently marked** in a prominent place on the jack, and the load limit must not be exceeded.

A jack should never be used to support a lifted load. Once the load has been lifted, it must immediately be blocked up. Place a block under the base of the jack when the foundation is not firm and place a block between the jack caps and load if the cap might slip.

TO SET UP A JACK:

1. The base of the jack shall rest on a firm, level surface.
2. The jack must be correctly centered.
3. The jack head must bear against a level surface; and
4. The lift force must be applied evenly.

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	29 CFR 1926.305, Jack-Lever and Ratchet, Screw, and Hydraulic		
	29 CFR 1926.250, Materials Handling, Storage, Use & Disposal		

JACKS-INSPECTION

Whether ratchet or hydraulic, all jacks should be inspected before each shift or use. Check for:

- Improper engagement or extreme wear of pawl and rack
- Cracked or broken rack teeth
- Cracked or damaged plunger
- Leaking hydraulic fluid
- Scored or damaged plunger
- Swivel heads and caps that do not function properly.
- Damaged or improperly assembled accessory equipment.

All jacks must be lubricated regularly. Each jack must be inspected according to the following schedule:

Each jack shall be thoroughly inspected at times which depend upon the service conditions. Inspections must be not less frequent than the following:

- For constant or intermittent use at one locality, once every 6 months.
- For jacks sent out of Brieser Warehouse for special work, when sent out and when returned.
- For a jack subjected to abnormal load or shock, immediately before and immediately thereafter.
- Repair or replacement parts must be examined for possible defects.
- Jacks in need of repair must be tagged and immediately removed from service.

**Remember: When using jacks always try to block as you go.
Never use jacks for long-term support. Block properly instead.**

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JACKS – SELF INSPECTION CHECKLIST

Perform the following Pre-Use Inspection- (Any unsafe conditions listed below is cause for rejection)

YES NO N/A

		Do the jacks in use have a rating sufficient to lift and sustain the loads? [29 CFR 1910.244(a)(1)(i)]
		Is the rated load for the jack legibly and permanently marked by casting, stamping or other suitable means in a prominent location on the jack? [29 CFR 1910.244(a)(1)(ii) and 1926.305(a)(1)]
		In the absence of a firm foundation, is the base of the jack blocked or cribbed? [29 CFR 1910.244(a)(2)(i) and 1926.305(c)]
		If the cap could slip, is a block placed between the cap and the load? [29 CFR 1910.244(a)(2)(i) and 1926.305(c)]
		Do all jacks have a positive stop to prevent over-travel? [29 CFR 1926.305(a)(2)]
		Are operators instructed to watch the stop indicator (which must be kept clean) in order to determine the limit of travel? [29 CFR 1910.244(a)(2)(ii)]
		After a load has been raised by a jack, is it immediately cribbed, blocked, or otherwise secured, as required? [29 CFR 1910.244(a)(2)(iii) and 1926.305(d)(1)(i)]
		Are hydraulic jacks that are exposed to freezing temperatures supplied with adequate antifreeze liquid? [29 CFR 1910.244(a)(2)(iv) and 1926.305(d)(1)(ii)]
		Are all jacks properly lubricated at regular intervals? [29 CFR 1910.244(a)(2)(v) and 1926.305(d)(1)(iii)]
		Is each jack thoroughly inspected? [29 CFR 1910.244(a)(2)(vi) and 1926.305(d)(1)(iv)]
		Are jacks that are used constantly or intermittently at one locality thoroughly inspected at least every six months? [29 CFR 1910.244(a)(2)(vi)(a) and 1926.305(d)(1)(iv)(a)]
		Are jacks that are sent out on jobs thoroughly inspected when they are returned? [29 CFR 1910.244(a)(2)(vi)(b) and 1926.305(d)(1)(iv)(b)]
		Are jacks that are subjected to abnormal loads or shock thoroughly inspected immediately before and after each use? [29 CFR 1910.244(a)(2)(vi)(c) and 1926.305(d)(1)(iv)(c)]
		Are repair or replacement parts for jacks examined for defects before installation? [29 CFR 1910.244(a)(2)(vii) and 1926.305(d)(1)(v)]
		Are repairs made on disabled jacks before they are used again? [29 CFR 1910.244(a)(2)(viii) and 1926.305(d)(1)(vi)]

Inspection Performed by: _____ Date: _____

If any unusual defects are detected during the inspection, CONTACT the Brieser Equipment Manager to ensure proper documentation and final disposition of the Jack.

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RECORDKEEPING:

- Daily or Pre-use Inspections
 - All inspections to the material handling equipment reference in this policy shall at a minimum be documented on the Brieser TSTI
 - All Jacks shall be inspected by filling out the Self-Inspection Checklist located in within this policy.

TRAINING PROCEDURE

1. Only authorized and trained personnel should be permitted to operate Material Handling Equipment defined in the Brieser SH&E Manual Section 41 Material Handling Equipment
2. Brieser Construction's Equipment Safety Training Manual will cover all other forms of equipment training. A current list is maintained on our company website. All Brieser employees have access to the site and its contents.
3. All Brieser field employees shall complete online training in General Ergonomics, Back Safety & Material Lifting & Storage.
 - a. Training should include general principles of ergonomics, recognition of hazards and injuries, procedures for reporting hazardous conditions, and methods and procedures for early reporting of injuries. Additionally, job specific training should be given on safe lifting and work practices, hazards, and controls.

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Material Handling & Storage Learning Exercise

Score: %

Employees Name:		Date:	
Company:		Instructor:	
Trade:		Job Title:	

Answer each of the following questions by circling the appropriate letter.

1. Before manual lifting is performed, a hazard assessment must be completed using the ____?
 - a. Lifting & Rigging Permit
 - b. Silica Permit
 - c. TSTI
 - d. Incident Report

2. Circle all the proper ways you should lift a significant manual load.
 - a. Basic Lift
 - b. Squat / Power Lift
 - c. Tripod Lift
 - d. All the above

3. Along with using your legs and not your back some other good lifting techniques are:
 - a. Inspect materials for sharp edges, burns, rough, or slippery surface.
 - b. Grasp the object with a firm grip.
 - c. Keep fingers away from pinch points, especially when setting down materials.
 - d. Wipe off greasy, wet, slippery, or dirty objects before trying to handle them.

4. When using a Two-Wheeled Truck (dolly) place the load well forward so the weight will be carried by the axle, not by the handles.
 - a. True
 - b. False

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5. A _____ permit must be completed whenever a sling is attached to a piece of equipment or whenever a piece of equipment is used that is typically not used for lifting. (Ex. Backhoe Loader, Crawler Excavator).
 - a. Lifting & Rigging Permit
 - b. Silica Permit
 - c. TSTI
 - d. Incident Report

6. When using a jack, you are required to complete a Jack Self-Inspection Checklist
 - a. True
 - b. False

7. All Brieser field employees shall complete online training in General Ergonomics, Back Safety & Material Lifting & Storage.
 - a. True
 - b. False

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Material Handling & Storage Learning Exercise

Answer Sheet

1. Before manual lifting is performed, a hazard assessment must be completed using the ____?
 - a. Lifting & Rigging Permit
 - b. Silica Permit
 - c. TSTI**
 - d. Incident Report
2. Circle all the proper ways you should lift a significant manual load.
 - a. Basic Lift
 - b. Squat / Power Lift
 - c. Tripod Lift
 - d. All the above**
3. Along with using your legs and not your back some other good lifting techniques are:
 - a. Inspect materials for sharp edges, burns, rough, or slippery surface.**
 - b. Grasp the object with a firm grip.**
 - c. Keep fingers away from pinch points, especially when setting down materials.**
 - d. Wipe off greasy, wet, slippery, or dirty objects before trying to handle them.**
4. When using a Two-Wheeled Truck (dolly) place the load well forward so the weight will be carried by the axle, not by the handles.
 - a. True**
 - b. False
5. A _____ permit must be completed whenever a sling is attached to a piece of equipment or whenever a piece of equipment is used that is typically not used for lifting. (Ex. Backhoe Loader, Crawler Excavator).
 - a. Lifting & Rigging Permit**
 - b. Silica Permit
 - c. TSTI
 - d. Incident Report
6. When using a jack, you are required to complete a Jack Self-Inspection Checklist
 - a. True**
 - b. False
7. All Brieser field employees shall complete online training in General Ergonomics, Back Safety & Material Lifting & Storage.
 - a. True**
 - b. False



Section 16
Safety Health
and
Environmental
Manual

2025

Company Vehicle Policy

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/16/2005
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STANDARD OPERATING PROCEDURE:	Company Vehicle Policy		
CROSS REFERENCE:	<i>ANSI/ASSE Z15.1-2006 Safe Practices for Motor Vehicle Operations</i>		

MOTOR VEHICLE SAFETY POLICY

It is the policy of Brieser Construction to provide and maintain a safe working environment to protect our employees and the citizens of the communities where we conduct business from injury and property loss. Brieser Construction is committed to promoting a heightened level of safety awareness and responsible driving behavior in its employees. This program requires the full cooperation of each driver to operate their vehicle safely and to adhere to the responsibilities outlined in the Motor Vehicle Safety Program. Elements of this program include:

- Assigning responsibilities at all levels of employment.
- Vehicle use and insurance requirements.
- Employee driver's license checks and identification of high-risk drivers.
- Incident reporting and investigation.
- Company Incident Review Board.
- Vehicle selection and maintenance.
- Training standards.
- Safety regulations.

RESPONSIBILITY

Management is responsible for successful implementation and on-going execution of this program. Supervisors and employees are responsible for meeting and maintaining the standards set forth in this program.

SCOPE

This policy applies to employees who operate vehicles on company business and will be reviewed by managers and supervisors to ensure full implementation and compliance.

Signature: _____ **Date:** _____

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ORGANIZATION AND RESPONSIBILITIES

Company President:

The President is responsible for directing an aggressive vehicle safety program.

Senior Management will:

- Implement the Motor Vehicle Safety Program in their areas of responsibility.
- Establish measurement objectives to ensure compliance with the program.
- Provide assistance and the resources necessary to implement and maintain the program.

Human Resources Manager will:

- Implement this Motor Vehicle Safety Program by:
 - Collecting & reviewing MVR reports, Valid driver's licenses & insurance certificates
 - Ensuring drivers have all DOT qualifications to meet the vehicle they are applying to drive.
 - Providing Background Checks
 - Alerting management of drivers who are high risk to the company.

Brieser's Supervisors will:

- Investigate and report all incidents involving a motor vehicle used in performing company business. Forward all incident reports within 24 hours to the Director of Safety.
- Be responsible for taking appropriate action to manage high risk drivers as defined by this program.
- Provide driver training either internally or through external means for high-risk drivers.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/16/2005
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Director of Safety:

- Issue periodic reports of losses for the president's review.
- Review motor vehicle incident reports as part of the Company Incident Review Board.
- Revise and distribute changes to the Motor Vehicle Safety Program to managers, supervisors, and drivers, as necessary.
- Maintain appropriate records.

Brieser Employees will:

- Always operate a motor vehicle in a safe manner as explained under the section titled, "Driver Safety Regulations."
- Maintain a valid driver's license and minimum insurance requirements on personal vehicles used in company business.
- Not operate vehicles that appear unsafe or appear to have discernible operating problems and will immediately report such vehicles to their supervisor.
- Not allow an unauthorized individual to drive a Brieser Construction or rental vehicle on their behalf.
- Complete a 360° walk around the vehicle every time the driver enters the vehicle/cab.
- Complete or verify completion of a Brieser Daily Equipment/Vehicle Inspection Report for each vehicle you operate.

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VEHICLE USE

- Company Owned Vehicles
 - No personal use of any Brieser Owned vehicle is allowed.
 - Under special circumstances and through approval from Brieser upper management first. Only then a Brieser employee may be allowed to use a Brieser owned vehicle-for personal use.
- Commercial Motor Vehicles
 - Employees must have an appropriate commercial driver's license and any applicable endorsements per Federal/State DOT to operate the vehicle.
- Personal Vehicles on Company Business
 - Brieser employees who drive their personal vehicles on company business are subject to the requirements of this program. Employees using their own vehicles for Brieser Construction use must:
 - Maintain auto liability insurance with minimum limits as required by State law. It is recommended to have limits of \$250,000 in bodily injury coverage per person, \$500,000 in bodily injury coverage per accident.
 - Maintain current state vehicle inspections when required.
 - Maintain their vehicle in a safe operating condition when driven on company business.

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VEHICLE USE continued

- Rental Vehicles
 - All rental vehicles must be approved by the Equipment & Facilities V.P.
 - Collision damage waiver will be refused when renting vehicles in the U.S. Consult with Brieser Office Operations Manager regarding waiving collision coverage.
- Unauthorized Use of Vehicles
 - Assigned drivers and other authorized employees will not allow an unauthorized individual to operate a company vehicle.
- Subcontractors and Temporary Hire Employees
 - Subcontractors and temporary employees from a staffing agency will be treated as company employees and will comply with the requirements of this program. Failure to meet all requirements will result in the immediate loss of driving privileges.
- Loading & Vehicle Specifications
 - Loads shall be secure and shall not exceed the manufacturer's specifications and legal limits for the vehicle.
 - The vehicle shall be of the correct size and used for its intended purpose.

DRIVER SELECTION

- Driver Evaluation:
 - Brieser's employees will be evaluated and selected based on their driving ability. To evaluate employees as drivers, management will:
 - Review the employee's Motor Vehicle Record (MVR) annually (more frequently if fleet size and reasons warrant).
 - Ensure the employee has valid driver's license.
 - Ensure the employee is qualified to operate the type of vehicle he/she will drive.

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DRIVER SELECTION continued

- Driver Qualification:
 - Effective driver qualification controls are important elements of a successful motor vehicle safety program. Brieser Management developed and incorporated standards into this program, which reflect the skills necessary for satisfactory job performance while taking into consideration applicable Federal and state regulations.
 - The company has implemented three levels of driver qualification criteria. Use of any or all these criteria is dependent upon the nature and scope of the driving requirements.
 - State-regulated driver qualification parameters must be met. Regulatory information will be obtained from applicable state departments of transportation and motor vehicle services.
 - Where applicable, drivers will comply with DOT Commercial Driver License (CDL) regulations.
 - Drivers involved in interstate or foreign commerce in vehicles with Gross Motor Vehicle Weight Rating (GMVR) of 10,001 pounds or more, designed to transport 16 or more passengers, including the driver, or used in the transportation of hazardous materials in a quantity requiring placarding under the DOT Hazardous Materials Regulations, are subject to the requirements of the DOT Federal Highway Administration's Federal Motor Carrier Safety Regulations.
 - Drivers involved in intra or interstate operations with GMVR of 26,001 pounds or more must have a CDL license and be enrolled in a DOT Drug and Alcohol Testing Program.

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The following criteria were established to identify high risk drivers. A driver is unacceptable if the driver's incident/violation history in the past 5 years includes one or more of the following moving violation convictions: This list is not comprehensive and may have additions and deletions.

- Driving under the influence of alcohol or drugs (DWI).
 - Hit and run.
 - Failure to report an incident.
 - Operating during a period of suspension or revocation.
 - Operating a motor vehicle without the owner's authority.
 - Permitting an unlicensed person to drive.
 - Reckless driving.
 - Speeding (2 or more in a 1-year period).
 - Two preventable incidents in a 12-month period.
- Drivers who are identified as high risk or in violation may be subject to several actions from Brieser management including, but not limited to:
 - Driver may be required to attend a Defensive or Safety Driving course on their own time & expense.
 - Driver may have their driving privileges suspended or revoked.

INCIDENT RECORDKEEPING, REPORTING AND ANALYSIS

This company considers elimination of motor vehicle incidents a major goal. To meet this objective, all incidents will be reported to management, investigated, documented, and reviewed by the Brieser Construction Safety Department. The investigation identifies need for:

- More intensive driving training and/or remedial training.
- Improved driver selection procedures.
- Improve vehicle inspection and/or maintenance activities.
- Changes in traffic routes.

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INCIDENT RECORDKEEPING, REPORTING AND ANALYSIS *continued*

- Motor vehicle incident recordkeeping procedures consist of the following components:
 - Documentation of causes and corrective action.
 - Management review to expedite corrective action.
 - Analysis of incidents to determine trends, recurring problems, and the need for further control measures.

- Responsibility:

Implementation of these procedures remains the responsibility of both the driver and Brieser Management.

- Driver
 - Since the driver is the first person at the incident scene, he/she will initiate the information-gathering process as quickly and thoroughly as is feasible. (See Section VII)
- Management
 - Management will obtain incident data from the driver through the BRIESER CONSTRUCTION CO. SUPERVISORS PROPERTY/EQUIPMENT INCIDENT REPORT found in Section 4, Hazard Identification & Incident Reporting of this manual. It is important for management to determine the extent of the incident, especially if it involves injury or death to the driver, passengers, or other parties.
 - Management will immediately proceed with a formal investigation to determine the underlying causes as well as what can be done to prevent similar occurrences. The BRIESER CONSTRUCTION CO. SUPERVISORS PROPERTY/EQUIPMENT INCIDENT REPORT will be forwarded to the insurance claims office along with any additional support data (e.g., witness statements, photographs, police report, etc.).

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Preventable/Non-Preventable Incidents:

- The following definitions relate to motor vehicle incidents:
 - A motor vehicle incident is defined as "any occurrence involving a motor vehicle which results in death, injury or property damage, unless such vehicle is properly parked. Who was injured, what property was damaged and to what extent, where the incident occurred, or who was responsible, are not relative factors"?
 - A preventable incident is defined as "any incident involving the vehicle, unless properly parked, which results in property damage or personal injury and in which the driver failed to do everything he/she reasonably could have done to prevent or avoid the incident".
 - A properly parked motor vehicle is one that is completely stopped and parked where it is legal and prudent to park such a vehicle or to stop to load/unload property. Vehicles stopped to load/unload passengers are not considered parked.
 - Parking on private property will be governed by the same regulations that apply on public streets and highways. A vehicle stopped in traffic in response to a sign, traffic signal or the police is not considered parked.
 - The determination of preventability of an incident is the function of the Brieser Construction Incident Review Board consisting of Equipment & Facilities V.P., Field Operations V.P. & the Director of Safety.

EMPLOYEE INCIDENT REPORTING PROCEDURE

Employees will take the following actions when there are injuries to persons and/or damage to other vehicles or property:

- If possible, move the vehicle to a safe location out of the way of traffic. Call for medical attention if anyone is hurt.
- Use the ComEd incident reporting booklet in the ComEd emergency kit. This will help the process be more streamlined.

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EMPLOYEE INCIDENT REPORTING PROCEDURE continued

- Secure the names and addresses of drivers and occupants of any vehicles involved, their operator's license numbers, insurance company names and policy numbers, as well as the names and addresses of injured persons and witnesses. Record this information on the Incident Report form (in the reporting packet). Do not discuss fault with, or sign anything for anyone except an authorized representative of Brieser Construction, or a police officer.
- Take photos of all damage to other vehicles as well as company vehicles
- Immediately notify The Company President and Brieser's Director of Safety. If anyone involved suffered injuries from this collision and the Director of Safety is not available, contact one of the Safety Coordinators and then your supervisor immediately.
- Brieser's Equipment Manager will contact you to advise you how to arrange for repairs to the vehicle. Do not have the vehicle repaired until you receive authorization from the Equipment Manager.

When there is theft of or damage to your vehicle only:

- If you did not witness the damage to the vehicle, you must notify the local police department immediately.
- Immediately notify Brieser's Director of Safety.

The Brieser's Equipment Manager will contact you to advise you how to arrange for repairs or replacement of the vehicle. Do not have the vehicle repaired until you receive authorization from the Equipment Manager.

- Send a copy of the police report along with a memo outlining any additional information to the Safety Director as soon as possible.

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BRIESERS INCIDENT REVIEW BOARD

All vehicle collisions should be analyzed, and a written report submitted to management for review. A determination of incident preventability should be made. Where the collision was preventable by the company driver, the driver will be subject to Brieser Constructions Disciplinary Policy found in Section 3 of the Brieser SH&E manual.

However, this does not absolve Brieser's management from improving safety of the work and driving environment. The determination of preventability of an incident is the function of the Brieser Construction Incident Review Board consisting of Equipment & Facilities V.P., Field Operations V.P. & the Director of Safety. Management deficiencies and/or lack of management action should also be part of the incident review. Management has a legal obligation not only for driver safety but the safety of the public as well.

To determine preventability an incident review board has been established. Members consists of both management and field personnel. Their main charge, of the review board, is to determine whether the fleet/vehicle incident was preventable or nonpreventable and whether it is chargeable to the driver.

The attached material, "*Guide for Preventable and No Preventable Incidents*", will be used as a guide for this determination. Majority vote rules.

The committee will report to the Brieser Construction President-within 3 working days the results of their review. The Director of Safety will take the appropriate steps and communicate the results to the affected driver and supervisor.

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VEHICLE SELECTION, INSPECTION AND MAINTENANCE

- Introduction:
 - Proper selection and maintenance of equipment are important aspects of this program. Reduced operational costs and incidents from vehicle defects are the direct result of a well implemented maintenance policy.
- Vehicle Selection:
 - Selection of vehicles begins with understanding the wrong equipment can result in excessive breakdowns, create hazards to personnel, incur costly delays and contribute to poor service and customer complaints. The company will purchase vehicles designed for their intended use.
- Vehicle Inspection:
 - The employee responsible for the vehicle will inspect the vehicle once per shift using the Daily Equipment/Vehicle Inspection Report booklets and forward the report to Brieser's Main Office. More frequent inspections and reports may be required based on heavy use. DOT regulations require an after-shift inspection for Commercial Motor Vehicles.
- Vehicle Maintenance:
 - Vehicle maintenance can take the form of three distinct programs: preventive maintenance, demand maintenance, and crisis maintenance. While all three types have their role in the Motor Vehicle Safety Program, the most cost-effective control is preventive maintenance. The groundwork for a good preventive maintenance program starts with management. A review of manufacturer's specifications and recommendations for periodic preventive maintenance should be integrated with the actual experience of the vehicles.
 - Preventive maintenance (PM) is performed on a mileage or time basis. Typical PM includes oil/filter changes, lubrication, tightening belts and components, engine tune-ups, brake work, tire rotation, hose inspection/replacement and radiator maintenance.

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- Vehicle Maintenance continued
 - Demand maintenance is performed only when the need arises. Some vehicle parts are replaced only when they fail. These include light bulbs window glass, gauges, wiring, air lines, etc. Other "demand maintenance" items involve vehicle components that are worn based on information from the vehicle condition report. These include tires, engines, transmissions, universal joints, bushings, batteries, etc. Since these situations are identified through periodic vehicle inspection, they can be classified within the PM program.
 - Crisis maintenance involves a vehicle breakdown while on the road. While situations of this type may happen regardless of the quality of the PM program, it is an expensive alternative to not having an effective preventive maintenance program at all. Crisis maintenance situations should be minimized through proper PM procedures.
- Recordkeeping:
 - This company's vehicle selection, inspection and maintenance program is only as good as its recordkeeping procedures. Employees will forward all vehicle maintenance records for maintenance performed each quarter to the Equipment & Facilities V.P.

DRIVER TRAINING

Drivers hired by this company to operate a motor vehicle will have the basic skills and credentials necessary to perform this function as confirmed through the driver selection process.

New Brieser's employees, Subcontractors, and temporary hires such as from a staffing agency will receive a copy of this program as part of their initial orientation. A formal orientation program is established to help assure all drivers are presented with the company policy, understand their responsibilities, and are familiarized with their vehicle. Areas that must be addressed, with the driver, include:

- Understand, review and given a copy of this policy.
- Understand and sign the Vehicle Assignment Agreement.
- Review individual Motor Vehicle Report (MVR).
- Understand incident reporting & emergency procedures.
- Review operation and controls of vehicle being assigned.
- Inspect vehicle using Vehicle Inspection Form.

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- License Suspension:
 - Drivers must notify Brieser President, and any member of Human Resources if their license is suspended or revoked.
- Remedial Training:
 - Drivers may be required to attend a safe driving school (National Safety Council Defensive Driving course of equivalent) or an alcohol/drug abuse program on their own time and at their own expense if a review of the driver's MVR indicates:
 - One or more violation convictions within anyone-year period, or
 - A conviction for driving while under the influence of alcohol or drugs.
 - Also, depending on the severity of the conviction, the employee's driving privileges may be revoked and/or may result in employment termination.

DRIVER SAFETY REGULATIONS

- Safety Belts:
 - The driver and all occupants are required to wear safety belts when the vehicle is in operation or while riding in a vehicle. The driver is responsible for ensuring passengers wear their safety belts.
- Impaired Driving:
 - The driver must not operate a vehicle at any time when his/her ability to do so is impaired, affected, influenced by alcohol, illegal drugs, prescribed or over-the-counter medication, illness, fatigue, or injury.
 - No driver shall operate a Brieser Construction vehicle within 4 hours of having consumed alcohol.
 - Brieser Construction adheres to a zero tolerance for violations of impaired driving.
- Traffic Laws:
 - Drivers must abide by the federal, state, and local motor vehicle regulations, laws, and ordinances.

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- Vehicle Condition:
 - Drivers are responsible for ensuring the vehicle is maintained in safe driving condition. Drivers of daily rentals should check for obvious defects before leaving the rental office/lot and, if necessary, request another vehicle if the first vehicle is deemed unsafe by the employee. Drivers are encouraged to rent vehicles equipped with air bags and ABS brakes, where available.
 - Vehicle shall be kept clean and always organized, periodic inspections will be made by management and your driving privileges may be suspended if vehicle does not pass inspection.
 - Only approved items shall be stored in the passenger compartment of any Brieser Construction vehicle.
- Mobile Devices
 - The use of cellular phones, computers, messaging devices, or any mobile electronic device while operating a motor vehicle is prohibited. The intent of this policy is to control the circumstances under which an employee can use a cell phone or other electronic device while operating a motor vehicle on company business (either in a company-owned, client-owned, or employee-owned vehicle).
 - Adherence to the following items is mandatory:
 - Employees must comply with federal, state, and local laws that exist to control the usage of mobile devices while operating a motor vehicle.
 - ❖ Employees will not operate any mobile device while the vehicle is in operation.
 - ❖ If the employee finds it necessary to make a phone call at any time while operating a motor vehicle, he/she must proceed to a safe off-road location to place the call.
 - ❖ A vehicle equipped with eyes-free operation may be used while driving. Eyes-free means that the driver does not have to take their eyes off the road to place or accept a call. This is typically accomplished by pressing one button on the steering wheel and placing or accepting a call via voice prompts or commands.
 - ❖ Employees will not send or review text messages while operating a motor vehicle.
 - ❖ Employees will not operate any other mobile device while driving, including but not limited to a personal digital assistant (PDA), pocket PC, binaural headset-based audio device, such as an MP3 player or laptop computer.
 - ❖ Navigation systems will be programmed before the trip is started, not while the motor vehicle is in operation.

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- Motorcycles:
 - Use of A Motorcycle for Company Business Is Prohibited
- General Safety Rules:
 - Employees are NOT permitted to:
 - Pick up hitchhikers.
 - Accept payment for carrying passengers or materials.
 - Use any radar detector, laser detector or similar devices.
 - Push or pull another vehicle or tow a trailer without prior approval from the Equipment & Facilities V.P.
 - Transport flammable liquids or gases unless a DOT or Underwriters' Laboratories approved container is used, and only then in limited quantities.
 - Use of burning flares will be discouraged. The preferred method is the use of reflective triangles.
 - Assist disabled motorists or incident victims beyond their level of medical expertise. If a driver is unable to provide the proper medical care, he/she must restrict his/her assistance to calling the proper authorities. Your safety and well-being are always to be protected.
 - Never work on or perform preventative maintenance on a Brieser Construction vehicle without approval from Equipment and Facilities V.P.
- Company and Personal Property:
 - Employees are responsible for company property such as computers, workpapers and equipment under their control. The company will not reimburse the employee for stolen personal property.

APPENDIX

- Forms/Attachments
 - Vehicle Assignment Agreement

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VEHICLE ASSIGNMENT AGREEMENT

The undersigned hereby acknowledges receipt of a Brieser Construction Company-owned or leased automobile. I understand this vehicle is to be regularly maintained and serviced, according to the service schedule outlined in the Owner's Manual.

Further, it is agreed this vehicle will be operated in a safe manner. I agree to wear my seat belt whenever the vehicle is in motion and will require other occupants to do so. I agree to be responsible for all traffic and parking violations that occur while the vehicle is assigned to me. I will never smoke in the vehicle.

I understand articles of this agreement apply regardless of who is operating this vehicle. I may authorize others to drive this vehicle according to the following guidelines:

- Licensed employees of Brieser Construction.
- Other licensed drivers as I so designate in emergency situations only.

I agree to promptly report all incidents or incidents resulting in injury or damage to the vehicle or other property, no matter how slight.

I understand I am required to maintain a valid driver's license. Further, I herewith grant Brieser Construction the right to investigate my motor vehicle driving record any time. My current driver's license is issued from the State of Illinois and is No. _____

If my driving record contains two moving violations within one-year period, my record will be brought up before Brieser Construction Incident Review Board for consideration of remedial training and/or loss of driving privileges.

I will be required to attend a safe driving class on my own time and at my expense, and to provide the Director of Safety with confirmation of attendance within thirty days of notification if decided by the review board.

I understand I am not to modify the vehicle in any way without written permission. This specifically applies to the installation of cellular telephones, radios, CBs, speakers, etc. Further, trailer hitches and towing trailers are specifically prohibited. Further, I will not take this vehicle out of the United States without written permission from the Equipment & Facilities V.P.

I understand the operation of this vehicle in a safe operating condition is my responsibility. If this vehicle becomes unsafe, it is my responsibility to notify my supervisor immediately. I will keep my vehicle clean & orderly.

I agree to sign our Motor Vehicle Report policy that authorizes Brieser Construction, Co. to acquire your driving records.

I read and agree to the provisions of this Vehicle Assignment Agreement and the requirements of the Motor Vehicle Safety Program.

SIGNATURE	DATE
VEHICLE ASSIGNED (If known)	
VIN NUMBER	
PLATE NUMBER	
MILEAGE:	



Section 17
Safety Health
and
Environmental
Manual

2025

Heat Illness Prevention

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	6/4/2015
		Revised:	04/27/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
		Reviewed:	12/17/24 KMC
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CROSS REFERENCE:	OSHA Heat Safety Fact Sheet, Publication #3422; English ACGIH, 2011. Heat Stress and Strain, in TLVs and BEIs		

Heat Illness Prevention

PURPOSE

Heat stress occurs when the heat load on the body exceeds the body's capacity to cool itself. The following information has been collected from the National Institute for Occupational Safety and Health (NIOSH). The purpose of this program is to provide guidance for protecting employees from hazards of high heat conditions and to provide information on engineering, administrative and PPE controls. Being uncomfortable is not the major problem with working in hot temperatures and humidity. Workers who are suddenly exposed to working in a hot environment face additional and generally avoidable hazards to their safety and health.

Scope

To define the requirements, responsibilities, and procedures necessary to reduce the risk of our employees suffering from a Heat related illness.

RESPONSIBILITIES

The Program Administrator: Brieser Safety Manager

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.
- Ensuring that employees receive initial and refresher training on the use of this policy.
- Maintaining training records for all employees included in the training sessions.
- Provide information to workers on signs of heat stress.
- Provide means of preventing heat stress and other heat related health hazards.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	6/4/2015
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Project Managers, Superintendents and Foremen

These people are responsible for:

- Ensuring the Hot Workday checklist is completed prior to work when outside temperatures are 80°F or more.
- Providing training in the signs and symptoms of Heat related illnesses to workers on site
- Providing access to potable drinking water, located as close to the workers as possible.
- Providing shade to workers for breaks and if they need to recover.
- Ensure that all supervision is trained in the prevention of heat related illnesses prior to supervising employees working in heat.
- Ensure that all supervision is trained in emergency procedures when an employee exhibits symptoms consistent with possible heat illness.

Employees

- Understanding common signs and symptoms of heat illness
- Understanding proper precautions to prevent heat illness.
- Understanding the importance of acclimatization
- Understanding the importance of drinking water frequently
- Report heat symptoms early

GENERAL

OSHA does not have a specific standard that covers working in hot environments. Nonetheless, under the OSH Act, Brieser Construction Co. has a duty to protect workers from recognized serious hazards in the workplace, including heat-related hazards. This procedure will help worksite supervisors prepare and implement hot weather plans. It explains how to use the heat index to determine when extra precautions are needed at a worksite to protect workers from environmental contributions to heat-related illness. But first we must learn about Heat Illness disorders and the factors that contribute to them. Then this procedure will train and inform on what to do in varying heat indexes and when signs and symptoms arise in workers that are overcome by heat stresses.

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FACTORS THAT MAY CAUSE HEAT-RELATED ILLNESSES

- **Environmental**
 - Hot temperature and humidity. Together this is called the Heat Index
 - Direct sun exposure (with no shade) or extreme heat
 - Limited air movement (no breeze or wind)
- **Job Specific**
 - Physical exertion
 - Type of work being performed.
 - Duration of the task
 - Use of bulky protective clothing and equipment
 - Light vs. dark colors
 - Breathability of fabric
- **Personal**
 - Age
 - Weight/fitness
 - Drug/Alcohol use
 - Prior heat-related illness
 - Acclimatization or adjustment to the heat.

Recognition of common signs and symptoms and how to respond to Heat-related Emergencies.

If workers report or supervisors observe signs or symptoms of heat-related illness, stop activity immediately. Act while waiting for help. HEAT STROKE IS A MEDICAL EMERGENCY. CALL 911 immediately if a worker shows any signs of heat stroke.

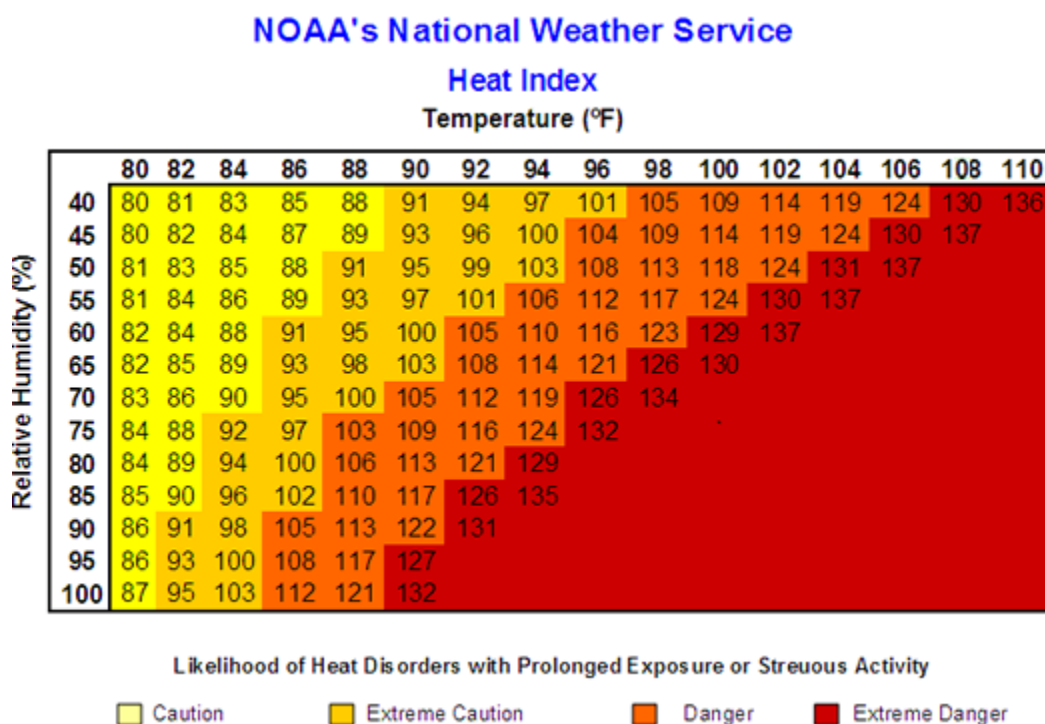
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Illness	Symptoms	First Aid*
Heat stroke	- Confusion - Fainting - Seizures - Excessive sweating or red, hot, dry skin - Remarkably high body temperature	- Call 911 While waiting for help: - Place worker in shady, cool area - Loosen clothing, remove outer clothing. - Fan air on worker; cold packs in armpits - Wet worker with cool water; apply ice packs, cool compresses, or ice if available. - Provide fluids (preferably water) as soon as possible. - Stay with worker until help arrives
Heat exhaustion	- Cool, moist skin - Heavy sweating - Headache - Nausea or vomiting - Dizziness - Light headedness - Weakness - Thirst - Irritability - Fast heartbeat	- Have workers sit or lie down in a cool, shady area? - Give worker plenty of water or other cool beverages to drink. - Cool worker with cold compresses/ice packs - Take to clinic or emergency room for medical evaluation or treatment if signs or symptoms worsen or do not improve within 60 minutes. - Do not return to work that day
Heat cramps	- Muscle spasms - Pain - Usually in abdomen, arms, or legs	- Have workers rest in shady, cool areas. - Workers should drink water or other cool beverages. - Wait a few hours before allowing workers to return to strenuous work. - Have worker seek medical attention if cramps do not go away
Heat rash	- Clusters of red bumps on skin - Often appears on neck, upper chest, folds of skin	- Try to work in a cooler, less humid environment when possible. - Keep the affected area dry
* Remember, if you are not a medical professional; use this information as a guide only to help workers in need.		

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HEAT RELATED ILLNESS PREVENTION PROCEDURES

The U.S. National Oceanographic and Atmospheric Administration (NOAA) developed the heat index system. The heat index combines both air temperature and relative humidity into a single value that indicates the apparent temperature in degrees Fahrenheit, or how hot the weather will feel. The higher the heat index, the hotter the weather will feel, and the greater the risk that outdoor workers will experience heat-related illness.



The heat index can be used to help determine the risk of heat-related illness for outdoor workers, what actions are needed to protect workers, and when those actions are triggered. Depending on the heat index value, the risk for heat-related illness can range from lower to remarkably high to extreme. As the heat index value goes up, more preventive measures are needed to protect workers. Heat index values are divided into four bands associated with four risk levels.

Heat Index	Risk Level	Protective Measures
Less than 91°F	Lower (Caution)	Basic heat safety and planning
91°F to 103°F	Moderate	Implement precautions and heighten awareness
103°F to 115°F	High	Additional precautions to protect workers
Greater than 115°F	Very High to Extreme	Triggers even more aggressive protective measures

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Use the protective measures described for each risk level to help you plan, and schedule and train your workers so that everyone is prepared to work safely as the heat index rises.

Summary of Risk Levels and Associated Protective Measures

The most critical actions Brieser supervision should take to help prevent heat-related illness at each risk level:

Heat Index	Risk Level	Protective Measures
<91°F	Lower (Caution)	▪ Provide drinking water. ▪ Ensure that adequate medical services are available. ▪ Plan for times when heat index is higher, including worker heat safety training. ▪ Encourage workers to wear sunscreen. If workers must wear heavy protective clothing, perform strenuous activity or work in the direct sun, additional precautions are recommended to protect workers from heat-related illness. *
91°F to 103°F	Moderate	In addition to the steps listed above: ▪ Remind workers to drink water often (about 4 cups/hour) ** ▪ Review heat-related illness topics with workers: how to recognize heat-related illness, how to prevent it, and what to do if someone gets sick. ▪ Schedule frequent breaks in cool, shaded area. ▪ Acclimatize workers.

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		- Set up buddy system/instruct supervisors to watch workers for signs of heat-related illness. If workers must wear heavy protective clothing, perform strenuous activity or work in the direct sun, additional precautions are recommended to protect workers from heat-related illness.* - Schedule activities at a time when the heat index is lower. - Develop work/rest schedules. - Monitor workers closely
103°F to 115°F	High	In addition to the steps listed above: - Alert workers of high-risk conditions - Actively encourage workers to drink plenty of water (about 4 cups/hour)** - Limit physical exertion (e.g., use mechanical lifts) - Have a knowledgeable person at the worksite who is well-informed about heat-related illness and able to determine appropriate work/rest schedules. - Establish and enforce work/rest schedules. - Adjust work activities (e.g., reschedule work, pace/rotate jobs) - Use cooling techniques. - always Watch/communicate with workers. When possible, reschedule activities to a time when heat index is lower

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>115°F	Very High to Extreme	Reschedule non-essential activity for days with a reduced heat index or to a time when the heat index is lower. Move essential work tasks to the coolest part of the work shift; consider earlier start times, split shifts, or evening and night shifts. Strenuous work tasks and those requiring the use of heavy or non-breathable clothing or impermeable chemical protective clothing should not be conducted when the heat index is at or above 115°F. If essential work must be done, in addition to the steps listed above: ▪ Alert workers of extreme heat hazards ▪ Establish water drinking schedule (about 4 cups/hour)** ▪ Develop and enforce protective work/rest schedules. ▪ Conduct physiological monitoring (e.g., pulse, temperature, etc.) ▪ Stop work if essential control methods are inadequate or unavailable.

*The heat index is a simple tool and a useful guide for employers making decisions about protecting workers in hot weather. It does not account for certain conditions that contribute additional risk, such as physical exertion. Consider taking the steps at the next highest risk level to protect workers from the added risks posed by:

- Working in the direct sun (can add up to 15°F to the heat index value)
- Wearing heavy clothing or protective gear

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******Under most circumstances, fluid intake should not exceed 6 cups per hour or 12 quarts per day. This makes it particularly important to reduce work rates, reschedule work, or enforce work/rest schedules.

DRINKING WATER

Water should have a palatable (pleasant and odor-free) taste and water temperature should be 50°F to 60°F, if possible.

- Drink water throughout the day
- Guidelines recommend that outdoor workers drink 4 cups (8 ounces) of water every hour, even if they are not thirsty.
- It is best to drink a small amount of water often, approximately 1 cup (2 ounces) every 15 minutes.
- Avoid alcohol and drinks with caffeine or sugar. Energy drinks can contain substantial amounts of caffeine AND sugar and have been known to cause health issues when consumed in hot weather. Do your absolute best to avoid these types of beverages.
- Generally, fluid intake should not exceed 6 cups per hour.

All water shall be “potable water” set up at the worksite. Commercial bottled water is acceptable and if water from a plumbed source is used and transferred in portable drinking containers the following procedures must be followed to prepare the container for safe drinking.

To ensure employees of safe drinking water on the job site, certain steps need to be taken. The job site foreman should pick out 1 or 2 people to do the job of providing potable water to the job site.

There is a chart that can help you determine your body’s hydration by recognizing the color of your urine. Please see the chart on the next page for reference and to help read what your body is telling you.

Urinating is a common body function used to expel toxins from your body. An initial sign of the onset of dehydration is that you are not urinating at all. Even though you are expelling fluids by sweating, your body still needs the fluids to assist in the filtering of those toxins. Increase the intake of vital fluids if you are not urinating.

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GOOD

You are hydrated



GOOD

You are hydrated



GOOD

You are hydrated



FAIR

Start drinking you need water



DEHYDRATED

Drink water



DEHYDRATED

Drink water



VERY DEHYDRATED

Consider taking rehydration sachets to help you re-hydrate



SEVERE DEHYDRATION

Consider taking rehydration sachets to help you re-hydrate

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Water coolers need to be cleaned daily. Items required for cleaning the coolers are.

- A. Scrub brush that is marked for cleaning the outside of the containers only.
- B. Long handled scrub brush that is marked for cleaning the inside of the containers only.
- C. Test tube brush
- D. Powered baking soda (Arm & Hammer)
- E. Potable water
- F. Diluted bleach solution (200 PPM): Into (1) gallon of potable water, carefully mix one half ounce of household bleach (Clorox or any similar 5.25% sodium hypochlorite solution in water). Always use caution when mixing acids and water.

TO START THE CLEANING PROCEDURE:

Step #1: Wash hands and arms thoroughly with soap and water. Rinse thoroughly and dry.

Step #2: Hose off the inside and outside of the container.

Step #3: Thoroughly scrub the outside of the container with a mild detergent such as dishwashing detergent. (Do not use this brush for any other purpose.) Thoroughly rinse the outside with potable water.

Step #4: Open the container and sprinkle 1 to 2 ounces of dry baking soda into the inside followed with enough potable water to make a loose paste mixture. Thoroughly scrub inside the container with a long-handled brush. (Do not use this brush for any other purpose.)

Step #5: Thoroughly clean inside the spigot with the test tube brush. (Do not use this brush for any other purpose.)

Step #6: Thoroughly rinse the inside using potable water. Rinse spigot by opening.

Step #7: Disinfect inside the container with the bleach solution for no less than one minute. (Switch about a quart of the solution inside the container so that all surfaces are contacted. Let stand for one minute.) Allow a portion of the solution to drain through the spigot.

Step #8: Thoroughly rinse the inside with potable water.

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Step #9: A diluted baking soda rinse can be used at this point to neutralize any excess chlorine taste in the water. Use about a teaspoon of baking soda in one gallon of water. Rinse again with potable water.

Fill the water cooler with fresh potable water and ice. Then use duct tape to seal the lid shut, date it, and identify the contents. Be sure to have a receptacle for cup dispensing and a receptacle for throwing away used cups. This should be done every day at the beginning of the shift, and it should be refilled as needed throughout the day.

Water handlers shall maintain an elevated level of personal hygiene. This includes clean work clothes, skin, fingernails, hair, and mustaches.

WORK/REST SCHEDULES

Rather than being exposed to heat for extended periods of time during the course of a job, workers should, wherever possible, be permitted to distribute the workload evenly over the day and incorporate work/rest cycles. Work/rest cycles give the body an opportunity to get rid of excess heat, slow down the production of internal body heat, slow down the heart rate, and provide greater blood flow to the skin.

For the best protection from heat-related illness, workers should spend the rest periods of the cycle in a cool place, for example in a lightly air-conditioned room, trailer, or vehicle, or if one is not available, then in full shade.

Rest periods do not necessarily mean that the workers are on break; these can be productive times. During the rest periods, workers may continue to perform mild or light work, such as completing paperwork, sorting small parts, attending a meeting, or receiving training (e.g., instructions for upcoming work, or a tailgate safety talk).

Have a knowledgeable person at the worksite that is well-informed about heat-related illness and able to modify work activities and the work/rest schedule as needed. When evaluating an appropriate work/rest schedule:

Shorten work periods and increase rest periods:

- As temperature rises
- As humidity increases
- When sun gets stronger
- When there is no air movement
- When protective clothing or gear is worn

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- For heavier work

Assign new and un-acclimatized workers lighter work and longer rest periods. Monitor these workers more closely. Competent people for Brieser Construction may use the following table to help establish a Work/Rest schedule. This table should only be used for heat indexes up to 103°F.

TABLE 1. APPROACH FOR SETTING WORK/REST SCHEDULES FOR WORKERS WEARING NORMAL WORK CLOTHING¹

Adjusted Temperature* (calculated)	Light Work	Moderate Work	Heavy Work
90	Normal	Normal	Normal
91	Normal	Normal	Normal
92	Normal	Normal	Normal
93	Normal	Normal	Normal
94	Normal	Normal	Normal
95	Normal	Normal	45/15 ²
96	Normal	Normal	45/15
97	Normal	Normal	40/20
98	Normal	Normal	35/25
99	Normal	Normal	35/25
100	Normal	45/15 ²	30/30
101	Normal	40/20	30/30
102	Normal	35/25	25/35
103	Normal	30/30	20/40
104	Normal	30/30	20/40
105	Normal	25/35	15/45
106	45/15 ²	20/40	Caution ³
107	40/20	15/45	Caution ³
108	35/25	Caution ³	Caution ³
109	30/30	Caution ³	Caution ³
110	15/45	Caution ³	Caution ³
111	Caution ³	Caution ³	Caution ³
112	Caution ³	Caution ³	Caution ³

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NOTES:

1. This table is based on American Conference of Governmental Industrial Hygienists limits for heat-acclimatized adults in effect at the time the document was published (1993). Assumptions include physically fit, well-rested, and fully hydrated workers under the age of 40; adequate water intake; 30% relative humidity; natural ventilation with perceptible air movement; and air temperature readings in Fahrenheit, taken in the shade, no sunshine, or no shadows visible.
2. 45/15 minutes = 45 minutes work and 15 minutes rest during each hour.
3. Indicates exceedingly elevated levels of heat stress. Consider rescheduling activities for a time when the risk of heat illness is lower.
4. *Note: Adjust the temperature reading as follows before going to the temperature column in the table:
For example, if the temperature is 91°, it is dusk, the relative humidity is 40%, and heavy work is to be done, such as moving heavy materials with a wheelbarrow:

Start with 91° and add 3° because the humidity is 40% [91°+3°=94°]. Go to 94° in the table; under these conditions, it would be reasonable to follow a normal work schedule.

Full sun (no clouds)	add 13°
Partly cloudy/overcast	add 7°
No shadows visible/work is in the shade or at night	no adjustment
For relative humidity of:	
10%	subtract 8°
20%	subtract 4°
30%	no adjustment
40%	add 3°
50%	add 6°
60%	add 9°

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ESTIMATING WORK RATES OR LOADS

Examples of work activities that are considered light, moderate, heavy, and very heavy:

Work Rate Category	Example Motions	Example Tasks
Rest	▪ Sitting	▪ Attending a meeting (seated) ▪ Reading instructions, completing paperwork ▪ Watching a training video
Light	▪ Sitting with light manual work with hands and arms ▪ Driving ▪ Standing with some light arm work and occasional walking ▪ Casual walking (2 miles per hour) ▪ Lifting 10 pounds fewer than eight times per minute, or 25 pounds less than four times per minute	▪ Using small bench tools or small power tools ▪ Inspecting and sorting produce ▪ Sorting light materials ▪ Assembling small parts ▪ Driving vehicle on roads ▪ Nailing
Moderate	▪ Sustained moderate hand and arm work. ▪ Moderate arm and leg work ▪ Moderate arm and trunk work ▪ Moderate pushing and pulling ▪ Walking at a moderate speed ▪ Lifting 10 pounds 10 times per minute, or 25 pounds six times per minute	▪ Picking fruits and vegetables (bending, squatting) ▪ Painting with a brush ▪ Pushing or pulling lightweight carts or wheelbarrows ▪ Off road operation of trucks, tractors, or construction equipment ▪ Operating an air hammer ▪ Weeding or hoeing

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Heavy	- Intense arm and trunk work - Carrying, shoveling, manual sawing - Pushing or pulling heavy loads - Walking at a fast pace (4 miles per hour) - Lifting 10 pounds 14 times per minute, or 25 pounds 10 times per minute	- Transferring heavy materials, shoveling - Sledgehammer work - Hand mowing, digging. - Concrete block laying - Pushing or pulling loaded hand carts or wheelbarrows
Very Heavy	- Very intense activity at fast to maximum pace - Jogging, running, or walking faster than 4 miles per hour. - Lifting 10 pounds more than 18 times per minute, or 25 pounds more than 13 times per minute	- Heavy shoveling or digging. - Ax work - Climbing stairs, ramps, or ladders

If the Heat Index calculation is 103°F or more, the Brieser Safety Department must be notified to set up a Work/Rest schedule based on WBGT (Wet Bulb Globe Temperature) readings. The WBGT monitor offers a useful, first-order index of the environmental contribution to heat stress. It is influenced by air temperature, radiant heat, and humidity. A Table will be used that is prepared by the American Conference of Governmental Industrial Hygienist to establish a Work/Rest Schedule. All Heat indexes below 1-03°F will simply follow the site's competent person's personal recommendation for work breaks.

Acclimatizing Workers

Individual susceptibility to heat-related illness can vary widely between workers. Workers become gradually acclimatized when exposed to hot conditions for several weeks. Physical changes in blood vessels and in sweating occur to dissipate heat more effectively. When the heat index is high, special precautions are needed to protect un-acclimatized workers while they adjust, particularly on the first few days of the job.

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Allow workers to get used to hot environments by gradually increasing exposure over at least a 5-day work period. Begin with 50% of the normal workload and time spent in the hot environment and then gradually build up to 100% by the fifth day. New workers and those returning from an absence of two weeks or more should have a 5-day minimum adjustment period. While a significant amount of acclimatization occurs rapidly in that first week, full acclimatization may take a little longer. Some workers require up to two or three weeks to fully acclimatize.

Keep in mind that acclimatization can occur naturally for outdoor workers in a hot climate as the weather changes. However, implementing acclimatization activities is essential for new workers, workers who have been out sick or on vacation, and all workers during a heat wave. Be extra-careful with these workers and recognize immediately the symptoms of possible heat-related illness.

Monitoring Workers who are at risk of Heat-related Illness

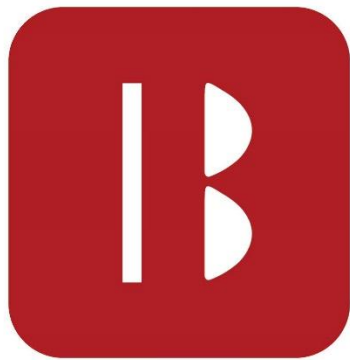
- Heart rate. Count the radial pulse during a 30-second period as early as possible in the rest period.
 - If the heart rate exceeds 110 beats per minute at the beginning of the rest period, shorten the next work cycle by one-third and keep the rest period the same.
 - If the heart rate still exceeds 110 beats per minute at the next rest period, shorten the following work cycle by one-third.
- Oral temperature. Use a clinical thermometer (3 minutes under the tongue) or similar device to measure the oral temperature at the end of the work period (before drinking).
 - If oral temperature exceeds 99.6°F (37.6°C), shorten the next work cycle by one-third without changing the rest period.
 - If oral temperature still exceeds 99.6°F (37.6°C) at the beginning of the next rest period, shorten the following work cycle by one-third.
 - Do not permit a worker to wear a semi-permeable or impermeable garment when his/her oral temperature exceeds 100.6°F (38.1°C).

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Training

For both employees and supervisory personnel, heat stress training is the key to good work practices. If not, all employees understand the reasons for using appropriate work practices to prevent heat stress, the chances of this program succeeding are reduced. A good heat stress-training program for employees should cover at least the following components:

- Knowledge of the hazards of heat stress.
- Recognition of predisposed factors, danger signs, and symptoms.
- Awareness of first aid procedures for and potential health effects of heat stress.
- Employee responsibilities in avoiding heat stress. Dangers of the use of drugs, including therapeutic ones, and alcohol in a hot work environment.
- Proper use of protective clothing and equipment.
- Purpose and coverage of environmental and medical surveillance programs and the advantages of worker participation in such a program.
- The importance of maintaining body fluids at normal levels.
- The benefits and factors of acclimatization.
- The components of the heat stress program.



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 17
HEAT ILLNESS PREVENTION
SUB-SECTION TRAINING**

Training Session 1
Health Effects of Heat
(15 minutes)

1. Introduce the topic by saying something like this:

- Today we are going to talk about how heat can affect you and what symptoms you should watch out for. Heat exhaustion can often affect you before you even realize it, so it is important to be very aware of the signs.

2. Ask the crew questions.

- Just like we cannot let a car engine overheat or it shuts down, we do not want your body to get too hot. Start by talking about heat — where does the heat come from that causes our bodies to overheat?
 - Hot weather
 - Humid weather
 - Sun-you absorb more heat if you are in the sun.
 - Heat our bodies generate when we are physically active and doing demanding work.

3. Working outdoors, especially in hot and humid weather, being in the sun, and doing hard physical work is something we have to take seriously.

- What are some of the signs you may notice if your body is getting too hot?
 - Headache, dizziness, or fainting
 - Weakness and wet skin
 - Irritability or confusion
 - Thirst, nausea, or vomiting
 - Darkening yellow color of urine

4. These are the early signs that you need to cool off, rest, and drink water to let your body recover. If you do not, you could develop some of the more serious effects.

5. Review the following points.

- Working outdoors is demanding work and you will feel sweaty and tired.
- Workers need to drink water, take shade breaks, and rest to prevent heat problems.
- Once rested and feeling better, you can go back to work, but you should still drink water frequently and take another break when you need to. If you do not feel better, talk to your supervisor.

6. Review the following points.

- If you are working in the heat, especially if you are not drinking enough water or taking enough breaks, you may get heat exhaustion.
 - You may get a headache, experience dizziness, or faint.
 - You could get weak or have wet skin.
 - You may become irritable or confused.
 - You may be thirsty, nauseous, or vomiting.
 - If you start to feel confused, or if you vomit or become faint, you may be having a more serious response.
- Workers may also develop what is called heat stroke.
 - At this point you may be confused, unable to think clearly, pass out, collapse, or have seizures.
 - You may stop sweating. Sweating is the main way our bodies cool off!

Training Session 2

How to Respond to Symptoms (15 minutes)

1. Introduce the topic by saying something like this:
 - Last time, we talked about the symptoms you may get if you have heat exhaustion, or the profoundly serious condition called heat stroke. Today we are going to talk about what you should do if you or your co-workers are having these symptoms.
2. Ask the crew these questions.
 - Example: There is a worker in our crew who has signs of heat exhaustion: she is very sweaty, weak, and has a headache. What do you think you should do?
 - Notify the supervisor. She needs medical help.
 - 2. Move the person to a cooler place to rest in the shade. Do not leave her alone.
 - 3. Little by little, give her water.
 - 4. Loosen her clothing.
 - 5. Help cool the person. Fan her, put ice packs on her groin and underarms, or soak her clothing with cool water.
3. Add the following points.
 - Be prepared to describe the symptoms and know how to describe our location to the emergency personnel so they can find us quickly.
 - Do not wait because heat exhaustion can quickly become more dangerous.
 - Be alert to unusual behavior: if your co-workers seem confused, or are sitting by themselves or walking around aimlessly, ask them if they are okay. If they are acting strangely, they may have heat stroke. Contact the supervisor.
4. For the next activity pick one of the workers to be a person who has heat exhaustion and explain: (Make sure the crew acts out what they would do, instead of just telling you. Add any points they miss from the bulleted answers below.)
 - Now to review how we would respond; you are going to practice what you should do if someone is having symptoms of heat exhaustion. Example: Say you are working with (fill in name) and you notice he is very sweaty and confused, and he looks disoriented and cannot seem to concentrate on his work. Show me what you would do.
 - Call the supervisor and ask for medical help.
 - Move the person to a cooler place to rest in the shade. Stay with the person.
 - Give the person water as long as he/she is not losing consciousness or vomiting.
 - Loosen the person's clothing.
 - Help cool the person. Fan the person, put ice packs on the person's groin and underarms, or soak the person's clothing with cool water.
5. To conclude, ask if anyone has questions, then close by saying:
 - Now we have learned how we would respond if someone developed heat exhaustion, but the best strategy is always prevention. Next time, we are going to talk about how to prevent heat exhaustion.

Training Session 3

Preventing Heat Exhaustion

(15 minutes)

1. Introduce the topic by saying something like this:
 - While heat exhaustion is extremely dangerous, it is also preventable. Today we are going to review what we have learned so far and talk about what we can do to protect ourselves from the heat. There are three simple words: water, rest, shade. Heat illness can be prevented: Drink water often, even if you are not thirsty; rest in the shade to cool down; report heat symptoms early; know what to do in an emergency.

2. Show the crew the drawing of Rogelio on this page. Read the following story aloud:

- Rogelio is a new member of a crew that is picking melons in the fields. On his second day, he works hard for extended periods without a break. In the early afternoon his co-worker, Julio, looks over and sees that Rogelio is sweating profusely and is acting strangely. Julio asks Rogelio what is going on, and Rogelio says he has a slight headache and feels dizzy. Julio realizes Rogelio needs help and calls the crew leader. Together they give him water and help him sit down. Julio stays with him while the crew leader calls 911 for medical help. Rogelio recovers but cannot work for a few days. Later, he says he had wanted to show he could work hard, and he did not drink much water because he did not feel thirsty.



3. Ask the crew these questions:
 - How do you know Rogelio may be suffering from heat exhaustion?
 - He is sweating, weak, has a headache, and feels dizzy.
 - What went well in this case to address heat exhaustion?
 - Julio called the crew leader.
 - They gave Rogelio water.
 - They called 911.
 - They helped him sit down to rest.
 - Julio was watching out for his co-worker. He stayed with Rogelio while the crew leader made the call.
 - What went wrong?
 - Rogelio was not used to working in the heat. He should have had less intense work until he got used to working in the heat.
 - They had not made sure Rogelio got adequate breaks.
 - Rogelio had not drunk water. You should not wait until you are thirsty to drink.
 - They did not take Rogelio to shade.
 - Rogelio wanted to prove he could work hard — he did not report symptoms as soon as he felt them.

Training Session 3
Preventing Heat Exhaustion
(15 minutes)

What can we learn from this – what are the important steps to prevent heat exhaustion?

- Rogelio was not used to working in the heat. He should have had less intense work until he got used to working in the heat.
- They had not made sure Rogelio got adequate breaks.
- Rogelio had not drunk water. You should not wait until you are thirsty to drink.
- They did not take Rogelio to shade.
- Rogelio wanted to prove he could work hard – he did not report symptoms as soon as he felt them.

4. Add the following points.

It is recommended that each person drink water often.

- It is better to drink tiny amounts frequently, as opposed to larger amounts less often.
- Drink even if you don't feel thirsty.
- Avoid drinks like sodas or coffee that have caffeine, or alcoholic drinks these drinks dehydrate you and can make it more dangerous to work in the heat. Also avoid sports drinks and energy drinks as these contain too much sugar.
- People worry that if they drink a lot of water, they will have to go to the bathroom more often. In fact, you will mostly sweat it off.
- When you are not at work, still drink plenty of water to help your body recover from the workday.
- During a heat wave, it is recommended to provide more frequent breaks.
- Pair off and watch your co-worker for signs of heat exhaustion. Remind your buddy to drink water or take a break. Talk to your buddy during the work shift to make sure everything is okay. Sometimes people with heat exhaustion get disoriented and think they are okay. If you suspect a problem, keep checking on your co-worker or tell a supervisor.
- Sometimes people say they are more protected by dark-colored, heavier clothing. This will only make you hotter. Wear light-colored lightweight cotton clothing.

5. Ask the crew this question:

- What suggestions do you have for what we can do on this job site to prevent heat exhaustion?

6. To conclude, ask if anyone has questions and remind workers of the following four points:

- Drink water often
- Rest in the shade
- Report heat symptoms early
- Know what to do in an emergency.

WATER

- Is there plenty of fresh, cool drinking water located as close as possible to the workers?
- Is there a plan for refilling water coolers throughout the day?
- Is the Brieser policy being followed for providing clean drinking water?

SHADE AND REST

- Is a shade structure available at all times (regardless of weather) for workers to rest and cool down?
- Is the shade structure up and ready when the weather forecast is 85°F or higher?
- Do you have a plan in place for checking the weather forecast?

TRAINING

- Have workers been trained to recognize and prevent heat illness BEFORE they start working outdoors?
- Can workers identify symptoms of heat illness?
- Is there a special plan in place to allow workers to get used to the heat?

EMERGENCY PLAN

- Does everyone know who to notify if there is an emergency?
- Can workers explain their location if they need to call an ambulance?
- Does everyone know who will provide first aid?

WORKER REMINDERS

- Have workers been reminded to:
- Drink water frequently?
- Rest in the shade for at least 15 minutes as needed.
- Look out for one another and immediately report any symptoms?

Heat Illness Prevention Learning Exercise

Score:

%

Employees Name:

Date:

Answer each of the following questions by circling the appropriate letter.

1. Heat stress occurs when the heat load on the body exceeds the body's capacity to cool itself.
 - a. True
 - b. False
2. Some factors that may cause heat-related illnesses are: (Circle all that apply)
 - a. Environmental
 - b. Vehicular
 - c. Job Specific
 - d. Allergies
 - e. Age Related
3. Mark the correct order for the steps in giving aid for someone with the symptoms of Heat Stroke.
☐ Loosen clothing, remove outer clothing.
☐ Place worker in shady, cool area
☐ Fan air on worker; cold packs in armpits
☐ Call 911
☐ Wet worker with cool water; apply ice packs, cool compresses, or ice if available.
4. During the hot weather Brieser Employees should drink water throughout the day. Guidelines recommend that outdoor workers drink ____ cups of water every hour, even if they are not thirsty.
 - a. 2
 - b. 4
 - c. 6
 - d. 8
5. A urination chart will be available and can help you determine your body's hydration by recognizing the color of your urine. The lighter the color the less hydrated you are.
 1. True
 2. False

Heat Illness Prevention Learning Exercise

Answer Sheet

Heat stress occurs when the heat load on the body exceeds the body's capacity to cool itself.

- a. **True**
- b. False

Some factors that may cause heat-related illnesses are: (Circle all that apply)

- a. **Environmental**
- b. Vehicular
- c. **Job Specific**
- d. Allergies
- e. **Age Related**

Mark the correct order for the steps in giving aid for someone with the symptoms of Heat Stroke.

- 3** Loosen clothing, remove outer clothing.
- 2** Place worker in shady, cool area
- 4** Fan air on worker; cold packs in armpits
- 1** Call 911
- 5** Wet worker with cool water; apply ice packs, cool compresses, or ice if available.

During the hot weather Brieser Employees should drink water throughout the day.

Guidelines recommend that outdoor workers drink ____ cups of water every hour, even if they are not thirsty.

- a. 2
- b. 4**
- c. 6
- d. 8

A urination chart will be available and can help you determine your body's hydration by recognizing the color of your urine. The lighter the color the less hydrated you are.

- c. True
- d. **False**



Section 18
Safety Health
and
Environmental
Manual

2025

Confined Spaces

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2018
		Revised:	1/15/14
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	11
		Reviewed:	12/17/24 KMC
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CROSS REFERENCE:	29 CFR 1910.146 Permit-required Confined Spaces		
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	2007 - 11/28/2007 - Confined Spaces in Construction; Proposed Rule - 72:67351-67425		
	ANSI/ASSE Z117.1-2003		

PURPOSE

This confined space entry procedure is designed to ensure a safe working environment when work is performed in a confined space in accordance with *29 CFR 1910.146*. We have determined that Brieser Construction employees may perform work tasks on construction sites that have confined spaces present. Written procedures are needed to ensure that the hazards of those confined spaces have been evaluated. This procedure is to be followed whenever employees of Brieser Construction are required to enter a confined space as defined within this procedure.

DEFINITIONS

Confined Space – A space that is the adequate size and configuration for an employee to enter and to perform assigned work. Limited means of entry or outlet. Not designed for continuous employee occupancy

Permit-Required Confined Space – A confined space that needs a permit to be entered. A permit is required if the confined space includes, or potentially includes ANY of the following:

- Atmospheric Hazard - Hazards related to atmospheric conditions, such as:
 - Oxygen deficiency
 - Flammable conditions
 - Toxic conditions
- Engulfment Hazard - Contains a material like bulk grains, soil, liquid, or dry cement, which has the potential for engulfing an entrant.
- Entrapment Design - Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor, which slopes downward and tapers to a smaller cross-section; or makes escape or rescue difficult.
- *Other recognized serious hazard*, such as:
 - Inadequate ventilation
 - Burns from high temperatures.
 - Internal electrical or rotating equipment, Lockout/Tagout
 - Emergencies or hazards outside the confined space
 - Physical injury from slips and falls, or high noise levels inside the confined space
 - Energy hazards from steam or electrical equipment inside the confined space

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Non-Permit Confined Space – Any confined space that is known not to have contained any hazardous material. In addition, all hazards are controlled, and air monitoring indicates that the atmosphere is safe for entry. Entry into these areas for inspections or minor maintenance (i.e., adjustments, tightening of fittings, etc.) may be made without the use of retrieval systems or standby personnel.

RESPONSIBILITIES

The Program Administrator – Safety Director

These people are responsible for:

- Developing detailed written instructions where required by this program and amending those instructions when necessary.
- Reviewing the program and permits annually and making necessary decisions to ensure the success of this program.

Authorized Entrants

Those people who have completed the training and are authorized to enter our permit spaces. (Authorized entrants) are assigned specific duties and responsibilities which they must perform when they work in the permit space. Their duties and responsibilities, which are covered in the training program, include:

CONFINED SPACE IS ENTERED WHEN ANY PART OF THE BODY CROSSES THE PLANE OF THE SPACE OPENING.

- Know the hazards they may face during entry including mode, signs, symptoms of exposure, and understand the consequences of exposure to hazards.
- Understand the proper use of any needed equipment and comply with the provisions on the entry form and or permit.
- Communicate with the attendant as necessary if the entry involves a hazardous atmosphere confined space entry.
- Alert attendant when a warning symptom or other hazardous condition exists, or a prohibited condition is detected.
- Exit as quickly as possible whenever ordered or alerted by an evacuation alarm, warning sign, a symptom of exposure is detected or prohibited condition.
- Keep lifelines orderly and untangled within the confined space.

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Attendants

Attendants are individuals stationed outside a permit space who monitor authorized entrants. An attendant must be on duty outside of a confined space for the duration of the operation. Those persons who have completed the training and have been designated as permit space attendants are assigned specific duties and responsibilities, which they must perform in, permit space job duties. Their duties and responsibilities, which are covered in the training program, include:

- Attendants must know the hazards of a confined space including information on the mode, signs, symptoms, and consequences of exposure.
- Keep lifelines orderly, untangled, and the end secured outside of the confined space.
- Know the possible behavioral effects of exposure, which include the following:

% Of Oxygen in Air	Effects of Oxygen Deficiency
16 to 12%	Deep breathing, accelerated heartbeat, impaired attention, impaired thinking, impaired coordination.
14 to 10%	Very faulty judgment, very poor coordination, rapid fatigue from exertion they may cause permanent heart damage, intermittent breathing
10% or below	Nausea, vomiting, inability to perform vigorous movement or loss of all movement, unconsciousness follows by death
Less than 6%	Spasmodic breathing, convulsive movements, death in minutes

- Check permits of authorized entrants
- Prevent entry by those without a permit and take the following actions when unauthorized persons approach or enter a permit space while entry is underway.
 - Warn the unauthorized persons that they must stay away from the permit space.
 - Advise the unauthorized persons that they must exit immediately if they have entered the permit space.
 - Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.
- Maintain a continuous count of those in a confined space.
- Monitor activity in the confined space and alert entrants of the need to evacuate.
- Summon rescue and emergency services when entrants may need assistance to escape a permit space hazard.

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Attendants continued.

- Performs non-entry rescues. **The attendant may only enter a confined space for rescue if they are trained and part of a rescue team and are then relieved by another qualified and trained attendant.**
- Perform no duties that may interfere with attendant's primary duty to monitor and protect authorized entrants.
- Remain outside the confined space until relieved by another attendant.

Entry Supervisors

Those persons who have completed the training and have been designated as permit space entry supervisors are assigned specific duties and responsibilities, which they must perform in permit space job duties. Their duties and responsibilities, which are covered in the training program, include:

- Know the hazards they may face during entry including the mode, signs, and symptoms of exposure. Also, they must understand the consequences of exposure to hazards.
- Verify all tests specified by the permit have been conducted and all procedures and equipment are in place before endorsing the permit and allowing work to begin. Also, all procedures and equipment specified in the permit shall be in place before endorsing the permit and allowing entry to begin. The supervisor must sign the entry permit to authorize entry.
- Terminate the entry and cancel the permit when necessary.
- Verify rescue services are available and a means of communication are in place and operable if needed.
- Remove unauthorized individuals who enter or attempt to enter the permit space during entry operations.
- Determine that entry operations remain consistent with the terms of the entry permit whenever responsibility is transferred or at intervals dictated by the hazards or operations performed within the space.
- Post-operations Procedures: The entry supervisor shall terminate the entry and cancel the permit upon job completion or if conditions change within the confined space. The permit will be reviewed, verification will occur that equipment is operational, and any employee concerns addressed. Procedural revisions may be required if the entry supervisor identifies that an unauthorized entry occurred, a hazard was identified that was not covered by the permit, the occurrence of an injury or near miss, or there are employee complaints. The Safety Director shall be informed if these referenced items are identified.

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CONFINED SPACE CLASSIFICATION

Each job site that employees work on will differ. Therefore, to determine if there are permit-required confined spaces present at specific work sites where Brieser Construction employees are working, the Site Foreman who shall be a qualified person in Confined Spaces or the Brieser Safety Director will conduct a hazard evaluation of the workplace. This evaluation will provide on-site personnel with the information necessary to identify the existence and location of permit-required confined spaces that must be covered by the Permit-Required Confined Space Entry Program and the hazards associated with them. All confined spaces will either be classified as a permit-required confined space (PRCS) or non-permit confined space (NPCS). All confined spaces shall be treated as permit spaces until determined to be otherwise.

Brieser Construction does not frequently enter confined spaces, and the confined spaces that may be present at a construction site are inherently different on a project-by-project basis. Therefore, Sub-Contractors that create or work in Confined Spaces will be required to follow Brieser Confined Space Program.

It will be the policy of Brieser Construction to provide the following to its clients and exposed sub-contractors prior to job tasks involving confined spaces:

- A list of confined spaces to be entered on the project in question for review by the Site Foreman and the client's/sub-contractor's representative. This will provide all parties with the opportunity to review the hazards and any specific equipment and personnel needs.
- The names of Brieser Construction employees or Sub-Contracted employees working on the specific project who may serve as the Entry Supervisor, the Authorized Attendant(s), and the Authorized Entrant(s). The Site Foreman will function as the Entry Supervisor. The Authorized Attendants and Authorized Entrants will be other craft members such as the Operators and Laborers working on site who have been properly trained as Entrants and/or Attendants. The individuals involved in these roles will be identified and named on each Entry Permit.

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General Requirements – Non-Permit Confined Spaces

A qualified person such as a site foreman or a Brieser safety representative that has received documented training in confined spaces shall determine what condition and precautions must be in place to allow for safe entry and what would constitute a change in conditions, which would require a re-evaluation of the confined space. Please refer to the definition of permit-required confined spaces within this document as a guide to determine whether a space is a PRCS or NPCCS.

General Requirements – Permit-Required Confined Spaces

The following requirements apply to entry into Permit-Required Confined Spaces:

- Any condition making it unsafe to remove a cover shall be eliminated before the cover is removed.
- Covers shall be removed and replaced using tools designed for that purpose. When entrance covers are removed, the entrance shall be properly guarded to prevent an accidental fall of employee, and to protect employee from foreign objects entering the space.
- Atmospheric Testing
 - Before entry into a confined space, necessary testing shall be conducted for hazardous atmospheres by a qualified person. A qualified person shall possess the knowledge and skill to understand the test instrument's use, calibration procedures, limitations, and can interpret results.
 - Before any employee of Brieser Construction enters the space, the internal atmosphere shall be assessed with a calibrated, direct reading instrument for the following conditions in the following order:
 - Oxygen content (between 19.5 and 23.5%)
 - Flammable gases and vapors (not over 10% of the Lower Flammable Limit)
 - Potential toxic air contaminants **CO, H₂S** (not over Permissible Exposure Limit)

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- Atmospheric Testing continued
 - It is recommended on a vertical entry that remote probes be used to assess at various levels of the confined space as vapors and gases have different density's and could accumulate at the bottom, middle or top of a confined space. In the case of a horizontal entry, air quality shall be assessed at the top, middle and bottom of the space at 4-foot intervals into the space.
 - Atmospheric testing for the confined space should be based on the configuration and design of the space. Continuous monitoring **SHALL** be performed for the entire duration of the entry.
 - All tests must be completed, accurate, and documented before entry.
 - The space must be free of any hazardous atmosphere whenever an employee is inside.
- Smoking and open flames shall not be permitted within 20 feet of the confined space opening unless air samples indicate an atmosphere safe for hot works. No welding or burning will be permitted unless a special hot work permit is obtained.
- All ladders should be inspected prior to entry. Only approved low voltage light and extension cords, or electrical apparatus provided with a ground fault circuit interrupter shall be used in a confined space.
- When entering a permit required confined space, there should always be an attendant present to ensure the authorized entrant is following procedures and to monitor his or her activity in the confined space.
- Continuous air ventilation shall be used, as follows:
 - An employee shall not enter the space until the ventilation has eliminated the hazard.
 - The ventilation shall be directed as to ventilate the immediate areas when an employee is working and shall continue until the employee leaves that area.
 - The air supply for the forced air ventilation shall come from a clean source and may not increase the hazards in the space.

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- If oxygen consuming equipment is going to be used or if an oxygen consuming evolution will take place, continuous oxygen monitoring is required no matter what the classification of the space or the ventilation required.

PERMITS

All entry to a permit-space is restricted to those with permits. The use of a written permit will ensure that:

- The current classification reflects existing conditions in the space.
- The checklist of entry requirements is appropriate for that classification.
- Recordkeeping requirements are met for each entry.

Permits must be available to all employees requiring entry to a confined space that requires a permit (permit-space). The permit should extend only for the duration of the task. All permits must be retained in the safety file for a year to facilitate review of the Confined Space Program.

Permits must include the following:

- Identification of the space
- Purpose of entry
- Date
- Time of issue and expiration
- List of authorized entrants with method to determine which authorized entrants are inside the permit space (Sign-in sheet)
- Names of current attendants and entry supervisor
- List of hazards in the permit-space
- List of measures to isolate the permit-space and eliminate or control hazards before entry.
- The acceptable entry conditions.
- Results of initial and periodic tests initialed by the persons performing test and the time tests were performed.
- Rescue and emergency services including equipment and phone numbers.
- Communication procedures for attendants and entrants to maintain contact during entry.
- Required personal protective equipment (respirators, communications devices, alarm, and rescue equipment)
- Any other information which is necessary

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- Any additional permits issued to authorized work in the permit space (Such as for hot work under the Fire Safety Program)

SAFE PERMIT SPACE ENTRY PROCEDURES

When confined space entry becomes necessary, the person in charge of the work to be performed shall make the need for the entry known to their foreman. The Site Foreman will serve as the Entry Supervisor responsible for authorizing entry and issuing entry permits for work in confined spaces.

The Site Foreman in charge of the entry will be responsible for ensuring compliance with the entry requirements specified on the checklist and will ensure the permit is properly filled out. Upon conclusion of the entry, the Site Foreman will review and cancel the permit. A copy should be filed in the job folder and another copy should be sent to the Brieser office to be scanned into our system. The permit must be posted outside of the confined space while the authorized entrant is inside.

The duration of the permit may not exceed the time required to complete the identified assigned task on the permit and will never exceed 12 hours. One permit is required for each specific confined space. If circumstances cause an interruption in the work or a change in the alarm condition for which entry was approved, a new Confined Space Entry Permit must be completed. *The permit expires when any of the following conditions are met:*

- The entry operations covered by the permit have been completed.
- A change in work conditions introduces a new hazard.
- The time of the permit has elapsed.
- When personnel (entrants, attendants, entry supervisor) who were not originally identified on the permit are assigned to the confined space work operation.
- Any other changes in the existing conditions occur that may cause a new hazard or cast doubt upon the ability to continue safely in the same fashion.

Permits shall be readily available to all workers before entering a confined space, and the permits shall remain at the work site if the work is being performed there.

The Permit Program and completed permit checklists will be reviewed at least annually.

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When atmospheric testing shows a dangerous air contamination, oxygen deficiency, or oxygen enrichment, the employer shall retain the written permit form or record showing the results of the atmospheric testing for a minimum of **one year**. Canceled entry permits must be kept for one year to facilitate the review of problems encountered and the appropriate changes made during the review.

PREVENTING UNAUTHORIZED ENTRY

To provide a safe work environment and to prevent exposed employees from accidentally entering a permit space, we have implemented procedures to inform all employees of the existence, location, and danger posed by permit spaces at Brieser Construction work sites. To inform employees of the existence of a permit space, we will use warning signs and/or verbal communication by the Site Foreman.

If the space is found to be a permit-required confined space, it shall be labeled by posting a sign reading:



This sign will be permanently posted at the potential entry or access point to the space. If the space will not be entered, effective measures should be taken to see that entrances are adequately marked and blocked. To ensure that unauthorized employees do not enter and work in permit spaces, confined space entry is restricted to employees that have been specifically trained as authorized entrants. The Site Foreman will have the overall on-site safety responsibility.

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PRE-ENTRY PROCEDURES

To ensure the safety and health of our employees, before allowing authorized workers to enter a permit space, we will evaluate conditions in that space to determine if the conditions are safe for entry. The following steps must be taken before entry into a confined space is permitted:

- **Disconnection of lines** – Lines that may convey flammable, explosive, toxic or otherwise injurious or incapacitating substances into the space shall be disconnected, blinded, locked out, or blocked off by other positive means to prevent the development of dangerous air contamination, oxygen deficiency, or oxygen enrichment within the space. The disconnection or blind shall be so located or done in such a manner that inadvertent reconnection of the line or removal of the blind is effectively prevented. Before starting ask if the jobsite is a Process Safety Management site. If so, you will need additional instruction from the host facility before proceeding. Follow all LOTO procedures by referring to Brieser Safety Manual Section 12.
- **Calibration of testing and monitoring equipment** – Air testing and monitoring equipment shall be maintained and calibrated according to manufacturers' instructions. This equipment shall be periodically calibrated with an appropriate test gas to ensure proper operation. Records of calibration shall be maintained for a minimum of one year.
 - **Bump Test** – *Multigas and Single gas detectors*
The bump test is simple and should only take about one minute. Perform this bump test before each day's use for each installed sensor. Daily bump tests are performed to ensure the monitor and alarms are working correctly.
 - **Calibration Check** – This is to be performed every 30 days. Regular calibration is essential to maintain reliable performance of most gas detectors. During calibration, thorough testing is also conducted to ensure that the gas detector remains sufficiently sensitive and responsive to the exposure of gas required. All Ventis Pro-5 Monitors log all information from the monitors' usage.
 - Turn ON the Multigas/Single gas Detector in clean, fresh air.
 - Verify that readings indicate no gas is present.
 - Attach regulator (supplied with calibration kit) to the cylinder.
 - Connect tubing (supplied with calibration kit) to the regulator.
 - Attach the other end of tubing to the instrument.
 - Open the valve on the regulator, if so supplied.

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- The reading of the Multigas/Single gas Detector display should be within the limits stated on the calibration cylinder.
- If readings are not within these limits, the Multigas/Single gas Detector requires recalibration.
- **Air Monitoring** – Prior to entry into a confined space, the space shall first be assessed and ventilated. The atmosphere shall be assessed using a 3-gas (O₂, LEL, H₂S) or 4-gas (O₂, LEL, CO, H₂S) monitor supplied by Brieser Construction Prior to testing, it must be ensured that the detector is fully charged, properly calibrated, and in operation for at least ten minutes before the testing begins. For vertical entry confined spaces, the detector shall be lowered into the space to assess each quarter section for four minutes in each position. The internal atmosphere shall be assessed for the following conditions in the order given: 1) oxygen content, 2) flammable gas and vapors, and 3) potential toxic air contaminants.

All areas of the confined space must be monitored to ensure the following conditions are met:

Oxygen:	19.5% to 23.5%
Combustibility:	< 10% LEL
CO:	< 35 PPM
H ₂ S:	<5 PPM
Other Toxins:	<= PEL/TLV

- If the monitor alarms at any time during testing, immediately remove the monitor and note the readings indicated (oxygen, combustible, CO, H₂S) to determine which reading(s) caused the alarm. Ventilation is now required to bring the readings within the acceptable parameters. At this point, the confined space will remain, as a permit required confined space.
- If no alarms occur during the testing, proceed with purging. The space may be classified, as a non-permit required confined space if all the hazards have been controlled and ventilation maintains a safe air environment.

Air monitoring is to continue during all entries. Record the findings on the Entry Permit. Do not enter the confined space at any time during the initial testing. Physical entry shall not be made into an unknown atmosphere.

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- **Ventilation** – Where the existence of dangerous air contamination, oxygen deficiency, or oxygen enrichment is demonstrated by air testing, existing ventilation shall be augmented by appropriate means. Purging should be performed using an approved air blower supplied by Brieser Construction, the minimum purge time shall be 10 minutes. When the blower is set up, the intake must be kept away from any source of contamination (i.e., vehicle exhaust, traffic, etc.). When the blower hose is lowered into the manhole, it must reach to the lower one-third of the manhole and must be angled toward a wall to ensure complete ventilation.

Once purging of the atmosphere has been completed, the atmosphere should be re-assessed using the following procedures:

- If no alarm occurs during the re-testing, then entry may be made in accordance with the entry procedures discussed in the next section of this program.
- If an alarm occurs during the re-testing, check for the following:
 - Placement of blower intake - It may be necessary to hook a straight section of hose to intake to obtain an air supply away from any contaminants.
 - Any vehicles or engines near the manhole that are running may be contaminating the manhole with exhaust. Shut the vehicles and/or engines off or move them away from the manhole.
 - If applicable, check placement of blower hose into a manhole to ensure it reaches the lower one-third and is directed toward a wall.
 - If any of these factors (or others) are found to be potential sources of problems, then correct them, and re-ventilate and recheck.
 - If, after re-ventilating, the detector does not alarm, then complete the Confined Space Entry Permit, and proceed with entry operations.
 - If, after re-ventilating, the detector still alarms, call for a second detector and notify your Foreman. The second detector may be used to re-check the manhole. If the second detector does not alarm upon re-check, then inspect the first detector for low battery or possible malfunctions. If no malfunctions are found, then contact the Site Foreman (Entry Supervisor) before proceeding with entry. If the second detector alarms during recheck, no entry shall be made. Under no circumstances is entry to be made until the confined space has been established to be safe from atmospheric hazards.

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- **Injurious or Corrosive Substances** – Workers in confined spaces that have last contained injurious or corrosive substances to the eyes or body shall be provided with, and shall be required to wear, appropriate personal protective equipment. In addition, eyewash and a safety shower shall be provided within the work area outside of the confined space for immediate emergency use.
- **Ignition sources** – No sources of ignition may be introduced into the space until implementation of appropriate provisions of this section has ensured that dangerous air contamination due to flammable or explosive substances does not exist.
- **Oxygen Consuming Equipment** – Whenever oxygen-consuming equipment is to be used, measures shall be taken to ensure adequate combustion air and exhaust gas venting.
- **Oxygen enrichment condition** – Whenever oxygen enrichment is possible due to conditions within the space, measures shall be taken to ensure that the oxygen level does not exceed 23% in the confined space. If tests indicate the oxygen levels to be higher than 23%, hot work is prohibited until the ventilating techniques have reduced the oxygen level to less than 23%.
- **Smoking** – Smoking shall not be allowed in confined spaces or within 20 feet of a confined space opening.
- **Automatic Fire Protection Systems** – Where there is no ready exit from spaces equipped with automatic fire suppression systems employing harmful design concentrations of toxic or oxygen displacing gases, or total foam flooding, such systems must be deactivated.

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ENTRY SAFEGUARD REQUIREMENT

A confined space entry is defined as an action, which results in any part of a worker's body breaking the plane of any opening of a confined space. This section specifies the appropriate actions and equipment required to safely access the space in question.

Once the confined space atmosphere has been assessed, purged, and re-tested, and determined to be safe, then entry may be made provided the following guidelines are followed:

- The person entering the confined space must carry the gas detector with them and it must always remain in operation while the occupant remains in the confined space. If, at any time, the gas detector alarms, the confined space shall be evacuated immediately. If it is found that the detector is alarming due to a low battery, entry may be made using another detector provided the atmosphere is re-assessed before re-entry.
- Ventilation (natural or mechanical as applicable) must continue while the authorized entrant is in the confined space. For entry into manholes, the ventilation supply hose may be temporarily removed from the opening to allow for entry, but the hose must be reinserted immediately after occupant has entered manhole.
- A standby person (attendant) must be stationed outside of the manhole or confined space and must always remain in visual or voice contact with the occupant.
 - The standby person must be specially trained in Confined Space Entry.
 - The standby person shall have the authority to order immediate evacuation of the space if there is any sign of intoxication from an undetected hazardous atmosphere or any other danger that warrants immediate evacuation.
 - If injury occurs or occupant becomes unconscious while in confined space, refer to the section titled "Rescue and Retrieval".
 - One attendant is required for each confined space that is entered. Multiple confined spaces entered during the same time will require a designated attendant for each confined space.

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RESCUE AND RETRIEVAL

Brieser Construction personnel **will not enter** permit spaces to perform rescue operations. Brieser Construction personnel will use the retrieval systems to remove personnel from confined spaces. Local emergency services will be contacted immediately to assist in confined space emergencies. Prior to confined space work operation commencing, the local responders will be informed of the site work tasks, confined space configuration, and the specific hazards. Rescue services must be on-site for immediately dangerous to life and health (IDLH) conditions while work is being performed.

Local emergency rescue teams shall be trained to perform the assigned rescue functions and have received the training required of authorized entrants. They shall also practice making permit space rescues at least once every twelve months, by means of simulated rescue operations in which they remove dummies, mannequins, or personnel through representative openings and portals whose size, configuration, and accessibility closely approximate those of the permit spaces on-site. At least one member of the rescue team shall maintain current certification in basic first aid and cardiopulmonary resuscitation (CPR) skills.

To facilitate non-entry rescue, retrieval systems (body harness or wristlets, and lifeline) shall be used whenever an authorized entrant enters a confined space. Retrieval systems shall meet the following requirements.

- Each entrant shall use a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level, or above the entrant's head. Wristlets may be used when the use of a body harness would create an additional hazard or interfere with the retrieval through a small man way entrance.
- The other end of the retrieval line shall be attached to a mechanical device or fixed point outside the permit space in such a manner that rescue can begin as soon as the attendant becomes aware that rescue is necessary. A mechanical device shall be made available to retrieve personnel from a vertical entry permit space more than five feet in depth.
- The use of retrieval lines that have a reasonable probability of becoming entangled with the retrieval lines used by other authorized entrants, or due to the internal configuration of the PRCS, would be prohibited. 2007 - 11/28/2007 - Confined Spaces in Construction; Proposed Rule - 72:67351-67425

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MULTIPLE EMPLOYER ENTRY PROCEDURES

All contractor or sub-contractor personnel acting under the control of Brieser Construction must comply with all applicable provisions of these procedures or show proof that their procedures and employee training are at least as effective as these procedures.

Contractors will be responsible for the permit space entry of their own personnel. They will be informed of the permit space hazards by giving them a copy of the form titled “Contractor Hazard Information Identification” for the permit space(s). Also, they will be informed of Brieser Construction’s safety procedures. They will not be permitted to enter space(s) until Brieser Construction Site Foreman acting as the entry supervisor has determined that they have a permit space entry program, and that the contractor's program does not endanger Brieser Construction employees.

When a contractor's personnel and Brieser Construction personnel perform permit space entry operations in the same permit space at the same time, both the contractor and Brieser Construction will provide an entry supervisor as a check and balance system. One or both parties may provide the attendant(s). The entry supervisors will coordinate the work, so neither crew endangers the other.

Entrants will be instructed to comply with each other's evacuation orders and evacuation alarms. Attendants will be instructed to immediately inform the other attendant if an evacuation order is issued or if an evacuation alarm is activated. This means the entrants of all employers will evacuate the permit space if any attendant, any entry supervisor, or any entrant issues an evacuation order. If there is a dispute over the necessity to evacuate, all entrants will evacuate and will remain outside of the permit space until the dispute is settled.

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When contractors perform work that involves permit space entry, then:

- Inform the contractor that the workplace contains permit spaces and that permit space entry is allowed only through compliance with a permit space program meeting the requirements of the OSHA Standard. Supply the contractor with the form titled “Contractor Hazard Information Identification.”
- Apprise the contractor of the hazards identified for the confined space.
- Apprise the contractor of any precautions or procedures that Brieser Construction has implemented for the protection of employees in or near the permit spaces where contractor personnel will be working.
- Coordinate entry operations with the contractor(s), when both Brieser Construction personnel and contractor(s) personnel will be working in or near permit spaces.
- The Brieser Construction entry supervisor will debrief the contractor at the conclusion of the entry operations regarding the procedures followed and regarding any hazards confronted.

SAFETY EQUIPMENT AND CLOTHING

The entry permit will include a list of necessary protective equipment to be used in the confined space as determined by the qualified person. The employer will be responsible for the proper use of the safety equipment, and the inspection and maintenance procedures performed on the safety equipment. The qualified person will determine the type of protective equipment required.

Eye and Face Protection

Employees must use appropriate eye or face when exposed to hazards from: flying particles molten metal, liquid chemicals, acids or caustic liquids, and potentially injurious radiation. Requirements for side protection, prescription lenses, filter lenses, and identification of the manufacturer of safety equipment must be specified. See Section 30 Personal Protective Equipment for more information.

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Head Protection

Employees must wear protective helmets when working in areas where there is a potential for a head injury from falling objects and protection from any other hazard identified by the qualified person. Employees who are near exposed electrical conductors must wear protective helmets designed to reduce electrical shock hazards. Protective helmets purchased on or after July 5, 1994, must comply with ANSI Z89.1-1986 or be equally effective.

Foot Protection

Employees must wear protective footwear when working in areas where there is a danger of foot injuries from falling or rolling objects, objects piercing the sole, or exposure of employees' feet to electrical hazards. Protective footwear purchased on or after July 5, 1994, must comply with ANSI Z41-1991 or be equally effective.

Hand Protection

Employees must use the appropriate hand protection whenever employees' hands are exposed to hazards from skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns, and harmful temperature extremes.

Brieser Construction will select appropriate hand protection based on an evaluation of:

- The performance of the hand protection relative to the task to be performed.
- The conditions present
- The duration of use; and
- The actual and potential hazards identified.

Hearing Protection

Employees will be required when engineering technology is insufficient to control the noise level, and the ambient exposure limit exceeds those allowed in Table G-16 of 29 CFR 1910.95.

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Respiratory Protection

The need for respiratory protection will be determined by a qualified person based upon conditions and test results of the confined space, and the work activity to be performed. The respirators used will be NIOSH and or MSHA approved devices and will be fitted and maintained in accordance with 29 CFR 1910.134.

Body Protection

All employees entering a confined space will wear full coverage work clothing as specified by the qualified person. Gloves and clothing made of impervious rubber or similar material are to be worn to protect against toxic or irritating materials. If the hazards of heat or cold stress exist in the confined space, clothing which has been assessed to provide protection from over-exposure to these hazards will be worn. Other body protection required in specific operations such as welding (flame resistant), riveting (heat resistant), and abrasive blasting (abrasion resistant) will be provided to insure employee's safety.

TRAINING

Brieser Construction shall provide training to all employees involved in confined space entry so that they acquire the understanding, knowledge, and skills necessary to perform their job safely. All training related materials, documents, and signed certificates are kept in the Corporate Office.

The training programs consist of classroom (lecture and group activities), hands-on (equipment, monitors, PPE, entries), and audiovisuals. All new employees are trained to an awareness level as to the recognition of confined spaces.

Only specific employees will be trained in confined spaces. This type of work task is not performed daily by the Brieser Construction crews and therefore limiting training to certain employees will help to maintain the competencies required to perform safely within confined spaces.

All employees must be trained to be able to recognize hazardous conditions; safely use monitoring equipment; space preparation; entry and work procedures; the permit system; and emergency response actions.

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Confined space entry training will include:

- The written program and its requirements.
- The proper use of air monitoring equipment. A test on the use of this equipment to be given in conjunction with the confined space test.
- The proper use and calibration of monitoring Equipment.
 - **(All employees will be trained on how to calibrate monitoring equipment).**
- The proper use and limitations of body harnesses, lifelines, retrieval systems, and other personal protective equipment.
- The proper use of all respiratory equipment.
- The typical hazards that may be encountered and the consequences of exposure to hazards.
- Recognizing the signs and symptoms of exposure to hazards.
- Understanding the duties specific to their role in confined space entry work as well as the duties of others who are involved as provided in this plan.
- Evaluating and preparing a confined space for entry.
- The proper use of the permit system.
- The importance and methods of maintaining communications between entrants and attendants.
- Conditions that require evacuation of the confined space.
- The importance and requirements for maintaining site control.
- The requirements for concluding entry and terminating the permit.
- Proper confined space non-entry rescue procedures.
- Welding, cutting, and brazing in a confined space.

The Program Administrators shall certify that the training has been accomplished. Certification of the training will be made available to employees and their authorized representatives.

TRAINING INTERVALS

Training shall be provided to each employee:

- Before the employee's first duty.
- Before any changes in assigned duty
- Any changes in operations that present a hazard in which an employee has not been trained.
- Whenever Brieser Construction has reason to believe that there are deviations from entry procedures that could pose hazardous to employees.
- At every two years

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LOCKOUT/TAGOUT

The safety equipment required during this procedure will be designed by the qualified person and is dependent upon the potential hazards involved. A confined space will be completely isolated from all other systems by physical disconnection, double block, and bleed, or blanking off all lines. Blanks used to seal off lines will be capable of withstanding the maximum working pressure or load of the line (with a minimum safety factor of four), be provided with a gasket on the pressure side to ensure a lead-proof seal and be made of chemically non-reactive material. Shutoff valves serving the confined space will be locked in the closed position and tagged for identification. In addition to blanking, pumps and compressors serving these lines entering the confined space will be locked out to prevent accidental activation.

If a drain line is located within the confined space, provision will be made when necessary to tag it and leave it open. This will also be recorded on the entry permit.

Additional procedures, which are necessary when the confined space is of a double wall construction, e.g., water-jacketed, or similar type will be determined by the qualified person and noted on the entry permit.

Electrical isolation of the confined space to prevent accidental activation of moving parts that would be hazardous to the worker is achieved by locking circuit breakers and/or disconnects in the open (off) position with a key-type padlock.

The only key is to remain with the person working inside the confined space. If more than one person is inside the confined space, each person will place his own lock on the circuit breaker. In addition to the Lockout system, there must be an accompanying tag that identifies the operation and prohibits use.

Disconnecting linkages or removing drive belts or chains can achieve mechanical isolation of moving parts. Equipment with moving mechanical parts will also be blocked in such a manner that there can be no accidental rotation.

REVIEW

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Brieser Construction will review entry operations when there is reason to believe that the measures taken under the permit space program may not protect employees. Circumstances requiring the review of the permit space program are as follows:

- Any unauthorized entry of a permit space
- The detection of a permit space hazard not covered by the permit.
- The detection of a condition prohibited by the permit.
- The occurrence of an injury or near-miss during entry.
- A change in the use or configuration of a permit space
- Employee complaints about effectiveness of the program

The Program Administrators will revise the program to correct deficiencies found to exist before subsequent entries are authorized.

The Brieser Safety Department will annually review this written program. It will be revised as necessary to protect employees from confined space hazards.

RECORDKEEPING

Brieser Construction will maintain a written record of training including safety drills, inspections, tests, and maintenance. The records will be retained for three years after the last date of training, inspection, test, or maintenance. In the event of separation of the employee, disposal of equipment or appliance, records may be disposed of after one year.

Where atmospheric testing indicates the presence of a toxic substance, records will be maintained in accordance with the existing Federal regulation(s). These records will include the dates and times of measurements; duties and location of the employees within the confined space; samples taken; and PEL concentrations estimated from these samples. Records will be available to the designated representatives of the Secretary of Health, Education, and Welfare; to the employer; and to the employee or former employee.

Confined Space Entry Annual Review Log Brieser Construction

[illegible]

Scan: Safety/Confined Space Yearly Review

Confined Space Entry Permit

Brieser Construction

Unit:		Location and Job Number:		Rev. 10
Purpose of Entry:		Permit Expires:		
Entry Date:		Entry Time:		
Attendant(s):	1	Entrants:	1	
	2		2	
	3		3	

*****IF ENTRANT LOG IS USED ON PAGE 25 PLEASE INDICATE YES/NO*****

Rescue Information:

Telephone Number(s):

Hazard Control Checklist	Yes	N/A
1 Has the confined space been drained and purged?	☐	☐
2 Has the confined space been cleaned?	☐	☐
3 Has the confined space been ventilated?	☐	☐
4 Has the confined space been blinded or isolated?	☐	☐
5 Have all energy sources been locked out/tagged out and in a zero energy state?	☐	☐
6 Have all radiation sources been locked into their shielded containers?	☐	☐
7 Do each open man way or entrance to the confined space have a posted notice?	☐	☐
8 Is rescue equipment required?	☐	☐
9 Will entry involve any of the following:	☐	☐
- Oxygen deficiency (less than 19.5%)?	☐	☐
- Flammable gases or vapors greater than 10% of the Lower Flammable Limit or greater than 23.5% oxygen?	☐	☐
- Toxic gases or vapors greater than the Permissible Exposure Limit?	☐	☐
- Configuration hazards?	☐	☐
- Electrical Shock?	☐	☐
- Engulfment?	☐	☐
- Materials harmful to the skin?	☐	☐
- Mechanical hazards	☐	☐
10 Have all employees on this permit been trained in confined Spaces? (Entry supervisor to verify training with office, Training is	☐	☐

IF YES TO ANY OF THE ITEMS IN NUMBER 9 ABOVE, CONTACT BRIESER SAFETY AT (815) 679-8157.

Required PPE

☐ Communication Equipment	☐ Ventilation	☐ Respiratory Protection: HF/FF SCBA
☐ Electrical Equipment	☐ Safety Glasses, Goggles, Faceshield	☐ Fall Protection
☐ Protective Clothing (FRC/Acid/Clicker)	☐ Gloves- Chemical/Thermal	☐ Foot Protection
☐ Rescue Equipment	☐ Hard Hat	☐ Other (Special Precautions/Restrictions)

Air Monitoring Sampling Required ☐ Initial ☐ Periodic ☐ Continuous

Multigas Detector Calibration Date: Month: _____ Day: _____ Year: _____

Multigas Detector Calibration Daily Check ☐ Pass ☐ Fail-Recalibrate ☐ Recalibrated

Tests Required	Initial						Safe Limit	Altair Calibration Unit-Serial Number
1 Oxygen							Min 19.5% | Max 23.5%	Altair 5 IR Multigas Detector Serial Number
2 Combustible Gases (% LEL)							Less than 10%	
3 Carbon Monoxide (CO)							25 ppm	
4 Hydrogen Sulfide (H ₂ S)							5ppm	
5 SO ₂							2ppm	Altair 5 IR Multigas Detector Serial Number
6 Total Hydrocarbons							300 ppm	
7 Benzene							1 ppm	
8 Other:								

Authorization of Entry Supervisor: I attest that all entrants and attendants of this confined space have received training per Section 18 within the Brieser Construction Safety Manual.

Signature	Date	
Routing	Scan	SAFETY/PERMITS COMPLETED/CONFINED SPACE/YY COMPLETED CONFINED SPACE PERMITS

Confined Space Entrant Log Brieser Construction

Unit:		Location and Job Number	
Purpose of Entry			
Entry Date		Permit Expires	
Attendant(s):	1	Entry Supervisor:	
	2		
	3		

Rescue Information

Telephone Number(s)

Entrant Name	Time In	Time Out	Time In	Time Out	Time In	Time Out

Contractor Hazard Information Identification

Brieser Construction

This is a list of permit spaces and the potential hazards of these spaces that the contractor will be working in or in close proximity to. The hazards of some spaces may change with use. Note this possibility as "change with use" in the Potential Hazards column and then list the anticipated hazards.

PERMIT SPACE	POTENTIAL HAZARDS

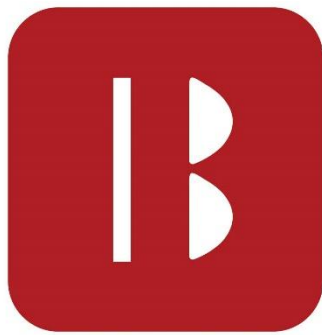
_____ Contractor Employee Signature	_____ Date

_____ Contractor Employee Signature	_____ Date

_____ Contractor Employee Signature	_____ Date

_____ Contractor Employee Signature	_____ Date

ROUTING	SCAN	SAFETY/PERMITS COMPLETED/CONFINED SPACE/YEAR COMPLETED SUBCONTRACTOR HAZARD INFORMATION IDENTIFICATION DISCLOSURE



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 18
CONFINED SPACES
SUB-SECTION TRAINING**

Confined Space Entry Learning Exercise

Employees Name:

Company:

Trade:

Date:

Instructor:

Job Title:

1. Circle all the types of Confined Spaces from the list below:

a. Tanks	b. Silos
c. Vessels	d. Storage Bins
e. Ventilation Shafts	f. Hoppers
g. Vaults	h. Pits

2. Circle all the types of hazards that can be found in Confined Spaces from the list below:

a. Hazardous Atmosphere	b. Pneumonia
c. Engulfment	d. Entrapment
e. Asphyxiation	

3. Circle all the roles that an employee could fill during Confined Space work:

- a. Entry Supervisor
- b. Attendant
- c. Project Foreman
- d. Entrant.

4. Having too little oxygen (O₂) in a confined space can result in asphyxiation?

- a. True
- b. False

5. OSHA requires that three types of atmospheric tests be conducted in a confined space. These must be conducted in a specific order. Indicate below which test should be performed first, second and third.

- a. Toxic Contaminants, Oxygen Content, & Flammable (Gases, Vapors, Dusts)
- b. Oxygen Content, Flammable (Gases, Vapors, Dusts) & Toxic Contaminants
- c. Flammable (Gases, Vapors, Dusts) Oxygen Content, & Toxic Contaminants
- d. Flammable (Gases, Vapors, Dusts), Toxic Contaminants, & Oxygen Content

6. Gases and vapors from dissimilar materials can have different weight.

- a. True
- b. False

7. The attendant is not allowed to enter Confined Space to rescue entrants who may be in trouble.

- a. True
- b. False

8. What document must the entry supervisor sign prior work can begin in a confined space?

- a. Hot Work Permit
- b. Silica Permit
- c. Confined Space Permit
- d. All the Above

Confined Space Entry Learning Exercise

Answer Key

1. Circle all the types of Confined Spaces from the list below:

Tanks	Silos
Vessels	Storage Bins
Ventilation Shafts	Hoppers
Vaults	Pits

2. Circle all the types of hazards that can be found in Confined Spaces from the list below:

Hazardous Atmosphere	Pneumonia
Engulfment	Entrapment
Asphyxiation	

3. Circle all the roles that an employee could fill during Confined Space work:

- a. Entry Supervisor
- b. Attendant
- c. Project Foreman
- d. Entrant.

4. Having too little oxygen (O₂) in a confined space can result in asphyxiation?

- a. True
- b. False

5. OSHA requires that three types of atmospheric tests be conducted in a confined space. These must be conducted in a specific order. Indicate below which test should be performed first, second and third.

- a. Toxic Contaminants, Oxygen Content, & Flammable (Gases, Vapors, Dusts)
- b. Oxygen Content, Flammable (Gases, Vapors, Dusts) & Toxic Contaminants
- c. Flammable (Gases, Vapors, Dusts) Oxygen Content, & Toxic Contaminants
- d. Flammable (Gases, Vapors, Dusts), Toxic Contaminants, & Oxygen Content

6. Gases and vapors from dissimilar materials can have different weight.

- a. True
- b. False

7. The attendant is not allowed to enter Confined Space to rescue entrants who may be in trouble.

- a. True
- b. False

8. What document must the entry supervisor sign prior work can begin in a confined space?

- a. Hot Work Permit
- b. Silica Permit
- c. Confined Space Permit
- d. All the Above

4-Gas Monitor Test

Employees Name:

Company:

Trade:

Date:

Instructor:

Job Title:

1. Every gas monitor should be bump tested each day if it is being used that day?
 - a. True
 - b. False
2. The 4 gasses that the Ventis Pro-5 monitor alerts for is: (Circle all that apply)
 - a. LEL
 - b. NaCl
 - c. H₂S
 - d. O₂
 - e. CO₂
3. If the alarm goes off while performing your job the first thing you should do is:
 - a. Call your foreman.
 - b. Silence the unit, complete the task, then exit the area.
 - c. Immediately stop all work, leave tools, and exit quickly but safely while alerting others in the area.
 - d. Call 911 and wait for rescue.
4. The safe range for oxygen is between:
 - a. 1% - 10.5%
 - b. 19.5% - 23.5%
 - c. 15.9% - 25.3%
 - d. 95% - 100%
5. In the rare occasion that a gas monitor stops working or doesn't seem to work correctly you should immediately exchange units and alert the safety department of the issue so a replacement can be brought to you.
 - a. True
 - b. False
6. The Ventis Pro-5 monitor tracks and logs all activity that occurs while the monitor is on.
 - a. True
 - b. False
7. When using the pump attachment, the hose should never have the filter attachment connected.
 - a. True
 - b. False
8. When using the pump attachment with the hose you need to test the air for 2 seconds for every foot of tubing.
 - a. True
 - b. False
9. Do your best to get the pump hose to read levels of the layered atmosphere in all 3 sections of the space.
 - a. True
 - b. False
10. If the confined space is found to have contaminated air, you are to NOT enter. You should document the readings and alert the Brieser and site Safety Departments.
 - a. True
 - b. False

4-Gas Monitor Test Answer Key

1. Every gas monitor should be bump tested each day if it is being used that day?
 - a. True
 - b. False
2. The 4 gasses that the Ventis Pro-5 monitor alerts for is: (Circle all that apply)
 - a. LEL
 - b. NaCl
 - c. H₂S
 - d. O₂
 - e. CO₂
3. If the alarm goes off while performing your job the first thing you should do is:
 - a. Call your foreman.
 - b. Silence the unit, complete the task, then exit the area.
 - c. Immediately stop all work, leave tools, and exit quickly but safely while alerting others in the area.
 - d. Call 911 and wait for rescue.
4. The safe range for oxygen is between:
 - a. 1% - 10.5%
 - b. 19.5% - 23.5%
 - c. 15.9% - 25.3%
 - d. 95% - 100%
5. In the rare occasion that a gas monitor stops working or doesn't seem to work correctly you should immediately exchange units and alert the safety department of the issue so a replacement can be brought to you.
 - a. True
 - b. False
6. The Ventis Pro-5 monitor tracks and logs all activity that occurs while the monitor is on.
 - a. True
 - b. False
7. When using the pump attachment, the hose should never have the filter attachment connected.
 - a. True
 - b. False
8. When using the pump attachment with the hose you need to test the air for 2 seconds for every foot of tubing.
 - a. True
 - b. False
9. Do your best to get the pump hose to read levels of the layered atmosphere in all 3 sections of the space.
 - a. True
 - b. False
10. If the confined space is found to have contaminated air, you are to NOT enter. You should document the readings and alert the Brieser and site Safety Departments.
 - a. True
 - b. False



Section 19
Safety Health
and
Environmental
Manual

2025

Nuclear Regulatory Compliance

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/16/2005
		Revised:	5/7/2008
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	01
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Nuclear Regulatory Compliance		
CROSS REFERENCE:	NRC Regulations Title 10, Code of Federal Regulations		

NUCLEAR EXPOSURE

Radiation exposure and safe working conditions are regulated by the Nuclear Regulatory Commission and by the specific generating stations.

Brieser Construction Co. is committed to complying with the regulations and safety rules that are established by these agencies.

NRC regulations require the utilities to notify workers of their individual exposure and, it is the individual workers responsibility to maintain these records. Brieser Construction Co. will also keep a record of the employee's nuclear work history, (sites and dates). However, exposure records of the individual workers are not accessible to the company. It is extremely important that the individual worker maintain these files and be able to present them at the job site and also upon request by the company.

Nuclear workers are required to have annual physical examinations and drug screens when entering a new nuclear station. Fingerprinting and FBI checks may also be required as mandated by the customer.

Brieser Construction Co. will strictly follow client safety procedures in all Nuclear Regulatory Commission matters.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/16/2005
		Revised:	5/7/2008
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	01
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Nuclear Regulatory Compliance		
CROSS REFERENCE:	NRC Regulations Title 10, Code of Federal Regulations		

Nuclear Regulatory Compliance Learning Exercise

Score: %

Employees Name:		Date:	
Company:		Instructor:	
Trade:		Job Title:	

Answer each of the following questions by circling the appropriate letter.

1. Nuclear Regulatory Compliance regulations require the utilities to notify workers of their individual exposure and, it is the individual workers responsibility to maintain these records.
 - a. True
 - b. False

2. Brieser Construction Co. will also keep a record of the employee's nuclear work history, (sites and dates). However, It is extremely important that the individual worker maintain these files and be able to present them at the job site and also upon request by the company.
 - a. True
 - b. False

3. Nuclear workers are required to have annual physical examinations and drug screens when entering a new nuclear station. Fingerprinting and FBI checks may also be required as mandated by the customer.
 - a. True
 - b. False

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/16/2005
		Revised:	5/7/2008
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CROSS REFERENCE:	NRC Regulations Title 10, Code of Federal Regulations		

Nuclear Regulatory Compliance Learning Exercise

Answer Sheet

1. Nuclear Regulatory Compliance regulations require the utilities to notify workers of their individual exposure and, it is the individual workers responsibility to maintain these records.
a. True
b. False
2. Brieser Construction Co. will also keep a record of the employee's nuclear work history, (sites and dates). However, It is extremely important that the individual worker maintain these files and be able to present them at the job site and also upon request by the company.
a. True
b. False
3. Nuclear workers are required to have annual physical examinations and drug screens when entering a new nuclear station. Fingerprinting and FBI checks may also be required as mandated by the customer.
a. True
b. False



Section 20
Safety Health
and
Environmental
Manual

2025

Fire Protection & Prevention

BRIESER CONSTRUCTION COMPANY GENERAL CONTRACTORS ▪ CONSTRUCTION MANAGERS		Developed:	2/16/2005
		Revised:	5/30/2023
CORPORATE SAFETY MANUAL		Revision:	05
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Fire Prevention Program	
CROSS REFERENCE:	29 CFR 1926.24 Fire Protection & Prevention 29 CFR 1926.150 Fire Protection NFPA 51B Fire Prevention During Welding, Cutting and Other Hot Work		

PURPOSE

OSHA's Fire Prevention Program (FPP) regulation, found at 29 CFR 1926.24 and Subpart F 1926.150 do not specifically require a written plan, but do require specific program elements. This plan addresses fire emergencies reasonably anticipated to occur through all phases of the construction, repair, alteration, or demolition at our construction sites. This FPP will also address the requirements of 1910.38(b) *Fire Prevention Plan*.

This FPP is in place at this company to control and reduce the possibility of fire and to specify the type of equipment to use in case of fire. This plan addresses the following issues:

- Major workplace fire hazards and their proper handling and storage procedures.
- Potential ignition sources for fires and their control procedures.
- The type of fire protection equipment, which can control a fire involving them.
- Regular job titles of personnel responsible for maintenance of equipment and systems installed to prevent or control ignition of fires and for control of fuel source hazards.

Under this plan, our employees will be informed of the plan's purpose, preferred means of reporting fires and other emergencies, types of evacuations to be used in various emergency situations, and the alarm system. The plan is closely tied to our Disaster Planning & Emergency Evacuation plan where procedures are described for emergency escape procedures and route assignments, procedures to account for all employees after emergency evacuation has been completed, rescue and medical duties for those employees who perform them. Please see Section 5 for this information.

The FPP communicates to employees, policies, and procedures to follow if a fire occurs. This written program is available, upon request, to employees, their designated representatives, and any OSHA officials who ask to see it. Copies of the written plan may be obtained in corporate office.

If after reading this program, you find that improvements can be made, please contact the Manager of Safety. We encourage all suggestions because we are committed the success of our Fire Protection Program. We strive for clear understanding, safe behavior, and involvement in the program from every level of the company.

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DEFINITIONS

Extinguisher Rating – The numerical rating given to an extinguisher, which indicates the extinguishing potential of the unit, based on standardized test.

Incipient Stage Fire – A fire in the initial or beginning stage which can be controlled or extinguished by portable fire extinguishers, standpipes, or small hose systems, and without the need for protective clothing or breathing apparatus.

Inspection – A visual check of fire extinguishers to ensure that they are in place, charged and ready for use in the event of a fire.

RESPONSIBILITIES

The Program Administrator- Safety Manager

These people are responsible for:

- Issuing and administering this program and making sure that the program satisfies the requirements of applicable Federal, State or Local requirements.
- Providing initial and refresher training to employees on fire extinguisher operation and the application of medical first-aid techniques.
- Maintaining the training records of all employees included in the training sessions.
- Reviewing and updating the program, as necessary.
- Developing a written fire prevention plan for regular and after-hours work conditions.
- Conducting drills to acquaint the employees with fire procedures, and to judge their effectiveness.
- Distributing procedures for reporting a fire, the location of fire exits, and evacuation routes to each employee.
- Keeping key management personnel home telephone numbers in a safe place in the office for immediate use in the event of a fire. Distribute a copy of the list to key persons to be retained in their homes for use in communicating a fire occurring during non-work hours.

Upon notification of a fire within the facility, the Brieser Safety Manager or Equipment Manager will make the decision whether to remain in designated areas or to evacuate the workplace to the gathering areas.

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If evacuation is deemed necessary, the Brieser Safety Manager or Equipment Manager will be responsible for:

- Making sure all employees are notified and a head count is taken to confirm total evacuation of all employees.
- When practical, ensuring equipment is placed and locked in storage rooms or desks for protection.
- Ensuring that security measures to protect employee records and property are arranged, as necessary.
- Act as a liaison with the local fire department.

The Safety Coordinator

This person is responsible for:

- Administering the monthly inspection program for in house fire extinguishers and bi-yearly inspection for field extinguishers.
- Administering the use of an outside contractor for maintenance, hydrostatic testing, and recharging.

Superintendent

These people are responsible for:

- Knowing the locations of fire extinguishers in their area.
- Understanding the fire hazards at the construction site.
- Ensuring that safe operations are maintained to prevent fires.
- Ensuring that all employees are evacuated from the fire area and notify the fire department having jurisdiction. The emergency numbers will be identified on the site safety plan.
- When it can be safely done, contacting the client and Brieser Management informing them of any emergency.
- Acting as a liaison with the local fire department.
- Auditing their jobsite to assure compliance when “hot work” areas have proper fire protection and employees perform daily safety inspections of their fire extinguishers.
- Ensuring that access to emergency equipment on the construction site must be provided in the initial stage of site preparation and always maintained.

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Employees of Brieser or Subcontractors Foremen

These people are responsible for:

- Upon recognition of a fire, immediately notifying employees in the immediate area to evacuate and then notify their foreman, Brieser Superintendent, and or the fire department having jurisdiction. At the construction site emergency numbers will be listed adjacent to the telephones at the job trailer and emergency numbers will be identified on the site safety plan.
- Assisting in maintaining the workplace free of all fire hazards.

WORKPLACE FIRE HAZARDS

It is the intent of this company to assure that hazardous accumulations of combustible waste materials are controlled so that a fast-developing fire, rapid spread of toxic smoke, or an explosion will not occur. Employees are to be made aware of the hazardous properties of materials in their workplaces, and the degree of hazard each pose.

Common fire hazards that could exist at the corporate facility or the construction site are oils, greases, degreasers, parts washers, flammable/combustible liquids, and flammable and oxidizer gases.

Fire prevention measures must be developed for all fire hazards found. Once employees are made aware of the fire hazards in their work areas, they must be trained in the fire prevention measures developed and use them in the course of their work. For example, oil-soaked rags must be treated differently than general paper trash in office areas. Oil-soaked rags must be deposited in U.L. listed oily waste cans and be disposed of regularly. In addition, large accumulations of wastepaper or corrugated boxes, etc., can pose a significant fire hazard. Accumulations of materials, which can cause large fires or generate dense smoke that are easily ignited or may start from spontaneous combustion, are the types of materials with which this fire prevention plan is concerned. Matches, welder's sparks, cigarettes, and similar low-level energy ignition sources may easily ignite such combustible materials. It is the intent of this company to prevent such accumulation of materials.

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Fire prevention can be accomplished by:

- Maintaining good housekeeping.
- Proper storage of flammable and combustible liquids stored in U.L. listed containers and when available store the containers when not in use within an approved flammable liquid storage cabinet.
- Store compressed gas cylinders per OSHA and CGA requirements.
- Store used rags in U.L. listed oily waste cans.
- Follow proper Hot Work safety practices. **NFPA 51B**
- Do not allow ignition sources within 50 feet of flammables.
- All equipment must be parked, shut down, and secured prior to refueling.
- Smoking shall be prohibited at or in the vicinity of operations which constitute a fire hazard and shall be conspicuously posted: No Smoking or Open Flame and provide enforcement of the policy.
- Portable battery powered equipment used in connection with the storage, handling, or use of flammable gases or liquids shall be of the type approved for hazardous locations.
- Flammable/combustible liquids shall not be stored in areas used for exits, stairways, or normally used for the safe passage of people.

POTENTIAL IGNITION SOURCES

All employees are responsible to ensure that known ignition sources are controlled. Flammable or combustible materials may ignite on their own without an ignition source; therefore, accumulation of flammable/combustible materials is not allowed. Within the corporate facility and at construction sites the requirements for safe welding work practices are to be followed to reduce the fire risk.

FIRE PROTECTION EQUIPMENT

UL (Underwriters Laboratory) divides fire extinguishers into more specific ratings.

Fire Extinguisher Example: 2A 10 B: C

The first number represents the chemical/agent's equivalent to gallons of water the extinguisher holds. Multiply the number in front of A by 1.25 to figure out the equivalent to gallons of water.

Example: A Fire Extinguisher with a rating of 2A would contain the equivalent to 2.5 gallons of water (2 x 1.25)

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Example B: A Fire Extinguisher with a rating of 2A:10B:C would contain agents equal to 1.25 gallons of water (2 x 1.25) and would be able to extinguish 10 square feet of a class B fire. (The extinguisher would also be rated non-conductive due to the C rating)

Fire protection equipment, in use at this company includes various sizes of types **A**, **B**, and **C** fire extinguishers. A-B-C fire extinguishers must be within 100 feet of travel to any point. A fire extinguisher, UL rated not less than 2A, shall be provided for each 3,000 square feet of the protected building area.

One or more fire extinguishers, rated not less than 2A, shall be provided on each floor. In multistory buildings, at least one fire extinguisher shall be located adjacent to stairway. A fire extinguisher rated not less than 10 B: C must be within 50 feet of a quantity of 5 gallons or more of a flammable/combustible liquid or 5 pounds of flammable gas being used on the job site. All fire extinguisher locations shall be clearly identified and fully accessible for use.

All company vehicles are equipped with a fire extinguisher. A fire extinguisher is to be adjacent to each area where Hot Work operations are being conducted. Properly trained individuals should only use fire extinguishers.

MAINTENANCE OF FIRE PROTECTION EQUIPMENT

Once hazards are evaluated and fire-extinguishing equipment is installed to control them, that equipment must be monitored on a regular basis to make sure it continues to function properly. The following personnel are responsible for maintaining equipment and systems installed to prevent or control fires:

Each Superintendent is responsible for the respective construction site. These individuals follow strict guidelines for maintaining the equipment. Brieser policy states that fire extinguishers be inspected every month by a qualified (proctor led and hands on trained) employee. All extinguishers go through an annual maintenance provided through a reputable fire service company. Each superintendent may need to inspect more frequently to be in compliance with the host facilities rules and regulations.

Fire extinguishers located at the corporate facility are inspected monthly and serviced annually. A written record shall be maintained of the annual servicing and this record shall be retained for a minimum of one year.

Fire extinguishers shall be maintained in a fully charged and operational condition and always kept in their designated places except for during use.

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TRAINING

All employees will be trained on the content of the Fire Prevention Plan. We must be sure that employees know what is expected of them during a fire to assure their safety. Brieser Construction has chosen to train employees through presentation followed by a drill. The Superintendent will conduct construction site-specific fire prevention training at their initial tailgate meetings and review of the site safety plan. Only designated and trained employees are expected as part of their job responsibilities to use a fire extinguisher and attempt to suppress a fire.

Training, conducted on initial assignment, includes:

- * What to do if employee discovers a fire.
- * Demonstration of alarm, if more than one type exists.
- * How to recognize fire exits.
- * Evacuation routes.
- * Assisting employees with disabilities.
- * Measures to contain fire (e.g., closing office doors, windows, etc. in immediate vicinity).
- * Head count procedures.
- * Return to building or site after the "all-clear" signal.

If the Superintendent has reason to believe an employee does not have the understanding required, the employee must be retrained. The Superintendent certifies in writing that the employee has received and understands the fire prevention plan training.

Because failure to comply with company policy concerning fire prevention can result in OSHA citations and fines as well as employee injury, an employee who does not comply with this program will be disciplined.

The Superintendent shall ensure that employees designated to use fire prevention equipment shall receive appropriate training. The training that will be conducted at the time of initial assignment and provide refresher training every year thereafter for an individual assigned responsibility to fight a fire. This training includes:

- * Types of fires.
- * Types of fire prevention equipment.
- * Location of fire prevention equipment.
- * How to use fire prevention equipment.
- * Limitations of fire prevention equipment.
- * Proper care and maintenance of assigned fire prevention equipment.
- * Hands-on training extinguishing actual fires.

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		Revised:	5/30/2023
CORPORATE SAFETY MANUAL		Revision:	05
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Fire Prevention Program	
CROSS REFERENCE:	29 CFR 1926.24 Fire Protection & Prevention 29 CFR 1926.150 Fire Protection NFPA 51B Fire Prevention During Welding, Cutting and Other Hot Work		

Employees must demonstrate an understanding of the training and the ability to use the equipment properly before they are allowed to perform work requiring the use of the equipment.

If the Superintendent has reason to believe an employee does not have the understanding or skill required, the employee must be retrained before being allowed to use an extinguisher. The Superintendent certifies in writing that the employee has received and understands the fire prevention equipment training. The Hands-on training portion, where a trainee extinguishes a simulated fire on a large computer screen and electronically simulated fire extinguisher, is conducted by a member of the Brieser Safety Department.



**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 20
FIRE PROTECTION & PREVENTION
SUB-SECTION TRAINING**

Fire Prevention Learning Exercise

Brieser Construction

Score: %

Employees Name:		Date:	
Company:		Instructor:	
		Job Title:	

Answer the following questions “True” or “False” by circling the appropriate letter.

T	F	1. OSHA requires at least 1 Fire Extinguisher rated not less than 2A within 75 feet of every room in a building.
T	F	2. Fire is a chemical reaction that involves fuel, oxygen, and a source of ignition.
T	F	3. There are four classes of fires.
T	F	4. Oily rags should be deposited in the trash immediately after using.
T	F	5. Class B fires can be prevented by ventilating the area.
T	F	6. Unusual odors can be the first sign of Class C electrical fires.
T	F	7. Storing combustible metals away from other chemicals can prevent class D fires.
T	F	8. When evacuating a burning building, make sure to lock all doors behind you.
T	F	9. Three basic types of fire extinguishers are water/foam, carbon dioxide (CO ₂) and dry chemical.
T	F	10. Carbon dioxide (CO ₂) fire extinguishers can be used on any class of fire.
T	F	11. Multi-purpose dry chemical fire extinguishers leave a residue that can harm computers, electronics, and other sensitive equipment.
T	F	12. A fire extinguisher’s rating can be found on the bottom of the fire extinguisher.
T	F	13. All Class C extinguishers must also carry a Class A or B rating.
T	F	14. The proper method of putting out a fire is to sweep the extinguisher from side to side, covering the area of the fire with the extinguishing agent.
T	F	15. You should always fight a fire with a means of escape behind you.
T	F	16. If a fire extinguisher’s seal has been broken but it hasn’t been used, it is still in proper working order.

Fire Prevention Learning Exercise
Brieser Construction
Answer Sheet

- F** 1. OSHA requires at least 1 Class A fire extinguisher within 75 feet of every room in a building. ***OSHA requires a maximum travel distance of 100' for 2A rated fire extinguishers.***
- T** 2. Fire is a chemical reaction that involves fuel, oxygen, and a source of ignition.
- T** 3. There are four classes of fires. ***Ordinary combustible materials, Flammable liquids, Energized electrical equipment, and Combustible metals.***
- F** 4. Oily rags should be deposited in the trash immediately after using. ***To prevent Class A fires, oily rags should be deposited in covered, metal containers.***
- T** 5. Class B fires can be prevented by ventilating the area. ***Flammable liquids should also be kept away from heat, flame, and spark.***
- T** 6. Unusual odors can be the first sign of Class C electrical fires.
- T** 7. Storing combustible metals away from other chemicals can prevent class D fires.
- F** 8. When evacuating a burning building, make sure to lock all doors behind you. ***Doors should be closed, not locked, to make search and rescue efforts easier.***
- T** 9. Three basic types of fire extinguishers are water/foam, carbon dioxide (CO₂) and dry chemical.
- F** 10. Carbon dioxide (CO₂) fire extinguishers can be used on any class of fire. ***Carbon Dioxide (CO₂) fire extinguishers must not be used on Class A and D fires.***
- T** 11. Multi-purpose dry chemical fire extinguishers leave a residue that can harm computers, electronics, and other sensitive equipment. ***In those situations, carbon dioxide (CO₂) or halon extinguishers are preferred.***
- F** 12. A fire extinguisher's rating can be found on the bottom of the fire extinguisher. ***The rating can be found on the faceplate.***
- T** 13. All Class C extinguishers must also carry a Class A or B rating.
- T** 14. The proper method of putting out a fire is to sweep the extinguisher from side to side, covering the area of the fire with the extinguishing agent.
- T** 15. You should always fight a fire with a means of escape behind you.
- F** 16. If a fire extinguisher's seal has been broken but it has not been used, it is still in proper working order. ***Once the seal has been broken, it should be considered empty. It should be refilled and resealed immediately, and all certification information should be updated.***



Section 21
Safety Health
and
Environmental
Manual

2025

Hearing Conservation

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2008
		Revised:	10/25/2016
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	09
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Hearing Conservation	
CROSS REFERENCE:	29 CFR 1910.95 Occupational Noise Exposure; 29 CFR 1926.52, Occupational noise exposure; 29 CFR 1926.101, 2003 Department of Environmental and Occupational Health Sciences, University of Washington Hearing Protection;		

SUMMARY

To establish a hearing conservation program to protect Brieser employees from harmful occupational noise exposures.

Scope:

The program includes an assessment of work area sound levels, employee noise exposure monitoring, engineering and administrative control measures, measurements of employee hearing acuity, provision of hearing protective devices, if necessary, employee informational sources, and employee training in noise hazard recognition and control measures.

DEFINITIONS

Action Level - An 8-hour time weighted average of 85 decibels measured on the A-scale (dBA), slow response, or equivalently, a dose of fifty percent (50%).

Audiogram - A chart, graph or table resulting from an audiometric test showing an individual's hearing threshold levels as a function of frequency.

Continuous Noise - On-going noise, the intensity of which remains at a measurable level without interruption over an indefinite period or a specified period. (Examples car interior, turbine hum, transformer hum).

DECIBEL (dB) - Unit of measurement of sound level (intensity)
dBA (decibels A - Weighted) - A unit of measurement of sound level corrected to the A scale. The ear does not respond equally to all frequencies but is less efficient at low and high frequencies than it is at medium or speech range frequencies. To maintain a single number representing the sound level of a noise containing a wide range of frequencies, an A-weighted scale is used to approximate the ears response to the noise.

IMPULSIVE (OR IMPULSE) NOISE - Noise of short duration (typically, less than 500 milliseconds), especially of high intensity, abrupt onset, and rapid decay, and often RAPIDLY CHANGING SPECTRAL COMPOSITION. (EXAMPLES GUNSHOTS, EXPLOSION, IMPACTS, SONIC BOOMS).

Intermittent Noise - Fluctuating noise whose level falls one or more times to very low or unmeasurable values during an exposure. (Examples process noise, traffic, airports).

Representative Exposure - Measurement of an employee's noise dose of 8-hour time weighted average sound level that is considered representative of exposures of other employees in the workplace.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2008
		Revised:	10/25/2016
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	09
		Reviewed:	12/17/24 KMC
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DEFINITIONS continued

Standard Threshold Shift - As used in this procedure, a standard threshold shift is a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more in 2000, 3000, and 4000 Hz in either ear.

User – Applies to all Brieser employees, including visitors and subcontractors that work within areas that may contain noise hazards.

METHODS

Hazard Assessment

- A study performed September 2004 by the University of Washington School of Public Health and Community Medicine Department of Environmental and Occupational Health Sciences shall be used as a guideline for all Briesers operations.

Table 1 shows information from full-shift measurements on laborers. The average level measured was 83.6 dBA. However, nearly half of all measurements were above 85 dBA, the 8-hour allowable limit. Above this level, hearing protectors are required. About one in ten measurements was above 90 dBA. Almost two-thirds of all measurements also included exposure above 115 dBA, the level above which hearing protectors are always required.

Table 1. Work shift noise level information on 122 laborers

Category	Result
Average full-shift noise level	83.6 dBA
Average length of measured work shifts	8 hr 25 min
% of full-shift average levels above 85 dBA	44%
% of full-shift average levels over 90 dBA	15%
% of work shifts with any noise above 115 dBA	64%

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2008
		Revised:	10/25/2016
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	09
		Reviewed:	12/17/24 KMC
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Table 2 is a list of task and tool exposures for all workers.

Table 2. Tasks, in order of increasing average noise level

Tasks	Average noise level (dBA)	Maximum noise level (dBA)
Layout	80.1	103.1
Manual Material Handling	82.7	106.5
Interior Finish	85.2	110.5
Operating Forklift	85.3	114.6
Finishing Concrete	85.3	114.7
Grouting	86.1	116.0
Wood Framing	86.5	112.8
Floor Leveling	87.5	109.6
Hanging Plastic	88.6	113.9
Placing Concrete	91.5	116.6
Stripping Forms	91.7	117.8
Building Forms	92.1	115.8
Break, Rest, Lunch, Cleanup	92.3	114.4
Rigging	92.6	128.6
"Other " Tasks	95.4	119.6
Demolition	99.3	112.1
Chipping Concrete	102.9	120.3

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2008
		Revised:	10/25/2016
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	09
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Table 3 is a list of common tools used on a typical construction jobsite.

Table 3. Tools, in order of increasing average noise level

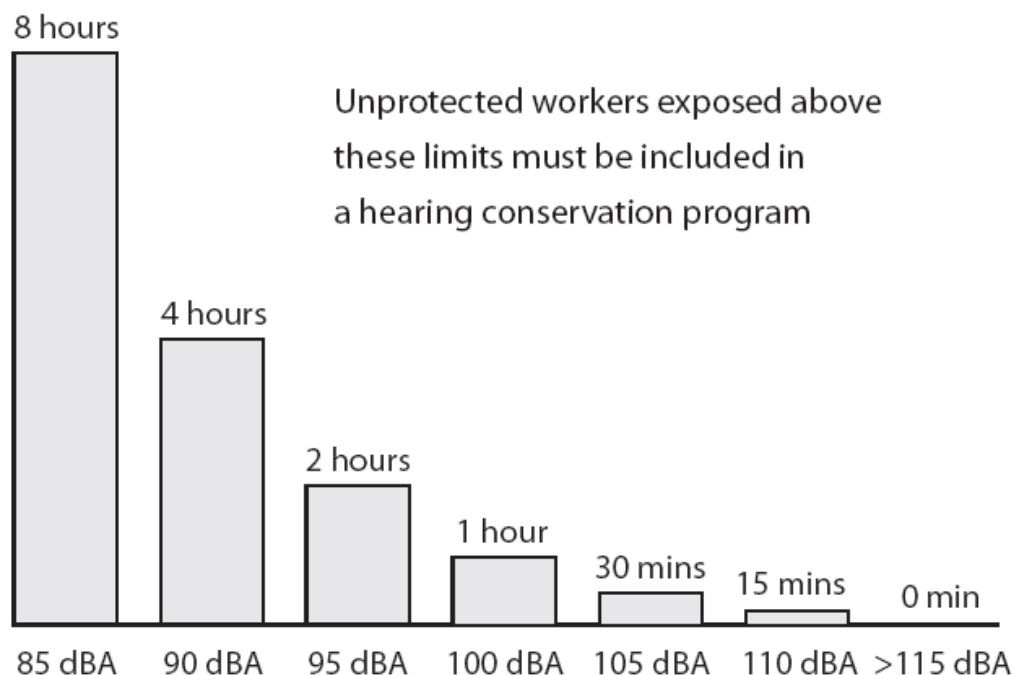
Tools	Average noise level (dBA)	Maximum noise level (dBA)
Screw Gun, Drill Motor	85.8	112.5
Hand Power Saw	87.9	107.3
Stationary Power Tool	88.2	105.0
Chopsaw	88.2	114.2
Hammer, Mallet, Sledge	90.2	116.4
"Other" Tools	91.8	119.0
No Tool	92.8	118.0
Rotohammer	95.8	113.4
Rattle Gun	98.4	131.1
Chipping Gun	103.0	119.2

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Employee Exposure Monitoring.

Employee exposure monitoring is a detailed noise survey that is designed to determine the employees' 8-hour TWA dose. Employee exposure monitoring is conducted in areas where there is a potential for exposure above an 8-hour TWA of 85 dBA or when human factors suggest that noise exposure exceeds the 85 dBA level. These human factors include employee complaints about the loudness of noise, indications that employees may be suffering hearing loss, or noisy conditions which make normal conversation difficult.

- Audio-dosimetry is the preferred method of evaluating employee exposure. In order for the exposure monitoring to be meaningful, the following should be taken into consideration when planning the monitoring event: The monitoring should be representative of the employees exposure; All continuous, intermittent, and impulsive sound levels from 80 dB to 130 dB should be integrated into the computation of the dose; The monitoring should enable the proper selection of hearing protective devices; To ensure accuracy, instruments should be calibrated before and after the monitoring event.
- Employee exposure monitoring is repeated periodically or when changes are detected in the employee audiometric tests. Results of the monitoring are recorded on the Personal Sound Level Dosimeter Sheet Form II. Copies of monitoring results are maintained by the Safety Department.



BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2008
		Revised:	10/25/2016
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	09
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Engineering and Administrative Control Measures.

- Processes and equipment that may cause exposure to unacceptable noise levels shall be controlled by engineering and / or administrative controls wherever feasible, with consideration of available technology and economic impact. Consideration of the effects of noise shall be included as a factor in replacement, modification, and addition of facilities and equipment. Brieser Safety Department shall review equipment design, layout, installation and purchasing criteria to evaluate noise exposure potential.

Hearing Protective Devices.

- Hearing protective devices are made available without cost to any employee who may be exposed to noise above the Action Level of 85 dBA TWA. Hearing protection must be worn in areas with posted warning signs for noise hazards and during tasks that specify hearing protective devices as part of the personal protective equipment (PPE).
- Hearing protective devices are individually issued and employees are provided the opportunity to select their own personal hearing protectors from a variety of suitable devices. Training on the proper fit and usage of hearing protective devices is given prior to employee usage in the workplace. Employees are responsible for the care and maintenance of their hearing protective devices.
- Hearing protectors are replaced as necessary due to wear or deterioration.

Using the Noise Reduction Rating or NRR

The Hearing Conservation Amendment to the Occupational Noise Standard (OSHA, 1983) describes six methods for using the NRR to determine a worker's protected A-weighted noise exposure. These methods vary according to the instrumentation and parameters used to determine the unprotected noise levels. However, they can be summarized into two basic formulas, depending on whether unprotected exposure levels were measured on a C-weighted or an A-weighted scale.

- For C-weighted measurements: Protected dBA = unprotected dBC - NRR

Where the protected dBA and the unprotected dBC are 8-hour time-weighted averages determined according to the Occupational Noise Standard. This method is how the NRR was designed to be used. For example, if a protector has an NRR of 17 dB and it is used in an environmental noise level of 95 dBC, the noise level entering the ear could be expected to be 78 dBA [95 - 17 = 78] or lower in 98% of the cases if the protector is worn according to manufacturer's specification.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2008
		Revised:	10/25/2016
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	09
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Using the Noise Reduction Rating or NRR continued

- For A-weighted measurements: Protected dBA = unprotected dBA - [NRR - 7] Where, again, the protected and unprotected dBA are 8-hour time-weighted averages determined according to the Occupational Noise Standard. This method is an adaptation for those whose instrumentation does not have C-weighting capabilities. The 7 dB correction factor is used to account for the de-emphasis of low-frequency energy inherent to the A-weighting scale. So, for example, if a protector has an NRR of 17 dB and it is used in an environmental noise level of 95 dBA, the noise level entering the ear could be expected to be 85 dBA [95 - (17 - 7) = 85] or less in 98% of the cases.

NIOSH recommends derating the NRR by a multiplicative factor of 75% for earmuffs, 50% for slow-recovery foam earplugs and custom earplugs, and 30% for all other earplugs. This variable derating scheme considers the real-world performance of most different types of hearing protector (NIOSH, 1998). Also, the NIOSH derating scheme does not affect the 7-decibel dBC to dBA correction as it is applied to the NRR only, derated or not. This compendium uses the NIOSH derating of the NRR when searching for hearing protectors based on the compendium user's input of noise exposure levels in dB A or octave band levels. Hearing protector attenuation shall be evaluated for the specific noise environments in which the protector will be used. The methods used for attenuation shall be consistent with the methods described in Appendix B of 29 CFR 1910.95. Hearing protective devices will be selected that attenuate employee exposure to below the Action Level of 85 dBA TWA. This goal is also used for employees who have experienced a standard threshold shift.

Tasks specifying hearing protective equipment shall be documented in accordance with the requirements of Brieser Personal Protective Equipment Program found in the Safety, Health & Environmental Manual Section 30 PPE.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2008
		Revised:	10/25/2016
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	09
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Employee Notification, Information and Training.

Each employee who is exposed to noise levels in excess of 85dBA TWA shall be notified by the Safety Director. These employees shall be given the opportunity to observe noise monitoring. The results of the noise monitoring shall be made available to employees. A copy of the OSHA Occupational Noise Exposure Standard (29 CFR 1910.95) is available upon request to the Brieser Safety Director

The training program is administered by the Brieser Safety Department. Initial training is given to employees, including supervisors, whose job classification requires the use of hearing protective devices.

Training is provided annually when audiometric testing is conducted. Training is consistent with changes in the PPE and work processes at Brieser Construction. All Vacuum Truck Excavation workers will automatically be enrolled in the Brieser Hearing Conservation Program at no cost to the employee.

MEDICAL SURVEILLANCE.

Audiometric Testing.

Audiometric testing is included in the Brieser Medical Surveillance Program. A baseline audiogram is given for each exposed employees within 6 months of first exposure. Baseline audiograms must be given within six months of employment. The audiometric testing is performed by an approved medical provider.

Prior to establishment of a baseline audiogram at least 14 hours without exposure to workplace noise is observed Annual audiograms shall be offered to all employees.

Employees are notified of the results of each audiogram. If it is determined that a standard threshold shift has occurred, the affected employee shall be informed, in writing, within 21 days of the determination. Other employees similarly exposed who are not using hearing protection will be evaluated and hearing protection will be provided by the company, if warranted. Other employees similarly exposed who are using hearing protectors will be evaluated and re-fitted with hearing devices with better attenuation, if warranted.

The employee shall be referred for a clinical audiological evaluation or an ontological examination, as appropriate, if additional testing is necessary or if the employer suspects that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2008
		Revised:	10/25/2016
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	09
		Reviewed:	12/17/24 KMC
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FORMS

- Sound Level Survey (Form I on Page 11)
- Personal Sound Level Dosimeter Sheet (Form II on Page 12)

Regulatory / Permit Requirements

- Section 1904.10 Recording criteria for cases involving occupational hearing loss. Any employees noise induced hearing loss is defined for recordkeeping purposes as a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more in either ear at 2000, 3000 and 4000 hertz (Standard Threshold Shift), and the employee's total hearing level is 25 decibels (dB) or more above audiometric zero (also averaged at 2000, 3000 and 4000 hertz) in the same ear (s) must be recorded on the company's OSHA 300 form.

Recordkeeping

- Results from the general noise survey and employee monitoring are recorded on the Sound Level Survey Form I or the Personal Sound Level Dosimeter Sheet Form II. The results are maintained by the Safety Department.

Sound Level Survey Form I

Facility: _____ Date: _____
 Instrument Used: _____ Serial Number: _____
 Calibrator Used: _____ Serial Number: _____
 Calibration Reading: Beginning Level _____ Ending Level: _____
 Survey Conducted By: _____
 Single Hearing Protection ≥ 85 dBA Double Hearing Protection ≥ 96.5 dBA*

*Double hearing protection level is calculated using a single hearing protector with a NRR rating of 30 dBA

Person/Equipment	Sound Level (dBA)	Comments

ROUTING	SCAN	SAFETY/INDUSTRIAL HYGIENE/NOISE MONITORING/SOUND LEVEL SURVEY/MMDDYY PERSON AND OR EQUIPMENT

Personal Sound Level Dosimeter Sheet

Facility: _____ Date: _____

Survey Conducted By: _____

Calibrator Serial Number: _____

Employee: _____

Dosimeter Model Used: _____ Dosimeter Serial Number: _____

Calibration Reading: Beginning _____ Time Dosimeter Testing Starts: _____

Ending _____ Time Dosimeter Testing Ends: _____

TWA Reading: _____ Hearing Protection Worn? Yes ☐ No ☐

Comments: _____

Employee: _____

Dosimeter Model Used: _____ Dosimeter Serial Number: _____

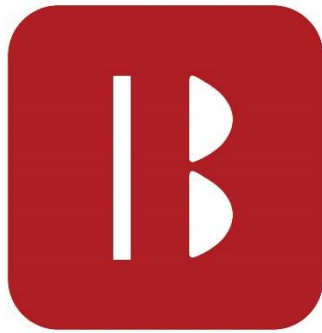
Calibration Reading: Beginning _____ Time Dosimeter Testing Starts: _____

Ending _____ Time Dosimeter Testing Ends: _____

TWA Reading: _____ Hearing Protection Worn? Yes ☐ No ☐

Comments: _____

ROUTING	SCAN	SAFETY/INDUSTRIAL HYGIENE/NOISE MONITORING/SOUND PERSONAL SOUND LEVEL DOSIMETER/MMDDYY PERSON



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 21
HEARING CONSERVATION
SUB-SECTION
TRAINING**

Hearing Conservation Learning Exercise

Score: _____ %

Employees Name:		Date:	
Company:		Instructor:	
Trade:		Job Title:	

1. Employee participation in the Hearing Conservation Program is required when exposed to an 8-hour TWA noise level of ____ dB.
 - a. 76dB
 - b. 85dB
 - c. 92dB
 - d. 100dB
2. Hearing damage can easily be repaired with surgery.
 - a. True
 - b. False
3. Which best describes some signs of hearing loss?
 - a. Difficulty hearing people
 - b. Noise or ringing
 - c. TV or radio is too loud for others.
 - d. All the above
4. Name two off-work activities that may expose you to high noise levels.
 - a. Using a table saw
 - b. Gardening
 - c. Attending a large sporting event or concert
 - d. Fly fishing
5. Your company keeps records of noise monitoring and hearing tests.
 - a. True
 - b. False
6. A noise dosimeter is used to test an employee's hearing capability.
 - a. True
 - b. False
7. Which of the following best describes the ways noise impacts the workplace? (Circle all that apply)
 - a. Disrupts communication.
 - b. Reduces morale.
 - c. Make all Employees more efficient.
 - d. Causes employee fatigue.
 - e. Distracts or irritates.

8. Which of the following are examples of hearing protection devices. (Circle all that apply)
- a. Canal Caps
 - b. Ear Plugs
 - c. Cotton Balls
 - d. Earmuffs
9. In order to look for hearing loss, how often are hearing tests conducted?
- a. Monthly
 - b. Weekly
 - c. Quarterly
 - d. Yearly
10. Which of the following are the ways management attempts to control employee noise exposure. (Circle all that apply)
- a. Ignore it.
 - b. Engineering Controls
 - c. Traffic Control
 - d. Administrative Controls
 - e. All the Above

Hearing Conservation ANSWER KEY

1. B-85dB
2. B-False
3. D-All the Above
4. A & C
5. A- True
6. B-False
7. A, B, D, E
8. A, B, D
9. D-Yearly
10. B, D



Section 22
Safety Health
and
Environmental
Manual

2025

Fall Protection

BRIESER CONSTRUCTION GENERAL CONTRACTORS		DATE:	11/13/2015:
		Revision	05/2023
CORPORATE SAFETY MANUAL		Revision:	04
		Reviewed	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Fall Protection		
CROSS REFERENCE:	29 CFR 1926 Subpart M Fall Protection. ANSI/ASSE A10.32-2004 Fall Protection Systems ANSI 359.1 2007 Personal Fall Arrest Systems		

FALL PROTECTION PROGRAM

PURPOSE

This Fall Protection Plan has been prepared for the prevention of injuries associated with falls on job sites. It has been designed according to components established by the Occupation Safety and Health Administration (OSHA) in 29 CFR 1926, Subpart M, *Fall Protection*.

While this plan provides the generic components and parameters for fall protection, it is understood that fall protection must be project-specific, where control measures must be developed and implemented for each identified project and/or job function. In many cases, the fall protection controls are unique to that project and/or job function. A qualified person for the specified work site must prepare each fall protection plan.

Brieser Construction is dedicated to the protection of its employees from on-the-job injuries. All employees of Brieser Construction have the responsibility to work safely on the job. The purpose of this plan is to:

- Supplement our standard safety policy by providing safety standards specifically designed to cover fall protection on this job.
- Ensure that each employee is trained and made aware of the safety provisions, which are to be implemented by this plan prior to the start of erection.

DEFINITIONS

Anchorage – The terminating component of a fall protection system or rescue system that is intended to support any forces applied to the system. An anchorage meeting the requirements of this standard can safely withstand the foreseeable forces that might be exerted on the fall protection or rescue system. Care must be taken to distinguish between an anchorage and an anchorage connector as those terms are used in this standard. An anchorage is typically a fixed structural member required for the stability and other purposes of the structure itself. Examples include a beam, girder, column, or floor. An anchorage connector, on the other hand, is a component that provides an interface to which the fall protection or rescue subsystem may be attached when the anchorage itself does not have a compatible connection point.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		DATE:	11/13/2015:
		Revision	05/2023
CORPORATE SAFETY MANUAL		Revision:	04
		Reviewed	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Fall Protection		
CROSS REFERENCE:	29 CFR 1926 Subpart M Fall Protection. ANSI/ASSE A10.32-2004 Fall Protection Systems ANSI 359.1 2007 Personal Fall Arrest Systems		

DEFINITIONS continued

Body Belt or Safety Belt – A strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline, or deceleration device. Note: As of January 1, 1998, the use of a body belt for fall arrest is prohibited. A body belt is sometimes referred to as a waist belt or safety belt. Body belts are not suitable for fall arrest and therefore shall be rigged such that a user cannot free fall more than two feet (.9m). Body belts are not intended for use as body support in the arrest of a worker's fall.

Body Support – An assembly of webbing arranged to support the human body for fall protection purposes, including during and after fall arrest. The term “body support” is used to refer to a full body harness, chest harness, chest waist harness, or a body belt. It includes adjustable means for fastening it about the body and attachment points suitable for fall protection applications.

Competent Person – An individual designated by the employer to be responsible for the immediate supervision, implementation, and monitoring of the employer's managed fall protection program who, through training and knowledge, can identify, evaluating, and addressing existing and potential fall hazards, and who has the employer's authority to take prompt corrective action with regard to such hazards.

Controlled Access Zone (CAZ) – An area in which certain work may take place without the use of guardrail systems, personal fall arrest systems, or safety net systems, and access to the zone is controlled.

Deceleration Distance – This is the distance a worker travels while the system applies force to arrest the fall. Many parts of a Fall Arrest System can be involved in dissipating the energy. These include deployment of Personal Energy Absorbers (PEAs), braking mechanisms in Self-Retracting Lifelines (SRLs), and the Anchorage System itself can deflect. Each component absorbs energy as it deploys, stretches, deflects, or sags. This is complex, and usually requires a Qualified Fall Protection Engineer to determine how much energy gets apportioned to each part of the system, to accurately determine the total Deceleration Distance.

Deceleration Device – Any mechanism, such as a rope grab, rip-stitch lanyard, specially woven lanyard, tearing or deforming lanyards, automatic self-retracting lifelines/lanyards, etc., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.

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DEFINITIONS continued

Free Fall – This is the distance the worker falls freely, with nominally no force applied to slow him or her down. Free Fall takes all the slack out of the Fall Arrest System and includes the distance required for arresting devices, such as Fall Arresters and Self-Retracting Lifelines (SRLs) to activate or lock-up.

Guardrail System – A barrier erected to prevent employees from falling to lower levels.

Harness Stretch – The D-ring usually flips up and slides up the webbing when a fall is arrested. The webbing in the harness also stretches, and some harness models use highly elastic webbing which might be considered more comfortable to wear, but also gives us a lot more stretch. Depending on the harness, stretch varies from 1 to 2.5 feet (0.3 to 0.75 m). To keep things simple, use 1 foot for regular harnesses and add an additional 1.5 feet if using a stretch harness. This policy will use the term, “ΔXH” to define the additional harness stretch.

Lanyard – A component consisting of a flexible rope, wire rope, or strap, which typically has a connector at each end for connecting to the body support and to a fall arrester, energy absorber, anchorage connector, or anchorage.

Leading Edge – The edge of a floor, roof, or formwork for a floor or other walking/working surface (such as the deck) which changes location as additional floor, roof, decking, or formwork sections are place, formed, or constructed. A leading edge is an “unprotected side and edge” during periods when it is not actively and continuously under construction.

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

Maximum Anchorage System Deflection (MASD) – Deflection of the anchorage system (including the stretch of a Vertical Lifeline, sag of a Horizontal Lifeline or flexing of an anchor beam) absorbs energy. It is therefore part of the Deceleration Distance.

Unless we have a Qualified Fall Protection Engineer to do the work for us, we do need some simple and conservative rules of thumb for estimating MASD.

- **Structural Components:** The amount that a truss, beam, or other structural component may deflect can be determined by a Qualified Person or by testing. Most large structural elements that are good places to anchor Fall Arrest Systems, such as beams, columns, and trusses, are so rigid that their MASD is negligible and a fraction of the clearance margin if MASD is ignored. Most experienced workers should be able to judge whether their anchorage will deflect enough to warrant a more accurate determination (by testing or by a Qualified Person).

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DEFINITIONS continued

- Vertical Lifeline Stretch:** Vertical Lifelines, which pass the current ANSI Z359.1 and CSA Z259.2.1 standards, are allowed to stretch 22% at a force of 1800 pounds (8 kN). Most workers use Personal Energy Absorbers (PEAs). Although slightly un-conservative in the worst possible case, a rule of thumb that is easy to remember is to assume that the VLL will stretch 10% for a 900-pound (4 kN) PEA and 15% for a 1350-pound (6 kN) PEA. The deployment force for the PEA is printed on its label. The MASD for a Vertical Lifeline will be the % stretch multiplied by the length of lifeline between the worker and the anchorage.
- Horizontal Lifeline (HLL) Sag.:** Horizontal Lifelines typically sag 8% to 25% of the span when arresting a fall, depending on several factors. The determination of this sag is overly complex, so the Manufacturer, Designer or Qualified Fall Protection Engineer usually provides complete information about the Required Clearance. If the use matches the specifications for the system (e.g., lanyard length, Free Fall, worker weight, etc.) the clearance is known, and the user(s) do not need to determine MASD (or the clearance). In the absence of this information, it is usually safe to assume that HLLs that are sold as kits, and connected to RIGID end anchorages, will sag less than 15% of the span length.
- Boom Lift Bounce:** In Boom lifts, the amount of deflection (bounce) that will occur when arresting a fall may be significant enough that it should be included in the clearance calculations. Bounce can be determined by a Qualified Fall Protection Engineer or can be estimated in the field in a similar fashion to estimating VLL stretch. Boom out to the full horizontal extension of the lift and position the basket slightly off the ground. Measure the elevation of the basket off the ground. Apply your weight (step into the basket) and measure the new elevation of the basket. The bounce at Fall Arrest may be estimated as the ratio of the arresting force of your PEA divided by your weight, times the change in basket elevation you measured.

Personal Fall Arrest System – A system used to arrest an employee in a fall from working level. It consists of an anchorage, connectors, a body/safety belt, or body harness, and may include a lanyard, deceleration device, lifeline, or suitable combination of these.

Position Device Systems – 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.

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DEFINITIONS continued

Qualified Person – A person with a recognized degree or professional certificate and with extensive knowledge, training, and experience in the fall protection and rescue field who is capable of designing, analyzing, evaluating, and specifying fall protection and rescue systems to the extent required by this standard.

Safety-Monitoring System – A safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.

Swing Fall Distance (SFD) – Gravity will always pull workers to the lowest possible elevation the system will allow, directly below the anchorage when the line deflects over an edge, when the line to the anchor is perpendicular to the edge. Workers who are connected to an anchorage system that is not directly overhead, or their line is not perpendicular to the edge, will drop in elevation as they swing from the location where the system starts to apply arrest forces until they come to rest wherever gravity pulls them.

To calculate SFD, measure or the length of line between the anchorage and where you will be working, and then measure from the anchorage to the platform or edge where you may fall from. The swing fall distance is the difference between these two measurements and can be determined without subtraction if you do not retract the tape from the first measurement and read the measurement where the tape crosses the platform or edge for the second.

Unprotected Side or Edge – Means 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 (1.0 m) 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, but not including ladders, vehicles, or trailers, on which employees must be located in order to perform their job duties.

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RESPONSIBILITIES

The Program Administrator: Safety Director

These people are responsible for:

- Developing and maintaining the program.
- Implementing the requirements of the program to assure the policies are adhered to at job sites by the Site Foreman and employees.
- Conducting fall protection training to meet the requirements of this program.

Superintendent

These people are responsible for:

- Ensuring their employees have been properly trained in fall protection.
- Inspecting equipment and replacing damaged equipment when necessary
- Inspecting the area to determine what hazards exist or may arise during the work.
- Giving specific and appropriate instructions to workers to prevent exposure to unsafe conditions.
- Ensuring employees follow procedures given and understand the training provided.
- Appraising the steps our specialty subcontractors have taken to meet their fall protection requirements.

Employees

These people are responsible for:

- Participating in fall protection training
- Reviewing and understanding the components of the written program (copies of this program may be obtained from the Manager of Safety/Superintendent in the corporate office and within each Foreman's manual)
- Following the requirements of this program

If after reading this program, you find that improvements can be made, please contact the Manager of Safety/Superintendent. We encourage all suggestions because we are committed to the success of this program for clear understanding, safe behavior, and involvement from every level of the company.

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General Fall Protection Requirements

OSHA currently regulates fall protection for construction under Part 1926, Subpart M. The standards for regulating fall protection systems and procedures are intended to prevent employees from falling off, onto or through working levels and to protect employees from falling objects. Fall protection requirements under the OSHA Construction regulations require considerable planning and preparation.

Through a competent person, management will determine if the walking/working surface on which its employees are to work has the strength and structural integrity to support employees safely. Employees are allowed to work on those surfaces only when the surfaces have the requisite strength and structural integrity as determined by the competent person.

Each employee on a walking/working surface which is 6 feet (1.8 meters) or more above a lower level shall be protected from falling using guardrail systems, safety net systems, safety monitoring systems, or personal fall arrest systems for the following exposures as determined by the competent person:

The exposure determination shall be made without regard to the use of personal protective equipment. When Brieser Construction purchases equipment and raw materials for use in fall protection systems, applicable ANSI and ASTM requirements will be met.

- A. Unprotected sides and edges
- B. Leading edges
- C. Hoist areas
- D. Ramps, runways, and other walkways
- E. Excavations
- F. Holes
- G. Roofing work on a low-slope roofs
- H. Steep roofs
- I. Wall openings
- J. Walking/working surfaces not otherwise addressed

Anytime anyone puts on a full body harness for the use of fall protection, a competent person must fill out the Brieser “FALL PROTECTION PERMIT” located on page 26 of this policy prior to work activity. Exceptions: Aerial Lifts & Scissors Lifts

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CRITERIA AND PRACTICES FOR PROTECTION SYSTEMS

Guardrail Systems

Guardrail systems shall meet the following requirements:

- Top rail 42 inches above the walking/working level.
- Midrail (or suitable alternative) 21 inches above walking/working level.
- Ability to withstand a force of at least 200 pounds in any outward or downward direction.
- Surfaced as to prevent injury from puncture, laceration or snagging of clothing designed so as not to constitute a projection hazard.
- Inspected at regular intervals.

Safety Net Systems

Safety net systems shall meet the following requirements:

- Installed as close as practicable under the walking/working surface, but in no case more than 30 feet (9.1 meters) below such level.
- Extend outward from outermost projection of the work surface.
- Installed with sufficient clearance under them to prevent contact with the surface due to impact on the net.
- Capable of absorbing an impact force equal to that produced by drop test specified in OSHA 1926.502 (c) (4) (ii) of the fall protection standard.
- Inspected at least weekly for wear, damage, and/or deterioration defective components removed.
- Mesh opening not to exceed 36 square inches (230 square centimeters) nor be longer than 6 inches (15 centimeters) on any side.

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CRITERIA AND PRACTICES FOR PROTECTION SYSTEMS continued

Personal Fall Arrest Systems

Personal fall arrest systems shall meet the following requirements:

- Connectors, D-rings, snap hooks, lanyards, lifelines, and anchorages are designed, constructed, and installed according to specifications addressed in OSHA 1926.502 (d) (1-15)
- Snap hooks shall not be engaged to each other, to a D-ring to which another connector is attached, to a horizontal lifeline, or to any object which is incompatibly shaped as to allow roll-over disengagement.
- Limit maximum arresting force on an employee to 900 pounds when used with a body belt, 1,800 pounds when used with a body harness.
- Rigged such that an employee can neither free fall more than 6 feet (1.8 meters) nor contact any lower level.
- Body belts, harnesses and related components shall be used only for employee fall protection and not to hoist materials.
- Personal fall arrest systems and components subject to impact loading shall be removed from service until inspected and approved for use by the competent person.
- Prompt rescue of employees in the event of a fall
- Inspected prior to each use for wear, damage and/or deterioration with defective components removed.
- Not to be attached to guardrail systems

General guidelines for choosing proper personal fall arrest systems:

- For all applications, a worker's height is assumed to be 6 feet (this is, after a fall, from the top of the D-ring to the tip of the toes)
- Harness stretch is assumed to be 1 foot if using a regular harness or 2.5 feet if the worker will be wearing a "stretch" harness.
- The clearance margin for all applications is 2 feet.

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CRITERIA AND PRACTICES FOR PROTECTION SYSTEMS continued

Fixed Length Lanyard Guidelines-

- This is your typical harness & 6-foot lanyard setup. It could also include a Vertical Lifeline (VLL) that uses a Fall Arrestor that must be repositioned by the user (this does not include VLL's that utilize a "rope grab" that automatically reposition.
- The calculations are based off the ANCHORAGE POINT
- Length of Lanyard + Full Deployment of Deceleration Device + Height of Worker + Harness Stretch + Clearance Margin
- If the length above is not less than the distance from the anchorage point to the ground, then a different harness or system of fall protection is needed.

Automatic Length (AL) Systems:

Self-Retracting Lanyard Guidelines

- The calculations are based off the WORKING SURFACE
- Lanyard must be attached to anchorage at or above the D-ring.
- Free Fall Distance + Deceleration Device + Combined Worker and Harness Stretch + Swing Fall Distance + Clearance Margin
- Free fall distance and the deceleration device length are manufacturer specifications.
 - If this information cannot be found, contact Brieser Safety
 - If you are using the SRL in a Leading-Edge configuration, the Free fall distance now becomes a calculation from the standpoint of a worker stepping or falling off the edge of the working platform. The worker's Harness Dorsal D-ring will start off nominally 5 feet above the edge, and the SRL will not begin to deploy cable until the D-ring passes the edge of the platform, so the Free Fall will be 5 feet plus the distance taken for the SRL to lock-off once cable starts to be pulled from the device. Assume it locks quickly so that the total Free Fall will be 5.5 feet including the lock-off.

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Self-Retracting Lanyard Guidelines continued

- Worker Stretch
 - If the worker is standing, there is no special precaution to take.
 - If the worker is kneeling the amount of stretch is 2.5 feet
 - If the worker is lying down the amount of stretch is 4 feet
- Swing Fall Distance
 - If the worker will not be working directly below the anchorage point this must be added in
 - Calculated by:
 - Length of Lanyard from Anchorage to Worker – Distance from Anchorage to Working Surface

Using Overhead Cranes as Anchorage Points

Using cranes as a means of fall protection must meet the following requirements:

- A qualified person must determine that the set-up and rated load capacity of the crane meets or exceeds the requirements in 1926.502(d)(15)
- The operator must be onsite and informed that the crane will be used for this purpose.
- There is no load suspended from the crane when using it for fall protection.
- Only one person can be “tied-off” to the crane at one time.
- The crane must be locked/tagged out while using it for fall protection.
- Crane cannot be “live” or moving.

Positioning Device Systems

Positioning device systems shall meet the following requirements:

- Rigged such that an employee cannot fall more than 2 feet (.9 meters)
- Secured to an anchorage capable of supporting at least twice the potential impact load of an employee’s fall or 3,000 pounds, whichever is greater.
- Connectors, D-rings, and snap hooks are designed, constructed, and installed according to specifications addressed in OSHA 1926.502 (e) (1-8)
- Inspected prior to each use for wear, damage and/or deterioration with defective components removed.

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Fall protection plan.

This option is available only to employees engaged in leading edge work, precast concrete erection work, or residential construction work who can demonstrate that it is infeasible, or it creates a greater hazard to use conventional fall protection equipment. The fall protection plan must conform to the following provisions:

- (1) The fall protection plan shall be prepared by a qualified person and developed specifically for the site where the leading-edge work, precast concrete work, or residential construction work is being performed and the plan must be maintained up to date.
- (2) A qualified person shall approve any changes to the fall protection plan.
- (3) A copy of the fall protection plan with all approved changes shall be maintained at the job site.
- (4) The implementation of the fall protection plan shall be under the supervision of a competent person.

Fall protection plan continued:

- (5) The fall protection plan shall document the reasons why the uses 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.
- (6) The fall protection plan shall include a written discussion of other measures that will be taken to reduce or eliminate the fall hazard for workers who cannot be provided with protection from the conventional fall protection systems. For example, the employer shall discuss the extent to which scaffolds, ladders, or vehicle mounted work platforms can be used to provide a safer working surface and thereby reduce the hazard of falling.
- (7) The fall protection plan shall identify each location where conventional fall protection methods cannot be used. These locations shall then be classified as controlled access zones.
- (8) Where no other alternative measure has been implemented, the employer shall implement a safety monitoring system in conformance with 1926.502(h).
- (9) The fall protection plan must include a statement, which provides the name or other method of identification for each employee who is designated to work in controlled access zones. No other employees may enter controlled access zones.
- (10) In the event an employee falls, or some other related, serious incident occurs, (e.g., a near miss) Brieser Construction shall 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) and shall implement those changes to prevent similar types of falls or incidents.

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Controlled Access Zones (CAZ)

Controlled access zones are areas in which certain work may take place without the use of guardrail systems, personal fall arrest systems, or safety net systems. Access to such zones must be controlled. The locations of CAZ must be identified and classified as controlled access zones.

Controlled access zones shall meet the following requirements:

- When used to control access to areas where leading edge and other operations are taking place the controlled access zone shall be defined by a control line or by any other means that restricts access.
- When control lines are used, they shall be erected not less than 6 feet (1.8 m) nor more than 25 feet (7.7 m) from the unprotected or leading edge, except when erecting precast concrete members.
- When erecting precast concrete members, the control line shall be erected not less than 6 feet (1.8 m) nor more than 60 feet (18 m) or half the length of the member being erected, whichever is less, from the leading edge.
- The control line shall extend along the entire length of the unprotected or leading edge and shall be approximately parallel to the unprotected or leading edge.
- The control line shall be connected on each side to a guardrail system or wall.
- When used to control access to areas where overhand bricklaying and related work are taking place:
 - The controlled access zone shall be defined by a control line erected not less than 10 feet (3.1 m) nor more than 15 feet (4.5 m) from the working edge.
 - The control line shall extend for a distance sufficient for the controlled access zone to enclose all employees performing overhand bricklaying and related work at the working edge and shall be approximately parallel to the working edge.
 - Additional control lines shall be erected at each end to enclose the controlled access zone.
 - Only employees engaged in overhand bricklaying or related work shall be permitted in the controlled access zone.

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Controlled Access Zones (CAZ) continued:

- Control lines shall consist of ropes, wires, tapes, or equivalent materials, and supporting stanchions as follows:
 - Each line shall be flagged or otherwise clearly marked at not more than 6-foot (1.8 m) intervals with high-visibility material.
 - Each line shall be rigged and supported in such a way that its lowest point (including sag) is not less than 39 inches (1 m) from the walking/working surface and its highest point is not more than 45 inches (1.3 m) [50 inches (1.3 m) when overhand bricklaying operations are being performed] from the walking/working surface.
 - Each line shall have a minimum breaking strength of 200 pounds (.88 kN).
- On floors and roofs where guardrail systems are not in place prior to the beginning of overhand bricklaying operations, controlled access zones shall be enlarged, as necessary, to enclose all points of access, material handling areas, and storage areas.
- On floors and roofs where guardrail systems are in place but need to be removed to allow overhand bricklaying work or leading-edge work to take place, only that portion of the guardrail necessary to accomplish that day's work shall be removed.

Roofing work on Low-slope roofs

Each employee engaged in roofing activities on low-slope roofs, with unprotected sides and edges 6 feet (1.8 m) or more above lower levels shall be protected from falling by guardrail systems, safety net systems, personal fall arrest systems, or a combination of warning line system and guardrail system, warning line system and safety net system, or 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 monitor alone is allowed.

Steep Roofs

A full guardrail system, safety net system or personal fall arrest only is accepted.

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Safety Monitoring Systems

A Safety Monitoring System is a safety system in which a competent person is responsible for recognizing and warning employees of fall hazards. It is only used when no other alternative methods have been implemented. The Brieser site foreman or responsible person shall notify Safety before the use of this method.

Safety Monitoring Systems shall meet the following requirements:

- The Site Foreman will appoint a competent Laborer to monitor the safety of other employees.
- the safety monitor will be competent to recognize fall hazards.
- the competent person will warn employees working under unsafe conditions or performing unsafe acts.
- The competent person must be located on the same working surface and within visual sighting distance of the employees.
- The competent person must be close enough to communicate orally.
- The designated monitor shall not have other responsibilities that could draw attention away from safety monitoring duties.
- Mechanical equipment shall not be used or stored in areas where safety monitoring systems are being used to monitor employees engaged in roofing operations on low slope roofs.
- No employee, other than an employee engaged in roofing work [on low-sloped roofs] or an employee covered by a fall protection plan, shall be allowed in an area where an employee is being protected by a safety monitoring system.
- Each employee working in a controlled access zone shall be directed to comply promptly with fall hazard warnings from safety monitors.

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Warning Line Systems

Warning line systems shall meet the following requirements:

- erected around all sides of the roof work area.
- erected not less than 6 feet (1.8 meters) from the roof edge when mechanical equipment is not being used.
- points of access, materials handling areas, storage areas and hosting areas shall be connected to the work area by an access path formed by two warning lines.
- consist of ropes, wires or chains and supporting stanchions erected according to OSHA 1926.502 (f) (2) (i-v)
- no employee allowed in the area between roof edge and warning line unless working in that area.
- mechanical equipment on roofs used or stored only in areas where employees are protected by warning line systems, guardrail system or personal fall arrest system.

SITUATION REQUIRING FALL PROTECTION

Unprotected Sides and Edges

Our employees must be protected when they are exposed to falls from unprotected sides and edges of walking/working surfaces (horizontal and vertical surfaces) which are 6 feet or more above lower levels and shall be protected from falling using guardrail systems, safety net systems, or personal fall arrest systems. We know that OSHA has determined that there is no safe distance from an unprotected side or edge that would render fall protection unnecessary.

Leading Edges

Each employee who is constructing a leading edge 6 feet (1.8 m) or more above lower levels shall be protected from falling by guardrail systems, safety net systems, or personal fall arrest systems. We presume that it is feasible and will not create a greater hazard to implement at least one of the conventional fall protection systems if *Brieser Construction* employees are engaged in leading edge work.

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CROSS REFERENCE:	29 CFR 1926 Subpart M Fall Protection. ANSI/ASSE A10.32-2004 Fall Protection Systems ANSI 359.1 2007 Personal Fall Arrest Svstems		

SITUATION REQUIRING FALL PROTECTION continued

Hoist Areas

In all situations where equipment and material hoisting operations take place, we will protect our employees from fall hazards. When we are involved in hoisting operations, we will use the following fall protection systems at these specific locations:

- When operations require the materials to be lifted by crane to a landing zone (and do not require an employee to lean through the access opening or out over the edge to receive or guide materials), we will use personal fall arrest equipment or a guardrail system.
- When guardrails (or chains or gates) are removed to facilitate hoisting operations, and one of our employees must lean through the access opening or out over the edge to receive or guide materials, they will be protected by a personal fall arrest system.

Covers

All covers shall meet the following requirements:

- Secured when installed to prevent accidental displacement by wind, equipment, or employees.
- Capable of supporting at least twice the maximum load to which it is exposed (e.g., vehicles, equipment, workers)
- Color coded or marked with the word “**HOLE**” or “**COVER**” to provide warning of the hazard.

Formwork and Reinforcing Steel

A jobsite that requires formwork or reinforcing steel work 6 feet or more above lower levels, the following fall protection systems will be used to protect our employees:

- Personal fall arrest or positioning device.

Ramps, Runways, and Other Walkways

We equip all ramps, runways, and other walkways with guardrails when employees are subject to falling 6 feet or more to lower levels or less if deemed a safety hazard and construction of a ramp, runway or guardrail would prove safer.

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SITUATION REQUIRING FALL PROTECTION continued

Overhand Bricklaying and related work

In lieu of conventional fall protection a Controlled Access Zone may be utilized. An exception to this rule is if an employee must reach more than 10 inches below the level of the walking/working surface on which they are working. In this case each employee shall be protected from falling by a guardrail system, safety net system, or personal fall arrest system.

Excavations

At a jobsite that may have excavation edges that will not be readily seen (i.e., concealed from view by plants, etc.) and when the excavation is 6 feet or more deep, we protect these excavations by:

Guardrails

In addition, walls, pits, shafts, and similar excavations 6 feet or more deep will be guarded to prevent employees from falling into them by:

- Guardrails and/or fences
- Personal Fall Arrest System

Some situations when working with Vacuum Excavation Trucks may require the use of a Personal Fall Arrest System. Specific procedures have been developed for this activity regarding anchorage points, and LOTO to tie off to mobile equipment. Those procedures are found in Appendix A (page 30) and Appendix B (page 31).

Erecting Precast Concrete

We presume that it is feasible and will not create a greater hazard to implement at least one of the conventional fall protection systems for our precast concrete erection work. When our employees are erecting precast concrete members 6 feet or more above a lower level, they must be protected from falling by:

Guardrails or personal fall arrest systems

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SITUATION REQUIRING FALL PROTECTION continued

Wall Openings

Employees who are exposed to the hazard of falling out or through wall openings (including those with chutes attached) where the outside bottom edge of the wall opening is 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 must be protected from falling.

We protect our employees from falls out or through wall openings by the following methods:

Guardrails or personal fall arrest systems

Walking/Working Surfaces Not Otherwise Addressed

We realize there will be situations that are not covered by our written safety plan, for which we have the duty to provide fall protection. All employees exposed to falls of 6 feet or more to lower levels must be protected by a guardrail system, safety net system, or personal fall arrest system except where specified otherwise in Part 1926.

Protection from Falling Objects

Employees potentially exposed to injury from falling objects are required to wear a hard hat, and shall be protected by one of the following measures, designed and installed per OSHA 1926.502 (j), as determined by the competent person:

- Erect toe-boards, screens, or guardrail systems to prevent objects from falling from higher levels.
- Erect a canopy structure and keep potential fall objects far enough from the edge of the higher level so that those objects would not go over the edge if they were accidentally displaced.
- Barricade the area to which objects could fall, prohibit employees from entering the barricaded area, and keep objects that may fall far enough away from the edge of an elevated level so that those objects would not go over the edge if they were accidentally displaced.

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Training Requirements

Under no circumstances shall employees work in areas where they might be exposed to fall hazards, do work requiring fall protection devices, or use fall protection devices until they have successfully completed Brieser's fall protection training program.

The training program includes classroom instruction and operational training on recognition and avoidance of unsafe conditions and the regulations applicable to their work environment for each specific fall hazard the employee may encounter. A Foreman, the Manager of Safety/Superintendent, or a contracted consultant/trainer gives the training program. A competent person qualified in each aspect of the program must cover the following areas:

- The nature of fall hazards in the work area.
- The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used.
- The use and operation of guardrail systems, personal fall arrest systems, safety net system, warning line systems, safety monitoring systems, controlled access zones, and other protection to be used.
- The role of each employee in the safety monitoring system when this system is used.
- The limitation on the use of mechanical equipment during the performance of roofing work on low-sloped roofs.
- The correct procedures for handling and storage of equipment and material and the erection of overhead protection.
- The role of employees in the written Fall Protection Plan.
- The standards contained in OSHA 29 CFR 1926, subpart M, Fall Protection.

The Foreman, Manager of Safety/Superintendent, or a contracted consultant/trainer will identify all current and new employees who require training and will schedule the classroom instruction for those employees. Training in the above components will occur both in the classroom and on the job site, as appropriate. Classroom training will cover written policy/procedures on fall protection and include a training video on the subject. Job site instruction will include demonstration of and practice in wearing fall protection equipment and any instruction necessary for a specific job.

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Certification of Training

- The Program Administrators will verify compliance with the training requirements of this plan via the Fall Protection Training Record.
- Brieser management shall maintain a record of the latest training certification for each employee, and that record shall contain:
 - The date(s) the training was conducted.
 - The name, title, and qualifications & signature of person conducting training (i.e., Competent Person)
 - The name, job title & signature of person being trained, and
 - A summary or outline of the information that was included in the training session.

Retraining

- Documented refresher training shall be provided at least annually.
- In addition to annual refresher training, documented retraining shall be provided, and documented as “retraining,” under the following circumstances:
 - Changes to the workplace, which renders the initial training (or previous refresher training or retraining) obsolete.
 - Changes in the types of fall protection systems or equipment to be used, which render the previous training obsolete.
 - Inadequacies in an effected employee’s knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill. The Manager of Safety/Superintendent or the site Foreman has the responsibility of determining when an employee who has already been trained does not have the understanding and skill required by the training program.

Interim Training

- Where warranted, a competent person in the form of short “toolbox” meetings provides interim training with the employees in the work area.
- Topics for these training meetings are determined by the type and scope of the job itself, and the need for safety information identified by the employees or perceived by the competent person.
- All interim training meetings shall be documented.

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Enforcement

Constant awareness of and respect for fall hazards, and compliance with all safety rules are considered conditions of employment. The jobsite Superintendent, as well as individuals in the Management Department, reserve the right to issue disciplinary warnings to employees, up to and including termination, for failure to follow the guidelines of this program.

Accident Investigation, Reporting and Analysis

All accidents that result in injury to workers, regardless of their nature, are investigated and reported. It is an integral part of any safety program that documentation takes place as soon as possible so that the cause and means of prevention can be identified to prevent a reoccurrence.

If an employee falls or there is some other related, serious incident (e.g., a near miss) occurs, this plan will be reviewed to determine if additional practices, procedures, or training need to be implemented to prevent similar types of falls or incidents from occurring.

Fall Protection Plan Audit

- The fall protection plan shall undergo an annual management audit to evaluate the plan's effectiveness and the need for revision and upgrade.
- Management shall evaluate the input of the competent person and other representatives of supervision along with feedback from the employees. This information will be used to gauge the effectiveness of the plan and incorporate necessary improvements.

Inspection

Fall protection equipment shall be inspected by the authorized person at least once at the beginning of each eight-hour shift in which it is used to verify that it has not sustained any wear or damage that would require its removal from service.

Fall protection and fall rescue equipment shall be inspected every year by a member of the Safety Department or a qualified 3rd party, to verify that the equipment is safe for use. The inspection shall be documented and entered into the Brieser SharePoint Site. A color-coding system is used for verification to users. Brieser will follow in conjunction with the Exxon-Mobil Refinery schedule. RED-WHITE-BLUE. (Example: 2020 –RED, 2021 –WHITE, 2022 –BLUE, 2023 –RED, 2024 – WHITE, etc.

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Inspection continued

Fall protection and fall rescue equipment shall be inspected and shall include, but not be limited to:

- Absence or illegibility of markings or tags.
- Absence of any elements affecting the equipment's form, fit, or function.
- Evidence of defects in or damage to hardware elements including cracks, sharp edges, deformation, corrosion, chemical attack, excessive heating, alteration, or excessive wear.
- Evidence of defects in, or damage to, straps or ropes including fraying, un-splicing, enlaying, kinking, knotting, roping, broken, or pulled stitches, excessive elongation, chemical attack, excessive soiling, abrasion, alteration, needed or excessive lubrication, excessive aging, or excessive wear.
- alteration, absence of parts, or evidence of defects in, damage to, or improper function of, mechanical devices and connectors.
- any other condition that calls to question the suitability of the equipment for its intended purpose.

Fall Protection Log

[illegible]

Fall Protection

Permit

Job Name: _____	Permit Start Date: ____/____/____
Job Number: _____	Permit End Date: ____/____/____
Job Location: _____	Competent Person: _____
Site Foreman: _____	Scan to: _____ Permits Completed/Fall Protection

Work Area Description

Location (Building, Area, Etc.): _____
Description of Working Surface: _____

Potential Fall Hazards

☐ Aerial Lifts ☐ Balconies ☐ Dangerous Equipment ☐ Decks ☐ Excavations ☐ Floor Openings ☐ Ladders ☐ Leading Edges	☐ Open Holes ☐ Open Sided Floors ☐ Precast Concrete ☐ Roof Slope Greater than 4 in 12 ☐ Roof Slope Less than 4 in 12 ☐ Roof Structure Assessment ☐ Scaffold Erection/Dismantling ☐ Skylights	☐ Stairways ☐ Steel Erection ☐ Wall Openings ☐ Work involves Cutting Holes in Roof ☐ Work Between Unprotected Edge & Warning Line ☐ Other Description: _____ _____

Method of Fall Protection

☐ Controlled Access Zone* ☐ Cover/Hatch ☐ Fall Restraint ☐ Guard Rails	☐ Horizontal Lifeline* ☐ Personal Fall Arrest System ☐ Safety Monitor* ☐ Vertical Lifeline*	☐ Warning Line* ☐ Other* Description: _____ _____

*Must be approved by Brieser Safety

Describe Controlled Access Zone/Horizontal Lifeline/Safety Monitor/Vertical Lifeline/Warning Line/Other: _____

Method of Protecting Employees Below Working Surface

☐ Barricades ☐ Hard Hats Required (sign posted) ☐ Netting	☐ Toe boards (Scaffold/Openings) ☐ Warning Signs ☐ Other

Describe Overhead Protection: _____

Materials and Tools

Describe how materials and tools will be handled, stored, secured, etc.:

Other Hazards or Concerns

Please describe any other hazards or concerns associated with the work not explained above:

Fall Protection
Permit

Rescue Plan

Number in case of fall: () - OR 911

Describe method of rescue: _____

Person responsible for implementing rescue plan: _____

Safety Monitors

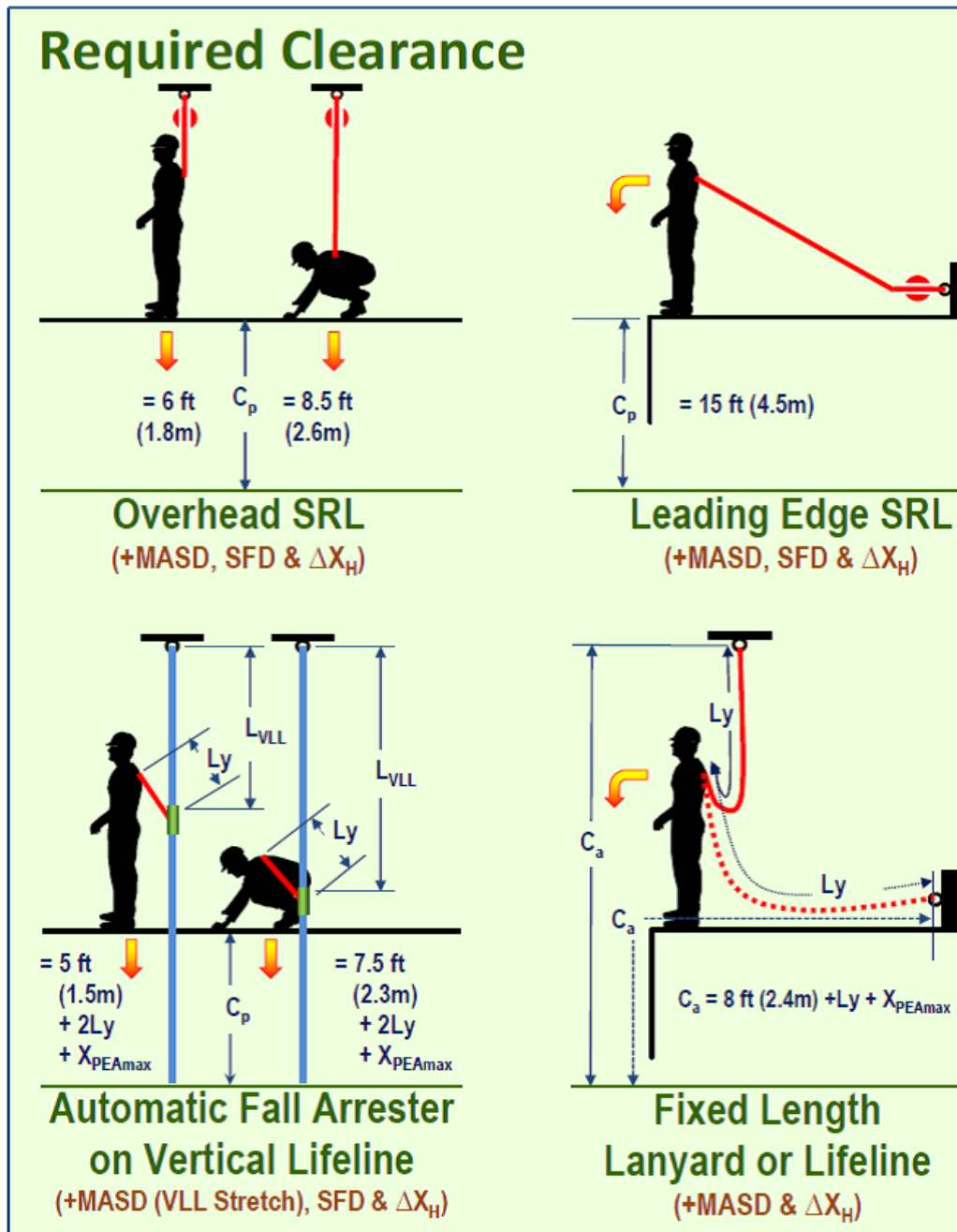
Name:	Print	Sign
1	_____	1 _____
2	_____	2 _____
3	_____	3 _____

Signatures

_____	_____	_____
Competent Person (Print)	Sign	Date

Affected Employees

Print	Sign	Date



Where: C_p = Required Clearance below the Platform = $C_a - H_a$
 C_a = Required Clearance below the Anchorage = $C_p + H_a$
 H_a = Height of the Anchorage above the platform
 L_y = Length of Lanyard or Lifeline from the worker to the Anchorage (or Fall Arrester)
 $XPEA_{max}$ = The maximum deployment of the Personal Energy Absorber

**The following factors, when applicable, must be added
to the basic clearance determined in accordance with the Pictograms**

ΔX_H	Add 1.5 feet (0.45m) when using a stretch harness.
SFD:	Add the difference between the length of line and the distance from the anchorage to the platform edge where gravity will pull you.
<u>MASD:</u>	(Maximum Anchorage System Deflection):
Structural Components	If structures appear flexible, test or check with a Qualified Person.
VLL stretch	Unless you have reliable information otherwise, assume 10% stretch for a 900-pound (4 kN) PEA or 15% stretch for a 1350 pound (6 kN) PEA. Alternatively, determine how much the VLL stretches under your weight. Multiply that stretch by the ratio of the deployment force of your PEA divided by your weight.
HLL Sag	If clearance information is not provided by the Manufacturer, Designer or Qualified Person, Assume 15% of span length for rigid end anchorages or 25% of span length for deformable anchorages.
Boom Lift Bounce	Determine how much the basket drops under your weight. Multiply that drop by the ratio of the deployment force of your PEA divided by your weight.

APPENDIX A

Mobile Equipment Lock-Out Tag-Out for Fall Protection Anchorage

STEPS:

1. Complete Brieser Construction Fall Protection Permit, Rescue Plan and LOTO forms.
2. Identify a proper tie off point. Typically lifting/retrieval lugs are the best locations. If the point does not look capable of supporting 5,000 pounds, or you are unsure, contact the safety department for assistance:
 - a. Kevin Colwell 815-341-1728
 - b. Jim Hazzard 815-592-1067
 - c. Ken Renicker 815-641-1541
3. Ensure equipment is inoperable by removing ignition key and master-switch key (typically located in the engine compartment) and keeping those keys in your pocket. If more than yourself is affected by the LOTO, the key must be kept in a lockbox with each affected person having a lock on the lockbox.
4. Complete LOTO tag and place on controls of machine in operator compartment.
5. Perform Daily Visual inspection of all fall protection equipment.
6. Don Fall Protection Harness and adjust as needed.
7. Install Retractable Lanyard with carabiner to machine to identified tie off point.
8. Ensure machine position and tie off point will protect you in the event of a fall (will not allow you to fall farther than the fall you are exposed to)
9. Once work is complete, perform steps in reverse.

APPENDIX B

Vac Truck Lock-Out Tag-out for Fall Protection Anchorage

Steps:

1. Complete Brieser Fall Protection Permit, Rescue Plan, and LOTO forms.
2. Start Vehicle
3. Place Vehicle in Park
4. Pull out Air Brake Knob
5. Place Lock on Air Brake Knob.
6. Remove the key from the lock and place it in your pocket. If more than yourself is affected by the LOTO, the key must be kept in a lockbox with each affected person having a lock on the lockbox.
7. Place LOTO tag on lock
8. Place Wheel Chocks
9. Perform Daily Visual inspection of all fall protection equipment.
10. Don Fall Protection Harness and adjust as needed.
11. Install cross arm strap by wrapping the strap around the rear bumper, frame, or front pull ring. Strap must be installed between cross members, vertical supports, or other means to prevent horizontal movement.
12. Once work is complete, perform steps in reverse.



**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 22
FALL PROTECTION
SUB-SECTION
TRAINING**

Fall Protection Learning Exercise

Score:

%

Employees Name: <table border="1" style="width: 240px; height: 20px;"></table>	Date: <table border="1" style="width: 240px; height: 20px;"></table>
Company: <table border="1" style="width: 240px; height: 20px;"></table>	Instructor: <table border="1" style="width: 240px; height: 20px;"></table>
Trade: <table border="1" style="width: 240px; height: 20px;"></table>	Job Title: <table border="1" style="width: 240px; height: 20px;"></table>

Answer each of the following questions "True" or "False" by circling the appropriate letter.

- T F** 1. Each employee on a walking/working surface which is 6 feet or more above a lower level shall be protected from falling using: guardrail systems, safety monitoring systems, or personal fall arrest systems as determined by a competent person?
- T F** 2. With a personal fall arrest system, you must be rigged so that you cannot fall more than 6 feet.
- T F** 3. Top Guardrail should be 42 inches plus or minus 3 inches above the walking working level and could withstand a force of a least 200 pounds in any outward or downward direction?
- T F** 4. A Controlled Access Zone (CAZ) is an area in which certain work may take place without the use of guardrail systems, personal fall arrest systems, and access to the zone is controlled?
- T F** 5. Inspections of your harness, lanyards, lifelines, anchorages, etc. should be completed before and after each use. If any defects are found the item should be removed from service immediately.
- T F** 6. OSHA requires the anchorages to support 3,000 pounds per employee.
- T F** 7. Your safety monitor must be a competent person to recognize fall hazards?
- T F** 8. Your employer needs to verify compliance with the training requirements of this plan via the Employee Training Record Attendance Roster?

- T** **F** 9. Warning lines on roofs or near excavations serve as visual reminders, cautioning a worker is approaching an unprotected edge.
- T** **F** 10. All covers shall be color-coded, or they shall be marked with the word “HOLE” or “COVER” to provide warning of the hazard?

Fall Protection Learning Exercise

Answer Sheet

- T** Each employee on a walking/working surface which is 6 feet or more above a lower level shall be protected from falling using: guardrail systems, safety monitoring systems, or personal fall arrest systems as determined by a competent person?
- T** With a personal fall arrest system, you must be rigged so that you cannot fall more than 6 feet.
- T** Top Guardrail should be 42 inches plus or minus 3 inches above the walking working level and could withstand a force of a least 200 pounds in any outward or downward direction?
- T** A Controlled Access Zone (CAZ) is an area in which certain work may take place without the use of guardrail systems, personal fall arrest systems, and access to the zone is controlled?
- T** Inspections of your harness, lanyards, lifelines, anchorages, etc. should be completed before and after each use. If any defects are found the item should be removed from service immediately.
- F** OSHA requires the anchorages to support 3,000 pounds per employee.
- T** Your safety monitor must be a competent person to recognize fall hazards?
- T** Your employer needs to verify compliance with the training requirements of this plan via the Employee Training Record Attendance Roster?
- T** Warning lines on roofs or near excavations serve as visual reminders, cautioning a worker is approaching an unprotected edge.

T All covers shall be color-coded, or they shall be marked with the word “HOLE” or “COVER” to provide warning of the hazard?



Section 23
Safety Health
and
Environmental
Manual

2025

Hot Work

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/16/2005
		Revised:	10/13/2016
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	08
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		HOT Work	
CROSS REFERENCE:	29 CFR 1926.Subpart J Welding & Cutting 29 CFR 1926.303 29 Abrasive wheels and tools NFPA 51B: Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, 2003 Edition		

PURPOSE

This procedure provides guidance for a safe operation of welding and cutting equipment and defines the minimum requirements for conducting welding, cutting, grinding, electrical tool operation and other types of hot work.

SCOPE

This procedure applies to all Brieser construction and maintenance projects where the host facility does not have an adequate Hot Work Procedure and a potentially hazardous atmosphere or restricted location may exist. If host facility deems an area a free burn zone or the like a Brieser Hot Work Permit must be filled out in this instance. Hot Work shall not be performed until a Hot Work Permit is obtained from our customer/host/facility/client. If a customer Hot Work Permit is being used, it shall be compared to this policies Hot Work Permit and verified that all sections are as stringent as or more stringent than this policy.

DEFINITIONS

- **Hot Work**
 - Any activity within a hazardous or restricted area which could potentially produce a spark or ignition source.
 - Involves a hot surface.
 - Involves an open flame.
- **Hazardous or Restricted Location**
 - These are areas where flammable, combustible or explosive materials or atmospheres are present or may become present and significant fire and/or explosion could occur if ignition sources are introduced.
 - Typically, a restricted area is designated Class I or Class II Electrical area.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/16/2005
		Revised:	10/13/2016
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DEFINITIONS continued

- **Fuel Gases**
 - *Acetylene* – Acetylene is an unstable gas when compressed above 15-*psig*. Cylinders must be stored in an upright position with caps on.
 - *MAPP Gas* – MAPP is a stabilized mixture of methyl acetylene with considerably less tendency to backfire. Maximum allowable pressure is 94-*psig* versus 15-*psig* for Acetylene. Cylinders must be secured and stored in an upright position with caps on.
- **Industrial Gases**
 - *Oxygen* - Oxygen itself is not flammable, but the presence of oxygen accelerates the combustion reaction. Oil and grease, in the presence of oxygen, become highly explosive. Oxygen must not be allowed to contact petroleum-based substances. Cylinders must be secured and stored in an upright position with caps on.

REQUIREMENTS AND RESPONSIBILITIES

All employees performing hot work must comply with the following written program:

- Hot work shall only be performed after the work and area has been reviewed and approved by an authorized person and a hot work permit issued.
- In areas where a flammable or explosive atmosphere may be present, Hot Work shall only be performed after the area where work is to be performed has been checked with a combustible gas monitoring instrument (Lower Explosive Level or LEL-meter) and a reading of 0% LEL has been obtained.

The work area MUST be continuously monitored by a 4 gas (oxygen, CO, H2S, LEL) instrument for the entire duration of the HOT work.

- A copy of the hot work permit shall be always posted at the operation.
- A new permit must be obtained:
 - If work area conditions change.
 - Permits are valid for a maximum of 30 days. Regardless of conditions

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GUIDE FOR WELDING AND CUTTING

Setting Up Equipment

- Prior to operating gas cutting equipment all employees must be trained & knowledgeable in the Gas Cutting Torch Safety Information in the Brieser Construction Company Training Manual. Appropriate safety procedures must be reviewed and understood prior to use of this equipment.
- Operators of equipment should report any equipment defect or safety hazards and discontinue use of equipment until its safety has been assured. Qualified personnel shall only make repairs.
- Momentarily open and close (called cracking) the manifold or cylinder valves before attaching hoses or regulators. This dislodges any loose contaminant that is present.
- Release the regulator adjusting screw before opening the manifold or cylinder valve.
- Open valves slowly. Do not stand in front of the regulator when opening the valve.
- When using fuel gas do not exceed 15-psig on torch side gauge. Reverse flow check valves must be at the regulator end of both fuel and oxygen hoses. It is strongly recommended that they also be used at the torch end of the lines.
- Purge your fuel-gas and oxygen lines.
- Always light the fuel gas before opening the oxygen line.
- Never use oil or grease around fuel gas/oxygen line.
 - Never use oxygen as a substitute for compressed air.
 - Keep heat, flames, and sparks away from hoses, regulators, tanks, and combustibles.
 - Make sure all hose, cylinder, and regulator attachments are tight and not leaking.
 - Cylinders must be secured and stored in an upright position with caps on when not in use. Oxygen cylinders in storage shall be separated from fuel gas cylinders or combustible materials a minimum distance of 20' or by a noncombustible barrier at least 5' high having a fire resistance rating of at least one-half hour.
 - Cylinders containing oxygen or acetylene, or other fuel gas shall not be taken into confined spaces.
 - The employee must close the valve on all cylinders and remove hoses and torches from a confined space when work is not being performed.

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Setting Up Equipment continued

- Safety Considerations
 - Never begin any welding or cutting without the proper permits.
 - Always check to see that you have appropriate fire protection equipment immediately available before doing any welding or cutting or hot work.
 - A fire watch must be present during the entire welding or cutting or hot work and stay in area for a minimum of 30 minutes after welding or cutting or hot work has stopped.
 - Welders must not wear synthetic or disposable-type clothing.
 - Welders must wear appropriate PPE which may include appropriate helmet or goggles with correct shaded lens, welder's gloves, and welder's coat. Refer to the Brieser Construction Training Manual for specific filter lens requirements. Job site conditions may warrant additional PPE. PPE matrix is also available as an aid during Hot Work operations.
 - Never take short cuts. Follow procedures as outlined.
- Health Considerations
 - Always obtain a Safety Data Sheet for the material you are welding or cutting on.
 - Specific hazards to look out for during hot work activities.
 - Never weld, cut, grind, or essentially disturb materials that have lead-based paint on them.
 - Never weld, cut, grind, or essentially disturb materials that have Cadmium coatings. Cadmium is frequently used as a rust-inhibitive agent on steel but can be an alloy as well.
 - Never weld, cut, grind, or essentially disturb materials that contain zinc. Galvanized metal as well as brass are top candidates for this metal in our industry.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/16/2005
		Revised:	10/13/2016
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	08
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		HOT Work	
CROSS REFERENCE:	29 CFR 1926.Subpart J Welding & Cutting 29 CFR 1926.303 29 Abrasive wheels and tools NFPA 51B: Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, 2003 Edition		

ELECTRICAL SHOCK HAZARD

- Almost all electrical currents present some degree of potential shock hazard.
 - Open circuit voltages should not exceed 100 volts DC or 80 volts AC.
 - Welding units that are powered by A.C. must be adequately grounded, and to change the polarity, the unit must be shut down.
 - GFCI's (Ground Fault Circuit Interrupters) cannot be used on welding machines with DC current.
 - Grinding, cutting or portable electrical equipment must be double insulated or use GFCI's.

INERT AND TOXIC GAS EXPOSURE

- Many welding procedures require an inert gas, such as argon and/or helium. These gases present an asphyxiation hazard.
- Large diameter pipe will contain large volumes of inert gas and a greater potential for asphyxiation.
- Temporary enclosures over field installations should be checked for oxygen level before use and monitored continuously when in use. A confined space entry permit may be required in these situations.
- Argon will register "hot" when checked using an explosion meter but will measure correctly when using an oxygen meter.

TRAINING

- Assigned fire watchers must be trained in the use of fire extinguishing equipment and familiar with the facilities for sounding an alarm in the event of a fire.
- Individuals performing welding/cutting must be suitably trained in the safe operations of their equipment and the safe use of the process. Refer to the Brieser Equipment Training Manual

A Hot Work Permit must be issued prior to any Hot Work being conducted on Brieser property or at a jobsite by any person, employee, or contractor. Hot work is any operation that generates heat, spark, or open flame. This includes, but is not necessarily limited to welding, cutting, brazing, grinding, soldering, heat gun use and similar activities.

Before initiating Hot Work, determine if there is a safer way to complete the work.

Permit Valid from Date: _____ Time: _____ To Date: _____ Time: _____

Location Description: _____

Type of Hot Work: ☐ Soldering ☐ Welding ☐ Cutting ☐ Grinding ☐ Other _____

Hot Work Precautions Check List: Complete prior to any hot work beginning in any area, including outdoors. Check each box where the statement is true. If any statements are not true, then hot work should not begin until that issue has been safely resolved.

Required Safety Precautions:

- ☐ Fire suppression sprinklers, fire hoses or fire extinguishers (minimum 2-A: 20-B: C) rating is available and operable.
- ☐ Hot work equipment is operable and in good repair.
- ☐ Smoke/fire detectors in the immediate area of the hot work have been temporarily disabled until the hot work is complete.
- ☐ Building occupants have been protected or isolated from the hot work area.
- ☐ Drums, barrels, pipes, and tanks have been cleaned and purged of flammables and toxics, all tank feeds are closed, and the tank is vented.
- ☐ Work area is NOT a Confined Space. (See definition in policy.)

Post This Permit Near Worksite

In case of FIRE call _____

Fill in emergency #

No Hot Work in Confined Spaces without prior approval from Brieser Safety. Supervisors shall keep completed permit for at least 48 hours after permit has expired.

Requirements within 35 feet when flame, sparks or slag are created:

- ☐ Area within 35 feet of the work area has been properly swept to remove any combustible debris.
- ☐ Flammable and ignitable materials and debris have been moved at least 35 feet from the hot work area or covered and protected with fire resistant materials.
- ☐ Cracks or holes in floors, walls, and ceilings (including ductwork) are covered or plugged.
- ☐ Combustible floors wet down, covered with damp sand or fire-resistant sheets.
- ☐ Fire-resistant tarpaulins suspended beneath elevated hot work.

Requirements within 50 feet when flame, sparks, or slag are created:

- ☐ Explosives, compressed gas cylinders or stored fuel have been moved at least 50 feet from the hot work area or have been protected from the hot work.

Work on walls or ceilings:

- ☐ Construction is noncombustible and has no combustible covering or insulation.
- ☐ Areas adjacent to walls being worked on are checked for combustibles and any combustibles are either removed or protected.

Fire Watch required during Hot Work and a minimum of 30 minutes following completion of work.

Yes _____ No _____ Name: _____

A Fire Watch is needed for all Hot Work activities unless the Hot Work area has no fire hazards or combustible exposures. The Fire Watch must have fire extinguishing equipment readily available and be trained in its use. The Fire Watch must also be familiar with the procedures for sounding an alarm in the event of a fire. The Fire Watch will watch for fires in the exposed areas and is responsible for extinguishing spot fires and communicating alarms immediately.

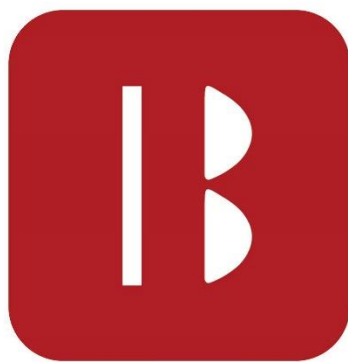
When work is completed, and area is returned to its original condition (Initials):

_____ Inspected work area, and any potentially affected surrounding areas, for fire, fire damage, or potential for fire.

I verify that the above location has been examined and the necessary precautions have been taken to prevent the outbreak of fire due to Hot Work.

Employee or Contractor Signature: _____ Date: _____ Time: _____

Trained Supervisor or EHS Signature: _____ Date: _____ Time: _____



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 23
HOT WORK
SUB-SECTION TRAINING**

Score: _____ %

Company:

Date:

Instructor:

Job Title:

Answer the following questions “True” or “False” by circling the appropriate letter.

T	F	1. A host company deems an area a free burn zone or the like, must a Brieser Hot Work Permit be filled out for this instance?
T	F	2. Hot Work shall not be performed until a Hot Work Permit is obtained from our customer/host/facility/client. If a customer Hot Work Permit is being used, it shall be compared to this (Brieser's) policies Hot Work Permit and verified that all sections are as stringent as or more stringent than this (Brieser's) policy.
T	F	3. In areas where a flammable or explosive atmosphere may be present, Hot Work shall only be performed after the area where work is to be performed has been checked with a combustible gas monitoring instrument (L.E.L. meter) and a reading of 0% L.E.L. has been obtained.
		4. Momentarily opening and closing the manifold or cylinder valves before attaching hoses or regulators that dislodges any loose contaminant that may be present is called _____.
		5. Cylinders must be secured and stored in an upright position with caps on when not in use. Oxygen cylinders in storage shall be separated from the fuel gas cylinders or combustible materials a minimum distance of ____ feet or by a noncombustible barrier at least ____ feet high having a fire resistance rating of at least one-half hour.
T	F	6. Cylinders containing oxygen or acetylene, or other fuel gases shall not be taken into confined spaces.
T	F	7. A Fire Watch be present during the entire welding, cutting or hot work and stay a minimum of 30 minutes after welding, cutting or hot work has stopped.
T	F	8. Never weld, cut, grind, or essentially disturb materials that have lead based paint on them.
T	F	9. Never weld, cut, grind, or essentially disturb materials that have Cadmium coatings. Cadmium is frequently used as a rust-inhibitive agent on steel but can be an alloy as well.
T	F	10. Never weld, cut, grind, or essentially disturb materials containing zinc. Galvanized metal as well as brass are top candidates for this metal in our industry.

Answers

T	F	1. A host company deems an area a free burn zone or the like, must a Brieser Hot Work Permit be filled out for this instance?
T	F	2. Hot Work shall not be performed until a Hot Work Permit is obtained from our customer/host/facility/client. If a customer Hot Work Permit is being used, it shall be compared to this (Brieser's) policies Hot Work Permit and verified that all sections are as stringent as or more stringent than this (Brieser's) policy.
T	F	3. In areas where a flammable or explosive atmosphere may be present, Hot Work shall only be performed after the area where work is to be performed has been checked with a combustible gas monitoring instrument (L.E.L. meter) and a reading of 0% L.E.L. has been obtained.
		4. Momentarily opening and closing the manifold or cylinder valves before attaching hoses or regulators that dislodges any loose contaminant that may be present is called <u>Cracking</u> .
		5. Cylinders must be secured and stored in an upright position with caps on when not in use. Oxygen cylinders in storage shall be separated from the fuel gas cylinders or combustible materials a minimum distance of <u>20'</u> feet or by a noncombustible barrier at least <u>5'</u> feet high having a fire resistance rating of at least one-half hour.
T	F	6. Cylinders containing oxygen or acetylene, or other fuel gases shall not be taken into confined spaces.
T	F	7. A Fire Watch be present during the entire welding, cutting or hot work and stay a minimum of 30 minutes after welding, cutting or hot work has stopped.
T	F	8. Never weld, cut, grind, or essentially disturb materials that have lead based paint on them.
T	F	9. Never weld, cut, grind, or essentially disturb materials that have Cadmium coatings. Cadmium is frequently used as a rust-inhibitive agent on steel but can be an alloy as well.
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Section 24
Safety Health
and
Environmental
Manual

2025

Excavation & Trenching

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	9/22/2006
		Revised:	7/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Excavation & Trenching		
CROSS REFERENCE:	29 CFR 1926 Subpart P Trenching & Excavation		

PURPOSE

Excavating is recognized as one of the most hazardous construction operations. The primary hazards associated with excavations are the potential for cave-ins and the accidental contact or displacement of existing underground installations, with the accompanying risk potential of personal injury and/or property damage. OSHA's Excavation & Trenching regulation found at 29 CFR 1926 Subpart P is the basis that Brieser Construction will utilize to provide a safe working environment while working in excavations or any kind.

This procedure applies to all Brieser Construction personnel and subcontractors working on Brieser Construction projects where excavation safety requirements are applicable.

DEFINITIONS

Accepted Engineering Practices – Are procedures compatible with the standards of practice required of a registered professional engineer.

Adjacent Structure Stability – Refers to the stability of the foundation(s) of adjacent structures whose location may create surcharges, changes in soil conditions, or other disruptions that have the potential to extend into the failure zone of the excavation or trench.

Competent Person – Is an individual who can identify existing and predictable hazards or working conditions that are hazardous, unsanitary, or dangerous to employees, and who *has authorization to take prompt corrective measures to eliminate or control these hazards and conditions*.

Confined Space – Is a space that, by design and/or configuration, has limited openings for entry and exit, unfavorable natural ventilation, may contain or produce hazardous substances, and is not intended for continuous employee occupancy.

Excavation – An Excavation is any man-made cut, cavity, trench, or depression in an earth surface that is formed by earth removal. A Trench is a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth of a trench is greater than its width, and the width (measured at the bottom) is not greater than 15 ft (4.6 m). If a form or other structure installed or constructed in an excavation reduces the distance between the form and the side of the excavation to 15 ft (4.6 m) or less (measured at the bottom of the excavation), the excavation is also considered to be a trench.

Hazardous Atmosphere – is an atmosphere that by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen-deficient, toxic, or otherwise harmful may cause death, illness, or injury to persons exposed to it.

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		Revised:	7/2023
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Ingress And Egress – Means "entry" and "exit," respectively. In trenching and excavation operations, they refer to the provision of safe means for employees to enter or exit an excavation or trench.

Protective System – Refers to a method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, and from the collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide the necessary protection.

Registered Professional Engineer – Is a person who is registered as a professional engineer in the state where the work is to be performed. However, a professional engineer who is registered in any state is deemed to be a "registered professional engineer" within the meaning of Subpart P when approving designs for "manufactured protective systems" or "tabulated data" to be used in interstate commerce.

Support System – Refers to structures such as underpinning, bracing, and shoring that provide support to an adjacent structure or underground installation or to the sides of an excavation or trench.

Subsurface Encumbrances – Include underground utilities, foundations, streams, water tables, transformer vaults, and geological anomalies.

Surcharge – Means an excessive vertical load or weight caused by spoil, overburden, vehicles, equipment, or activities that may affect trench stability.

Tabulated Data – Are tables and charts approved by a registered professional engineer and used to design and construct a protective system.

Underground Installations – Include, but are not limited to, utilities (sewer, telephone, fuel, electric, water, and other product lines), tunnels, shafts, vaults, foundations, and other underground fixtures or equipment that may be encountered during excavation or trenching work.

Unconfined Compressive Strength – Is the load per unit area at which soil will fail in compression. This measure can be determined by laboratory testing, or it can be estimated in the field using a pocket penetrometer, by thumb penetration tests, or by other methods.

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		Revised:	7/2023
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Responsibilities

The Program Administrator – Safety Manager

These people are responsible for:

- Issuing and administering this program and making sure that the program satisfies the requirements of applicable Federal, State or Local requirements.
- Providing initial and annual training to employees that will serve as the site designated competent person for excavations.
- Maintaining the training records of all employees included in the training sessions.
- Reviewing and updating the program, as necessary.

Superintendent

These people are responsible for:

- Designating a competent person for all excavations
- Understanding the hazards of excavations at the construction site.
- What steps are necessary to ensure a safe excavation?
- Ensuring that all employees are evacuated from the excavation area and notify the fire department having jurisdiction. The emergency numbers will be identified on the site safety plan.
- Ensuring the Excavation Permit is completed by a designated competent person in excavation.
- Determining potential water hazards and the need for dewatering systems.
- Perform daily safety inspections of the work site and all excavations.
- Ensuring that access to emergency equipment on the construction site must be provided in the initial stage of site preparation and always maintained.
- All workers have been trained in the proper use of all personal protective equipment being use or required at the excavation site.
- All workers have been educated in the hazards associated with the specific excavation.

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		Revised:	7/2023
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Designated Competent Person- Brieser trained personnel.

A competent person should have and be able to demonstrate the following:

Training, experience, and knowledge of:

- Soil analysis
- Use of protective systems
- Requirements of 29 CFR 1926 Subpart P

Ability to detect:

- Conditions that could result in cave-ins.
- Failures in protective systems
- Hazardous atmospheres
- Other hazards including those associated with confined spaces.

Authority to take prompt corrective measures to eliminate existing and predictable hazards and to stop work when required.

Performing inspections prior to the start of “each shift” as needed throughout the shift to ensure a safe operation.

Removing employees from the hazardous area when there is evidence of a possible cave-in.

Responsible for completing the Excavation Permit

Employees of Brieser Construction or Subcontractors Foremen

These people are responsible for:

- Upon recognition of an excavation hazard, immediately notifying employees in the immediate area to evacuate and then notify their foreman, Brieser Construction Superintendent, and or the fire department having jurisdiction. At the construction site emergency numbers will be listed adjacent to the telephones at the job trailer and emergency numbers will be identified on the site safety plan.
- Assisting in maintaining the workplace free of all fire hazards.

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PRE-DIG PROCEDURE

1. When excavating or trenching becomes necessary for Brieser Construction or a subcontractor, the superintendent or engineer in charge of the work shall ascertain that all known maps and prints have been reviewed to determine the exact location of underground interferences prior to excavation. By law whenever digging into the ground is needed a call to 811 must be completed a minimum 48 hours prior to the actual excavation. You can request the 811 in any state that you are working in by emailing julie@brieserconstruction.com

If possible, the following information will be needed to complete the 811 requests.

- a. Project start date.
- b. Expected completion date.
- c. Provide the description of the work and what type of digging we will be performing (mechanical, vac truck, hand digging)
- d. Provide the exact address where the excavation will be performed. If not exact, the nearest address, or the closest intersection.
- e. Provide the precise location of excavation (i.e.: NW corner of property between fence and guardhouse)
- f. Provide the foreman you will have performing the work (if known)

You must complete the Brieser Excavation Permit for excavations to be performed by Brieser Construction.

2. The superintendent or engineer shall “stake mark” the location, depth, and identity of all interferences. The superintendent shall also mark the ground directly above the interference by a suitable means. The “Excavation Permit” must be completed before any excavation can begin.
3. Where information is limited (no "as-builds" available) as to the exact location of possible interfering buried utilities, they shall be de-energized or shut off and locked and tagged before work begins.
4. Prior to the start of any excavation these following bullitt points should be followed:
 - Review 811 packet of information from HR Department.
 - This should be the ticket and all related utility responses.
 - Including a sheet of state laws and marking colors.
 - Walk entire job site including borders to see marked or un-marked utilities.
 - Verify with prints, dig ticket, PM, site manager.
 - Photograph all clear flags / marked utilities by using step photography leaving permanent to semi-permanent structures in background. Send to julie@brieserconstruction.com for record keeping.

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		Revised:	7/2023
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- If utilities are missing or indistinguishable a call to the dig ticket caller must be made immediately. (Jim or Ken. Check ticket for caller) A No-Show or Incomplete will be made. (Both 2hr response emergency type ticket no digging can be done!)
- Complete Excavation Permit, TSTI to include the 811 information.
- Take daily progress photographs and send to julie@brieserconstruction.com
- Call in for a remark when crew has made marks indistinguishable.
 - No digging until ticket is valid again. (approx. 48 hrs.)
- When a utility damage has occurred:
 - Do NOT attempt to repair utility.
 - Remove all personnel immediately (if applicable)
 - Call utility company 1st!
 - Call Jim or Ken (They will call Kevin)
 - Call Mike Adermann.
- Jim or Ken will keep in communication with foreman to keep ticket open if a longer project. Otherwise, Foreman to communicate upon completion of ticket so it may be closed out.
- Any issues refer to new sub section of the excavation section of the Brieser Safety Manual
- Call ticket caller or email julie@brieserconstruction.com to notify that work is completed.

PROCEDURE

1. Known or questionable interferences shall be "hand-dug" or uncovered by non-destructive means before powered equipment digs within two (2) feet of the suspected interference. Hand digging and/or vacuum excavating with 18 inches on either side of a marked underground facility.
 - a. "Hand-dug" shall imply hand shovels or post-hole diggers.
 - b. Non-destructive methods include pneumatic soil picks and vacuum truck excavation. Please refer to Brieser SH&E Section 51 for Vacuum Truck Operations.
2. All pneumatic, gasoline or electric tools used for digging into an area of known or questionable hazardous interferences shall be grounded (in addition to the normal ground).

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PROCEDURE continued

3. Heavy equipment shall not operate within five (5) feet of the slope of excavation without the approval of the superintendent.
4. Excavated or other materials shall not be stored nearer than two (2) feet from the edge of any excavation and shall be stored and retained to prevent its falling or sliding back into the excavation.
5. Each employee in an excavation shall be protected from cave-ins by an adequate "protective system". The competent person or responsible engineer shall refer to 29 CFR 1926.652 and appendices concerning design and determination applicable to soil classifications, sloping, benching, and shoring. The **competent person** shall complete the "Excavation Permit & Excavation Entry Permit."
6. The competent person will specify when sloping or shoring is required and shall review sloping, access, shoring, etc. before entry in an excavation or trench.
7. Inspection by the competent person shall be conducted daily before work begins and after rain, snow, freezing/thawing, or conditions which may affect the stability of the soil or shoring.
8. Where employees are required to be in trenches/excavations four (4) feet deep or more, ladders (or other acceptable means of ingress/egress) extending from the floor of the trench/excavation to at least three (3) feet above the top of the excavation shall be provided and so located as to provide means of exit with no more than 25 feet of lateral travel. Ladders shall be secured to prevent movement.
9. In excavations or trenches greater than four (4) feet in depth, where the possibility of oxygen deficiency or toxic/explosive conditions may exist, the atmosphere shall be tested in accordance with Confined Space Entry Procedure. Controls shall be established to assure acceptable atmospheric conditions. When hazardous gases are present, adequate ventilation shall be provided and sources of ignition eliminated. Attended emergency rescue equipment such as breathing apparatus, a safety harness and line, basket stretcher, etc., shall be readily available where adverse atmospheric conditions may exist or develop in an excavation or trench.
10. Employees shall not work underneath loads handled by lifting or digging equipment and shall stand away from vehicles being loaded or unloaded.
11. Walkways shall be provided where employees are required or permitted to cross over excavations. Walkways 6 feet or more above lower levels shall have guardrails per Brieser Construction SH&E Section 22.

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OVERVIEW: SOIL MECHANICS.

Soil is heavy. A cubic foot can weigh as much as 110 pounds, and a cubic yard can weigh between 3,000 and 4,000lbs.—a little more than a small Pickup Truck. A person buried under only a few feet of soil can experience enough pressure in the chest area to prevent the lungs from expanding. Suffocation can take place in as little as three minutes while heavier soils can crush the body in a matter of seconds. And to know, for that moment you may never see your loved ones again.

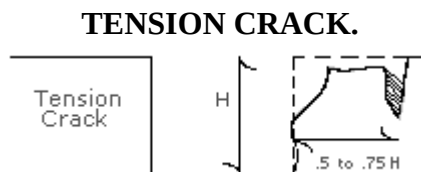
The texture of the soil is a key to its stability. Cohesion is the ability of a soil to stick together instead of crumbling. The more cohesive a soil is, the safer. Soil is classified by its cohesive properties. Except for stable rock, the soil types are A, B, and C. Type A soil is the most cohesive of the three soils. Clay, silty clay, and clay loam are examples of type A. Type C is the least cohesive. Sand is type C soil. Sandy or loose grain soil have poor cohesive properties and are very dangerous and unstable. The cohesive property of type B lies between A and C.

Caution should be used when classifying soil. Other conditions may affect soil strength. Soil classification should be left up to the competent person. Moisture, vibration, and load affect the stability of the soil. What may be safe at one time may not be safe at another. These changes occur often without sufficient warning to protect the workers.

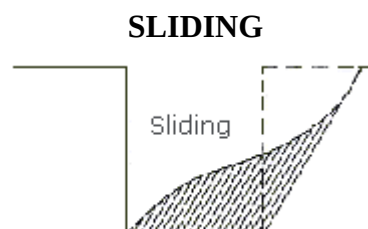
A number of stresses and deformations can occur in an open cut or trench. For example, increases or decreases in moisture content can adversely affect the stability of a trench or excavation. The following diagrams show some of the more frequently identified causes of trench failure.

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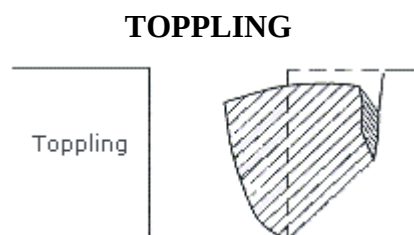
- A. **TENSION CRACKS.** Tension cracks usually form at a horizontal distance of 0.5 to 0.75 times the depth of the trench, measured from the top of the vertical face of the trench. See the accompanying drawing for additional details.



- B. **SLIDING** or sluffing may occur as a result of tension cracks, as illustrated below.

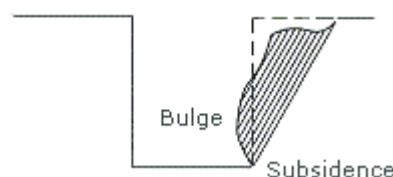


- C. **TOPPLING.** In addition to sliding, tension cracks can cause toppling. Toppling occurs when the trench's vertical face shears along the tension crack line and topples into the excavation.



- D. **SUBSIDENCE AND BULGING.** An unsupported excavation can create an unbalanced stress in the soil, which, in turn, causes subsidence at the surface and bulging of the vertical face of the trench. If uncorrected, this condition can cause face failure and entrapment of workers in the trench.

SUBSIDENCE AND BULGING

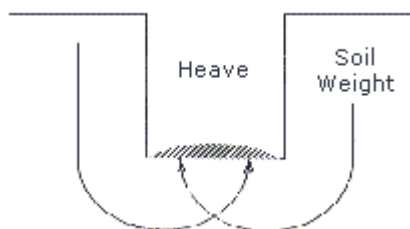


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E. **HEAVING OR SQUEEZING.**

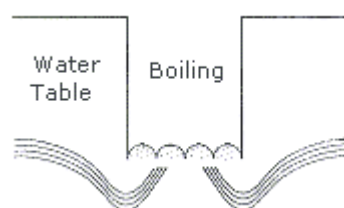
Bottom heaving or squeezing is caused by the downward pressure created by the weight of adjoining soil. This pressure causes a bulge in the bottom of the cut, as illustrated in the drawing above. Heaving and squeezing can occur even when shoring or shielding has been properly installed.

HEAVING OR SQUEEZING



- F. **BOILING** is evidenced by an upward water flow into the bottom of the cut. A high-water table is one of the causes of boiling. Boiling produces a "quick" condition in the bottom of the cut and can occur even when shoring or trench boxes are used.

BOILING



- G. **UNIT WEIGHT OF SOILS** refers to the weight of one unit of a particular soil. The weight of soil varies with type and moisture content. One cubic foot of soil can weigh from 110 pounds to 140 pounds or more, and one cubic meter (35.3 cubic feet) of soil can weigh more than 3,000 pounds.

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DETERMINATION OF SOIL TYPE

OSHA categorizes soil and rock deposits into four types, A through D, as follows:

- A. **STABLE ROCK** is natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed. It is usually identified by a rock name such as granite or sandstone. Determining whether a deposit is of this type may be difficult unless it is known whether cracks exist and whether or not the cracks run into or away from the excavation.
- B. **TYPE A SOILS** are cohesive soils with an unconfined compressive strength of 1.5 tons per square foot (tsf) (144 kPa) or greater. Examples of Type A cohesive soils are often: clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. (No soil is Type A if it is fissured, is subject to vibration of any type, has previously been disturbed, is part of a sloped, layered system where the layers dip into the excavation on a slope of 4 horizontal to 1 vertical (4H:1V) or greater, or has seeping water.
- C. **TYPE B SOILS** are cohesive soils with an unconfined compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa). Examples of other Type B soils are: angular gravel; silt; silt loam; previously disturbed soils unless otherwise classified as Type C; soils that meet the unconfined compressive strength or cementation requirements of Type A soils but are fissured or subject to vibration; dry unstable rock; and layered systems sloping into the trench at a slope less than 4H:1V (only if the material would be classified as a Type B soil).
- D. **TYPE C SOILS** are cohesive soils with an unconfined compressive strength of 0.5 tsf (48 kPa) or less. Other Type C soils include granular soils such as gravel, sand and loamy sand, submerged soil, soil from which water is freely seeping, and submerged rock that is not stable. Also included in this classification is material in a sloped, layered system where the layers dip into the excavation or have a slope of four horizontal to one vertical (4H:1V) or greater.
- E. **LAYERED GEOLOGICAL STRATA.** Where soils are configured in layers, i.e., where a layered geologic structure exists, the soil must be classified on the basis of the soil classification of the weakest soil layer. Each layer may be classified individually if a more stable layer lies below a less stable layer, i.e., where a Type C soil rests on top of stable rock.

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TEST EQUIPMENT AND METHODS FOR EVALUATING SOIL TYPE.

Many kinds of equipment and methods are used to determine the type of soil prevailing in an area, as described below.

- A. **POCKET PENETROMETER.** Penetrometers are direct-reading, spring-operated instruments used to determine the unconfined compressive strength of saturated cohesive soils. Once pushed into the soil, an indicator sleeve displays the reading. The instrument is calibrated in either tons per square foot (tsf) or kilograms per square centimeter (kPa). However, Penetrometers have error rates in the range of ± 20 -40%.
1. **Shear vane (Torvane).** To determine the unconfined compressive strength of the soil with a shear vane, the blades of the vane are pressed into a level section of undisturbed soil, and the torsional knob is slowly turned until soil failure occurs. The direct instrument reading must be multiplied by 2 to provide results in tons per square foot (tsf) or kilograms per square centimeter (kPa).
 2. **Thumb Penetration Test.** The thumb penetration procedure involves an attempt to press the thumb firmly into the soil in question. If the thumb makes an indentation in the soil only with great difficulty, the soil is probably Type A. If the thumb penetrates no further than the length of the thumb nail, it is probably Type B soil, and if the thumb penetrates the full length of the thumb, it is Type C soil. The thumb test is subjective and is therefore the least accurate of the three methods.
 3. **Dry Strength Test.** Dry soil that crumbles freely or with moderate pressure into individual grains is granular. Dry soil that falls into clumps that subsequently break into smaller clumps (and the smaller clumps can be broken only with difficulty) is probably clay in combination with gravel, sand, or silt. If the soil breaks into clumps that do not break into smaller clumps (and the soil can be broken only with difficulty), the soil is considered unfissured unless there is visual indication of fissuring.

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EVALUATING SOIL TYPE *Continued*

- B. **PLASTICITY OR WET THREAD TEST.** This test is conducted by molding a moist sample of the soil into a ball and attempting to roll it into a thin thread approximately 1/8 inch (3 mm) in diameter (thick) by 2 inches (50 mm) in length. The soil sample is held by one end. If the sample does not break or tear, the soil is considered cohesive.
- C. **VISUAL TEST.** A visual test is a qualitative evaluation of conditions around the site. In a visual test, the entire excavation site is observed, including the soil adjacent to the site and the soil being excavated. If the soil remains in clumps, it is cohesive; if it appears to be coarse-grained sand or gravel, it is considered granular. The evaluator also checks for any signs of vibration.

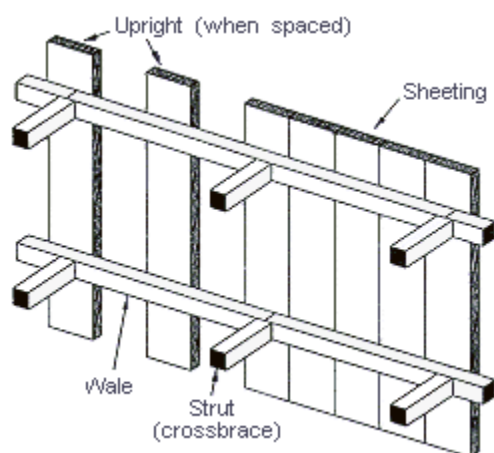
During a visual test, the evaluator should check for crack-line openings along the failure zone that would indicate tension cracks, look for existing utilities that indicate that the soil has previously been disturbed, and observe the open side of the excavation for indications of layered geologic structuring.

The evaluator should also look for signs of bulging, boiling, or sluffing, as well as for signs of surface water seeping from the sides of the excavation or from the water table. If there is standing water in the cut, the evaluator should check for "quick" conditions. In addition, the area adjacent to the excavation should be checked for signs of foundations or other intrusions into the failure zone, and the evaluator should check for surcharging and the spoil distance from the edge of the excavation.

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SHORING TYPES

Shoring is the provision of a support system for trench faces used to prevent movement of soil, underground utilities, roadways, and foundations. Shoring or shielding is used when the location or depth of the cut makes sloping back to the maximum allowable slope impractical. Shoring systems consist of posts, wales, struts, and sheeting. There are two basic types of shoring, timber, and aluminum hydraulic.



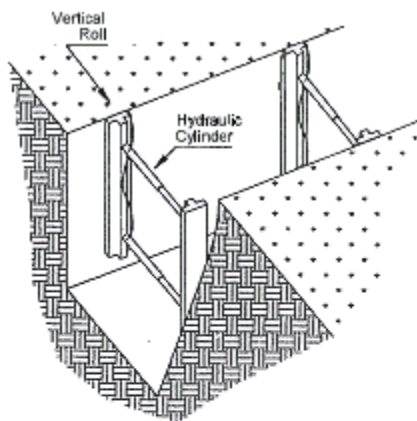
D. **HYDRAULIC SHORING.** The trend today is toward the use of hydraulic shoring, a prefabricated strut and/or wale system manufactured of aluminum or steel. Hydraulic shoring provides a critical safety advantage over timber shoring because workers do not have to enter the trench to install or remove hydraulic shoring. Other advantages of most hydraulic systems are that they:

- Are light enough to be installed by one worker.
- Are gauge-regulated to ensure even distribution of pressure along the trench line.
- Can have their trench faces "preloaded" to use the soil's natural cohesion to prevent movement; and
- Can be adapted easily to various trench depths and widths.

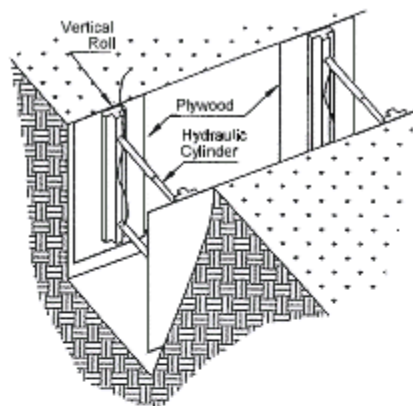
All shoring should be installed from the top down and removed from the bottom up. Hydraulic shoring should be checked at least once per shift for leaking hoses and/or cylinders, broken connections, cracked nipples, bent bases, and any other damaged or defective parts.

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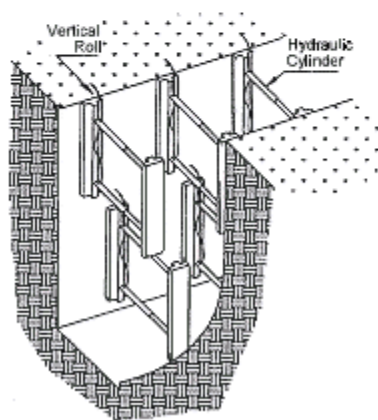
SHORING VARIATIONS: TYPICAL ALUMINUM HYDRAULIC SHORING INSTALLATIONS



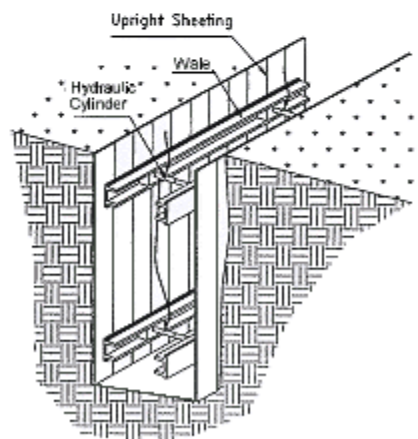
Vertical Aluminum Hydraulic Shoring
(Spot Bracing)



Vertical Aluminum Hydraulic Shoring
(With Plywood)



Vertical Aluminum Hydraulic Shoring
(Stacked)

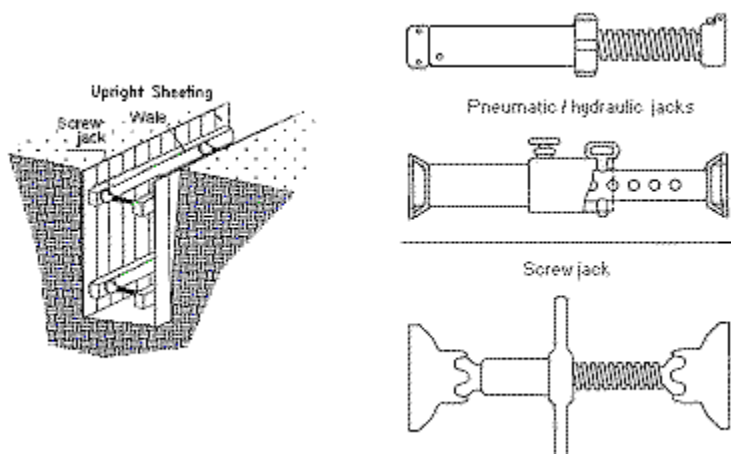


Aluminum Hydraulic Shoring Waler System
(Typical)

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PNEUMATIC SHORING works in a manner like hydraulic shoring. The primary difference is that pneumatic shoring uses air pressure in place of hydraulic pressure. A disadvantage to the use of pneumatic shoring is that an air compressor must be on site.

0. **Screw Jacks.** Screw jack systems differ from hydraulic and pneumatic systems in that the struts of a screw jack system must be adjusted manually. This creates a hazard because the worker is required to be in the trench in order to adjust the strut. In addition, uniform "preloading" cannot be achieved with screw jacks, and their weight creates handling difficulties.
1. **Single-Cylinder Hydraulic Shores.** Shores of this type are generally used in a water system, as an assist to timber shoring systems, and in shallow trenches where face stability is required.
2. **Underpinning.** This process involves stabilizing adjacent structures, foundations, and other intrusions that may have an impact on the excavation. As the term indicates, underpinning is a procedure in which the foundation is physically reinforced. Underpinning should be conducted only under the direction and with the approval of a registered professional engineer. **FIGURE V:2-9. SHORING VARIATIONS.**

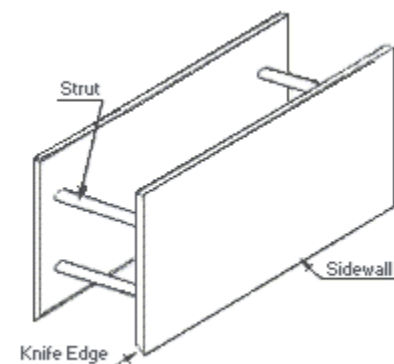


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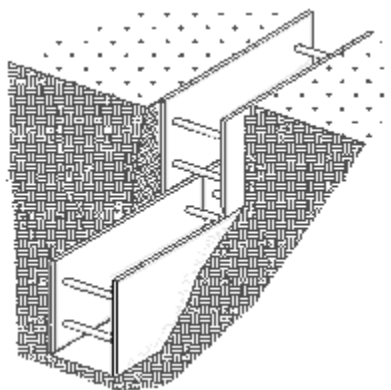
SHIELDING TYPES

- B. **TRENCH BOXES** are different from shoring because, instead of shoring up or otherwise supporting the trench face, they are intended primarily to protect workers from cave-ins and similar incidents. The excavated area between the outside of the trench box and the face of the trench should be as small as possible. The space between the trench boxes and the excavation side are backfilled to prevent lateral movement of the box. Shields may not be subjected to loads exceeding those which the system was designed to withstand.

TRENCH SHIELD.



TRENCH SHIELD, STACKED.

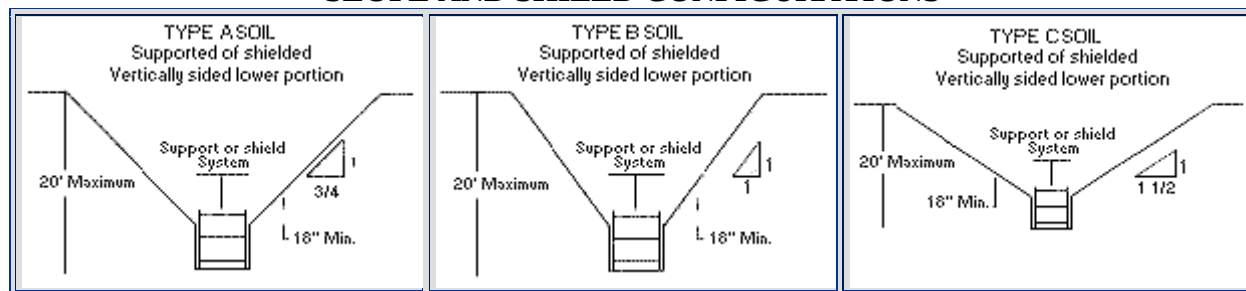


- B. **COMBINED USE.** Trench boxes are generally used in open areas, but they also may be used in combination with sloping and benching. The box should extend at least 18 in (0.45 m) above the surrounding area if there is sloping toward excavation. This can be accomplished by providing a benched area adjacent to the box.

Earth excavation to a depth of 2 ft (0.61 m) below the shield is permitted, but only if the shield is designed to resist the forces calculated for the full depth of the trench and there are no indications while the trench is open of possible loss of soil from behind or below the bottom of the support system. Conditions of this type require observation on the effects of bulging, heaving, and boiling as well as surcharging, vibration, adjacent structures, etc., on excavating below the bottom of a shield. Careful visual inspection of the conditions mentioned above is the primary and most prudent approach to hazard identification and control.

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SLOPE AND SHIELD CONFIGURATIONS



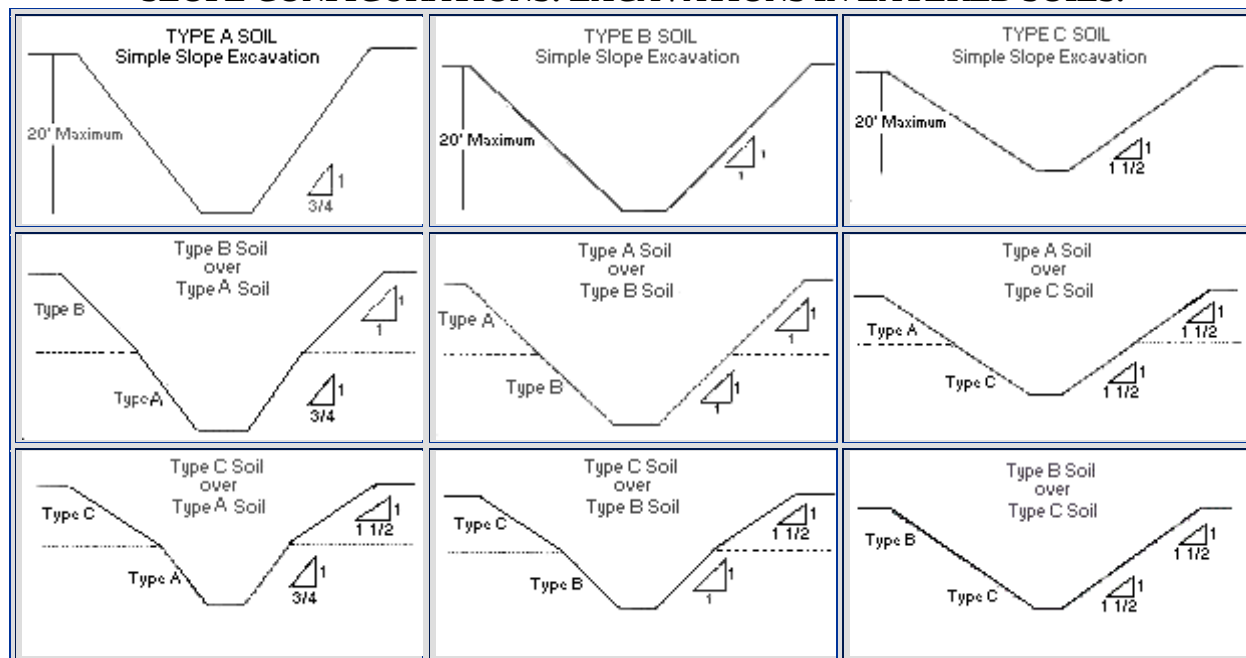
SLOPING AND BENCHING.

- A. **SLOPING.** Maximum allowable slopes for excavations less than 20 ft (6.09 m) based on soil type and angle to the horizontal are as follows:

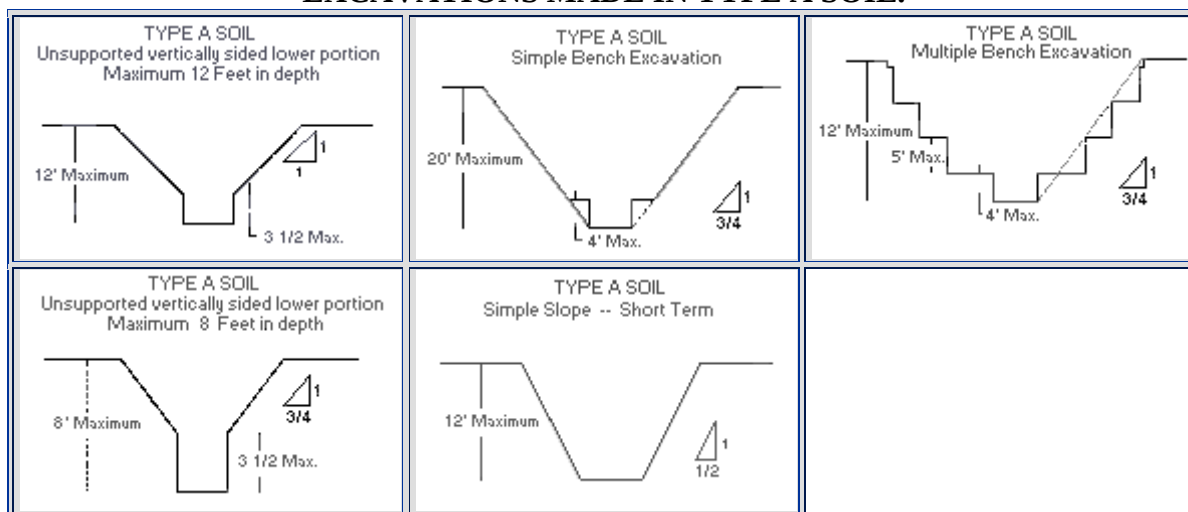
TABLE V:2-1. ALLOWABLE SLOPES.		
Soil type	Height/Depth ratio	Slope angle
Stable Rock	Vertical	90°
Type A	¾:1	53°
Type B	1:1	45°
Type C	1½:1	34°
Type A (short-term)	½:1	63°
(For a maximum excavation depth of 12 ft)		

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SLOPE CONFIGURATIONS: EXCAVATIONS IN LAYERED SOILS.



EXCAVATIONS MADE IN TYPE A SOIL.

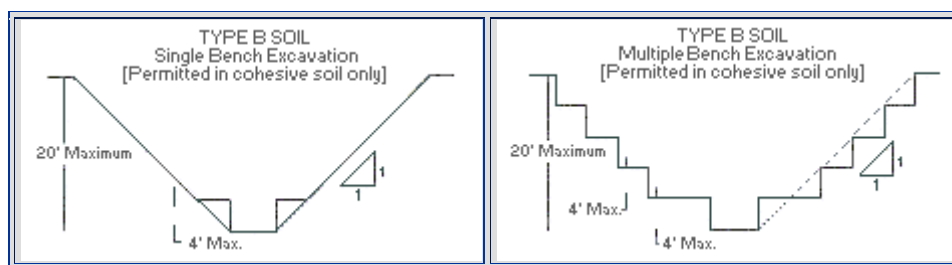


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BENCHING There are two basic types of benching, simple and multiple. The type of soil determines the horizontal to vertical ratio of the benched side.

As a general rule, the bottom vertical height of the trench must not exceed 4 ft (1.2 m) for the first bench. Subsequent benches may be up to a maximum of 5 ft (1.5 m) vertical in Type A soil and 4 ft (1.2 m) in Type B soil to a total trench depth of 20 ft (6.0 m). All subsequent benches must be below the maximum allowable slope for that soil type. For Type B soil the trench excavation is permitted in cohesive soil only.

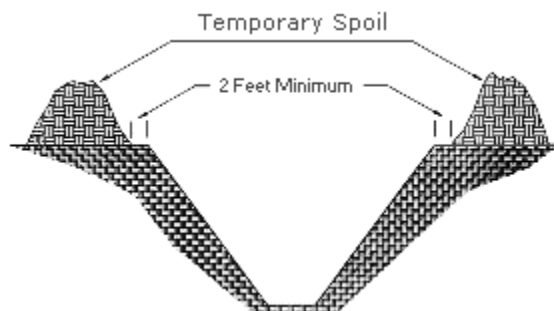
EXCAVATIONS MADE IN TYPE B SOIL.



SPOIL.

- A. **TEMPORARY SPOIL.** Temporary spoil must be placed no closer than 2 ft (0.61 m) from the surface edge of the excavation, measured from the nearest base of the spoil to the cut. This distance should not be measured from the crown of the spoil deposit. This distance requirement ensures that loose rock or soil from the temporary spoil will not fall on employees in the trench.

Spoil should be placed so that it channels rainwater and other run-off water away from the excavation. Spoil should be placed so that it cannot accidentally run, slide, or fall back into the excavation. **TEMPORARY SPOIL.**



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SPOIL continued

- B. **PERMANENT SPOIL.** Permanent spoil should be placed at some distance from the excavation. Permanent spoil is often created where underpasses are built, or utilities are buried. The improper placement of permanent spoil, i.e., insufficient distance from the working excavation, can cause an excavation to be out of compliance with the horizontal-to-vertical ratio requirement for a particular excavation. This can usually be determined through visual observation. Permanent spoil can change undisturbed soil to disturbed soil and dramatically alter slope requirements.

SURFACE CROSSING OF TRENCHES Surface crossing of trenches should be discouraged; however, if trenches must be crossed, such crossings are permitted only under the following conditions:

- Vehicle crossings must be designed by and installed under the supervision of a registered professional engineer.
- Walkways or bridges must be provided for foot traffic. These structures shall:
 - have a safety factor of 4;
 - have a minimum clear width of 20 in (0.51 m);
 - be fitted with standard rails; and
 - extend a minimum of 24 in (.61 m) past the surface edge of the trench.

INGRESS AND EGRESS Access to and exit from the trench require the following conditions:

- Trenches 4 ft or more in depth should be provided with a fixed means of egress.
- Spacing between ladders or other means of egress must be such that a worker will not have to travel more than 25 ft laterally to the nearest means of egress.
- Ladders must be secured and extend a minimum of 36 in (0.9 m) above the landing.
- Metal ladders should be used with caution, particularly when electric utilities are present.

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EXPOSURE TO VEHICLES Procedures to protect employees from being injured or killed by vehicle traffic include:

- Providing employees with and requiring them to wear warning vests or other suitable garments marked with or made of reflectorized or high-visibility materials.
- Requiring a designated, trained flag person along with signs, signals, and barricades when necessary.

EXPOSURE TO FALLING LOADS Employees must be protected from loads or objects falling from lifting or digging equipment. Procedures designed to ensure their protection include:

- Employees are not permitted to work under raised loads.
- Employees are required to stand away from equipment that is being loaded or unloaded.
- Equipment operators or truck drivers may stay in their equipment during loading and unloading if the equipment is properly equipped with a cab shield or adequate canopy.

FALLS Guardrails, fences, or barricades must be provided on excavations adjacent to any walking/working surface or vehicle passageways. Warning lights or other illumination shall be maintained as necessary for the safety of the public and employees as needed.

All excavations must be effectively barricaded or covered, and warnings posted as necessary to prevent unauthorized access. All temporary excavations of this type must be backfilled as soon as possible.

WARNING SYSTEMS FOR MOBILE EQUIPMENT The following steps should be taken to prevent vehicles from accidentally falling into the trench:

- Barricades must be installed where necessary.
- Hand or mechanical signals must be used as required.
- Stop logs must be installed if there is a danger of vehicles falling into the trench.
- Soil should be graded away from the excavation; this will assist in vehicle control and channeling of run-off water.

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HAZARDOUS ATMOSPHERES AND CONFINED SPACES. Employees shall not be permitted to work in hazardous and/or toxic atmospheres. Such atmospheres include those with:

- Less than 19.5% or more than 23.5% oxygen.
- A combustible gas concentration greater than 10% of the lower flammable limit; and
- Concentrations of hazardous substances that exceed those specified in the *Threshold Limit Values for Airborne Contaminants* established by the ACGIH (American Conference of Governmental Industrial Hygienists).

All operations involving such atmospheres must be conducted in accordance with OSHA requirements for occupational health and environmental controls (see Subpart D of 29 CFR 1926) for personal protective equipment and for lifesaving equipment (see Subpart E, 29 CFR 1926). Engineering controls (e.g., ventilation) and respiratory protection may be required.

When testing for atmospheric contaminants, the following should be considered:

- Testing should be conducted before employees enter the trench and should be done regularly to ensure that the trench remains safe.
- The frequency of testing should be increased if equipment is operating in the trench.
- Testing frequency should also be increased if welding, cutting, or burning is done in the trench.

Employees required to wear respiratory protection must be trained, fit-tested, and enrolled in a respiratory protection program. Some trenches qualify as confined spaces. When this occurs, compliance with the Confined Space Standard is also required.

EMERGENCY RESCUE EQUIPMENT Emergency rescue equipment is required when a hazardous atmosphere exists or can reasonably be expected to exist. Requirements are as follows:

- Respirators must be of the type suitable for the exposure. Employees must be trained in their use and a respirator program must be instituted.
- Attended (at all times) lifelines must be provided when employees enter bell-bottom pier holes, deep confined spaces, or other similar hazards.
- Employees who enter confined spaces must be trained.

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STANDING WATER AND WATER ACCUMULATION Methods for controlling standing water and water accumulation must be provided and should consist of the following if employees are permitted to work in the excavation:

- Use of special support or shield systems approved by a registered professional engineer.
- Water removal equipment, i.e., well pointing, used, and monitored by a competent person.
- Safety harnesses and lifelines used in conformance with 29 CFR 1926.104.
- Surface water diverted away from the trench.
- Employees removed from the trench during rainstorms.
- Trenches carefully inspected by a competent person after each rain and before employees are permitted to re-enter the trench.

INSPECTIONS – Inspections shall be made by a competent person and should be documented. The following guide specifies the frequency and conditions requiring inspections:

- Daily and before the start of each shift.
- As dictated by the work being done in the trench.
- After every rainstorm.
- After other events that could increase hazards, e.g., snowstorm, windstorm, thaw, earthquake, etc.
- When fissures, tension cracks, sloughing, undercutting, water seepage, bulging at the bottom, or other similar conditions occur.
- When there is a change in the size, location, or placement of the spoil pile; and
- When there is any indication of change or movement in adjacent structures.

UTILITIES Overhead and underground utilities create hazards. Brieser Construction must have their states One-Call (811) determine the estimated location of utility installations (Communication, electric, water, sewer, and any other possible underground utility installations). The utility companies or owners must be contacted. They are asked to find the exact location of underground installations. Private utility locates along with ground penetrating radar scans may be needed.

Excavation work must be conducted in a manner that does not endanger underground installations or employees engaged in the work. Utilities left in place must be protected by any means necessary to protect employees.

Brieser Construction

Excavation Permit

Company		Date	
Project Name		Daily Inspection	S M T W T F S
Project Location		Approx. Wind Dir. & Temp.	
Job Number		Julie Dig # Dial 811	
Excavation Depth & Width		Julie Date & Time Notified	
Protective System Used		Brieser Locate by: (Name)	
Competent Person		Soil Classification	Class C Soil Test Attached
Activities In Excavation			
Julie Boundaries			

YES	NO	N/A	DESCRIPTION
GENERAL			
			Trenches over 4 feet deep require proper access, e.g., ladder or ramp
			Distance from access/egress shall not exceed 25 of lateral travel
			Trenches over 4 feet deep require sloping/shoring or a trench box
			Employees protected from cave-ins & loose rock/soil that could roll into the excavation
			Spoils, materials & equipment set back at least 2 feet from the edge of the excavation.
			Engineering designs for sheeting &/or manufacturer's data on trench box capabilities on site
			Adequate signs posted and barricades provided
			Training (toolbox meeting) conducted w/ employees prior to entering excavation

			UTILITIES
			One Call System contacted & given 48 hours notice &/or utilities already located & marked
			Brieser Locate Equipment used as verification to One-Call
			If a gas line is nearby, should I call NICOR's Watch & Protect? 1-888-NICOR-4-U Ask for Centralized Locating and then Watch & Protect.
			Brieser Locate Equipment used
			Overhead lines located, noted, and reviewed with the operator
			Walked area to determine possible unmarked underground
			Does this require the use of a Hydro-Excavator
			Underground Drawings & Utility locations reviewed with the operator, & precautions taken to ensure contact does not occur

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Excavation Permit

			Utilities crossing the excavation supported, and protected from falling materials
			Underground installations protected, supported, or removed when excavation is open
			Julie Excavator Handbook Reviewed?
			Am I over my 28-day ticket life? (Calendar days from issued locate number)
			If I am digging for the first time on this dig number, am I within 14 calendar days? If over, you must call Julie for new dig #.
			Pictures of Julie Locate Taken
WET CONDITIONS			
			Precautions taken to protect employees from water accumulation (continuous dewatering)
			Surface water or runoff diverted /controlled to prevent accumulation in the excavation
			Inspection made after every rainstorm or other hazard increasing occurrence
HAZARDOUS ATMOSPHERES			
			Air in the excavation tested for oxygen deficiency, combustibles, other contaminants
			Ventilation used in atmospheres that are oxygen rich/deficient &/or contains hazardous substances
			Ventilation provided to keep LEL below 10 %
			Emergency equipment available where hazardous atmospheres could or do exist
			Is a Confined Space Permit needed due to Hazardous Atmospheres, Engulfment or Entrapment? Would any other recognized serious hazard deem this a permit space? If not, then no confined space paperwork is needed for this job.
			Supplied air necessary (if yes, contact safety department)
ENTRY & EXIT			
			Exit (i.e., ladder, sloped wall, or ramp)
			Ladders secured and extended 3 feet above the edge of the trench
			Wood ramps constructed of uniform material thickness, cleated together at the bottom
			Employees protected from cave-ins when entering or exiting the excavation
ROUTING		CUSTOMER	
		PER. MANAGER	
		SCAN	SAFETY/PERMITS COMPLETED/EXCAVATION & TRENCHING/MMDDYY/LOCATION

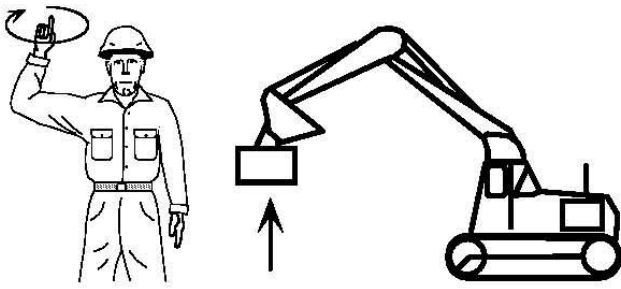
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Soil Classification Form

VISUAL TEST						
Please indicate Excavation Permit date & location that matches this form						
Particle type		Fine Grained (Cohesive)		Granular (sand/silt or gravel)		Other:
Water Conditions		Wet	Dry	Seeping Water	Surface Water present	Submerged
Notes						
Yes	No	N/A	Description			
			Layered Soils Dipping Into excavation? If yes, describe:			
			Excavation exposed to vibrations? If yes, describe:			
			Previously disturbed soils?			
			Crack like openings or sprawling observed?			
			Underground utilities? If yes, what type:			
			Layered soils? (Note: the least stable layer controls the soil type)			
MANUAL TEST						
Plasticity		Cohesive	Non-cohesive	Dry Strength	Cohesive (broken w/ difficulty)	Granular
Wet Shake		Water comes to surface (granular material)			Surface remains dry (clay material)	
THUMB TEST Note: Used to estimate unconfined compression strength of cohesive soil.						
Test Performed		Yes	No	N/A, Explain:		
Soil indented by thumb with very great effort?				Type A		
Soil indent by thumb with some effort?				Type B		
Soil easily penetrated several inches by thumb with little or no effort. NOTE: If soil is submerged, seeping water, subjected to surface water, runoff, exposed to wetting.				Type C		
PENETROMETER or SHEARVANE TEST Note: Used to estimate unconfined compressive strength of cohesive soils.						
Test Performed		Yes	No	Device Used / Serial Number:		
Soil with unconfined compressive strength of 1.5 tsf or greater				Type A		
Soil with unconfined compressive strength of greater than 0.5 tsf and less than 1.5 tsf.				Type B		
Soil with unconfined compressive strength of 0.5 tsf or less. Note: if the soil is submerged, seeping water, subjected to surface water, runoff, exposed to wetting.				Type C		
SOIL CLASSIFICATION						
Stable Rock		Type A		Type B		Type C
SELECTION OF PROTECTIVE SYSTEM (Refer to Appendix F of 29CFR1926)						
Sloping (Appendix B)		Timber Shoring		Trench Shield		Hydraulic Shoring
Specify angle:		(Appendix C)		Max depth in this soil:		(Appendix D)

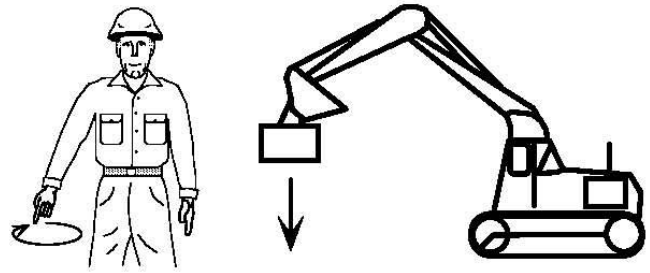
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Excavator & Backhoe Hand Signals



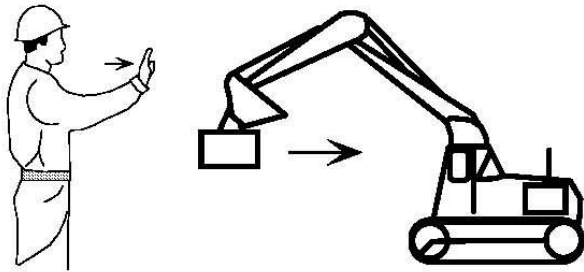
Raise Load Vertically

With forefinger vertical pointing up, move hand in small horizontal circular motion



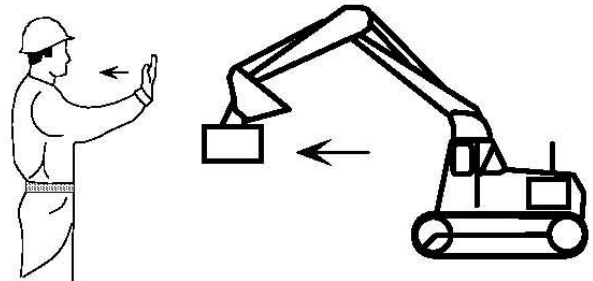
Lower Load Vertically

With forefinger vertical pointing down, move hand in small horizontal circular motion



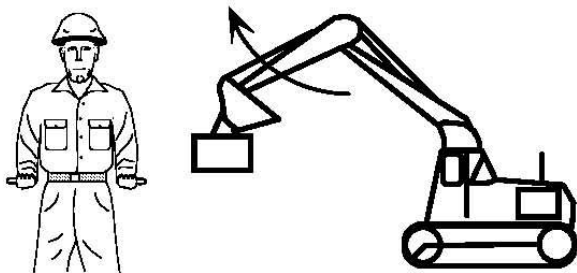
Move Load In Horizontally

With either arm extended, hand raised and open toward direction of movement, move hand in direction of required movement.



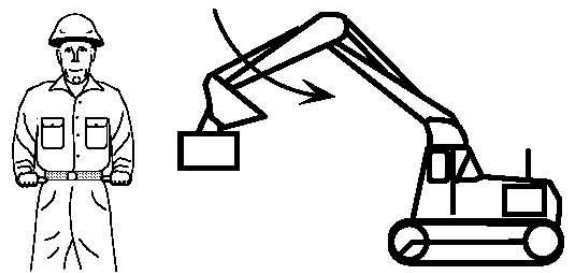
Move Load Out Horizontally

With either arm extended, hand raised and open toward direction of movement, move hand in direction of required movement.



Move Arm Outward

With both hands clenched, point thumbs outward



Move Arm Inward

With both hands clenched, point thumbs inward

Brieser Construction

Excavator & Backhoe Hand Signals



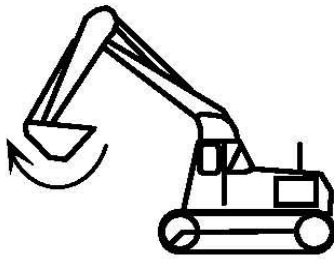
Retract Telescopic Boom

With both hands clenched, point thumbs in



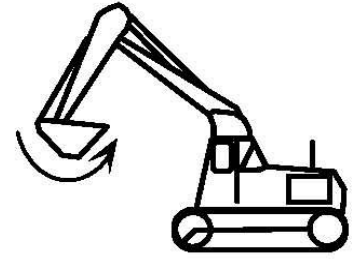
Extend Telescopic Boom

With both hands clenched, point thumbs out



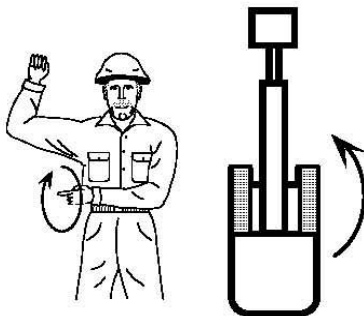
Open Bucket

Hold one hand open and stationary, Rotate other hand in small vertical circle with longfinger pointing horizontally at open hand



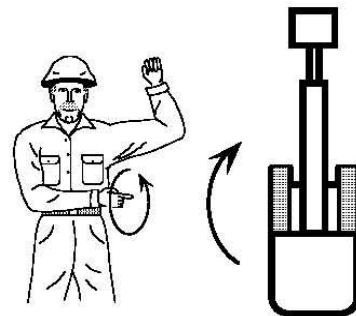
Close Bucket

Hold one hand closed and stationary, Rotate other hand in small vertical circle with longfinger pointing horizontally at closed hand



Turn

Raise forearm with closed hand indicating inside of turn. Move other other hand in circular motion point the direction of track or wheel rotation.

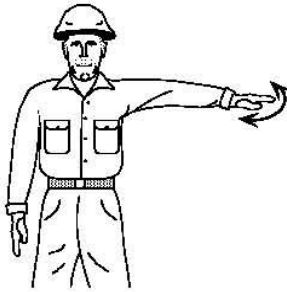


Turn

Raise forearm with closed hand indicating inside of turn. Move other other hand in circular motion point the direction of track or wheel rotation.

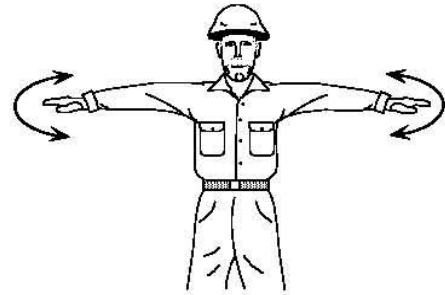
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Excavator & Backhoe Hand Signals



Stop

With either arm extended laterally, hands open downward, move arm back and forth



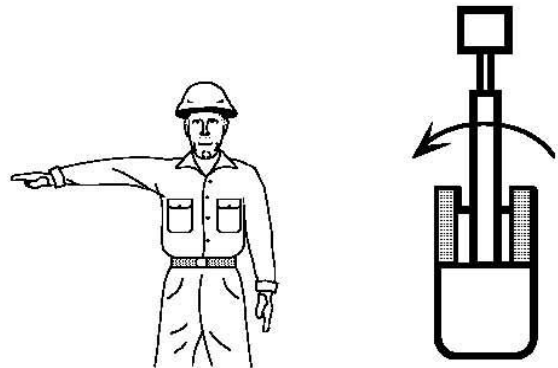
Emergency Stop

With both arms extended laterally, hands open downward, move arms back and forth



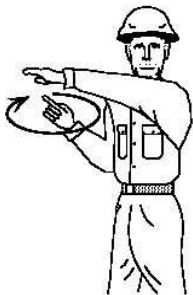
This Far To Go

With hands raised and open inward move hands laterally, indicating distance to go.



Swing (Left or Right)

With either arm extended horizontally point with forefinger to direction of swing rotation. (Swing left shown)

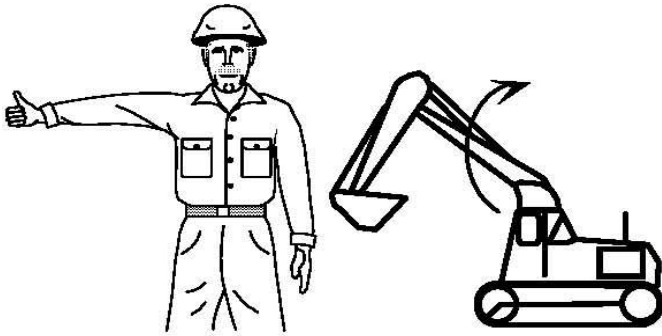


Move Slowly

Place one hand motionless in front of hand giving motion signal. (Raise load slowly is shown)

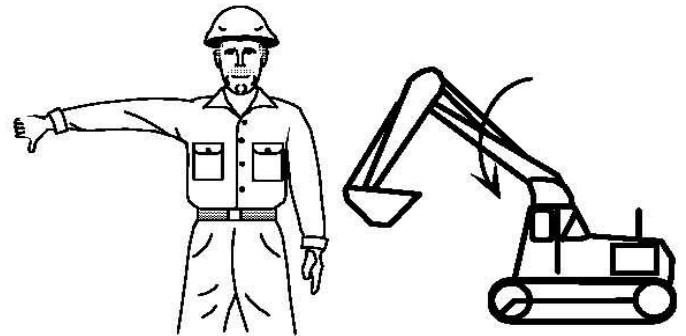
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Excavator & Backhoe Hand Signals



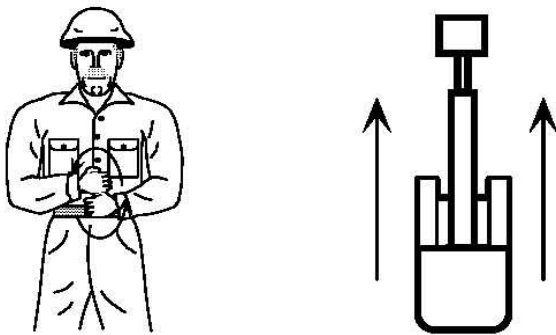
Raise Boom

With either arm extended horizontally, fingers closed, point thumb upward.



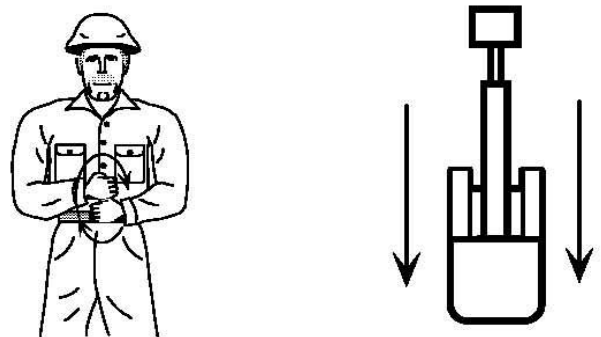
Lower Boom

With either arm extended horizontally, fingers closed, point thumb downward.



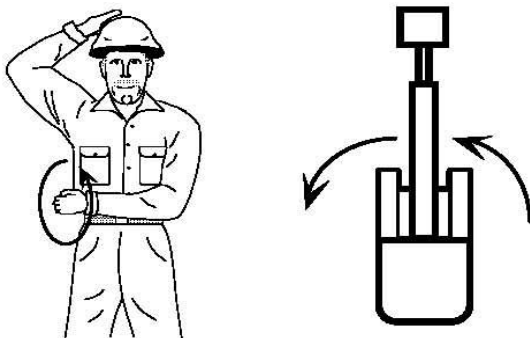
Travel

Move fists in vertical circle about each other in idirection of track or wheel rotation.



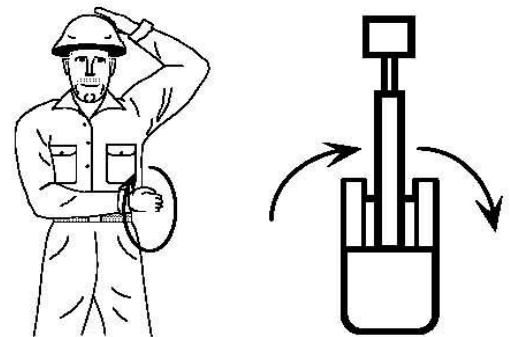
Travel

Move fists in vertical circle about each other in idirection of track or wheel rotation.



Counter Rotate

Place hand on head indicating side of reverse track or wheel rotation. Move other hand in vertical circle indicating forward rotation of other track or wheel.



Counter Rotate

Place hand on head indicating side of reverse track or wheel rotation. Move other hand in vertical circle indicating forward rotation of other track or wheel.

Excavating & Trenching Learning Exercise

Score:

%

Employees Name:	<table border="1" style="width: 200px; height: 20px;"></table>	Date:	<table border="1" style="width: 200px; height: 20px;"></table>
Company:	<table border="1" style="width: 200px; height: 20px;"></table>	Instructor:	<table border="1" style="width: 200px; height: 20px;"></table>
Trade:	<table border="1" style="width: 200px; height: 20px;"></table>	Job Title:	<table border="1" style="width: 200px; height: 20px;"></table>

Answer each of the following questions “True” or “False” by circling the appropriate letter.

- T F 1. Whenever an excavation is planned it is the responsibility of the excavator to make sure an 811 ticket is called in for the planned excavation area.
- T F 2. In the unlikely event that a utility would become damaged on your excavation site you should immediately repair it.
- T F 3. Vacuum Truck Operations can be found in Brieser Construction SH&E Section 51.
- T F 4. Heavy equipment shall not operate within five (3) feet of the slope of excavation without the approval of the superintendent.
- T F 5. Excavated or other materials shall not be stored closer than two (2) feet from the edge of any excavation and shall be stored and retained to prevent its falling or sliding back into the excavation.
- T F 6. Each employee in an excavation shall be protected from cave-ins by an adequate "protective system". The competent person shall refer to 29 CFR 1926.652 concerning design and determination applicable to soil classifications, sloping, benching, and shoring.
- T F 7. Inspection by the competent person shall be conducted daily before work begins and after rain, snow, freezing/thawing, or conditions which may affect the stability of the soil or shoring.
- T F 8. In excavations or trenches greater than four (4) feet in depth, where the possibility of oxygen deficiency or toxic/explosive conditions may exist, the atmosphere shall be tested in accordance with Confined Space Entry Procedure.
- T F 9. Employees shall always work underneath loads handled by lifting or digging equipment and shall stand away from vehicles being loaded or unloaded.
- T F 10. Walkways shall be provided where employees are required or permitted to cross over excavations. Walkways 6 feet or more above lower levels shall have guardrails per Brieser Construction SH&E Section 22.

Excavating & Trenching Learning Exercise

Answer Sheet

- T** Whenever an excavation is planned it is the responsibility of the excavator to make sure an 811 ticket is called in for the planned excavation area.
- F** In the unlikely event that a utility would become damaged on your excavation site you should immediately repair it.
- T** Vacuum Truck Operations can be found in Brieser Construction SH&E Section 51.
- F** Heavy equipment shall not operate within five (3) feet of the slope of excavation without the approval of the superintendent.
- T** Excavated or other materials shall not be stored closer than two (2) feet from the edge of any excavation and shall be stored and retained to prevent its falling or sliding back into the excavation.
- T** Each employee in an excavation shall be protected from cave-ins by an adequate "protective system". The competent person shall refer to 29 CFR 1926.652 concerning design and determination applicable to soil classifications, sloping, benching, and shoring.
- T** Inspection by the competent person shall be conducted daily before work begins and after rain, snow, freezing/thawing, or conditions which may affect the stability of the soil or shoring.
- T** In excavations or trenches greater than four (4) feet in depth, where the possibility of oxygen deficiency or toxic/explosive conditions may exist, the atmosphere shall be tested in accordance with Confined Space Entry Procedure.
- F** Employees shall always work underneath loads handled by lifting or digging equipment and shall stand away from vehicles being loaded or unloaded.
- T** Walkways shall be provided where employees are required or permitted to cross over excavations. Walkways 6 feet or more above lower levels shall have guardrails per Brieser Construction SH&E Section 22.



Section 25
Safety Health
and
Environmental
Manual

2025

Process Safety Management

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2008
		Revised	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Process Safety Management - PSM		
CROSS REFERENCE:	29 CFR 1926.64 Process safety management of highly hazardous chemicals		

PURPOSE

To prevent or minimize the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals and establish guidelines for working around process equipment within operating units.

SCOPE

This program shall apply to all Brieser Construction employees working around or on commissioned Process equipment that involves:

1. Chemical at or above the specified threshold quantities listed in CFR 1910.119 appendix A (attached)
2. Flammable liquid or gas on site in one location in a quantity of 10000 pounds or more (not including refueling stations, or heating gas storage)

RESPONSIBILITIES

Employees of Brieser Construction Co. will follow the plant PSM procedures set forth for working around such chemicals.

Procedure

This Process Safety Management plan should encompass the following:

Owner responsibilities

1. Evaluation of contractor safety programs
2. Information of known potential fire, explosion, or toxic released hazards
3. Emergency action plans
4. Dissemination of safe work practices around process equipment including Process Hazard Analysis, Fault Tree Analysis, Hazard & Operability Studies (HAZOPS) and Scope of Work containing management of change procedures and specifications.
5. Owner auditing of contractor performance
6. Maintenance of injury and illness logs.
7. Hot Work shall not be performed until a Hot Work Permit is obtained from our customer/host/facility/client. If a customer Hot Work Permit is being used, it shall be compared to this policies Hot Work Permit and verified that all sections are as stringent as or more stringent than this policy.
8. All incidents must be immediately reported to the President immediately. Lexi Southall (815)-955-3972

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Contractor responsibilities

1. Proper training to perform job.
2. Instruction of known potential fire, explosion, or toxic release hazards to the employee related to their job and the process.
3. Documentation of training
4. Assurance that employees follow facility safety rules & respect the confidentiality of trade secret information.
5. Notification to the owner of hazards that are associated with the Contractors work and of any hazards found by the Contractor.

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Subpart H-Hazardous Materials

APPENDIX A TO § 1910.119-LIST OF HIGHLY HAZARDOUS CHEMICALS, TOXICS AND REACTIVES (MANDATORY)

This appendix contains a listing of toxic and reactive highly hazardous chemicals which present a potential for a catastrophic event at or above the threshold quantity.

General Industry Standards

CHEMICAL NAME	CAS*	TQ**
Acetaldehyde	75-07-0	2500
Acrolein (2-Propenal)	107-02-8	150
Acrylyl chloride	814-68-6	250
Allyl chloride	107-05-1	1000
Allylamine	107-11-9	1000
Alkylaluminums	Varies	5000
Ammonia, Anhydrous	7664-41-7	10000
Ammonia solutions (>44% ammonia by weight)	7664-41-7	15000
Ammonium Perchlorate	7790-98-9	7500
Ammonium Permanganate	7787-36-2	7500
Arsine (also called Arsenic Hydride)	7784-42-1	100
Bis(Chloromethyl) Ether	542-88-1	100
Boron Trichloride	10294-34-5	2500
Boron Trifluoride	2095581	250
Bromine	7726-95-6	1500

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CHEMICAL NAME	CAS*	TQ**
Bromine Chloride	13863-41-7	1500
Bromine Pentafluoride	7789-30-2	2500
Bromine Trifluoride	7787-71-5	15000
3-Bromopropyne (also called Propargyl Bromide)	106-96-7	100
Butyl Hydroperoxide (Tertiary)	75-91-2	5000
Butyl Perbenzoate (Tertiary)	614-45-9	7500
Carbonyl Chloride (see Phosgene)	75-44-5	100
Carbonyl Fluoride	353-504	2500
Cellulose Nitrate (concentration >12.6% nitrogen)	9004-70-0	2500
Chlorine	7782-50-5	1500
Chlorine Dioxide	10049-04-4	1000
Chlorine Pentafluoride	13637-63-3	1000
Chlorine Trifluoride	7790-91-2	1000
Chlorodiethylaluminum (also called Diethyl aluminum Chloride)	96-10-6	5000
1-Chloro-2, 4-Dinitrobenzene	97-00-7	5000
Chloromethyl Methyl Ether	107-30-2	500
Chloropicrin	76-06-2	500
Chloropicrin and Methyl Bromide mixture	None	1500
Chloropicrin and Methyl Chloride mixture	None	1500

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CHEMICAL NAME	CAS*	TQ**
Cumene Hydroperoxide	80-15-9	5000
Cyanogen	460-19-5	2500
Cyanogen Chloride	506-774	500
Cyanuric Fluoride	675-14-9	100
Diacetyl Peroxide (Concentration >70%)	110-22-5	5000
Diazomethane	334-88-3	500
Dibenzoyl Peroxide	94-36-0	7500
Diborane	19287-45-7	100
Dibutyl Peroxide (Tertiary)	110-05-4	5000
Dichloro Acetylene	7572-29-4	250
Dichlorosilane	4109-96-0	2500
Diethylzinc	557-20-0	10000
Dilsopropyl Peroxydicarbonate	105-64-6	7500
Dilauroyl Peroxide	105-74-8	7500
Dimethyldichlorosilane	75-78-5	1000
Dimethylhydrazine, 1, 1	57-14-7	1000
Dimethylamine, Anhydrous	124-40-3	2500
2, 4 Dinitroaniline	97-02-9	5000
Ethyl Methyl Ketone Peroxide (also Methyl Ethyl Ketone Peroxide; concentration >60%)	1338-23-4	5000

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CHEMICAL NAME	CAS*	TQ**
Ethyl Nitrite	109-95-5	5000
Ethylamine	75-04-7	7500
Ethylene Fluorohydrin	371-62-0	100
Ethylene Oxide	75-21-8	5000
Ethyleneimine	151-56-4	1000
Fluorine	7782-41-4	1000
Formaldehyde (Formalin)	50-00-0	1000
Furan	110-00-9	500
Hexafluoroacetone	684-16-2	5000
Hydrochloric Acid, Anhydrous	7647-01-0	5000
Hydrofluoric Acid, Anhydrous	7664-39-3	1000
Hydrogen Bromide	10035-10-6	5000
Hydrogen Chloride	7647-01-0	5000
Hydrogen Cyanide, Anhydrous	74-90-8	1000
Hydrogen Fluoride	7664-39-3	1000
Hydrogen Peroxide (52% by weight or greater)	7722-84-1	7500
Hydrogen Selenide	7783-07-5	150
Hydrogen Sulfide	7783-06-4	1500
Hydroxylamine	7803-49-8	2500

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CHEMICAL NAME	CAS*	TQ**
Iron, Pentacarbonyl	13463-40-6	250
Isopropylamine	75-31-0	5000
Ketene	463-51-4	100
Methacrylic Aldehyde	78-85-3	1000
Methacryloyl Chloride	920-46-7	150
Methacryloyloxyethyl Isocyanate	30674-80-7	100
Methyl Acrylonitrile	126-98-7	250
Methylamine, Anhydrous	74-89-5	1000
Methyl Bromide	74-83-9	2500
Methyl Chloride	74-87-3	15000
Methyl Chloroformate	79-22-1	500
Methyl Ethyl Ketone Peroxide (concentration >60%)	1338-23-4	5000
Methyl Fluoroacetate	453-18-9	100
Methyl Fluorosulfate	421-20-5	100
Methyl Hydrazine	60-34-4	100
Methyl Iodide	74-88-4	7500
Methyl Isocyanate	624-83-9	250
Methyl Mercaptan	74-93-1	5000
Methyl Vinyl Ketone	79-84-4	100

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CHEMICAL NAME	CAS*	TQ**
Methyltrichlorosilane	75-79-6	500
Nickel Carbonyl (Nickel Tetracarbonyl)	13463-39-3	150
Nitric Acid (94.5% by weight or greater)	7697-37-2	500
Nitric Oxide	10102-43-9	250
Nitroaniline (para Nitroaniline)	100-01-6	5000
Nitromethane	75-52-5	2500
Nitrogen Dioxide	10102-44-0	250
Nitrogen Oxides (NO; NO ₂ ; N ₂ O ₄ ; N ₂ O ₃)	10102-44-0	250
Nitrogen Tetroxide (also called Nitrogen Peroxide)	10544-72-6	250
Nitrogen Trifluoride	7783-54-2	5000
Nitrogen Trioxide	10544-73-7	250
Oleum (65% to 80% by weight; also called Fuming Sulfuric Acid)	8014-95-7	1000
Osmium Tetroxide	20816-12-0	100
Oxygen Difluoride (Fluorine Monoxide)	7783-41-7	100
Ozone	10028-15-6	100
Pentaborane	19624-22-7	100
Peracetic Acid (concentration >60% Acetic Acid; also called Peroxyacetic Acid)	79-21-0	1000
Perchloric Acid (concentration >60% by weight)	7601-90-3	5000
Perchloromethyl Mercaptan	594-42-3	150

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CHEMICAL NAME	CAS*	TQ**
Perchloryl Fluoride	7616-94-6	5000
Peroxyacetic Acid (concentration >60% Acetic Acid; also called Peracetic Acid)	79-21-0	1000
Phosgene (also called Carbonyl Chloride)	75-44-5	100
Phosphine (Hydrogen Phosphide)	7803-51-2	100
Phosphorus Oxychloride (also called Phosphoryl Chloride)	10025-87-3	1000
Phosphorus Trichloride	2125683	1000
Phosphoryl Chloride (also called Phosphorus Oxychloride)	10025-87-3	1000
Propargyl Bromide	106-96-7	100
Propyl Nitrate	627-3-4	2500
Sarin	107-44-8	100
Selenium Hexafluoride	7783-79-1	1000
Stibine (Antimony Hydride)	7803-52-3	500
Sulfur Dioxide (liquid)	2025884	1000

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CHEMICAL NAME	CAS*	TQ**
Sulfur Pentafluoride	5714-22-7	250
Sulfur Tetrafluoride	7783-60-0	250
Sulfur Trioxide (also called Sulfuric Anhydride)	2025949	1000
Sulfuric Anhydride (also called Sulfur Trioxide)	2025949	1000
Tellurium Hexafluoride	7783-80-4	250
Tetrafluoroethylene	116-14-3	5000
Tetrafluorohydrazine	10036-47-2	5000
Tetramethyl Lead	75-74-1	1000
Thionyl Chloride	2125597	250
Trichloro (chloromethyl) Silane	1558-25-4	100
Trichloro (dichlorophenyl) Silane	27137-85-5	2500
Trichlorosilane	10025-78-2	5000
Trifluorochloroethylene	79-38-9	10000
Trimethoxysilane	2487-90-3	1500

*Chemical Abstract Service Number.

**Threshold Quantity in Pounds (Amount necessary to be covered by this standard).

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Process Safety Management Learning Exercise

Score: %

Employees Name: Date:

Answer each of the following questions by circling the appropriate letter.

1. The purpose of this section is to prevent or minimize the consequences of catastrophic releases of _____ chemicals and establish guidelines for working around process equipment within operating units. (Circle all that apply).
 - a. Toxic
 - b. Reactive
 - c. Liquid
 - d. Flammable
 - e. Explosive

2. Employees of Brieser Construction will follow the plant Process Safety Management procedures set forth for working around such chemicals.
 - a. True
 - b. False

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Process Safety Management Learning Exercise

Answer Sheet

- The purpose of this section is to prevent or minimize the consequences of catastrophic releases of _____ chemicals and establish guidelines for working around process equipment within operating units. (Circle all that apply).
 - Toxic**
 - Reactive**
 - Liquid
 - Flammable**
 - Explosive**
- Employees of Brieser Construction will follow the plant Process Safety Management procedures set forth for working around such chemicals.
 - True**
 - False



Section 26
Safety Health
and
Environmental
Manual

2025

Industrial Hygiene

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	1/9/2018
		Revised:	12/2023
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CROSS REFERENCE:	29 CFR 1926 Subpart Z, Toxic, and hazardous substances ACGIH TLV's & BEI's		

PURPOSE

Brieser Construction Company is committed to providing every employee with a work environment free from recognized occupational health and safety hazards. In support of this commitment, we administer a comprehensive industrial hygiene program geared to anticipate, recognize, evaluate, and control potential health hazards in our workplace and on our jobsites.

The purpose of this section is to describe the process by which the company will implement the industrial hygiene program. Health hazards are chemical, physical (such as noise and heat stress), ergonomic or biologic hazards that can cause an occupational illness. For the purpose of this section, an occupational illness is, as defined by OSHA, considered to be “any abnormal condition or disorder, other than one resulting from an occupational injury, caused by factors associated with employment.”

Brieser Construction Company’s industrial hygiene program is designed to:

- Systematically evaluate the degree of employee exposure to health hazards on the job.
- Evaluate the need for and effectiveness of control measures.
- Identify tasks or processes that could be the source of peak exposures.
- Evaluate the impact of change (such as procedural, equipment, material & tools) on employee exposures; Ergonomic equipment will be used to improve workplace conditions such as anti-vibration gloves for handling tools such as jackhammers, employee rotation to reduce exposures, proper lighting and control of temperature, and other ergonomic devices as deemed appropriate.
- Evaluate work tasks to control fatigue are analyzed and evaluated periodically.
- Evaluate conformance with established occupational exposure limits.

SCOPE

This section applies to all Brieser Construction Co affiliates. Any subcontractors working for us will be expected to have equally as effective programs in place or we may elect to include them at some sites under this program.

The following job tasks (Table 1) are common to Brieser Construction and will be assessed for exposures by a Qualitative/Quantitative assessment.

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Table 1			
General Category	Job Task	Agent	Exposure Information Substance
Concrete	Concrete Cutting (Wet & Dry)	Acoustics, Portland Cement Dust, Ergonomics, Exhaust Fumes	Noise, Inhalable Dust, Respirable Silica, Carbon Monoxide, Vibrations
	Concrete Chipping/Demolition	Acoustics, Portland Cement Dust, Ergonomics, Exhaust Fumes	Noise, Inhalable Dust, Respirable Silica, Carbon Monoxide, Vibrations
	Compacting	Acoustics, Portland Cement Dust, Ergonomics, Exhaust Fumes	Noise, Inhalable Dust, Respirable Silica, Carbon Monoxide, Vibrations
	Pouring/Setting	Portland Cement	pH-Skin
	Power Finishing	Exhaust Fumes	Carbon Monoxide
Excavation	Hammer attachment for machine on bedrock	Acoustics, Dust, Ergonomics, Exhaust Fumes	Noise, Musculoskeletal Diseases, Total/Respirable & Silica, Carbon Monoxide
	Digging-Refineries/Chem Plants	Acoustics,Dust,Ergonomics, Exhaust Fumes, Impacted Soils	Noise, Nuisance Dust, Musculoskeletal Diseases, Carbon Monoxide, BTEX-Benzene, Ethylbenzene,Toluene,Xylene
Metalwork	Arc Welding	Welding Fumes, Nonionizing Radiation	*Metals, UV radiation, (CrVI Stainless Steel)
	Tig Welding	Welding Fumes, Nonionizing Radiation	*Metals, UV, (CrVI Stainless Steel)
	Mig Welding	Welding Fumes, Nonionizing Radiation	*Metals, UV, (CrVI Stainless Steel)
	Torch Cutting	Fumes, Nonionizing Radiation	*Metals, UV, (CrVI Stainless Steel)
	Grinding	Grinding Fumes	(CrVI Stainless Steel)
Woodworking	Cutting	Wood Dusts	Respirable Dust (Western Red Cedar A1 Carcinogen and a Sensitizer)
	Sanding	Wood Dusts	Respirable Dust (Western Red Cedar A1 Carcinogen and a Sensitizer)
Demolition	Demolition/Renovati on, Gut Rehab, partial structural or nonstructural	Lead based paint, Asbestos,Exhaust Fumes,Acoustics,Welding/C utting/Grinding fumes, Dust	Lead, Asbestos, Carbon Monoxide, *Metals, UV, CrVI Stainless Steel, *Metals

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*Metal Profile:	Antimony	0.9µg
	Beryllium	0.15µg, 0.0075µg
	Cadmium	0.15µg, 0.015µg
	Chromium	3.0µg
	Cobalt	0.45µg, 0.045µg
	Copper	0.3µg
	Iron Oxide	11µg
	Lead	0.38µg, 0.075µg
	Manganese	0.15µg
	Molybdenum	0.15µg, 0.075µg
	Nickel	0.3µg, 0.15µg
	Vanadium	0.45µg
	Zinc Oxide	2.8µg

symbol: **µg** or mcg = microgram (plural micrograms)

A unit of mass equal to one millionth of a gram, or 0.000 001 grams.

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HAZARD RECOGNITION

As a part of the overall health hazard surveillance process, the Safety Director, assisted by the jobsite Supervisor, will complete an initial identification (baseline health hazard assessment) of the potential health hazards anticipated at each jobsite based on the scope of work to be completed. Brieser Construction Company will provide the resources of a professional *Certified Industrial Hygienist* (or CIH is certified in the comprehensive practice of industrial hygiene by the American Board of Industrial Hygiene) on a contract basis to provide technical support and consultation as needed to complete the baseline health hazard survey.

Specified personnel will complete the baseline assessment by:

- Reviewing the chemical/hazardous material inventory and related Safety Data Sheets (refer to Section 6 Hazard Communication Program).
- Understanding the health effects, exposure limits toxicity and routes of entry for hazardous chemicals as reported in the SDS.
- Surveying potential health hazards on the jobsite of routine and non-routine tasks.
- Observing jobsite work processes and employee work practices.
- Estimating employee exposure levels based on the documentation of previous sampling results or screening sampling using direct reading instruments (such as detector tubes or a sound level meter).
- Reviewing hazards associated with non-routine tasks.
- Reviewing medical records.
- Following up on employee complaints.
- Documenting the process.

This initial evaluation, or screening, forms the basis for determining if more detailed sampling (exposure monitoring) is needed. Brieser Construction Company has adopted the more stringent of the OSHA Permissible Exposure Limit (PEL) or American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) as the internal exposure standard against which employee exposures to chemical hazards will be evaluated.

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If the initial evaluation indicates employee exposures may exist at levels greater than 50% of the Brieser Construction internal exposure standard (or above a specific OSHA Action Level), then additional air sampling/exposure monitoring will be performed if historical data is unavailable.

However, additional air sampling/exposure monitoring may not be done if adequate documentation is available through historical sample records (data) collected from previous jobsites. That historical data will be used as a baseline when it can be demonstrated that the sampling was conducted under worksite conditions closely resembling the processes, type of material, control methods, work processes, and environmental conditions prevailing under current jobsite operations. Historical data will be reviewed and updated as deemed necessary by the Safety Manager but no less frequent than annually.

If operations, equipment, or materials being used on a jobsite vary significantly from an established hazard assessment, a new hazard analysis will be completed. It will be conducted prior to beginning the associated task to ensure adequate controls are in place and air sampling is provided, as necessary.

HAZARD EVALUATION

The Hazard Evaluation process consists of two major components, a qualitative assessment, and a quantitative assessment. The American Industrial Hygiene Associations' Qualitative Exposure Assessment Process will be used as a guide for this part of the program. The OSHA Technical Manual and NIOSH Sampling Guides will be used as guides for conducting quantitative assessments.

These assessments will be summarized and provided to field personnel as part of their IH hazard awareness training and to assist them in conducting a pre-job safety analysis and documented on Brieser Constructions Co. Total Safety Task Instruction form.

Qualitative Assessments

The qualitative assessment will follow these basic steps:

- A listing of all significant tasks is compiled by the site including specifics like frequency, task duration, and conditions.
- Potential chemicals involved are listed for each task.
- An appropriate number of people are interviewed about each task and field observations made as needed.
- Work tasks may be grouped into similar exposure groups.
- Exposure groups are rated on the basis of exposure potential and chemical/physical hazards to develop a risk matrix to identify high risk vs. low-risk task activities.
- A list of work tasks at our job sites is found in Table 1.

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Qualitative Assessments continued

- A copy of completed qualitative assessments with their rating is in Appendix A.
- On an annual basis as part of this program review. The lists of tasks will be reviewed by work sites to verify they remain accurate.
- At least every three years each activity will be reassessed as part of a revalidation process.
 - Reassessments will include a review of past monitoring data from the specific work site as well similar data from other locations.
 - The activities and chemical lists will be re-verified as accurate.
 - A representative number of personnel will be interviewed to ensure condition have not changed from the past evaluation.
 - Any changes found will be made to the assessment documentation and utilized as part of planning for the next monitoring cycle.

As a part of the overall health hazard surveillance process, a qualified Industrial Hygienist, assisted by the jobsite Supervisor and the safety department, will complete an initial identification (baseline health hazard assessment) of the potential health hazards anticipated at each jobsite based on the scope of work to be completed. These tasks and associated health hazards are listed in Table 1.

Brieser Construction Company will provide the resources of a professional Certified Industrial Hygienist (a CIH certified in the comprehensive practice of industrial hygiene by the American Board of Industrial Hygiene) on a contract basis to provide technical support and consultation as needed to complete the baseline health hazard survey.

Specified Brieser Construction personnel will complete the baseline assessment by:

- Reviewing the chemical/hazardous material inventory and related Safety Data Sheets (refer to Section 6 Hazard Communication Program).
- Understanding the health effects, exposure limits toxicity and routes of entry for hazardous chemicals as reported in the SDS.
- Surveying potential health hazards on the jobsite of routine and non-routine tasks.
- Observing jobsite work processes and employee work practices.
- Estimating employee exposure levels based on the documentation of previous sampling results or screening sampling using direct reading instruments (such as detector tubes or a sound level meter).

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Specified Brieser Construction personnel will complete the baseline assessment by:

- Reviewing hazards associated with non-routine tasks.
- Reviewing medical records.
- Following up on employee complaints.
- Documenting the process.

This initial evaluation, or screening, forms the basis for determining if more detailed sampling (exposure monitoring) is needed. Brieser Construction Company has adopted the more stringent of the OSHA Permissible Exposure Limit (PEL) or American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) as the internal exposure standard against which employee exposures to chemical hazards will be evaluated. If the initial evaluation indicates employee exposures may exist at levels greater than 50% of the Brieser Construction internal exposure standard (or above a specific OSHA Action Level), then a quantitative assessment or additional air sampling/exposure monitoring will be performed if historical data is unavailable.

However, additional air sampling/exposure monitoring may not be done if adequate documentation is available through historical sample records (data) collected from previous jobsites. That historical data will be used as a baseline when it can be demonstrated that the sampling was conducted under worksite conditions closely resembling the processes, type of material, control methods, work processes, and environmental conditions prevailing under current jobsite operations. Historical data will be reviewed and updated as deemed necessary by the Safety Manager but no less frequent than annually.

If operations, equipment, or materials being used on a jobsite vary significantly from an established hazard assessment, a new hazard analysis will be completed. It will be conducted prior to beginning the associated task to ensure adequate controls are in place and air sampling is provided, as necessary.

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Once the job evaluation is completed the significant chemical and physical hazards should be listed and a qualitative exposure range assigned (this is without regard to respirator use). Any PPE or other controls in use should be noted. The exposure ranges used are:

- Nil – no more than a slight trace exposure
- < 10% - while there is some exposure it is expected to normally be below 10% of applicable limits.
- 10-50% - expected to normally be 10-50% of applicable limits.
- 50-100% - expected to normally be 50-100% of applicable limits.
- 1-5x - expected to normally be 1-5x the applicable limits
- 5-10x - expected to normally be 5-10x the applicable limits
- 10-50x - expected to normally be 10-50x the applicable limits
- 50-100 - expected to normally be 50-100x the applicable limits.
- >100x - expected to normally be >100x the applicable limits.

QUANTITATIVE ASSESSMENTS

The exposure monitoring portion of the exposure assessment process is used to verify the qualitative exposure assessment rating and ensure personnel are adequately protected from potentially hazardous exposures. Monitoring will consist of both an annual plan as well as unplanned monitoring for non-typical activities that may come up during the year, changes in conditions, or if there is a much higher frequency of those activities.

The Safety Director and a certified Industrial Hygienist will train the jobsite Supervisor or a site Safety Coordinator as a monitoring technician to conduct air sampling/exposure monitoring. It will be performed under the direction of an industrial hygienist (CIH) available to provide technical support and consultative resource under contract to Brieser Construction. Sampling and analysis methods used will be in accordance with nationally recognized procedures. An American Industrial Hygiene Association (AIHA) accredited laboratory will be used to analyze all samples. (Whenever possible, the NIOSH Manual of Analytical Methods will be used to define the sampling and analytical procedures used).

Initial employee exposure monitoring will target the most highly exposed employee or group of employees (those at greatest risk) based on the initial assessment. If monitoring of the employee or employee groups at greatest risk indicates exposure levels to be above the Brieser Construction internal exposure standard, then a larger, representative sample of other employees potentially exposed to the agent should also be monitored. If monitoring of the "maximum at risk" employee (or group of employees) shows exposure levels to be below the Brieser Construction internal exposure standard, then it is reasonable to assume other employee exposure levels are also below the relevant exposure limit.

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Whenever possible, Brieser Construction will perform personal exposure monitoring to characterize employee exposure levels. For personal exposure monitoring, air samples will be collected and analyzed, or other monitoring data will be obtained using dosimeter devices attached to the person.

Examples of this are:

- Collection of breathing zone air samples with sampling media clipped to the employee's collar.
- Audio dosimetry (refer to Section 21 Hearing Conservation) performed with an electronic dosimeter microphone clipped to the employee's collar.
 - Exposure monitoring will be designed to measure employee's time-weighted average exposure and, where applicable, short-term, task specific or ceiling exposure to the hazard. Full shift personal samples shall be representative of the employees regular, daily exposure to agents listed in Table 1.

Personal exposure monitoring will be repeated for each task/operation at least annually for exposures to those health hazards found to exceed the Brieser Construction internal exposure standard. However, if specific OSHA standards (such as lead) require more frequent exposure monitoring based on exposure levels measured, Brieser's sampling protocol will be adjusted to be in compliance with the OSHA requirement.

- Brieser Construction will provide additional air sampling/exposure monitoring if:
- Employees have complained of signs of illness.
- Exposures incidents or near-misses have occurred.
- Controls were implemented and their effectiveness needs to be evaluated.
- Recommended by Brieser Construction's consulting CIH.

Brieser Construction uses the results of air sampling/exposure monitoring to identify areas for additional, more-in-depth study, to select hazard controls, and to document that existing controls are adequate.

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Brieser Construction will maintain documentation of air sampling/exposure monitoring results including a description of the work process, controls in place, sampling exposure calculations, duration, route and frequency of exposure, name of employee sampled, time of sampling, sampling and analytical method, and total number of potentially exposed employees for no less than a period of 30 years after termination. Sampling results are communicated to employees. Employees will be notified within OSHA time frames or if there is no mandated time frame within 2 weeks of receipt of the results.

If samples are collected at a host site result will be provided to the site Industrial Hygienist or Safety contact. These will be sent out no more than 30 days after receipt of the results or as soon as practical if levels exceed the exposure limits used by the site (ACGIH TLV's or OSHA PEL's)

Control measures will be recommended based on monitoring results using the 95% confidence level (see ACGIH)

HAZARD CONTROL

Within Brieser Construction Company, controls related to industrial hygiene exposures are designed and implemented according to the following hierarchy of control.

Engineering Controls: The most preferred control option is to eliminate the exposure risk by changing the process/chemical or substituting a process/chemical that does not pose a hazard. Other engineering controls, implemented to reduce the concentration or intensity of an agent, include ventilation, isolation, and/or enclosure of hazardous agents. If exposure risks cannot be eliminated or substituted, engineering controls are the preferred method of controlling chemical/physical/biological agent exposure hazards.

Administrative/Work Practice Controls: These exposure controls are typically used as short-term (interim) controls to reduce the duration of exposure while implementing engineering controls. Administrative methods limit daily exposures by manipulating the work schedule or work habits. Job rotation is an example of an administrative control. Work practice controls can include employee training, workplace rules, safety and health practices, personal hygiene, housekeeping, and maintenance.

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Personal Protective Equipment: Personal protective equipment (PPE) represents the least preferred control method and can include anything from gloves to respirators. Brieser Construction recognizes that PPE does not affect the concentration/intensity or duration of exposure, but only provides a barrier between the agent and the employee. For this reason, Brieser Construction will strive for engineering and/or administrative/work practice controls whenever feasible and practical, recognizing though that in the construction industry, the nature of operations and tasks may result in increased reliance on personal protective equipment. PPE will be used in conjunction with engineering and administrative controls. For additional information, also refer to Section 7 Respiratory Protection Program and Section 21 Hearing Conservation.

TRAINING

Based on our assessments (Qualitative or Quantitative) the following health hazards will require a minimum awareness level of training before beginning work on any of the tasks listed in Table

- Asbestos Awareness
 - (Conducted at Three Rivers Manufacturing Training Center & Orientation)
- Lead Awareness- Refinery
 - (Conducted at Three Rivers Manufacturing Training Center & Orientation)
- Welding, Cutting and Grinding Health Hazards of *Metals Awareness
 - (Conducted during Orientation I)
- Hydrogen Sulfide Awareness- Refinery
 - (Conducted at Three Rivers Manufacturing Training Center & Orientation and Brieser SH&E manual section 37)
- Hearing Conservation
 - (Conducted during Orientation I)

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TRAINING continued

- Silica Awareness
 - (Conducted during Orientation I)
- Silica Supervisor
 - (Conducted during Orientation I)
- Carbon Monoxide
 - (Conducted during Orientation I)
- Benzene
 - (Conducted at Three Rivers Manufacturing Training Center & Orientation and Brieser SH&E manual section 36)

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Safe Drinking Water Procedures

Portable Water Coolers

To ensure employees have safe drinking water on the job site, certain steps need to be taken. The job site foreman should pick out 1 or 2 people to do the job of providing potable water to the job site.



- Water coolers need to be cleaned daily. Items required for cleaning the coolers are.
- Scrub brush that is marked for cleaning the outside of the containers only.
- Long handled scrub brush that is marked for cleaning the inside of the containers only.
- Test tube brush
- Powered baking soda (Arm & Hammer)
- Potable water
- Diluted bleach solution (200 PPM): Into (1) gallon of potable water, carefully mix one half ounce of household bleach (Clorox or any similar 5.25% sodium hypochlorite solution in water). Always use caution when mixing acids and water.

To start the cleaning procedure:

- Wash hands and arms thoroughly with soap and water. Rinse thoroughly and dry.
- Hose off the inside and outside of the container.
- Thoroughly scrub the outside of the container with a mild detergent such as dishwashing detergent. (Do not use this brush for any other purpose.) Thoroughly rinse the outside with potable water.
- Open the container and sprinkle 1 to 2 ounces of dry baking soda into the inside followed with enough potable water to make a loose paste mixture. Thoroughly scrub inside the container with a long-handled brush. (Do not use this brush for any other purpose.)

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STANDARD OPERATING PROCEDURE:		Industrial Hygiene	
CROSS REFERENCE:	29 CFR 1926 Subpart Z, Toxic, and hazardous substances ACGIH TLV's & BEI's		

To start the cleaning procedure continued:

- Thoroughly clean inside the spigot with the test tube brush. (Do not use this brush for any other purpose.)
- Thoroughly rinse the inside using potable water. Rinse spigot by opening.
- Disinfect inside the container with the bleach solution for no less than one minute. (Switch about a quart of the solution inside the container so that all surfaces are contacted. Let stand for one minute.) Allow a portion of the solution to drain through the spigot.
- Thoroughly rinse the inside with potable water.
- A diluted baking soda rinse can be used at this point to neutralize any excess chlorine taste in the water. Use about a teaspoon of baking soda in one gallon of water. Rinse again with potable water.

Fill the water cooler with fresh potable water and ice. Then use duct tape to seal the lid shut, date it, and identify the contents. Be sure to have a receptacle for cup dispensing and a receptacle for throwing away used cups. This should be done every day at the beginning of the shift, and it should be refilled as needed throughout the day.

Water handlers shall maintain a high level of personal hygiene. This includes clean work clothes, skin, fingernails, hair, and mustaches.

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Bottled Water Coolers

- Use bottled water coolers only for water from vendor filled containers and no other liquid (this also strictly prohibits things like “Squencher”).
- Store bottles and bottle coolers away from potential contamination.
- Inspect bottles and bottle coolers when refilling to ensure cleanliness.
- Do not refill vendor water bottles.
- Use the water guard devices on the bottle stands (small inner nozzle that pops into the bottle and has a dust filter).
 - Do not remove the bottle cap, only the small paper tab on top.
 - When the bottle is placed on the cooler an insert in the cooler will pop out the inner plastic tab.
 - As water is drained out air enters the bottle through a filter keeping dust and debris out. This prevents any contamination from entering the water you drink. If the entire cap is removed when the bottle is placed on the cooler the air filter will become waterlogged and will not allow air in. The filter must be replaced to fix the cooler.



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Industrial Hygiene Learning Exercise

Score: %

Employees Name: **Date:**

Answer each of the following questions by circling the appropriate letter.

1. Brieser Construction is committed to providing every employee with a work environment free from recognized _____ hazards. (Circle all that apply)
 - a. Occupational
 - b. Health
 - c. Safety
 - d. Emotional

2. The Hazard Evaluation process consists of two major components, a _____ assessment, and a _____ assessment. (Pick 2)
 - a. Qualitative
 - b. Quizzable
 - c. Quantitative
 - d. Quintessential

3. As a part of the overall health hazard surveillance process, a qualified Industrial Hygienist, assisted by the jobsite Supervisor and the safety department, will complete an initial identification of the potential health hazards anticipated at each jobsite based on the scope of work to be completed.
 - a. True
 - b. False

4. Based on the assessments (Qualitative or Quantitative) many of the known health hazards will require a minimum awareness level. These trainings listed are required except:
 - a. Silica Awareness
 - b. Lead Awareness
 - c. Benzene Awareness
 - d. Hardhat Awareness

5. To ensure employees have safe drinking water on the job site the job site foreman should pick out 1 or 2 people to do the job of providing potable water to the job site.
 - a. True
 - b. False

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Industrial Hygiene Learning Exercise

Answer Sheet

1. Brieser Construction is committed to providing every employee with a work environment free from recognized _____ hazards. (Circle all that apply)
 - a. Occupational**
 - b. Health**
 - c. Safety**
 - d. Emotional

2. The Hazard Evaluation process consists of two major components, a _____ assessment, and a _____ assessment. (Pick 2)
 - a. Qualitative**
 - b. Quizzable
 - c. Quantitative**
 - d. Quintessential

3. As a part of the overall health hazard surveillance process, a qualified Industrial Hygienist, assisted by the jobsite Supervisor and the safety department, will complete an initial identification of the potential health hazards anticipated at each jobsite based on the scope of work to be completed.
 - a. True**
 - b. False

4. Based on the assessments (Qualitative or Quantitative) many of the known health hazards will require a minimum awareness level. These trainings listed are required except:
 - a. Silica Awareness
 - b. Lead Awareness
 - c. Benzene Awareness
 - d. Hardhat Awareness**

5. To ensure employees have safe drinking water on the job site the job site foreman should pick out 1 or 2 people to do the job of providing potable water to the job site.
 - a. True**
 - b. False



Section 27
Safety Health
and
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Manual

2025

Aerial Work Platforms

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/8/2008
		Revised:	04/05/23
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	05
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Aerial Work Platforms		
CROSS REFERENCE:	29 CFR 1926.453, Aerial Lifts ANSI A92.2, Vehicle Mounted Elevating and Rotating Work Platforms		

AERIAL WORK PLATFORMS

PURPOSE

This program establishes the minimum requirements for the operation of aerial work platforms used in the course of work performed by Brieser Construction personnel. This program addresses the basic requirements for the operation of aerial work platforms to provide access to an elevated work location.

An aerial work platform includes the following types of aerial devices used to elevate personnel to work locations above grade:

- Extensible boom platforms
- Aerial ladders
- Articulating boom platforms
- Vertical towers
- Scissor lifts
- Personal Portable Lifts

RESPONSIBILITIES

The Program Administrator: Brieser Safety Manager

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.
- Ensuring that employees receive initial and refresher training on the use of this policy.
- Maintaining training records for all employees included in the training sessions.
- Ensure that only trained and qualified personnel are authorized to operate aerial work platforms by conducting periodic field audits to check for valid training.

Equipment Manager

These people are responsible for:

- Ensure that aerial units and related equipment that is owned by Brieser Construction are thoroughly inspected and maintained.

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Project Managers, Superintendents and Foremen

These people are responsible for:

- Ensure that prior to use all personnel assigned to operate an aerial work platform are professionally trained in their use, limitations, and associated hazards.
- Ensure that aerial units and related equipment for which Brieser is responsible are thoroughly inspected prior to use and annually.
- Ensure that applicable personal protective equipment, including personal fall protection equipment, is available for use as required.
- Ensure the TSTI and Job Safety Analysis addresses the hazards associated with the unit operation.

Aerial Work Platform Operator

These people are responsible for:

- Maintain the training and competency required to properly operate the specific type of aerial lift according to the manufacturer's instructions.
- Ensure that the aerial work platform is thoroughly inspected prior to use and documented on the Brieser Equipment Inspection Checklist.
- Use required personal fall protection equipment and other personal protective equipment necessary for the task(s) to be performed.
- Ensure that the aerial work Platform is not overloaded beyond rated load capacities.
- Ensure the TSTI and Job Safety Analysis addresses the hazards associated with the unit operation and that it has been reviewed with the appropriate personnel.

DEFINITIONS

Aerial Ladder -An aerial device consisting of a single- or multiple-section extensible ladder.

Aerial Lift -Vehicle-mounted aerial lifts or devices used to position personnel that include the following:

- ✓ Extensible boom platforms
- ✓ Aerial ladders
- ✓ Articulating boom platforms
- ✓ Vertical towers
- ✓ These devices are made of metal, wood, fiberglass reinforced plastic.

(FRP), or other material and are powered or manually operated, whether they are capable of rotating about a substantially vertical axis.

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Aerial Work Platform – A mobile or portable aerial device designed to provide personnel with a platform equipped with a power-assisted means to access an elevated work location. These devices include aerial lifts, scissor lifts, and personal portable lifts.

Articulating Boom Platform – An aerial lift with two or more hinged sections

Competent Person – One who has been trained in the operation of an aerial lift and has obtained the skill necessary to satisfactorily operate the unit. The Competent Person is also capable of identifying existing and predictable hazards in the surroundings or working conditions where the aerial lift is to be operated.

Extensible Boom Platform – An aerial lift (except ladders) with a telescopic or extensible boom. (Telescopic derricks with personnel platform attachments are considered to be extensible boom platforms when used with a personnel platform.)

Full Body Harness – A design of straps which may be secured about the employee in a manner to distribute the fall arrest forces over at least the thighs, pelvis, waist, chest, and shoulders with the capability of attaching to other components of a personal fall arrest system.

Insulated Aerial Device – An aerial device designed for work on energized lines and apparatus.

Personal Portable Lift – A lightweight portable aerial device designed with a platform for one person to access limited heights.

Platform – Any personnel-carrying device (basket or bucket) which is a component of an aerial device.

Stock Picker – A power-driven or manually pushed vertical mast aerial device designed with a platform for one person to access elevated locations primarily to manage stock inventories.

Vertical Tower – An aerial lift designed to elevate a platform in a substantially vertical axis.

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GENERAL REQUIREMENTS

1. Personnel must always stand firmly on the floor of the basket and must not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.
2. The operator must wear a full body harness with an acceptable lanyard. A fall restraint lanyard is preferred. The fall restraint lanyard should be attached to a designated anchor point, and the length should be adjusted to prevent ejection from the basket. A self-retracting lanyard is also acceptable if attached to a designated anchor point at waist level or above.

NOTE: A 6-foot lanyard with a shock absorber is not to be used in an aerial work platform. Attaching the lanyard to an adjacent pole, structure, or equipment while working from an aerial work platform shall not be permitted.

EXCEPTION- When working from an elevated scissors lift (ANSI A92.6 series), a worker need only be protected from falling by a properly designed and maintained guardrail system. However, if the guardrail system is less than adequate, or the worker leaves the safety of the work platform, an additional fall protection device would be required. Also, if the manufacturer recommends or mandates that personal fall protection be use. The operator and passengers must adhere to the manufacturers' safety policy for safe operation.

3. Provisions must be established for emergency response concerning retrieval of the operator stranded in an elevated position. An assessment of the exposures associated with the activity to be performed must be completed to ensure thorough hazard recognition. Measures necessary to facilitate emergency response and rescue need to be identified, e.g., retrieval from entanglement with overhead obstructions or contact with electrical power lines. A second person must be assigned to observe the operator while working at heights and subject to fall arrest from the unit.
4. Aerial lifts may be "field modified" for uses other than those intended by the manufacturer provided the modification has been certified in writing by the manufacturer or by any equivalent entity.

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UNIT INSPECTION

1. Lift controls shall be tested each day prior to use to determine that such controls are in safe working condition. A visual inspection of the aerial lift components on the Brieser Equipment Inspection Checklist and a test of all controls and safety devices, including a full operational test, must be completed on the day used prior to operation. The results of the inspection must be documented in Brieser Equipment Inspection Checklist and filed at the Brieser office.
2. All units owned, rented, or leased by Brieser Construction, and those units used by subcontractors, must be inspected prior to use and annually thereafter. Brieser Construction units need to be inspected by a third party, e.g., unit manufacturer or distributor, qualified to complete such an inspection. Documentation certifying the inspection results and date must be provided by the inspecting party. Attachment A or equivalent documentation is designed for this inspection.

UNIT OPERATION

1. Only authorized persons shall operate an aerial lift.
2. The vehicle must have a reverse signal alarm audible above the surrounding noise level or the vehicle is backed up only when an observer signals that it is safe to do so.
3. Boom and basket load limits specified by the manufacturer shall not be exceeded. The insulated portion of an aerial work platform shall not be altered in any manner that might reduce its insulating value. A minimum of 10 feet should be maintained from energized electrical power lines.
4. The brakes shall be set and when outriggers are used, they shall be positioned on pads or a solid surface. Wheel chocks shall be installed before using an aerial work platform on an incline provided, they can be safely installed.
5. Aerial work platforms should not be operated at wind speeds greater than 28 mph. The operator must understand and comply with the wind limitations established by the unit manufacturer. Further operating restrictions under reduced wind speeds may be necessary due to the location or activity performed with the unit.
6. An aerial work platform shall not be moved when the boom, ladder, or scissors lift is elevated in a working position with personnel in the basket or on the ladder, except for equipment which is specifically designed for this type of operation. Ensure safe clearances are maintained around the work area when operating. Check the clearances for swing radius and boom travel. A second person may be necessary to direct or spot the operator when operating in congested or obstructed areas.
7. Aerial ladders must be secured in the lower traveling position by the locking device on top of the truck cab, and the manually operated device at the base of the ladder before the truck is moved for highway travel.

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UNIT OPERATION continued

8. Always set brakes and extend outriggers, if so equipped, on pads or solid surfaces. Ensure the surface area is suitable and stable to the extent necessary for proper support of the unit.
9. The Aerial Work Platform Operator Checklist in Attachment B provides a reference that identifies the skills and competencies the operator is expected to possess. Utilization of this checklist is voluntary, and completion of this checklist does not represent formal certification. Attachment B is used for training during the hands-on portion as listed in the Brieser Equipment Training Manual-Aerial lifts/Man-lifts training document.
10. Aerial Lifts shall be flagged using caution tape around the work area including but not limited to the Aerial lift body. The purpose is to alert others of the potential travel hazard as well as overhead falling objects.

TRAINING OBJECTIVES

- Brieser Construction personnel responsible for assigning work for tasks involving the use of an aerial work platform must be able to recognize and assess the hazards associated with working at heights as well as aerial work platform operation. The following training is required:
 - Aerial lifts/Man-lifts training found in the Brieser Equipment Training Manual. This training must be specific to the type of aerial work platform that is to be used. This training must include both classroom and hands-on equipment training. Brieser supervision competent in aerial lift operations may conduct this training.
 - Aerial Platform Lift Operation Awareness CBT module. (Future addition)
- Brieser Construction personnel who operate aerial work platforms must complete additional training on fall protection. The following training is required to operate an aerial work platform:
 - Instructor led training on the use of fall protection equipment. The Brieser Safety Department will conduct this training.
- Sub-Contractors who operate aerial work platforms must have equivalent training to Brieser Construction personnel. Documentation verifying contractor competency must be obtained prior to operating the aerial work platform.

REFRESHER TRAINING

1. Refresher training is required at least every three years. More frequent refresher training may be necessary in the event of circumstances including, but not limited to, changes in the workplace or fall protection systems/equipment that are not sufficiently addressed in the training. The apparent or demonstrated lack of knowledge or skill on the proper use of fall protection equipment also requires refresher training

BRIESER CONSTRUCTION GENERAL CONTRACTORS		DATE:	PROCEDURE:
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CROSS REFERENCE:	29 CFR 1926.453, Aerial Lifts ANSI A92.2, Vehicle Mounted Elevating and Rotating Work Platforms		

Attachment A

Aerial Work Platform Comprehensive Inspection Checklist (Annual)

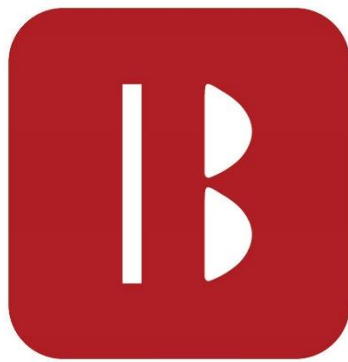
Unit No:		Make:			Model:		
Rental Company					Contractor		
	Acceptable	Unacceptable	Not Applicable		Acceptable	Unacceptable	Not Applicable
GENERAL				GROUND CONTROLS			
Cleanliness	☐	☐	☐	Operation	☐	☐	☐
Access covers & guards	☐	☐	☐	Auxiliary power	☐	☐	☐
Fire extinguisher	☐	☐	☐	Load/control	☐	☐	☐
Decals and placards	☐	☐	☐	Boom	☐	☐	☐
ENGINE				Chain assembly	☐	☐	☐
Battery	☐	☐	☐	Capacity indicator	☐	☐	☐
Hoses	☐	☐	☐	Pivot pins	☐	☐	☐
Oil level	☐	☐	☐	Telescoping function	☐	☐	☐
Fan Belts	☐	☐	☐	PLATFORM/BASKET			
CHASSIS				Fall protection features	☐	☐	☐
Tires/wheels	☐	☐	☐	Controls	☐	☐	☐
Brakes	☐	☐	☐	Auxiliary power	☐	☐	☐
Steering	☐	☐	☐	Load capacity	☐	☐	☐
Bushings	☐	☐	☐	Foot switch	☐	☐	☐
HYDRAULIC SYSTEM				Load/control	☐	☐	☐
Fluid level	☐	☐	☐	Horn	☐	☐	☐
Hoses/piping/fittings	☐	☐	☐				
Pumps/motors	☐	☐	☐				
TURNTABLE							
Lift cylinder	☐	☐	☐				
Swing function	☐	☐	☐				
Manual controls	☐	☐	☐				
Remarks:							
Scan to: Safety/ Aerial Work Platform Comprehensive Inspection Checklist/Date							

BRIESER CONSTRUCTION GENERAL CONTRACTORS		DATE:	PROCEDURE:
		4-23-13	Attachment B
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		02	9
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CROSS REFERENCE:	29 CFR 1926.453, Aerial Lifts ANSI A92.2, Vehicle Mounted Elevating and Rotating Work Platforms		

Attachment B

Aerial Work Platform Operator Checklist (Equipment Training Supplement)

UNIT OPERATION
Properly start and stop the engine/motor
Accelerate and decelerate engine/motor speed
Forward travel to a location designated by the evaluator
Reverse travel to a location designated by the evaluator
Steer unit left and right in forward and reverse
Apply brakes to stop the unit upon instruction from the evaluator
PLATFORM AND BOOM OPERATION
Raise and lower the basket
Extend and retract boom
Maneuver boom from side-to-side
Extend and position outriggers
Adjust platform to level position
Switch control functions to lower controls
EMERGENCY CONTROLS:
Operate emergency hydraulic pump
Extend and lower boom after power failure
Manually override controls on solenoid valves
OPERATOR KNOWLEDGE:
Properly connect fall protection lanyard to anchor point on platform
Identify unit load capacity
Explain responsibilities for pre-use inspection



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 27
AERIAL WORK PLATFORMS
SUB-SECTION TRAINING**

Brieser Construction
Section 27 Test

Employees Name:		Date:	
Company:		Instructor:	
		Job Title:	

Answer the following questions “True” or “False” by circling the appropriate letter.

T	F	1. An Aerial work platform can be a Scissors Lift?
T	F	2. Operators of Aerial Work Platforms must ensure they are documenting daily inspections on the Aerial Work Platform Inspection Checklist, Attachment A?
T	F	3. The use of a 6-foot shock absorbing lanyard as a personal fall system is not required by the Brieser Safety Department?
T	F	4. Aerial lifts can be field modified without approval of the manufacturer.
T	F	5. A second person must be assigned to observe the operator while working at heights and subject to fall arrest from the unit?
T	F	6. A minimum of 10 feet should be maintained from energized electrical power lines?
T	F	7. Aerial work platforms should not be operated at wind speeds greater than 28 mph?
T	F	8. An aerial work platform shall not be moved when the unit is extended, elevated, or in a working position unless otherwise allowed by the manufacturer.
T	F	9. In order to operate an Aerial Work Platform, the following is required: Aerial lift/Man lifts training found in the Brieser Equipment Training manual and Fall Protection?
T	F	10. Refresher training is required every three years?

Brieser Construction
Section 27 Test

Answers

T	F	1. An example of an Aerial work platform would be a Scissors Lift?
T	F	2. Operators of Aerial Work Platforms must ensure they are documenting daily inspections on the Aerial Work Platform Inspection Checklist, Attachment A?
T	F	3. The use of a 6-foot shock absorbing lanyard as a personal fall system is not required by the Brieser Safety Department?
T	F	4. Aerial lifts can be field modified without approval of the manufacturer.
T	F	5. A second person must be assigned to observe the operator while working at heights and subject to fall arrest from the unit?
T	F	6. A minimum of 10 feet should be maintained from energized electrical power lines?
T	F	7. Aerial work platforms should not be operated at wind speeds greater than 28 mph. Pg. 6
T	F	8. An aerial work platform shall not be moved when the unit is extended, elevated, or in a working position unless otherwise allowed by the manufacturer.
T	F	9. In order to operate an Aerial Work Platform, the following is required: Aerial lift/Man lifts training found in the Brieser Equipment Training manual and Fall Protection?
T	F	10. Refresher training is required every three years?



Section 28
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Electrical Safety

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	1/26/2017
		Revised:	2/21/2020
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	06
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Electrical Safety	
CROSS REFERENCE:	29 CFR 1910.331-335 NFPA 70E Standard for Electrical Safety in the Workplace 29 CFR 1926.1400 Cranes and Derricks		

ELECTRICAL SAFETY

SUBJECT: Electrical Safety-Related Work Practices Program

REGULATORY STANDARD: OSHA - 29 CFR 1910.331 - 335

BASIS: The National Safety Council estimates that there are at least 300 deaths annually from on-the-job electrocutions in the United States. Most of these are preventable.

GENERAL: Brieser Construction Company will ensure that work practices performed on or in proximity to electrical equipment/energy sources are evaluated to determine if proper safety precautions are instituted. Brieser Construction employees will only accept electrical de-energization and proper Lockout/Tagout as acceptable safety precautions when working in proximity to electrical equipment/energy sources. Brieser Construction employees are forbidden to work within the shock protection or arc flash boundaries on live electrical parts as outlined in NFPA 70e standard. Our employees are considered Unqualified Electrical Workers as defined in NFPA 70e.

The Occupational Safety and Health Administration (OSHA) recommends that certain guidelines be adhered to regarding these hazards. This standard practice instruction is intended to address comprehensively the issues of; evaluating and identifying potential energy sources where work is performed, evaluating the associated potential hazards, communicating information concerning these hazards, and establishing appropriate procedures, and protective measures for our employees.

RESPONSIBILITY: The Brieser Construction Safety Director is solely responsible for all facets of this program and has full authority to make necessary decisions to ensure success of the program. The Safety Director will develop written detailed instructions covering each of the basic elements in this program, and is the sole person authorized to amend these instructions. This company has expressly authorized any employee to halt any operation of the company where there is danger of serious personal injury.

Contents of the Electrical Safety-Related Work Practices Program

- Written Program.
- Facility/Department Evaluation.
- General.
- Training.
- Selection and Use of Work Practices.
- Use of Equipment.
- Safeguards for Personnel Protection.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	1/26/2017
		Revised:	2/21/2020
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	06
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- Definitions.

BRIESER CONSTRUCTION COMPANY ELECTRICAL SAFETY-RELATED WORK PRACTICES PROGRAM

Written Program. Brieser Construction Company will review and evaluate this standard practice instruction on an annual basis, or when changes occur to 29 CFR 1910.331 - 335, that prompt revision of this document, or when facility operational changes occur that require a revision of this document. Effective implementation of this program requires support from all levels of management within this company. This written program will be communicated to all personnel that are affected by it. It encompasses the total workplace, regardless of number of workers employed or the number of work shifts. It is designed to establish clear goals, and objectives.

Facility/Department Evaluation. Brieser shall evaluate our facility(s) and Job Sites to determine where high risk from electrical hazards exist. Jobs/areas that present such risks will meet the criteria for designation as an electrical hazard area.

Employee notification. Brieser shall inform exposed employees, by posting danger signs. conducting awareness training, or by any other equally effective means, of the existence and location of and the danger posed by electrical hazard areas. A sign reading:

"DANGER ELECTRICAL HAZARD, AUTHORIZED PERSONNEL ONLY"

or similar language in accordance with 29 CFR 1910.145 will be used to satisfy the requirement for untrained employee/visitor notification.

High risk electrical hazard jobs/areas.

High Risk Electrical Hazard Jobs/Areas Listing

<u>Department</u>	<u>Area/Job</u>	<u>Date Evaluated</u>
Job Foreman Responsibility – determined at Job Site - Identified on TSTI		
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

(Continue listing as needed)

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Alerting techniques. The following alerting techniques shall be used to warn and protect employees from hazards which could cause injury due to electric shock, burns, or failure of electric equipment parts:

- **Safety signs and tags.** Safety signs, safety symbols, or accident prevention tags shall be used where necessary to warn employees about electrical hazards which may endanger them, as required by 29 CFR 1910.145.
- **Barricades.** Barricades shall be used in conjunction with safety signs where it is necessary to prevent or limit employee access to work areas exposing employees to uninsulated energized conductors or circuit parts. Conductive barricades may not be used where they might cause an electrical contact hazard.
- **Attendants.** If signs and barricades do not provide sufficient warning and protection from electrical hazards, an attendant shall be stationed to warn and protect employees.

General. This standard practice instruction will cover work by both qualified and unqualified persons. The provisions of 29 CFR 1910.331 through 1910.335 will be detailed to cover electrical safety-related work practices for both qualified persons (those who have training in avoiding the electrical hazards of working on or near exposed energized parts) and unqualified persons (those with little or no such training) working on, near, or with the following installations:

- **Premises wiring.** Installations of electric conductors and equipment within or on buildings or other structures, and on other premises such as yards, carnival, parking, and other lots, and industrial substations.
- **Wiring for connection to supply.** Installations of conductors that connect to the supply of electricity.
- **Other wiring.** Installations of other outside conductors on the premises.
- **Optical fiber cable.** Installations of optical fiber cable where such installations are made along with electric conductors.
- General electrical safety work practices by Brieser Construction Company employees.

Regardless of training or experience in working on or near exposed live lines, all Brieser employees shall treat all deenergized lines/parts as live.

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TRAINING.

Employees to be trained. Once an evaluation of jobs and areas of our facility is performed. Training will be conducted for employees who face a risk of electric shock that is not reduced to a safe level by the existing source.

High risk occupations. Employees in occupations listed in Table S-4 (29 CFR 1910.332) face such a risk and are required to be trained. Other employees who also may reasonably be expected to face a comparable risk of injury due to electric shock or other electrical hazards must also be trained. These employees will be identified based upon their job title and or area(s) of the facility they are exposed to. The facility evaluation data referenced in section 2 of this policy will be used to develop a personnel training listing by job and hazard area(s) exposure.

Table S-4 (29 CFR 1910.332)
Typical Occupational Categories of Employees
Facing a Higher-Than-Normal Risk of Electrical Accident

OCCUPATION

- First line supervisors.
- Electrical and electronic engineers.
- Electrical and electronic equipment assemblers.
- Electrical and electronic technicians.
- Electricians.
- Industrial machine operators.
- Material handling equipment operators.
- Mechanics and repairers.
- Painters.
- Riggers and roustabouts.
- Stationary engineers.
- Welders.

NOTE: Workers in the above listed groups do not need to be trained if their work or the work of those they supervise does not bring them or the employees they supervise close enough to exposed parts of electric circuits operating at 50 volts or more to ground for a hazard to exist.

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CONTENT OF TRAINING.

- **General electrical safety policy.** The Safety Director will develop a facility wide electrical policy that details this company's' general electrical safety policy.
- **Employee job specific training (unqualified).** Employees who are classified as "unqualified" (i.e., those not permitted to work on or near exposed energized parts) persons shall also be trained in and familiar with any electrically related safety practices inherent to their jobs which are necessary for their safety. First line supervisors in coordination with the Facility Manager (where required) and Safety Manager (where required) will develop a training outline detailing the electrical hazards associated with a work area or job when an initial evaluation reveals a risk of electrocution.
- **Employee job specific training (qualified).** Employees who are classified as "qualified" (i.e., those permitted to work on or near exposed energized parts) persons shall be trained in and familiar with the safety-related work practices that pertain to their respective job assignments. First line supervisors in coordination with the Maintenance Manager (where required) will develop a training outline detailing the electrical hazards associated with a work area or job when an initial evaluation reveals a risk of electrocution. Qualified persons (i.e., those permitted to work on or near exposed energized parts) shall, at a minimum, be trained in and familiar with the following:
 - The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment.
 - The skills and techniques necessary to determine the nominal voltage of exposed live parts.
 - The clearance distances specified in 29 CFR 1910.333(c) and the corresponding voltages to which the qualified person will be exposed.

NOTE 1: For the purposes of this policy, Employee's must have the training required by the definition of a "qualified person" detailed above in order to be considered a qualified person.

NOTE 2: Qualified persons whose work on energized equipment involves either direct contact or contact by means of tools or materials must also have the training needed for safe exposure to energized part (see below).

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TYPE OF TRAINING.

The training required by this policy shall be of the classroom or on-the-job type. The degree of training provided shall be determined by the evaluated risk to the employee.

- **Initial Training.** This employer shall provide training to ensure that the electrical hazards associated with their job are understood by employees and that the knowledge and skills required for the safe application, usage, of workplace equipment, and removal of the energy controls are acquired by employees. The training shall include the following:
 - Each authorized employee shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.
 - Each affected employee shall be instructed in the purpose and use of the energy control procedure.
 - All other employees whose work operations are or may be in an area where energy control procedures may be utilized, shall be instructed about the procedure, and about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out. Tags are essentially warning devices affixed to energy isolating devices, and do not provide the physical restraint on those devices that is provided by a lock. Non-legible or missing tags will be reported to the Safety Officer immediately.
- **Refresher Training.**
 - Retraining shall be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in machines, equipment or processes that present a new hazard, when their work takes them into hazardous areas, or when there is a change in the energy control procedures.
 - Additional retraining shall also be conducted whenever a periodic inspection reveals, or whenever this employer has reason to believe, that there are deviations from or inadequacies in the employee's knowledge of known hazards, or use of the energy control procedures.

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Refresher Training continued

- The retraining shall reestablish employee proficiency and introduce new or revised control methods and procedures, as necessary.
- **Certification.** This employer shall certify that employee training has been accomplished and is being kept up to date. The certification shall contain each employee's name and dates of training.

Selection and use of work practices.

Supervisors shall develop and ensure use of standardized safety-related work practices to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts. This will be accomplished whenever work is performed near or on equipment or circuits which are or may be energized. The specific safety-related work practices shall be consistent with the nature and extent of the associated electrical hazards.

- **Deenergized parts.** Live parts to which an employee may be exposed shall be deenergized before the employee works on or near them unless it can be demonstrate that deenergizing introduces additional or increased hazards or is unfeasible due to equipment design or operational limitations. Live parts that operate at less than 50 volts to ground need not be deenergized if there will be no increased exposure to electrical burns or to explosion due to electric arcs.

NOTE 1: Examples of increased or additional hazards include interruption of life support equipment, deactivation of emergency alarm systems, shutdown of hazardous location ventilation equipment, or removal of illumination for an area.

NOTE 2: Examples of work that may be performed on or near energized circuit parts because of unfeasibility due to equipment design or operational limitations include testing of electric circuits that can only be performed with the circuit energized and work on circuits that form an integral part of a continuous industrial process in a chemical plant that would otherwise need to be completely shut down in order to permit work on one circuit or piece of equipment.

- **Lockout and tagging.** While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been deenergized, the circuits energizing the parts shall be locked out or tagged or both in accordance with the requirements of this company's lock-out/tag-out procedures program – Section 12 Lockout/Tagout Procedure.

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- **Energized parts.** If the exposed live parts are not deenergized (i.e., for reasons of increased or additional hazards or unfeasibility), supervisors will ensure that other safety-related work practices are used to protect employees who may be exposed to the electrical hazards involved. Such work practices shall protect employees against contact with energized circuit parts directly with any part of their body or indirectly through some other conductive object. The work practices that are used shall be suitable for the conditions under which the work is to be performed and for the voltage level of the exposed electric conductors, circuit parts, or materials. Only qualified company employees may work on electric circuit parts or equipment that have not been deenergized.
 - Authorized maintenance personnel. Only employees in the following job classification(s) (once trained) are authorized to work on or near exposed energized parts.

Department Job Classification
See Personnel Manager - Training Spreadsheet

- **Contractor personnel.** Contractor personnel will be notified that they may be required to provide proof of certification for working on energized circuits and shall be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.
- **Overhead lines.** If work is to be performed near overhead lines, the lines shall be deenergized and grounded, or other protective measures shall be provided before work is started. If the lines are to be deenergized, arrangements shall be made with the person or organization that operates or controls the electric circuits involved to deenergize and ground them. If protective measures, such as guarding, isolating, or insulating are provided, these precautions shall prevent employees from contacting such lines directly with any part of their body or indirectly through conductive materials, tools, or equipment. Unqualified persons are prohibited from performing this type of work.
 - Unqualified employees (elevated). When an unqualified employee is working in an elevated position near overhead lines, the location shall be such that the person and the longest conductive object he or she may contact cannot come closer to any unguarded, energized overhead line than the following distances:

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- For voltages to ground 50kV or below--10 ft. (305 cm)
- For voltages to ground over 50kV--10 ft. (305 cm) plus 4 in. (10 cm) for every 10kV over 50kV.
- Unqualified employees (ground). Unqualified employees working on the ground in the vicinity of overhead lines, the person may not bring any conductive object closer to unguarded, energized overhead lines than the distances given below.
 - For voltages to ground 50kV or below--10 ft. (305 cm)
 - For voltages to ground over 50kV--10 ft. (305 cm) plus 4 in. (10 cm) for every 10kV over 50kV.

NOTE: For voltages normally encountered with overhead power lines, objects which do not have an insulating rating for the voltage involved are considered to be conductive.

- Qualified persons. When a qualified person is working in the vicinity of overhead lines, whether in an elevated position or on the ground, the person may not approach or take any conductive object without an approved insulating handle closer to exposed energized parts than shown in Table S-5 (29 CFR 1910.333) unless:
 - The person is insulated from the energized part (gloves, with sleeves, if necessary, rated for the voltage involved are considered to be insulation of the person from the energized part on which work is performed).
 - The energized part is insulated both from all other conductive objects at a different potential and from the person.
 - The person is insulated from all conductive objects at a potential different from that of the energized part.

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Table S-5 (29 CFR 1910.333)

Approach Distances for Qualified Employees--Alternating Current

Voltage range (phase to phase)	Minimum approach distance
<u>300V and less</u>	<u>Avoid contact.</u>
Over 300V, not over 750V	1 ft. 0 in. (30.5 cm).
Over 750V, not over 2kV	1 ft. 6 in. (46 cm).
Over 2kV, not over 15kV	2 ft. 0 in. (61 cm).
Over 15kV, not over 37kV	3 ft. 0 in. (91 cm).
Over 37kV, not over 87.5kV	3 ft. 6 in. (107 cm).
Over 87.5kV, not over 121kV	4 ft. 0 in. (122 cm).
Over 121kV, not over 140kV	4 ft. 6 in. (137 cm).

CRANES

- Power-operated equipment, when used in construction, which can hoist, lower, and horizontally move a suspended load. If mechanical equipment, load line or load (including rigging and lifting accessories), if operated up to the equipment's maximum working radius in the work zone, could get closer than 20 feet to a power line or any part of the job task will be within 20 feet of an overhead powerline the supervisor has three options.
 - *Option (1) – Deenergize and ground.* Confirm from the utility owner/operator that the power line has been deenergized and visibly grounded at the worksite.
 - *Option (2) – 20-foot clearance.* Ensure that no part of the equipment, load line, or load (including rigging and lifting accessories), gets closer than 20 feet to the power line by contacting the safety department to formulate a lift plan. The plan would include but not limited to the use of a dedicated spotter, the use of elevated warning lines and such.
 - *Option (3) – Table A clearance.*
 - Determine the line's voltage and the minimum approach distance permitted under Table A.
 - Determine if any part of the equipment, load line or load (including rigging and lifting accessories), while operating up to the equipment's maximum working radius in the work zone, could get closer than the minimum approach distance of the power line permitted under Table A. If so, then the safety department must be contacted to formulate a lift plan.

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TABLE A – MINIMUM CLEARANCE DISTANCES

Voltage (nominal, kV, alternating current)	Minimum clearance distance (feet)
up to 50	10
over 50 to 200	15
over 200 to 350	20
over 350 to 500	25
over 500 to 750	35
over 750 to 1,000	45

- **Vehicular and mechanical equipment**

- Company vehicles or mechanical equipment capable of having parts of its structure elevated near energized overhead lines shall be operated so that a clearance of 10 ft. (305 cm) is maintained. If the voltage is higher than 50kV, the clearance shall be increased 4 in. (10 cm) for every 10kV over that voltage. However, under any of the following conditions, the clearance may be reduced:
 - If insulating barriers are installed to prevent contact with the lines, and if the barriers are rated for the voltage of the line being guarded and are not a part of or an attachment to the vehicle or its raised structure, the clearance may be reduced to a distance within the designed working dimensions of the insulating barrier.
 - If the equipment is an aerial lift insulated for the voltage involved, and if the work is performed by a qualified person, the clearance (between the uninsulated portion of the aerial lift and the power line) may be reduced to the distance given in Table S-5.

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- Employees standing on the ground may not contact the vehicle or mechanical equipment or any of its attachments, unless:
 - The employee is using protective equipment rated for the voltage.
 - The equipment is located so that no uninsulated part of its structure (that portion of the structure that provides a conductive path to employees on the ground) can come closer to the line than 10 ft. (305 cm). If the voltage is higher than 50kV, the clearance shall be increased 4 in. (10 cm) for every 10kV over that voltage.
 - If any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines is intentionally grounded, employees working on the ground near the point of grounding may not stand at the grounding location whenever there is a possibility of overhead line contact. Additional precautions, such as the use of barricades or insulation, shall be taken to protect employees from hazardous ground potentials, depending on earth resistivity and fault currents, which can develop within the first few feet or more outward from the grounding point.

- **Illumination.**

- Supervisors will ensure that employees do not enter spaces containing exposed energized parts unless illumination is provided that enables the employees to perform the work safely.
- Where lack of illumination or an obstruction precludes observation of the work to be performed, employees may not perform tasks near exposed energized parts. Employees may not reach blindly into areas which may contain energized parts. Additionally, unless known otherwise the space shall be evaluated to determine if it meets the criteria for designation as a confined space. The company confined space program will be implemented to manage the entry.

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- **Confined or enclosed workspaces.** When an employee works in a confined or enclosed space (such as a manhole or vault) that contains exposed energized parts, this employer shall provide, and the employee shall use, protective shields, protective barriers, or insulating materials as necessary to avoid inadvertent contact with these parts. Doors, hinged panels, and the like shall be secured to prevent their swinging into an employee and causing the employee to contact exposed energized parts. Additionally, unless known otherwise the space shall be evaluated to determine if it meets the criteria for designation as a confined space. The company confined space program will be implemented to manage the entry.
- **Conductive materials and equipment.** Conductive materials and equipment that are in contact with any part of an employee's body shall be handled in a manner that will prevent them from contacting exposed energized conductors or circuit parts. Supervisors will ensure pre-written safety procedures are in place, and that all employees are trained when long dimensional conductive objects (such as ducts and pipes) in areas with exposed live parts, are used. Other protective measures (such as the use of insulation, guarding, and material handling techniques) will considered and used to minimize the hazard.
- **Portable ladders.** Portable ladders shall have nonconductive siderails if they are used where the employee or the ladder could contact exposed energized parts.
- **Conductive apparel.** Conductive articles of jewelry and clothing (such as watch bands, bracelets, rings, key chains, necklaces, metalized aprons, cloth with conductive thread, or metal headgear) may not be worn if they might contact exposed energized parts. However, such articles may be worn if they are rendered nonconductive by covering, wrapping, or other insulating means.
- **Housekeeping duties.** Where energized parts present an electrical contact hazard, employees may not perform housekeeping duties at such close distances to the parts that there is a possibility of contact, unless adequate safeguards (such as insulating equipment or barriers) are provided. Electrically conductive cleaning materials (including conductive solids such as steel wool, metalized cloth, and silicon carbide, as well as conductive liquid solutions) may not be used in proximity to energized parts unless procedures are followed which will prevent electrical contact.
- **Interlocks.** Only a qualified employee may defeat an electrical safety interlock, and then only temporarily while he or she is working on the equipment. The interlock system shall be returned to its operable condition when this work is completed.

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USE OF EQUIPMENT.

Portable electric equipment.

This paragraph applies to the use of cord- and plug-connected equipment, including flexible cord sets (extension cords). All cord and plug equipment and electrical cords shall be of a properly grounded three-wire type and connected to a fully functional Ground-Fault-Circuit-Interrupter. Daily testing of the GFCI shall be performed before use by switching the GFCI test button and applying a load to the circuit. I.E., plug it into a light and see if it turns off. GFCI's shall be formally tested quarterly by using the process outlined in Appendix B.

- Handling. Portable equipment shall be handled in a manner which will not cause damage. Flexible electric cords connected to equipment may not be used for raising or lowering the equipment. Flexible cords may not be fastened with staples or otherwise hung in such a fashion as could damage the outer jacket or insulation.
- **Visual inspection.**
 - Portable cord- and plug-connected equipment and flexible cord sets (extension cords) shall be visually inspected before use on any shift for external defects (such as loose parts, deformed and missing pins, or damage to outer jacket or insulation) and for evidence of possible internal damage (such as pinched or crushed outer jacket). Cord- and plug-connected equipment and flexible cord sets (extension cords) which remain connected once they are put in place and are not exposed to damage need not be visually inspected until they are relocated.
 - If there is a defect or evidence of damage that might expose an employee to injury, the defective or damaged item shall be removed from service, and no employee may use it until repairs and tests necessary to render the equipment safe have been made.
 - When an attachment plug is to be connected to a receptacle (including any on a cord set), the relationship of the plug and receptacle contacts shall first be checked to ensure that they are of proper mating configurations.

Scheduled inspections for cord sets and tools under the Assured Grounding Program.

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See Appendix A and Appendix B for procedure and documentation requirements.

All 120 volt single phase, 15 and 20 ampere receptacles, 120 volt flexible cord sets, and 120 volt cord-and-plug connected equipment which is not a part of the permanent wiring of the building or structure shall be tested quarterly to ensure that electrical continuity is maintained through all required equipment grounding conductors and their connectors.

All equipment grounding conductors shall be tested for ground wire continuity and shall be electrically continuous. Use either a continuity tester or a volt-OHM meter when conducting this test.

- All receptacles, attachment caps, and plug and receptacle of cords sets shall be tested for correct attachment of the equipment-grounding conductor. The equipment-grounding conductor shall be connected to its proper terminal. Use either a receptacle tester or volt-OHM meter when conducting this test.
 - Do not make available or permit any employee to use equipment that has failed to pass the required tests.
- Testing Schedule Requirements
 - Before first use.
 - Before equipment is returned to service following any repairs.
 - Before equipment is used after any incident which can be reasonably suspected to have caused damage (for example, when a cord set is run over).
 - At intervals not to exceed 3 months.
- Testing documentation requirements
 - Tag the item tested with color-coded marking tape in accordance with the coding scheme listed in Appendix A, indicating the date (month or quarter) it passed the test.
 - Keep a copy of the record at the jobsite and forward a copy to the office.
 - Your supervisor must be notified of all equipment that does not pass inspection.
 - All damaged equipment shall be returned to the shop for repairs.
 - All electrical tools shall be repaired by a qualified outside third party.

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- **Grounding-type equipment.**
 - A flexible cord used with grounding-type equipment shall contain an equipment grounding conductor.
 - Attachment plugs and receptacles may not be connected or altered in a manner which would prevent proper continuity of the equipment grounding conductor at the point where plugs are attached to receptacles. Additionally, these devices may not be altered to allow the grounding pole of a plug to be inserted into slots intended for connection to the current-carrying conductors.
 - Adapters which interrupt the continuity of the equipment grounding connection may not be used.
- **Conductive work locations.** Portable electric equipment and flexible cords used in highly conductive work locations (such as those inundated with water or other conductive liquids), or in job locations where employees are likely to contact water or conductive liquids, shall be approved for those locations.
 - Connecting attachment plugs.
 - Employees' hands may not be wet when plugging and unplugging flexible cords and cord- and plug-connected equipment if energized equipment is involved.
 - Energized plug and receptacle connections may be handled only with insulating protective equipment if the condition of the connection could provide a conducting path to the employee's hand (if, for example, a cord connector is wet from being immersed in water).
 - Locking-type connectors shall be properly secured after connection.
- **Electric power and lighting circuits.**
 - Routine opening and closing of circuits. Load rated switches, circuit breakers, or other devices specifically designed as disconnecting means shall be used for the opening, reversing, or closing of circuits under load conditions. Cable connectors not of the load-break type, fuses, terminal lugs, and cable splice connections may not be used for such purposes, except in an emergency.

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- Reclosing circuits after protective device operation. After a circuit is deenergized by a circuit protective device, the circuit may not be manually reenergized until it has been determined that the equipment and circuit can be safely energized. The repetitive manual reclosing of circuit breakers or reenergizing circuits through replaced fuses is prohibited.

NOTE: When it can be determined from the design of the circuit and the overcurrent devices involved that the automatic operation of a device was caused by an overload rather than a fault condition, no examination of the circuit or connected equipment is needed before the circuit is reenergized.

- Overcurrent protection modification. Overcurrent protection of circuits and conductors may not be modified, even on a temporary basis, beyond that allowed by 29 CFR 1910.304(e), the installation safety requirements for overcurrent protection.
- **Test instruments and equipment.**
 - Use. Only company qualified persons may perform testing work on electric circuits or equipment.
 - Visual inspection. Test instruments and equipment and all associated test leads, cables, power cords, probes, and connectors shall be visually inspected for external defects and damage before the equipment is used. If there is a defect or evidence of damage that might expose an employee to injury, the defective or damaged item shall be removed from service, and no employee may use it until repairs and tests necessary to render the equipment safe have been made.
 - Rating of equipment. Test instruments and equipment and their accessories shall be rated for the circuits and equipment to which they will be connected and shall be designed for the environment in which they will be used.
- **Occasional use of flammable or ignitable materials.** Where flammable materials are present only occasionally, electric equipment capable of igniting them shall not be used, unless measures are taken to prevent hazardous conditions from developing. Such materials include, but are not limited to flammable gases, vapors, or liquids; combustible dust; and ignitable fibers or “flyings.”

NOTE: Electrical installation requirements for locations where flammable materials are present on a regular basis are contained Safeguards for personnel protection.

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Safeguards for personnel protection.

- **Use of protective equipment.**

- Personal protective equipment.
 - Employees working in areas where there are potential electrical hazards shall be provided with, and shall use, electrical protective equipment that is appropriate for the specific parts of the body to be protected and for the work to be performed.

NOTE: Personal protective equipment requirements are contained in subpart I of 29 CFR 1910.

- Protective equipment shall be maintained in a safe, reliable condition and shall be periodically inspected or tested, as required by 29 CFR 1910.137.
 - If the insulating capability of protective equipment may be subject to damage during use, the insulating material shall be protected. (For example, an outer covering of leather is sometimes used for the protection of rubber insulating material.)
 - Employees shall wear nonconductive head protection wherever there is a danger of head injury from electric shock or burns due to contact with exposed energized parts.
 - Employees shall wear protective equipment for the eyes or face wherever there is danger of injury to the eyes or face from electric arcs or flashes or from flying objects resulting from electrical explosion.
- **General protective equipment and tools.**
 - When working near exposed energized conductors or circuit parts, each employee shall use insulated tools or handling equipment if the tools or handling equipment might make contact with such conductors or parts. If the insulating capability of insulated tools or handling equipment is subject to damage, the insulating material shall be protected.

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- Fuse handling equipment, insulated for the circuit voltage, shall be used to remove, or install fuses when the fuse terminals are energized.
 - Ropes and handlines used near exposed energized parts shall be nonconductive.
- Protective shields, protective barriers, or insulating materials shall be used to protect each employee from shock, burns, or other electrically related injuries while that employee is working near exposed energized parts which might be accidentally contacted or where dangerous electric heating or arcing might occur. When normally enclosed live parts are exposed for maintenance or repair, they shall be guarded to protect unqualified persons from contact with the live parts.

DEFINITIONS

Acceptable – An installation or equipment is acceptable to the Assistant Secretary of Labor, and approved within the meaning of this 29 CFR 1910 Subpart S:

- If it is accepted, or certified, or listed, or labeled, or otherwise determined to be safe by a nationally recognized testing laboratory; or
- With respect to an installation or equipment of a kind which no nationally recognized testing laboratory accepts, certifies, lists, labels, or determines to be safe, if it is inspected or tested by another Federal agency, or by a State, municipal, or other local authority responsible for enforcing occupational safety provisions of the National Electrical Code and found in compliance with the provisions of the National Electrical Code as applied in this Subpart; or
- With respect to custom-made equipment or related installations which are designed, fabricated for, and intended for use by a particular customer, if it is determined to be safe for its intended use by its manufacturer on the basis of test data which the employer keeps and makes available for inspection to the Assistant Secretary and his authorized representatives. Refer to 29 CFR 1910.7 for definition of nationally recognized testing laboratory.

Accepted – An installation is "accepted" if it has been inspected and found by a nationally recognized testing laboratory to conform to specified plans or to procedures of applicable codes.

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DEFINITIONS – Continued

Accessible – (As applied to wiring methods.) Capable of being removed or exposed without damaging the building structure or finish, or not permanently closed in by the structure or finish of the building. (See "concealed" and "exposed.")

Accessible – (As applied to equipment.) Admitting close approach; not guarded by locked doors, elevation, or other effective means. (See "Readily accessible.")

Ampacity – Current-carrying capacity of electric conductors expressed in amperes.

Appliances – Utilization equipment, generally other than industrial, normally built in standardized sizes or types, which is installed or connected as a unit to perform one or more functions such as clothes washing, air conditioning, food mixing, deep frying, etc.

Approved – Acceptable to the authority enforcing 29 CFR 1910 subpart S. The authority enforcing this subpart is the Assistant Secretary of Labor for Occupational Safety and Health. The definition of "acceptable" indicates what is acceptable to the Assistant Secretary of Labor, and therefore approved within the meaning of 29 CFR 1910 Subpart S.

Approved for the purpose – Approved for a specific purpose, environment, or application described in a particular standard requirement. Suitability of equipment or materials for a specific purpose, environment or application may be determined by a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation as part of its listing and labeling program. (See "Labeled" or "Listed.")

Armored cable – Type AC armored cable is a fabricated assembly of insulated conductors in a flexible metallic enclosure.

Askarel – A generic term for a group of nonflammable synthetic chlorinated hydrocarbons used as electrical insulating media. Askarels of various compositional types are used. Under arcing conditions, the gases produced, while consisting predominantly of noncombustible hydrogen chloride, can include varying amounts of combustible gases depending upon the askarel type.

Attachment plug (Plug cap) (Cap) – A device which, by insertion in a receptacle, establishes connection between the conductors of the attached flexible cord and the conductors connected permanently to the receptacle.

Automatic – Self-acting, operating by its own mechanism when actuated by some impersonal influence, as, for example, a change in current strength, pressure, temperature, or mechanical configuration.

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DEFINITIONS – Continued

Bare conductor – See "Conductor."

Bonding – The permanent joining of metallic parts to form an electrically conductive path which will assure electrical continuity and the capacity to conduct safely any current likely to be imposed.

Bonding jumper – A reliable conductor to assure the required electrical conductivity between metal parts required to be electrically connected.

Branch circuit – The circuit conductors between the final overcurrent device protecting the circuit and the outlet(s).

Building – A structure which stands alone, or which is cut off from adjoining structures by fire walls with all openings therein protected by approved fire doors.

Cabinet – An enclosure designed either for surface or flush mounting, and provided with a frame, mat, or trim in which a swinging door or doors are or may be hung.

Cable tray system – A cable tray system is a unit or assembly of units or sections, and associated fittings, made of metal or other noncombustible materials forming a rigid structural system used to support cables.

- Cable tray systems include ladders, troughs, channels, solid bottom trays, and other similar structures.

Cablebus – Cablebus is an approved assembly of insulated conductors with fittings and conductor terminations in a completely enclosed, ventilated, protective metal housing.

Center pivot irrigation machine – A center pivot irrigation machine is a multi-motored irrigation machine which revolves around a central pivot and employs alignment switches or similar devices to control individual motors.

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Certified – Equipment is "certified" if it:

- Has been tested and found by a nationally recognized testing laboratory to meet nationally recognized standards or to be safe for use in a specified manner, or
- Is of a kind whose production is periodically inspected by a nationally recognized testing laboratory, and
- It bears a label, tag, or other record of certification.

Circuit breaker.

- (600 volts nominal, or less). A device designed to open and close a circuit by nonautomatic means and to open the circuit automatically on a predetermined overcurrent without injury to itself when properly applied within its rating.
- (Over 600 volts, nominal). A switching device capable of making, carrying, and breaking currents under normal circuit conditions, and also making, carrying for a specified time, and breaking currents under specified abnormal circuit conditions, such as those of short circuit.

Class I locations – Class I locations are those in which flammable gases or vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures. Class I locations include the following:

- Class I, Division 1. A Class I, Division 1 location is a location:
 - In which hazardous concentrations of flammable gases or vapors may exist under normal operating conditions.
 - In which hazardous concentrations of such gases or vapors may exist frequently because of repair or maintenance operations or because of leakage.
 - In which breakdown or faulty operation of equipment or processes might release hazardous concentrations of flammable gases or vapors and might also cause simultaneous failure of electric equipment.

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Note: This classification usually includes locations where volatile flammable liquids or liquefied flammable gases are transferred from one container to another; interiors of spray booths and areas in the vicinity of spraying and painting operations where volatile flammable solvents are used; locations containing open tanks or vats of volatile flammable liquids; drying rooms or compartments for the evaporation of flammable solvents; locations containing fat and oil extraction equipment using volatile flammable solvents; portions of cleaning and dyeing plants where flammable liquids are used; gas generator rooms and other portions of gas manufacturing plants where flammable gas may escape; inadequately ventilated pump rooms for flammable gas or for volatile flammable liquids; the interiors of refrigerators and freezers in which volatile flammable materials are stored in open, lightly stoppered, or easily ruptured containers; and all other locations where ignitable concentrations of flammable vapors or gases are likely to occur in the course of normal operations.

- Class I, Division 2. A Class I, Division 2 location is a location:
 - In which volatile flammable liquids or flammable gases are handled, processed, or used, but in which the hazardous liquids, vapors, or gases will normally be confined within closed containers or closed systems from which they can escape only in case of accidental rupture or breakdown of such containers or systems, or in case of abnormal operation of equipment; or
 - In which hazardous concentrations of gases or vapors are normally prevented by positive mechanical ventilation, and which might become hazardous through failure or abnormal operations of the ventilating equipment; or
 - That is adjacent to a Class I, Division 1 location, and to which hazardous concentrations of gases or vapors might occasionally be communicated unless such communication is prevented by adequate positive-pressure ventilation from a source of clean air, and effective safeguards against ventilation failure are provided.

Note: This classification usually includes locations where volatile flammable liquids or flammable gases or vapors are used, but which would become hazardous only in case of an accident or of some unusual operating condition. The quantity of flammable material that might escape in case of accident, the adequacy of ventilating equipment, the total area involved, and the record of the industry or business with respect to explosions or fires are all factors that merit consideration in determining the classification and extent of each location. Piping without valves, checks, meters, and similar devices would not ordinarily introduce a hazardous condition even though used for flammable liquids or gases.

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Locations used for the storage of flammable liquids or a liquefied or compressed gases in sealed containers would not normally be considered hazardous unless also subject to other hazardous conditions. Electrical conduits and their associated enclosures separated from process fluids by a single seal or barrier are classed as a Division 2 location if the outside of the conduit and enclosures is a nonhazardous location.

Class II locations – Class II locations are those that are hazardous because of the presence of combustible dust. Class II locations include the following:

- Class II, Division 1. A Class II, Division 1 location is a location:
 - In which combustible dust is or may be in suspension in the air under normal operating conditions, in quantities sufficient to produce explosive or ignitable mixtures; or
 - Where mechanical failure or abnormal operation of machinery or equipment might cause such explosive or ignitable mixtures to be produced, and might also provide a source of ignition through simultaneous failure of electric equipment, operation of protection devices, or from other causes, or
 - In which combustible dusts of an electrically conductive nature may be present.

Note: This classification may include areas of grain handling and processing plants, starch plants, sugar-pulverizing plants, malting plants, hay-grinding plants, coal pulverizing plants, areas where metal dusts and powders are produced or processed, and other similar locations which contain dust producing machinery and equipment (except where the equipment is dust-tight or vented to the outside). These areas would have combustible dust in the air, under normal operating conditions, in quantities sufficient to produce explosive or ignitable mixtures. Combustible dusts which are electrically nonconductive include dusts produced in the handling and processing of grain and grain products, pulverized sugar and cocoa, dried egg and milk powders, pulverized spices, starch and pastes, potato and wood flour, oil meal from beans and seed, dried hay, and other organic materials which may produce combustible dusts when processed or handled. Dusts containing magnesium or aluminum are particularly hazardous and the use of extreme caution is necessary to avoid ignition and explosion.

- Class II, Division 2. A Class II, Division 2 location is a location in which:
 - Combustible dust will not normally be in suspension in the air in quantities sufficient to produce explosive or ignitable mixtures, and dust accumulations are normally insufficient to interfere with the normal operation of electrical equipment or other apparatus; or

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- Dust may be in suspension in the air as a result of infrequent malfunctioning of handling or processing equipment, and dust accumulations resulting therefrom may be ignitable by abnormal operation or failure of electrical equipment or other apparatus.

Note: This classification includes locations where dangerous concentrations of suspended dust would not be likely but where dust accumulations might form on or in the vicinity of electric equipment. These areas may contain equipment from which appreciable quantities of dust would escape under abnormal operating conditions or be adjacent to a Class II Division 1 location, as described above, into which an explosive or ignitable concentration of dust may be put into suspension under abnormal operating conditions.

Class III locations – Class III locations are those that are hazardous because of the presence of easily ignitable fibers or flyings but in which such fibers or flyings are not likely to be in suspension in the air in quantities sufficient to produce ignitable mixtures. Class III locations include the following:

- Class III, Division 1. A Class III, Division 1 location is a location in which easily ignitable fibers or materials producing combustible flyings are handled, manufactured, or used.

Note: Such locations usually include some parts of rayon, cotton, and other textile mills; combustible fiber manufacturing and processing plants; cotton gins and cotton-seed mills; flax-processing plants; clothing manufacturing plants; woodworking plants, and establishments; and industries involving similar hazardous processes or conditions. Easily ignitable fibers and flyings include rayon, cotton (including cotton linters and cotton waste), sisal or henequen, istle, jute, hemp, tow, cocoa fiber, oakum, baled waste kapok, Spanish moss, excelsior, and other materials of similar nature.

- Class III, Division 2. A Class III, Division 2 location is a location in which easily ignitable fibers are stored or handled, except in process of manufacture.

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DEFINITIONS – Continued

Collector ring – A collector ring is an assembly of slip rings for transferring electrical energy from a stationary to a rotating member.

Concealed – Rendered inaccessible by the structure or finish of the building. Wires in concealed raceways are considered concealed, even though they may become accessible by withdrawing them. [See "Accessible. (As applied to wiring methods.)"]

Conductor (Three Types):

- Bare – A conductor having no covering or electrical insulation whatsoever.
- Covered – A conductor encased within material of composition or thickness that is not recognized as electrical insulation.
- Insulated – A conductor encased within material of composition and thickness that is recognized as electrical insulation.

Conduit body – A separate portion of a conduit or tubing system that provides access through a removable cover(s) to the interior of the system at a junction of two or more sections of the system or at a terminal point of the system. Boxes such as FS and FD or larger cast or sheet metal boxes are not classified as conduit bodies.

Controller – A device or group of devices that serves to govern, in some predetermined manner, the electric power delivered to the apparatus to which it is connected.

Cooking unit, counter-mounted – A cooking appliance designed for mounting in or on a counter and consisting of one or more heating elements, internal wiring, and built-in or separately mountable controls. (See "Oven, wall mounted.")

Covered conductor – See "Conductor."

Cutout – (Over 600 volts, nominal.) An assembly of a fuse support with either a fuse holder, fuse carrier, or disconnecting blade. The fuse holder or fuse carrier may include a conducting element (fuse link) or may act as the disconnecting blade by the inclusion of a non-fusible member.

Cutout box – An enclosure designed for surface mounting and having swinging doors or covers secured directly to and telescoping with the walls of the box proper. (See "Cabinet.") Damp location. See "Location."

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DEFINITIONS – Continued

Dead front – Without live parts exposed to a person on the operating side of the equipment.

Device – A unit of an electrical system which is intended to carry but not utilize electric energy.

Dielectric heating – Dielectric heating is the heating of a nominally insulating material due to its own dielectric losses when the material is placed in a varying electric field.

Disconnecting means – A device, or group of devices, or other means by which the conductors of a circuit can be disconnected from their source of supply.

Disconnecting (or isolating) switch – (Over 600 volts, nominal.) A mechanical switching device used for isolating a circuit or equipment from a source of power.

Dry location – See "Location."

Electric sign – A fixed, stationary, or portable self-contained, electrically illuminated utilization equipment with words or symbols designed to convey information or attract attention.

Enclosed – Surrounded by a case, housing, fence, or walls which will prevent persons from accidentally contacting energized parts.

Enclosure – The case or housing of apparatus, or the fence or walls surrounding an installation to prevent personnel from accidentally contacting energized parts, or to protect the equipment from physical damage.

Equipment – A general term including material, fittings, devices, appliances, fixtures, apparatus, and the like, used as a part of, or in connection with, an electrical installation. Equipment grounding conductor. See "Grounding conductor, equipment."

Explosion-proof apparatus – Apparatus enclosed in a case that is capable of withstanding an explosion of a specified gas or vapor which may occur within it and of preventing the ignition of a specified gas or vapor surrounding the enclosure by sparks, flashes, or explosion of the gas or vapor within, and which operates at such an external temperature that it will not ignite a surrounding flammable atmosphere.

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DEFINITIONS – Continued

Exposed (Three separate definitions)

- (As applied to live parts.) Capable of being inadvertently touched or approached nearer than a safe distance by a person. It is applied to parts not suitably guarded, isolated, or insulated. (See "Accessible." and "Concealed.")
- (As applied to wiring methods.) On or attached to the surface or behind panels designed to allow access. [See "Accessible. (As applied to wiring methods.)"]
- (For the purposes of 29 CFR 1910.308(e), Communications systems.) Where the circuit is in such a position that in case of failure of supports or insulation, contact with another circuit may result.

Externally operable – capable of being operated without exposing the operator to contact with live parts.

Feeder – All circuit conductors between the service equipment, or the generator switchboard of an isolated plant, and the final branch-circuit overcurrent device.

Fitting – An accessory such as a locknut, bushing, or other part of a wiring system that is intended primarily to perform a mechanical rather than an electrical function.

Fuse – (Over 600 volts, nominal.) An overcurrent protective device with a circuit opening fusible part that is heated and severed by the passage of overcurrent through it. A fuse comprises all the parts that form a unit capable of performing the prescribed functions. It may or may not be the complete device necessary to connect it into an electrical circuit.

Ground – A conducting connection, whether intentional or accidental, between an electrical circuit or equipment and the earth, or to some conducting body that serves in place of the earth.

Grounded – Connected to earth or to some conducting body that serves in place of the earth.

Grounded, effectively – (Over 600 volts, nominal.) Permanently connected to earth through a ground connection of sufficiently low impedance and having sufficient ampacity that ground fault current which may occur cannot build up to voltages dangerous to personnel.

Grounded conductor – A system or circuit conductor that is intentionally grounded.

Grounding conductor – A conductor used to connect equipment or the grounded circuit of a wiring system to a grounding electrode or electrodes.

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DEFINITIONS – Continued

Grounding conductor, equipment – The conductor used to connect the non-current-carrying metal parts of equipment, raceways, and other enclosures to the system grounded conductor and/or the grounding electrode conductor at the service equipment or at the source of a separately derived system.

Grounding electrode conductor – The conductor used to connect the grounding electrode to the equipment grounding conductor and/or to the grounded conductor of the circuit at the service equipment or at the source of a separately derived system.

Ground-fault circuit-interrupter – A device whose function is to interrupt the electric circuit to the load when a fault current to ground exceeds some predetermined value that is less than that required to operate the overcurrent protective device of the supply circuit.

Guarded – Covered, shielded, fenced, enclosed, or otherwise protected by means of suitable covers, casings, barriers, rails, screens, mats, or platforms to remove the likelihood of approach to a point of danger or contact by persons or objects.

Health care facilities – Buildings or portions of buildings and mobile homes that contain, but are not limited to, hospitals, nursing homes, extended care facilities, clinics, and medical and dental offices, whether fixed or mobile.

Heating equipment – For the purposes of 29 CFR 1910.306(g), the term heating equipment includes any equipment used for heating purposes if heat is generated by induction or dielectric methods.

Hoist way – Any shaft way, hatchway, well hole, or other vertical opening or space in which an elevator or dumbwaiter is designed to operate.

Identified – Identified, as used in reference to a conductor or its terminal, means that such conductor or terminal can be readily recognized as grounded.

Induction heating – Induction heating is the heating of a nominally conductive material due to its own I^2R losses when the material is placed in a varying electromagnetic field.

Insulated conductor – See Conductor.

Interrupter switch – (Over 600 volts, nominal.) A switch capable of making, carrying, and interrupting specified currents.

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DEFINITIONS – Continued

Irrigation machine – An irrigation machine is an electrically driven or controlled machine, with one or more motors, not hand portable, and used primarily to transport and distribute water for agricultural purposes.

Isolated – Not readily accessible to persons unless special means for access are used.

Isolated power system – A system comprising an isolating transformer or its equivalent, a line isolation monitor, and its ungrounded circuit conductors.

Labeled – Equipment is labeled if there is attached to it a label, symbol, or other identifying mark of a nationally recognized testing laboratory which, (a) makes periodic inspections of the production of such equipment, and (b) whose labeling indicates compliance with nationally recognized standards or tests to determine safe use in a specified manner.

Lighting outlet – An outlet intended for the direct connection of a lamp holder, a lighting fixture, or a pendant cord terminating in a lamp holder.

Line-clearance tree trimming – The pruning, trimming, repairing, maintaining, removing, or clearing of trees or cutting of brush that is within 10 feet (305 cm) of electric supply lines and equipment.

Listed – Equipment is listed if it is of a kind mentioned in a list which:

- Is published by a nationally recognized laboratory which makes periodic inspection of the production of such equipment,
- States such equipment meets nationally recognized standards or has been tested and found safe for use in a specified manner.

Location

- Damp location. Partially protected locations under canopies, marquees, roofed open porches, and like locations, and interior locations subject to moderate degrees of moisture, such as some basements, some barns, and some cold-storage warehouses.
- Dry location. A location not normally subject to dampness or wetness. A location classified as dry may be temporarily subject to dampness or wetness, as in the case of a building under construction.
- Wet location. Installations underground or in concrete slabs or masonry in direct contact with the earth, and locations subject to saturation with water or other liquids, such as vehicle-washing areas, and locations exposed to weather and unprotected.

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DEFINITIONS – Continued

May – If a discretionary right, privilege, or power is conferred, the word "may" is used. If a right, privilege, or power is abridged or if an obligation to abstain from acting is imposed, the word "may" is used with a restrictive "no," "not," or "only." (E.g., no employer may . . .; an employer may not . . .; only qualified persons may. . .)

Medium voltage cable – Type MV medium voltage cable is a single or multiconductor solid dielectric insulated cable rated 2000 volts or higher.

Metal-clad cable – Type MC cable is a factory assembly of one or more conductors, each individually insulated and enclosed in a metallic sheath of interlocking tape, or a smooth or corrugated tube.

Mineral-insulated metal-sheathed cable – Type MI mineral-insulated metal-sheathed cable is a factory assembly of one or more conductors insulated with a highly compressed refractory mineral insulation and enclosed in a liquid tight and gastight continuous copper sheath.

Mobile X-ray – X-ray equipment mounted on a permanent base with wheels and/or casters for moving while completely assembled. Nonmetallic-sheathed cable.

Nonmetallic-sheathed cable – A factory assembly of two or more insulated conductors having an outer sheath of moisture resistant, flame-retardant, nonmetallic material. Nonmetallic sheathed cable is manufactured in the following types:

- Type NM. The overall covering has a flame-retardant and moisture-resistant finish.
- Type NMC. The overall covering is flame-retardant, moisture-resistant, fungus-resistant, and corrosion-resistant. Oil (filled) cutout. (Over 600 volts, nominal.) A cutout in which all or part of the fuse support and its fuse link or disconnecting blade are mounted in oil with complete immersion of the contacts and the fusible portion of the conducting element (fuse link), so that arc interruption by severing of the fuse link or by opening of the contacts will occur under oil.

Open wiring on insulators – Open wiring on insulators is an exposed wiring method using cleats, knobs, tubes, and flexible tubing for the protection and support of single insulated conductors run in or on buildings, and not concealed by the building structure.

Outlet – A point on the wiring system at which current is taken to supply utilization equipment.

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DEFINITIONS – Continued

Outline lighting – An arrangement of incandescent lamps or electric discharge tubing to outline or call attention to certain features such as the shape of a building or the decoration of a window.

Oven, wall-mounted – An oven for cooking purposes designed for mounting in or on a wall or other surface and consisting of one or more heating elements, internal wiring, and built-in or separately mountable controls. (See Cooking unit, counter mounted.)

Overcurrent – Any current in excess of the rated current of equipment or the ampacity of a conductor. It may result from overload (see definition), short circuit, or ground fault. A current in excess of rating may be accommodated by certain equipment and conductors for a given set of conditions. Hence the rules for overcurrent protection are specific for particular situations.

Overload – Operation of equipment in excess of normal, full load rating, or of a conductor in excess of rated ampacity which, when it persists for a sufficient length of time, would cause damage or dangerous overheating. A fault, such as a short circuit or ground fault, is not an overload. (See Overcurrent.)

Panelboard – A single panel or group of panel units designed for assembly in the form of a single panel; including buses, automatic overcurrent devices, and with or without switches for the control of light, heat, or power circuits; designed to be placed in a cabinet or cutout box placed in or against a wall or partition and accessible only from the front. (See Switchboard.)

Permanently installed decorative fountains and reflection pools – Those that are constructed in the ground, on the ground, or in a building in such a manner that the pool cannot be readily disassembled for storage and are served by electrical circuits of any nature. These units are primarily constructed for their aesthetic value and not intended for swimming or wading.

Permanently installed swimming pools, wading and therapeutic pools – Those that are constructed in the ground, on the ground, or in a building in such a manner that the pool cannot be readily disassembled for storage whether or not served by electrical circuits of any nature.

Portable X-ray – X-ray equipment designed to be hand-carried.

Power and control tray cable – Type TC power and control tray cable is a factory assembly of two or more insulated conductors, with or without associated bare or covered grounding conductors under a nonmetallic sheath, approved for installation in cable trays, in raceways, or were supported by a messenger wire.

Power fuse – (Over 600 volts, nominal.) See Fuse.

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DEFINITIONS – Continued

Power-limited tray cable – Type PLTC nonmetallic-sheathed power limited tray cable is a factory assembly of two or more insulated conductors under a nonmetallic jacket.

Power outlet – An enclosed assembly which may include receptacles, circuit breakers, fuse holders, fused switches, buses, and watt-hour meter mounting means; intended to supply and control power to mobile homes, recreational vehicles, or boats, or to serve as a means for distributing power required to operate mobile or temporarily installed equipment.

Premises wiring system – That interior and exterior wiring, including power, lighting, control, and signal circuit wiring together with all of its associated hardware, fittings, and wiring devices, both permanently and temporarily installed, which extends from the load end of the service drop, or load end of the service lateral conductors to the outlet(s). Such wiring does not include wiring internal to appliances, fixtures, motors, controllers, motor control centers, and similar equipment.

Qualified person – One familiar with the construction and operation of the equipment and the hazards involved.

- Note 1: Whether an employee is considered to be a "qualified person" will depend upon various circumstances in the workplace. It is possible and, in fact, likely for an individual to be considered "qualified" with regard to certain equipment in the workplace, but "unqualified" as to other equipment. (See 29 CFR 1910.332(b)(3) for training requirements that specifically apply to qualified persons.)
- Note 2: An employee who is undergoing on-the-job training and who, in the course of such training, has demonstrated an ability to perform duties safely at his or her level of training and who is under the direct supervision of a qualified person is considered to be a qualified person for the performance of those duties.

Raceway – A channel designed expressly for holding wires, cables, or busbars, with additional functions as permitted in this subpart. Raceways may be of metal or insulating material, and the term includes rigid metal conduit, rigid nonmetallic conduit, intermediate metal conduit, liquid tight flexible metal conduit, flexible metallic tubing, flexible metal conduit, electrical metallic tubing, underfloor raceways, cellular concrete floor raceways, cellular metal floor raceways, surface raceways, wireways, and busways.

Readily accessible – Capable of being reached quickly for operation, renewal, or inspections, without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, chairs, etc. (See "Accessible.")

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DEFINITIONS – Continued

Receptacle – A receptacle is a contact device installed at the outlet for the connection of a single attachment plug. A single receptacle is a single contact device with no other contact device on the same yoke. A multiple receptacle is a single device containing two or more receptacles.

Receptacle outlet – An outlet where one or more receptacles are installed.

Remote-control circuit – Any electric circuit that controls any other circuit through a relay or an equivalent device.

Sealable equipment – Equipment enclosed in a case or cabinet that is provided with a means of sealing or locking so that live parts cannot be made accessible without opening the enclosure. The equipment may or may not be operable without opening the enclosure.

Separately derived system – A premises wiring system whose power is derived from generator, transformer, or converter winding and has no direct electrical connection, including a solidly connected grounded circuit conductor, to supply conductors originating in another system.

Service – The conductors and equipment for delivering energy from the electricity supply system to the wiring system of the premises served.

Service cable – Service conductors made up in the form of a cable.

Service conductors – The supply conductors that extend from the street main or from transformers to the service equipment of the premises supplied.

Service drop – The overhead service conductors from the last pole or other aerial support to and including the splices, if any, connecting to the service-entrance conductors at the building or other structure.

Service-entrance cable – Service-entrance cable is a single conductor or multiconductor assembly provided with or without an overall covering, primarily used for services and of the following types:

- **Type SE**, having a flame-retardant, moisture-resistant covering, but not required to have inherent protection against mechanical abuse.
- **Type USE**, recognized for underground use, having a moisture-resistant covering, but not required to have a flame-retardant covering or inherent protection against mechanical abuse. Single-conductor cables having an insulation specifically approved for the purpose do not require an outer covering.

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Service-entrance conductors, overhead system – The service conductors between the terminals of the service equipment and a point usually outside the building, clear of building walls, where joined by tap or splice to the service drop.

Service entrance conductors, underground system – The service conductors between the terminals of the service equipment and the point of connection to the service lateral. Where service equipment is located outside the building walls, there may be no service-entrance conductors, or they may be entirely outside the building.

Service equipment – The necessary equipment, usually consisting of a circuit breaker or switch and fuses, and their accessories, located near the point of entrance of supply conductors to a building or other structure, or an otherwise defined area, and intended to constitute the main control and means of cutoff of the supply.

Service raceway – The raceway that encloses the service-entrance conductors.

Shielded nonmetallic-sheathed cable – Type SNM, shielded nonmetallic-sheathed cable is a factory assembly of two or more insulated conductors in an extruded core of moisture-resistant, flame-resistant nonmetallic material, covered with an overlapping spiral metal tape and wire shield and jacketed with an extruded moisture-, flame-, oil-, corrosion-, fungus-, and sunlight-resistant nonmetallic material.

Show window – Any window used or designed to be used for the display of goods or advertising material, whether it is fully or partly enclosed or entirely open at the rear and whether or not it has a platform raised higher than the street floor level. Sign. See Electric Sign.

Signaling circuit – Any electric circuit that energizes signaling equipment.

Special permission – The written consent of the authority having jurisdiction.

Storable swimming or wading pool – A pool with a maximum dimension of 15 feet and a maximum wall height of 3 feet and is so constructed that it may be readily disassembled for storage and reassembled to its original integrity.

Switchboard – A large single panel, frame, or assembly of panels which have switches, buses, instruments, overcurrent, and other protective devices mounted on the face or back or both. Switchboards are generally accessible from the rear as well as from the front and are not intended to be installed in cabinets. (See Panelboard.)

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DEFINITIONS – Continued

Switches.

- **General-use switch.** A switch intended for use in general distribution and branch circuits. It is rated in amperes, and it is capable of interrupting its rated current at its rated voltage.
- **General-use snap switch.** A form of general-use switch so constructed that it can be installed in flush device boxes or on outlet box covers, or otherwise used in conjunction with wiring systems recognized by this subpart.
- **Isolating switch.** A switch intended for isolating an electric circuit from the source of power. It has no interrupting rating, and it is intended to be operated only after the circuit has been opened by some other means.
- **Motor-circuit switch.** A switch, rated in horsepower, capable of interrupting the maximum operating overload current of a motor of the same horsepower rating as the switch at the rated voltage.
- **Switching devices.** (Over 600 volts, nominal.) Devices designed to close and/or open one or more electric circuits. Included in this category are circuit breakers, cutouts, disconnecting (or isolating) switches, disconnecting means, interrupter switches, and oil (filled) cutouts.

Transportable X-ray – X-ray equipment installed in a vehicle or that may readily be disassembled for transport in a vehicle. Utilization equipment. Utilization equipment means equipment which utilizes electric energy for mechanical, chemical, heating, lighting, or similar useful purpose.

Utilization system – A utilization system is a system which provides electric power and light for employee workplaces and includes the premises wiring system and utilization equipment.

Ventilated – Provided with a means to permit circulation of air sufficient to remove an excess of heat, fumes, or vapors.

Volatile flammable liquid – A flammable liquid having a flash point below 38 degrees C (100 degrees F) or whose temperature is above its flash point.

Voltage (of a circuit) – The greatest root-mean-square (effective) difference of potential between any two conductors of the circuit concerned.

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DEFINITIONS – Continued

Voltage, nominal – A nominal value assigned to a circuit or system for the purpose of conveniently designating its voltage class (as 120/240, 480Y/277, 600, etc.). The actual voltage at which a circuit operates can vary from the nominal within a range that permits satisfactory operation of equipment.

Voltage to ground – For grounded circuits, the voltage between the given conductor and that point or conductor of the circuit that is grounded, for ungrounded circuits, the greatest voltage between the given conductor and any other conductor of the circuit.

Watertight – So constructed that moisture will not enter the enclosure.

Weatherproof – So constructed or protected that exposure to the weather will not interfere with successful operation. Rainproof, raintight, or watertight equipment can fulfill the requirements for weatherproof where varying weather conditions other than wetness, such as snow, ice, dust, or temperature extremes, are not a factor.

Wet location – See Location.

Wireways – Wireways are sheet-metal troughs with hinged or removable covers for housing and protecting electric wires and cable and in which conductors are laid in place after the wireway has been installed as a complete system.

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Appendix A Ground Fault Program Inspection Verification

Coding schemes for assured equipment grounding conductor test records.

JANUARY	White
FEBRUARY	White
MARCH	White
APRIL	Green
MAY	Green
JUNE	Green
JULY	Red
AUGUST	Red
SEPTEMBER	Red
OCTOBER	Orange
NOVEMBER	Orange
DECEMBER	Orange

Test verification shall be by means of numeric or color-coded marking tape on the receptacle, cord set or equipment to identify that it has passed the test and to indicate the date (quarter) in accordance with the Table above. The year of inspection is identified by a black marker on the tape of the item inspected.

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Appendix B

By following this procedure, you reduce the risk of being electrocuted.

Equipment not meeting the Assured Grounding Program shall not be made available to employees and employees will not be permitted to use such equipment.

A designated competent person(s), Job Foreman or Safety Department, shall perform these tests quarterly.

Procedure to check cords and all portable electrical equipment:

Visually inspect outer sheathing (insulation) to verify there are no cuts, breaks or other defects.

Remove any tape or covering that may hide the condition of the outer sheathing.

Verify that the connection from the cord to the plug (male & female) and the cord to the tool is tight and strain relief is being utilized.

Verify the tool is in good condition. Outer case is not damaged or cracked and all fasteners are in place.

CONTINUITY TESTING

1. **EXTENSION CORDS**

Continuity tester check if ground is continuous from the male to the female ground connectors on the end of the cord. Test from ground prong to the neutral and hot prong to verify there is no ground fault.

2. **CORD & PLUG TYPE EQUIPMENT**

Continuity tester checks if ground is continuous from metal frame thru cord to ground prong. Also touch tester contact to the neutral and hot prongs to verify there is no continuity indicating a ground fault.

3. After extension cords and tools have been inspected and tested and found to be in good condition the proper colored tape per the quarter with year identified must be installed at the male end of the cord.

4. **TEST FREQUENCY**

Test before first use and after any repair or after a suspected damage incident. Test at the beginning of each quarter or before use.

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Electrical Safety Learning Exercise

Score: %

Employees Name:		Date:	
Company:		Instructor:	
Trade:		Job Title:	

Answer each of the following questions “True” or “False” by circling the appropriate letter.

- T F 1. Regardless of training or experience in working on or near exposed live lines, all Brieser employees shall treat all deenergized lines/parts as live.
- T F 2. Brieser shall inform exposed employees, by posting danger signs reading: "DANGER ELECTRICAL HAZARD, AUTHORIZED PERSONNEL ONLY"
- T F 3. While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been deenergized, the circuits energizing the parts shall be locked out or tagged or both in accordance with Section 12 Lockout/Tagout Procedure.
- T F 4. A device whose function is to interrupt the electric circuit to the load when a fault current to ground exceeds some predetermined value is called a circuit breaker.
- T F 5. Visually inspect extension cord outer sheathing (insulation) to verify there are no cuts, breaks or other defects. Before every use.
- T F 6. After extension cords and tools have been inspected and tested and found to be in good condition a tag showing ownership by Brieser Construction to be placed at the male end of the cord.
- T F 7. Brieser Construction inspects all electrical cords on a quarterly basis.
- T F 8. The electrical tape color to signify a passing inspection for the Winter quarter (Jan-Mar) is RED
- T F 9. If any piece of electrical equipment fails inspection your site supervisor must be notified, and the equipment will be properly tagged and removed from service.
- T F 10. When working near exposed energized conductors or circuit parts, each employee shall use insulated tools or handling equipment if the tools or handling equipment might make contact with such conductors or parts.

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Electrical Safety Learning Exercise

Answer Sheet

True	1. Regardless of training or experience in working on or near exposed live lines, all Brieser employees shall treat all deenergized lines/parts as live.
True	2. Brieser shall inform exposed employees, by posting danger signs reading: "DANGER ELECTRICAL HAZARD, AUTHORIZED PERSONNEL ONLY"
True	3. While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been deenergized, the circuits energizing the parts shall be locked out or tagged or both in accordance with Section 12 Lockout/Tagout Procedure.
False	4. A device whose function is to interrupt the electric circuit to the load when a fault current to ground exceeds some predetermined value is called a circuit breaker.
True	5. Visually inspect extension cord outer sheathing (insulation) to verify there are no cuts, breaks or other defects. Before every use.
False	6. After extension cords and tools have been inspected and tested and found to be in good condition a tag showing ownership by Brieser Construction to be placed at the male end of the cord.
True	7. Brieser Construction inspects all electrical cords on a quarterly basis.
False	8. The electrical tape color to signify a passing inspection for the Winter quarter (Jan-Mar) is RED
True	9. If any piece of electrical equipment fails inspection your site supervisor must be notified, and the equipment will be properly tagged and removed from service.
True	10. When working near exposed energized conductors or circuit parts, each employee shall use insulated tools or handling equipment if the tools or handling equipment might make contact with such conductors or parts.



Section 29
Safety Health
and
Environmental
Manual

2025

Bloodborne Pathogens

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STANDARD PRACTICE INSTRUCTION

SUBJECT: Bloodborne Pathogens

REGULATORY STANDARD: OSHA - 29 CFR 1910.1030

BASIS: Approximately 5.6 million American workers are at risk of developing various types of illnesses due to their exposure to bloodborne pathogens such as the human immunodeficiency (HIV) and hepatitis B (HBV) viruses and other potentially infectious materials in the workplace. In recent years there has been a significant increase in the number of cases reported. This poses a serious problem for exposed workers and their employer. This standard practice instruction establishes uniform requirements to ensure that procedures to limit the spread of such hazards are implemented, evaluated, and that the proper hazard information is transmitted to all affected workers.

GENERAL: Brieser Construction Company will ensure that all potentially infectious hazards within our facility(s) are evaluated and controlled. This standard practice instruction is intended to address comprehensively the issues of, evaluating and identifying potential infectious hazards, evaluating engineering controls, work practices, administrative controls, medical management, training, and establishing appropriate procedures.

RESPONSIBILITY: The company Safety Director is solely responsible for all facets of this program and has full authority to make necessary decisions to ensure success of the program. The Safety Manager is the sole person authorized to amend these instructions and any employee is authorized to halt any operation of the company where there is danger of serious personal injury.

Contents of the Bloodborne Pathogens Program

- 1. Written Program.**
- 2. General Requirements.**
- 3. Exposure Control Plan.**
- 4. Employee Training.**
- 5. Housekeeping Schedules.**
- 6. Use and Disposal of Contaminated Needles and other Contaminated Sharps.**
- 7. Exhibits.**
 - Declination Statement**
 - Cleaning Schedule**

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BRIESER CONSTRUCTION COMPANY BLOODBORNE PATHOGENS PROGRAM

WRITTEN PROGRAM.

Brieser Construction Company will review and evaluate this standard practice instruction on an annual basis, or when changes occur that prompt revision of this document, or when facility operational changes occur that require a revision of this document. This written program will be communicated to all personnel. It encompasses the total workplace, regardless of number of workers employed or the number of work shifts. It is designed to establish clear goals, and objectives.

GENERAL REQUIREMENTS.

OSHA guidelines require that each employer who has employee(s) with potential occupational exposure to bloodborne pathogens shall prepare an exposure determination. This exposure determination shall contain the following:

- A list of job classifications for all employees whose job classifications have occupational exposure.
- A list of job classifications in which some employees have occupational exposure.
- A list of all tasks and procedures or groups of closely related tasks and procedures in which occupational exposure occurs and that are performed by employees in job classifications listed in accordance with the provisions of this standard practice instruction.
- The schedule and method of implementation, methods of compliance, Hepatitis B vaccinations and post-exposure evaluation and follow-up, communication of hazards and record keeping required by 29 CFR 1910.1904 and 1030.
- The procedure for the evaluation of circumstances surrounding possible bodily fluid transfer and needle stick incidents.
- Disposal procedures for contaminated needles and other contaminated sharps.
- Methods of compliance.

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Exposure Control Plan.

- Job Classifications in Which All Employees in Those Classifications Have Occupational Exposure.
 - First Aid Response Teams.

- Tasks and Procedures or Groups of Closely Related Tasks and Procedures. Procedures in which occupational exposure occurs and that are performed by employees in job classifications listed in accordance with the provisions of 29 CFR 1910.1030.
 - Cardiopulmonary Resuscitation (C.P.R.)
 - Accu-Chek® for blood sugar screening.
 - Treatment for wounds to skin involving tears of skin tissue.
 - Removal of foreign bodies from eyes or skin tissue.
 - Removal of skin sutures.
 - Disposal of contaminated sharps.
 - Contaminated dressing changes.
 - Suctioning body fluids from respiratory tract.
 - Clean-ups of Biohazard spills.
 - Disposal of Biohazard wastes from first-aid treatment area and women's restrooms.

- Methods of Compliance.
 - General-Universal precautions shall be observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

- Engineering and Work Practice Controls.
 - Engineering and work practice controls shall be used to eliminate or minimize employee exposure. Where occupational exposure remains after institution of these controls, personal protective equipment shall also be used.
 - Engineering controls shall be examined and maintained or replaced on a regular schedule to ensure their effectiveness. This schedule will be posted and documented.

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- This employer will provide handwashing facilities which are readily accessible to employees.
- When provision of handwashing facilities is not feasible, this employer shall provide an appropriate hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelette. When antiseptic cleansers or towelette are used, hands shall be washed with soap and running water as soon as feasible.
- This employer shall ensure that employees wash their hands immediately or as soon as feasible after removal of gloves or other personal protective equipment.
- This employer shall ensure that employees wash their hands and any other skin with soap and water, or flush mucous membranes with water immediately or as soon as feasible following contact of such body areas with blood or other potentially infectious materials.
- Contaminated needles or other contaminated sharps shall not be bent, recapped, or removed. Shearing or breaking of contaminated needles or other contaminated sharps is prohibited.
- Immediately or as soon as possible after use, contaminated sharps shall be placed in appropriate containers. The containers shall be:
 - Puncture resistant.
 - Labeled or color coded in accordance with this standard.
 - Leak-proof on the sides and bottom.
- Eating, drinking, smoking, applying cosmetics, or lip balm, and handling contact lenses are prohibited in first aid and restroom areas where there is reasonable likelihood of occupational exposure.
- Food and drink shall not be kept in refrigerator, freezer, shelves, cabinets, or on countertops where blood or other infectious materials are present.
- All procedures involving blood or other potentially infectious materials shall be performed in such a manner as to minimize splashing, spraying, splattering, and generation of droplets of these substances.

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- Personal Protective Equipment
 - When there is occupational exposure, the First-Aid Department shall provide, at no cost to the employee, appropriate personal protective equipment such as, but not limited to: gowns, gloves, laboratory coats, face shields or masks and eye protection, mouthpieces, resuscitation bags, pocket masks, or other ventilation devices. Personal Protective Equipment shall be considered "appropriate" only if it does not permit blood or other potentially infectious materials to pass through, to, or reach employee's work clothes, street clothes, undergarments, skin, eyes, mouth or other mucous membranes under normal conditions of use and for the duration of time for which the protective equipment will be used.
 - This employer shall ensure that employees use appropriate Personal Protective Equipment unless the employer shows that the employee temporarily and briefly declined to use Personal Protective Equipment when, under rare and extraordinary circumstances, it was the employee's professional judgment that in the specific instance its use should have prevented the delivery of health care or safety services or would have posed an increased hazard to the safety of the worker. When the employee makes this judgment, the circumstances shall be investigated in order to determine whether changes can be instituted to prevent such occurrences in the future.
 - This employer shall ensure that appropriate protective equipment in the appropriate sizes is readily accessible at the worksite or issued to employees. Hypoallergenic gloves or alternatives shall be readily accessible to those employees who are allergic to the gloves normally provided.
 - This employer shall clean, launder, and dispose of Personal Protective Equipment required by 29 CFR 1910.1030 at no cost to the employee.
 - This employer shall repair or replace Personal Protective Equipment as needed to maintain its effectiveness at no cost to the employee.
 - If a garment(s) is penetrated by blood or other potentially infectious materials, the garment(s) shall be removed as soon as feasible.
 - All Personal Protective Equipment shall be removed prior to leaving the facility.
 - When Personal Protective Equipment is removed, it shall be placed in an appropriately designed area or container for storage, washing, decontamination or disposal.

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- Gloves shall be worn when it can be reasonably anticipated that the employee may have contact with blood, other potentially infectious materials, mucous membranes, non-intact skin, when performing vascular access procedures such as removing foreign bodies, and when handling or touching contaminated items or surfaces.
 - Disposable (single use) gloves shall be replaced as soon as feasible if they tear, are punctured, or when their ability to function as a barrier is compromised.
 - Disposable (single use) gloves shall not be washed or decontaminated for reuse.
 - Masks, eye protection, and face shields, masks in combination with eye protective devices such as goggles or glasses with solid side shields, or chin- length face shields, shall be worn whenever splashes, sprays, splatters, or droplets of blood or potentially infectious materials may be generated and eye, nose, or mouth contamination can reasonably be expected.
 - Appropriate protective clothing such as, but not limited to, gowns, aprons, lab coats, clinic jackets or similar outer garments shall be worn in occupational exposure situations. The type and characteristics will depend upon the task and degree of occupational exposure anticipated.
- General Housekeeping
 - This employer shall ensure that the worksite is maintained in a clean and sanitary condition. An appropriate schedule for cleaning and method of decontamination based upon the location within the facility, type of surface to be cleaned, type of soil present, and tasks or procedures being performed in the area. This employer will maintain records and documentation of decontamination schedules.
 - All equipment and environmental working surfaces shall be cleaned and decontaminated after contact with blood and other potentially infectious materials.
 - Contaminated work surfaces shall be decontaminated with an appropriate disinfectant after completion of procures, immediately or as soon as feasible when surfaces are overtly contaminated or after any spill of any other potentially infectious materials; and at the end of the work shift if the surface may have become contaminated since the last cleaning.
 - Protective covering, such as imperviously backed absorbent paper used to cover equipment and surfaces shall be removed and replaced as soon as

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feasible when they have been contaminated or at the end of the work shift if they have become contaminated during the shift.

- All bins, buckets, cans, and similar receptacles intended for reuse which have a reasonable likelihood for contamination with blood or other potentially infectious materials shall be inspected and decontaminated on a regularly scheduled basis and cleaned and decontaminated or, as feasible, upon visible contamination. This employer will maintain records and documentation of cleaning and decontamination.
 - Broken glassware which may have been contaminated shall not be picked up directly with the hands. It shall be cleaned up using mechanical means, such as a brush and dustpan, tongs, or forceps.
- Regulated waste and contaminated sharps shall be discarded immediately or as soon as feasible in containers that are:
- Closable.
 - Puncture resistant.
 - Leak-proof on sides and bottom.
 - Labeled or color-coded in accordance with 29 CFR 1910.1030.
- During use, containers for contaminated sharps shall be:
- Easily accessible to personnel and located as close as is feasible to the immediate area where sharps are used.
 - Maintained upright throughout use.
 - Replaced routinely and not allowed to overfill.
- When moving containers of contaminated sharps from the area of use, the containers shall be:
- Closed immediately prior to removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.
 - Placed in a secondary container if leakage is possible. The second container shall be:
 - Closable.
 - Constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping.
 - Labeled or color-coded according to 29 CFR 1910.1030.
- Reusable containers shall not be opened, emptied, or cleaned manually or in any other manner which would expose employees to the risk of percutaneous injury.

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- Other regulated waste shall be placed in containers which are:
 - Closable.
 - Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport, or shipping.
 - Labeled or color-coded in accordance with 29 CFR 1910.1030.
 - Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

- If outside contamination of the regulated waste container occurs, it shall be placed in a second container. The second container shall be:
 - Closable.
 - Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport, or shipping.
 - Labeled or color-coded in accordance with 29 CFR 1910.1030.
 - Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.
 - Disposal of all regulated waste shall be in accordance with applicable regulations of the United States and its Territories, The State of Illinois, and Will County.

- Contaminated laundry shall be handled as little as possible with a minimum of agitation.
 - Contaminated laundry shall be bagged or containerized at the location where it was used and shall not be rinsed or sorted in the location of use.
 - Contaminated laundry shall be placed and transported in bags or containers labeled or color-coded in accordance with 29 CFR 1910.1030.
 - Whenever contaminated laundry is wet and presents a reasonable likelihood of soak-through of or leakage from the bag or container, the laundry shall be placed and transported in bags or containers which prevent soak-through and/or leakage of fluids to the exterior.
 - This employer shall ensure that employees who have contact with contaminated laundry wear protective gloves and other appropriate Personal Protective Equipment.
 - If contaminated laundry is shipped off-site to a second facility own by this company which does not utilize universal precautions in the handling of all laundry, the facility generating the contaminated laundry will place such laundry in bags or containers which are labeled or color-coded.

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- Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-Up.
 - General Guidelines.
 - This employer shall make available the Hepatitis B vaccine and vaccination series to all employees who have occupational exposure, and post-exposure evaluation and follow-up to all employees who have had an exposure incident.
 - This employer shall ensure that all medical evaluations and procedures including the Hepatitis B vaccine and vaccination series, and post-exposure evaluation and follow-up, including prophylaxis, are:
 - Made available at no cost to the employee.
 - Made available to the employee at a reasonable time and place.
 - Performed by or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional.
 - Provided according to recommendations of the U.S. Public Health Service current at the time these evaluations and procedures take place.
 - This employer shall ensure that all laboratory tests are conducted by an accredited laboratory at no cost to the employee.
 - Hepatitis B Vaccination.
 - Hepatitis B vaccination shall be made available after the employee has received the required training and within 10 working days of initial assignment to all employees who have occupational exposure unless the employee has previously received the complete Hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons.
 - This employer shall not make participation in a prescreening program a prerequisite for receiving Hepatitis B vaccination.
 - If the employee initially declines Hepatitis B vaccination but at a later date while still covered under 29 CFR 1910.1030 decides to accept the vaccination, this employer shall make available Hepatitis vaccination at that time.

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- This employer shall assure that employees who decline to accept Hepatitis B vaccination offered by the employer sign the statement shown in Exhibit #1.
 - If a routine booster dose(s) of Hepatitis B vaccine is recommended by the U.S. Public Health Service at a future date, such booster dose(s) shall be made available in accordance with 29 CFR 1910.1030.
- Post-Evaluation and Follow-Up.
- Following a report of an exposure incident the employer shall immediately make available to the exposed employee a confidential medical evaluation and follow-up, including at least the following elements:
 - Documentation of the route(s) of exposure(s), and the circumstances under which the exposure incident occurred.
 - Identification and documentation of the source individual, unless the employer can establish that identification is unfeasible or prohibited by state or local law.
 - Identification of the type and brand of device involved in the incident.
 - The source individual's blood shall be tested as soon as feasible and after consent is obtained in order to determine HBV and HIV infectivity. If consent is not obtained, this employer shall establish that legally required consent cannot be obtained. When the source individual's consent is not required by law, the source individual's blood, if available, shall be tested and the results documented.
 - When the source individual is already known to be infected with HBV or HIV, testing for the source individual's known HBV or HIV status need not be repeated.
 - Results of the source individual's testing shall be made available to the exposed employee, and the employee shall be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.
 - Post-exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service:
 - Counseling.
 - Evaluation of reported illness.

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- This employer shall ensure that the healthcare professional evaluating an employee after an exposure incident is provided the following information:
 - A copy of 29 CFR 1910.1030.
 - A description of the exposed employee's duties as they relate to the exposure incident.
 - Documentation of the route(s) of exposure and circumstances under which exposure occurred.
 - Results of the source individual's blood testing, if available.
 - All medical records relevant to the appropriate treatment of the employee including vaccination status which are this employer's responsibility to maintain.

- Healthcare Professional's Written Opinion.
 - This employer shall obtain and provide the employee with a copy of the evaluating healthcare professional's written opinion within 15 days of the completion of the evaluation.
 - ❖ The healthcare professional's written opinion for Hepatitis B vaccination shall be limited to whether Hepatitis B vaccination is indicated for an employee and if the employee has received such vaccination.
 - The healthcare professional's written opinion for post-exposure evaluation and follow-up shall be limited to the following information:
 - ❖ That the employee has been informed of the results of the evaluation.
 - ❖ That the employee has been told about any medical conditions resulting from exposure from blood or other potentially infectious materials which require further evaluation or treatment.
 - All other findings or diagnosis shall remain confidential and shall not be included in the written report.

- Medical Recordkeeping
 - Medical records required shall be maintained in accordance with standard medical practice.

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- Communication of Hazard to Employees.
 - Labels and Signs.
 - Warning labels shall be affixed to containers of regulated waste, refrigerators, and other containers used to store, transport, or ship blood or other potentially infectious materials.
 - Labels required by this section shall be as shown below in Figure #1.

Figure #1

BIOHAZARD



- These labels shall be fluorescent orange or orange-red or predominantly so, with lettering or symbols in a contrasting color.
- Labels required shall be affixed as close as feasible to the container by wire, adhesive, or other method that prevents their loss or unintentional removal.
- Red bags or red containers may be substituted for labels.
- Labels required for contaminated equipment shall be in accordance with 29 CFR 1910.1030 and shall also state which portions of the equipment remain uncontaminated.

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○ Signs.

- This employer shall post signs at the entrance to the work areas which shall bear a sign as shown below in Figure #2.

Figure #2

BIOHAZARD



- Name of infectious agent.
 - Name, telephone number for person responsible.
- These signs shall be fluorescent orange red with lettering in a contrasting color.

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○ Information and Training.

- Brieser Construction Company shall ensure that all employees with occupational exposure participate in a training program which must be provided at no cost to the employee and during working hours.
- Training shall be as follows:
 - At the time of initial assignment to tasks where occupational exposure may take place.
 - Within 90 days after the effective date of 29 CFR 1910.1030.
 - At least annually thereafter.
- For employees who have received training on bloodborne pathogens in the year preceding the effective date of 29 CFR 1910.1030, only training with respect to the provisions of 29 CFR 1910.1030, which were not included, need to be provided.
- Annual training for all employees shall be provided within one year of their previous training.
- Brieser Construction Company shall provide additional training when changes such as modification of tasks or procedures, or institution of new tasks or procedures, affect the employee's occupational exposure. New training may be limited to addressing the new exposures created.
- Material appropriate in content and vocabulary to educational level, literacy and language of employees shall be used.

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- The training program shall contain at a minimum the following elements:
 - An accessible copy of the text of 29 CFR 1910.1030 and an explanation of its contents.
 - A general explanation of epidemiology and symptoms of bloodborne diseases.
 - An explanation of the modes of transportation of bloodborne pathogens.
 - An explanation of this employer's exposure control plan and the means by which the employee can obtain a copy of the written plan.
 - An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials.
 - An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and Personal Protective Equipment.
 - Information on the types, proper use, location, removal, handling, decontamination, and disposal of Personal Protective Equipment.
 - An explanation of the basis for selection of Personal Protective Equipment.
 - Information on the Hepatitis B vaccine, including information on its efficiency, safety, method of administration, the benefits of being vaccinated, and the vaccine and vaccination being offered free of charge.
 - Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials.
 - An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available.
 - Information on the post-exposure evaluation and follow-up that this employer is required to provide for the employee following an exposure incident.
 - An explanation of the signs and color labels and/or color coding required by 29 CFR 1910.1030.
 - An opportunity for interactive questions and answers with the person conducting the training session.

- The person conducting the training session shall be knowledgeable in the subject matter covered by the elements contained.

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- Recordkeeping

- Medical Records.

- Brieser Construction Company shall establish and maintain an accurate record for each employee with occupational exposure in accordance with 29 CFR 1910.20.
- Records shall include:
 - ❖ Employee's name and Social Security Number.
 - ❖ A copy of the employee's Hepatitis B vaccination status including dates of all Hepatitis B vaccinations and any medical records relative to the employee's ability to receive vaccination as required by 29 CFR 1910.1030.
 - ❖ A copy of all results of examinations, medical testing, and follow-up procedures as required by 29 CFR 1910.1030.
 - ❖ This employer's copy of the healthcare professional's written opinion as required by 29 CFR 1910.1030.
 - ❖ A copy of the information provided to the healthcare professional as required by 29 CFR 1910.1030.
- Retention of OSHA medical records are to be held during the length of employment, plus 30 years.
- This employer shall ensure that employee medical records required by 29 CFR 1910.1030 are:
 - ❖ Kept confidential.
 - ❖ Are not disclosed or reported without the employee's express written consent to any person within or outside the workplace except as required by 29 CFR 1910.1030 or as may be required by law.

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- Training records shall include the following:
 - ❖ The dates of the training sessions.
 - ❖ The contents or a summary of the training sessions.
 - ❖ The names and qualifications of persons conducting the training session.
 - ❖ Training records shall be maintained for 3 years from the date on which the training occurred.

- Availability of Records.
 - ❖ This employer shall ensure that all records required to be maintained shall be made available upon request to Human Resources and the Director for examination and copying.
 - ❖ Employee training records required by 29 CFR 1910.1030 shall be provided upon request in accordance with 29 CFR 1910.20(h).
 - ❖ Employee medical records shall be provided upon request for examination and copying to the subject employee, to anyone having written consent of the subject employee, to the Director, and to Human Resources in accordance with 29 CFR 1910.1020(h). Medical records must have written consent of employee before being released.

- Transfer of Records.
 - ❖ This employer shall comply with the requirements set forth in 29 CFR 1910.20.
 - ❖ If this employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, this employer shall notify the local OSHA Office, at least three months prior to their disposal and transmit them per their instructions, if required, within that three-month period.

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- Effective Dates.
 - The Exposure Control Plan required by 29 CFR 1910.1030 shall be completed on or before May 5, 1992.
 - Information, training, and recordkeeping shall take effect on or before June 4, 1992.
 - Engineering, work practice controls, Personal Protective Equipment, housekeeping, Hepatitis B vaccination, post-exposure evaluation and follow-up, and labels and signs shall take effect July 6, 1992.

EMPLOYEE TRAINING.

This company shall ensure that all employees with potential occupational exposure participate in a training program provided at no cost to the employee and during working hours. Training shall be provided as follows:

- At the time of initial assignment to tasks where occupational exposure may take place.
- At least annually thereafter.
- Annual training for all employees will be provided within one year of their previous training.
- Additional training will be provided when tasks or procedures affect the employee's occupational exposure.
- Material appropriate in content and vocabulary to educational level, literacy, and language of employees shall be used.

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- The training program shall contain as a minimum the following elements:
 - An accessible copy of the regulatory text of the BBP standard and an explanation of its contents.
 - A general explanation of the epidemiology and symptoms of bloodborne diseases.
 - An explanation of the modes of transmission of bloodborne pathogens.
 - An explanation of the BBP exposure control plan and the means by which a copy of the written plan may be obtained.
 - An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials.
 - An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment.
 - Information on the types, proper use, location, removal, handling, decontamination, and disposal of personal protective equipment.
 - An explanation of the basis for selection of personal protective equipment.
 - Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge.
 - Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials.
 - An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available.
 - Information on the post-exposure evaluation and follow-up required for employee following an exposure incident.
 - An explanation of the BBP signs and labels and/or color coding.
 - An opportunity for interactive questions and answers with the person conducting the training session.

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HOUSEKEEPING SCHEDULES.

- Disposal of Biohazard Waste.
 - Biohazard waste in red Biohazard bags shall be picked up __N/A__ or as near to __N/A__ as practical and stored in the Biohazard holding area until picked up by an outside solid waste vendor.
- Cleaning Schedules.
 - All working surfaces shall be cleaned with appropriate OSHA approved disinfectant after each contamination of potentially infectious materials and at the end of each shift.
 - Glucometer shall be disinfected after each use.
 - All bins, pails, cans and similar receptacles intended for reuse in area's such as First-Aid or women's restrooms which have a reasonable likelihood for becoming contaminated with blood or other infectious materials shall be inspected and decontaminated each __N/A__ or as near to __N/A__ as practical upon visible contamination.
 - Floors in the First-Aid Department shall be mopped on __N/A__ and __N/A__ with a disinfectant soap solution.
 - Walls in the First-Aid Treatment area shall be washed down on a __N/A__ basis with a disinfectant soap solution.
- Cleaning Schedules/Documentation.
 - All cleaning schedules shall be posted, and documentation provided as shown in Exhibit #2.

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USE AND DISPOSAL OF CONTAMINATED NEEDLES AND OTHER CONTAMINATED SHARPS.

- Contaminated needles and other contaminated sharps shall not be bent, recapped, or removed unless it can demonstrate that no alternative is feasible or that such action is required by a specific medical or dental procedure.
- Such bending, recapping or needle removal must be accomplished through the use of a mechanical device or a one-handed technique.
- Immediately or as soon as possible after use, contaminated reusable sharps shall be placed in appropriate containers until properly reprocessed. These containers shall be:
 - Puncture resistant.
 - Labeled or color-coded in accordance with 29CFR 1910.1030.
 - Leakproof on the sides and bottom.
- During use, containers for contaminated sharps shall be:
 - Easily accessible to personnel and located as close as is feasible to the immediate area where sharps are used or can be reasonably anticipated to be found (e.g., laundries).
 - Maintained upright throughout use; and
 - Replaced routinely and not be allowed to overfill.

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- When moving containers of contaminated sharps from the area of use, the containers shall be:
 - Closed immediately prior to removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.
 - Placed in a secondary container if leakage is possible. The second container shall be:
 - Closable.
 - Constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping; and
 - Labeled or color-coded according to 29CFR 1910.1030.
- Reusable containers shall not be opened, emptied, or cleaned manually or in any other manner which would expose employees to the risk of percutaneous injury.

EXHIBITS.

- Sample vaccination declination statement.
- Sample first aid cleaning schedule.

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 *****DECISION POINT:** Recommended sample declination statement

EXHIBIT # 7.1

BRIESER CONSTRUCTION COMPANY

HEPATITIS B VACCINATION DECLINATION STATEMENT

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring Hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with Hepatitis B vaccine, at no charge to myself. However, I decline Hepatitis vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring Hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with Hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Employee's Printed Name

Employee's Signature

Date

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 *****DECISION POINT:** Sample first aid cleaning schedule

EXHIBIT # 7.2

FIRST AID CLEANING SCHEDULE

FOR: _____

MONTH: _____

DATE: _____ INITIALS: _____	DATE: _____ INITIALS: _____	DATE: _____ INITIALS: _____
DATE: _____ INITIALS: _____	DATE: _____ INITIALS: _____	DATE: _____ INITIALS: _____
DATE: _____ INITIALS: _____	DATE: _____ INITIALS: _____	DATE: _____ INITIALS: _____
DATE: _____ INITIALS: _____	DATE: _____ INITIALS: _____	DATE: _____ INITIALS: _____
DATE: _____ INITIALS: _____	DATE: _____ INITIALS: _____	DATE: _____ INITIALS: _____
DATE: _____ INITIALS: _____	DATE: _____ INITIALS: _____	DATE: _____ INITIALS: _____
DATE: _____ INITIALS: _____	DATE: _____ INITIALS: _____	DATE: _____ INITIALS: _____
DATE: _____ INITIALS: _____	DATE: _____ INITIALS: _____	DATE: _____ INITIALS: _____

I certify that this facility was maintained in accordance the provisions of this standard practice instruction for the month of _____.

Signature

Date

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		Revised:	7/26/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	04
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Bloodborne Pathogens	
CROSS REFERENCE:	29 CFR 1910.1030 Bloodborne Pathogens		

Bloodborne Pathogen Learning Exercise

Score: %

Employees Name:

Date:

Answer each of the following questions by circling the appropriate letter.

- Brieser Construction will ensure that minimum of 15% of potentially infectious hazards within our facility(s) are evaluated and controlled.
 - True
 - False
- Brieser Construction will ensure that employees have access to the appropriate Personal Protective Equipment.
 - True
 - False
- Brieser Construction make available the _____ vaccine and vaccination series to all employees who have occupational exposure, and post-exposure evaluation and follow-up to all employees who have had an exposure incident.
 - Covid-19
 - Tetanus
 - Hepatitis B
 - Polio

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	7/20/2015
		Revised:	7/26/2023
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Bloodborne Pathogen Learning Exercise

ANSWERS

Answer each of the following questions by circling the appropriate letter.

1. Brieser Construction will ensure that minimum of 15% of potentially infectious hazards within our facility(s) are evaluated and controlled.
 - a. True
 - b. False**

2. Brieser Construction will ensure that employees have access to the appropriate Personal Protective Equipment.
 - a. True**
 - b. False

3. Brieser Construction make available the _____ vaccine and vaccination series to all employees who have occupational exposure, and post-exposure evaluation and follow-up to all employees who have had an exposure incident.
 - a. Covid-19
 - b. Tetanus
 - c. Hepatitis B**
 - d. Polio



Section 30
Safety Health
and
Environmental
Manual

2025

Personal Protective Equipment

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/1/2010
		Revised:	07/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	05
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Personal Protective Equipment PPE	
CROSS REFERENCE:	29 CFR 1926.28 Personal Protective Equipment. 29 CFR 1926 Subpart E, Personal protective and lifesaving equipment 29 CFR 1910 Subpart I Personal protective equipment All related Best Practices from ANSI, ISEA & ASTM NEPA 2112 & 2113		

PERSONAL PROTECTIVE EQUIPMENT PROGRAM

PURPOSE

This written program documents the steps *Brieser Construction* has taken to prevent injury resulting from various occupational hazards present at our construction sites to protecting workers using personal protective equipment (PPE) when the hazards cannot be eliminated. Brieser Construction will designate a Superintendent to assist in training employees and monitoring their proper use of PPE.

Brieser Construction Management has overall responsibility for coordinating safety and health programs in this company. Copies of the written program may be obtained at the job site or in the Corporate Office.

If, after reading this program, you find that improvements can be made, please contact Brieser Construction. We encourage all suggestions because we are committed to creating a safe workplace for all our employees and to the success of our Personal Protective Equipment Program. We strive for clear understanding, safe behavior, and involvement with the program from every level of the company.

We at Brieser Construction believe it is our responsibility to provide a hazard free environment to our employees. Any employee encountering hazardous conditions must be protected against the potential hazards. The purpose of protective clothing and equipment (PPE) is to shield or isolate individuals from chemical, physical, biological, or other hazards that may be present in the workplace. (See separate documents for respiratory protection and hearing conservation programs)

RESPONSIBILITIES

The Program Administrator: Brieser Safety Director

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local PPE requirements.
- Identifying hazards to the eyes, head, hands, and feet and prescribing appropriate PPE
- Ensuring that employees receive initial and annual training on PPE use.
- Maintaining training records for all employees included in the training sessions.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/1/2010
		Revised:	07/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	05
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Project Managers, Superintendents & Foreman

These people are responsible for:

- Knowing the hazards in their areas that require PPE.
- Assuring those safe operations are maintained within their departments to prevent injuries to the eyes, face, head, hands, and feet.
- Enforcing PPE use in the areas in which it is required.

Employees

- Using PPE when required
- Properly store and maintain PPE.
- Employees must provide and wear short sleeve shirts, long pants, and construction grade safety toed boots with a defined heel at a minimum. Loose clothing or jewelry (especially rings) should not be worn.

DEFINITIONS

Personal Protective Equipment – Commonly referred to as "PPE", is equipment worn to minimize exposure to serious workplace injuries and illnesses. These injuries and illnesses may result from contact with chemical, radiological, physical, electrical, mechanical, or other workplace hazards. Personal protective equipment may include items such as gloves, safety glasses and shoes, earplugs or muffs, hard hats, respirators, or coveralls, vests, and full body suits.

Employee-owned equipment – Where employees provide their own protective equipment, Brieser Construction shall be responsible to assure its adequacy, including proper maintenance, and sanitation of such equipment.

Biological Agents – Biological materials that can cause an acute disease or long-term damage to the human body.

Radiological Agents – Radiation associated with x-rays; alpha, beta, and gamma emissions from radioactive isotopes; or other material more than normal background radiation levels.

Care – Procedures for cleaning, decontamination, and storage of protective clothing and equipment.

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		Revised:	07/2023
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Certification/Certified – A system whereby a certification organization determines that a manufacturer has demonstrated the ability to produce a product that complies with the requirements of this standard, authorizes the manufacturer to use a label on listed products that comply with the requirements of this standard, and establishes a follow-up program conducted by the certification organization as a check on the methods the manufacturer uses to determine continued compliance of labeled and listed products with the requirements of this standard.

Cleaning – The removal of dirt and debris.

Contamination/Contaminated – The process of transferring a hazardous material from its source to people, animals, the environment, or equipment, which may function as a carrier.

Decontamination – The physical and/or chemical process of reducing and preventing the spread of contamination from persons and equipment used in a contaminated environment.

Fabric – The one or more layers of textile material(s) used in the primary construction of protective garment(s).

Flame Resistance – The property of a material whereby combustion is prevented, terminated, or inhibited following the application of a flaming or nonflaming source of ignition, with or without subsequent removal of the ignition source. Flame resistance can be an inherent property of a material, or it can be imparted by specific treatment.

Flash Fire – A fire that spreads by means of a flame front rapidly through a diffuse fuel, such as dust, gas, or the vapors of an ignitable liquid, without the production of damaging pressure.

Garments – Clothing including, but not limited to, coveralls, trousers, shirts, outerwear, and rainwear.

Hazard Analysis – The process by which an organization identifies hazards in the workplace and then determines appropriate controls, including the use of personal protective equipment (PPE), to eliminate or reduce worker exposure to those hazards.

Maintenance – Procedures for inspection, testing, repair, and retirement of the product.

Product Label – A label or marking affixed to a product by the manufacturer that provides general information, warnings, instructions for care and maintenance, and other information.

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PROGRAM ACTIVITIES

General 1910.132

All personal protective equipment (PPE) used by employees in the course of their work must be used and maintained in a sanitary and reliable condition, whenever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation, or physical contact. Eye, face, head, hand, and foot hazards will be assessed, and appropriate protection will be provided for all affected employees. Employees are required to use PPE wherever hazards exist. Daily assessments are conducted at Brieser Construction using a modified “Job Hazard Analysis” called a TSTI (Total Safety Task Instruction) Also, daily self-inspection audits are performed for all work tasks at Brieser and are conducted by members of Management, Safety, and field employees. All forms are reviewed by the Safety Director and appropriate levels of protection are assigned for a given task and noted on the Brieser PPE Matrix form (See Appendix A)

EMPLOYEE-OWNED EQUIPMENT

Brieser Construction will be responsible for providing all personal protective equipment. Employee-owned PPE will only be allowed if directed by a medical physician. Such equipment must meet ANSI and OSHA requirements. The Safety Director/ Superintendent are responsible for the assurance of Employee-Owned PPE’s adequacy, maintenance, and sanitation.

Design

All personal protective equipment shall be of safe design and construction for the work to be performed.

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Hazard Assessment and equipment selection

If a special project/task arises that is different from our normal line of work; to assess the need for PPE, the following steps are taken: (See App. B)

The Superintendent, with other appropriate employees, and each Project Manager will identify job classifications where exposures occur or could occur. The Safety Director or designee examines the following records to identify and rank jobs according to exposure hazards:

- Injury/illness records
- First aid logs
- Worker's compensation records

The Safety Director/Superintendent conduct a walk-through survey of workplace areas where hazards exist or may exist to identify sources of hazards to employees. They consider these basic hazard categories:

- Impact
- Heat
- Penetration
- Harmful dust
- Compression (roll over)
- Light (optical) radiation
- Chemical

During the walk-through survey, the Safety Director/Superintendent observes and records the following hazards along with PPE currently in use (type and purpose):

- Sources of motion, i.e., heavy equipment, machinery, or processes where any movement of tools, machine elements or particles could exist, or movement of personnel that could result in collision with stationary objects.
- Sources of high temperatures that could result in burns, eye injury or ignition of protective equipment, etc. Sources of high temperatures would be performing Hot Work operations, working on hot motors, and hydraulic lines.

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- Types of chemical exposures are:
 - Petroleum products (gasoline, diesel, natural gas)
 - Solvents and resins
- Sources of harmful dust are:
 - Silica from mud mixing operations.
 - Excessively dry soils,
 - Grinding operations
- Sources of light radiation, i.e., welding, brazing, cutting, furnaces, heat treating, high intensity lights, etc. are:
 - Welding, brazing, and cutting.
- Sources of falling objects or potential for dropping objects:
 - Hand tools, equipment, pipes, and various debris
- Sources of sharp objects, which might pierce the feet or cut the hands:
 - Tools, equipment, nails, and various debris
- Sources of rolling or pinching objects, which could crush the feet:
 - Equipment or piping
- Sources of electrical hazards.

Following the walk-through survey, the Safety Director/Superintendent organizes the data and information for use in the assessment of hazards to analyze the hazards and enable proper selection of protective equipment.

The Safety Director/Superintendent documents the hazard assessment via a written certification (See App. B) that identifies the workplace evaluated, the person certifying that the evaluation has been performed, the date(s) of the hazard assessment, and that the document is a certification of hazard assessment.

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PPE SELECTION GUIDELINES

Once any hazards have been identified and evaluated through the hazard assessment, the general procedure for selecting protective equipment is to:

- Become familiar with the potential hazards and the type of protective equipment (PPE) that are available, and what they can do.
- Compare types of equipment to the hazards associated with the environment.
- Select the PPE, which ensures a level of protection greater than the minimum required to protect employees from the hazards.
- Fit the user with proper, comfortable, well-fitting protection and instruct employees on care and use of the PPE. It is very important that the users are aware of all warning labels for and limitations of their PPE.

It is the responsibility of the Safety Director/Superintendent to reassess the workplace hazard situation as necessary, to identify and evaluate new equipment and processes, to review accident records, and reevaluate the suitability of previously selected PPE. This reassessment will take place as needed, but at least annually or specifically to the job if conditions warrant.

Elements, which should be considered in the reassessment, include:

- Adequacy of the PPE program
- Accidents and illness experience
- Levels of exposure (this implies appropriate exposure monitoring)
- Adequacy of equipment selection
- Number of person hours that workers wear various protective ensembles.
- Adequacy of training/fitting of PPE
- The adequacy of program records
- Recommendation for program improvement and modification
- Coordination with overall safety and health program

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DEFECTIVE AND DAMAGED EQUIPMENT

Defective or damaged personal protective equipment shall not be used. The company will replace damaged or worn-out PPE.

TRAINING

Employees required to use PPE will be trained in the following:

- What PPE is necessary?
- When PPE is necessary?
- How to properly don, doff, adjust, and wear required PPE.
- The limitations of required PPE
- The proper care, maintenance, useful life, and disposal of required PPE

Brieser Construction employees must demonstrate an understanding of the above training, and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE. Employee training must be certified and documented.

When the company has reason to believe that any affected employee who has already been trained does not have the understanding and skill required, Brieser Construction shall retrain each such employee. Circumstances where retraining is required include, but are not limited to, situations where:

- Changes in the workplace render previous training obsolete; or
- Changes in the types of PPE to be used render previous training obsolete; or
- Inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retrained the requisite understanding or skill.

Brieser Construction shall verify that each affected employee has received and understood the required training through a written certification that contains the name of each employee trained, the date(s) of training, and that identifies the subject of the certification.

Minimum PPE requirements will be per the Brieser Construction PPE Matrix Log. (See Appendix A)

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EYE AND FACE PROTECTION 1910.133

It is the policy of the company that as a condition of employment, all employees working in designated work areas and/or job assignments are required to wear ANSI approved safety glasses/goggles/face shields to help prevent eye and face injuries, including those resulting from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or light radiation, for example.

When employees are on any job site, in the maintenance facility shop/garage, or the shop yard and specialty eye protection is not required, safety glasses with side shields will be worn.

Employees, whose vision requires the use of corrective lenses in spectacles, shall be protected by goggles or spectacles of one of the following types:

- Spectacles whose protective lenses provide optical correction.
- Goggles/Oversized safety glasses designed to fit over corrective spectacles without disturbing the adjustment of the spectacles.
- Goggles that incorporate corrective lenses mounted behind the protective lenses.

All Superintendents and managers are responsible for ensuring employees under their charge are following this policy.

All employees required to eye protection must routinely inspect and properly care for their safety eyewear.

Purchasing: All protective eye and face devices shall meet ANSI/ASSE Z87.1-2003, American National Standard Practice for Occupational and Educational Eye and Face Protection.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/1/2010
		Revised:	07/2023
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HEAD PROTECTION 1910.135

It is the policy of the company that as a condition of employment, all employees working on any job site or in the shop yard performing construction activities are required to wear ANSI Type I approved hard hats to help prevent head injuries, including those resulting from falling objects, bumping the head against a fixed object, or electrical shock.

All Superintendent and managers are responsible for ensuring employees under their charge are following this policy.

All employees are responsible for wearing company provided hard hats to comply with this policy. Failure to comply will result in disciplinary action up to and including discharge.

All hard hat components should be inspected daily for signs of dents, cracks, penetration, and any damage due to impact, rough treatment, or wear. In addition to everyday wear and tear, ultraviolet (UV) radiation can pose a problem for hats constructed of plastic materials. Damage caused by UV radiation is easy to spot: the hat will lose its glossy finish and eventually take on a chalky appearance. Further degradation could cause the shell to start flaking away. Once the effects of UV radiation are detected, the hard hat shell should be immediately replaced.

Purchasing: All protective helmets shall meet ANSI Z89-1-2003, American National Standard for Personal Protection - Protective Headwear for Industrial Workers-Requirements.

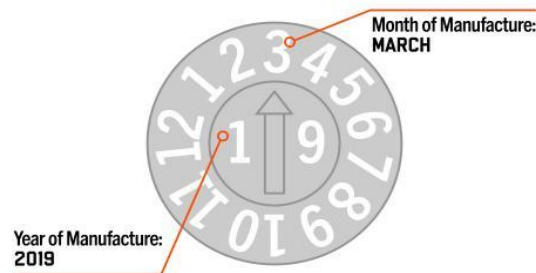
How long until the hard hat expires?

Many manufacturers like JSP and 3M, give a 5-year lifespan from the date of manufacture. Always check with the manufacturer for their lifespan.

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	All related Best Practices from ANSI, ISEA & ASTM		
	NFPA 2112 & 2113		

Where can you find the hard hat expiry date?

Every hard hat has an expiry date (also known as a maximum lifespan). The manufactured date is stamped onto the hard hat, usually below the brim. Flip your hard hat over and look on the inside. You should see something that looks like this:



The Middle number is the year it was manufactured. The number the arrow points at is the month. In this example the hard hat was made in March of 2019. Therefore, it expires in March of 2024.

How long does a hard hat last?

Just because a hard hat has a 5-year lifespan, does not mean it will last you for 5 years.

It is a common misconception that you can use your hard hat until it expires. This is not always the case. The expiration date is the maximum lifespan, not the date for replacement.

Hard hats have a hard life, they are exposed to the elements, they are bumped and knocked regularly, and sometimes dropped. They are designed to withstand all sorts of impacts.

However, the manufacturer's guidance that comes with your hard hat will often include statements like "If the hard hat has sustained an impact, dispose of it immediately, even if there is no visible damage". Once your hard hat has been impacted during use, you need to have it replaced immediately. You need to carry out regular visual inspections for scratches, dents, and other damage.

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What is the maximum time I can use a hard hat?

How long a usage you will get out of your hard hat depends on a few factors, how long after the manufacturer you start using it, and what happens to the hard hat when you use it.

You are probably not going to start using a hard hat as soon as it gets manufactured. It will be transported from the manufacturer to the supplier, and probably spend some time in storage before being used for the first time.

The maximum time you could use a hard hat would be from the time you purchase it, up to the expiry date or until it is damaged, whichever comes sooner.

For example, if a hard hat has a 5-year expiry date from the manufacturer, but it is in storage for the first 6 months, then you will have a maximum of 4.5 years of use.

If it gets hit by a brick after 3 months, then it should be replaced, and you will have only had 3 months of use. In addition to damage from use, contact with hazardous substances can also weaken the plastic materials hard hats are constructed with.

In practice, how long a hard hat lasts can vary from 1 day up to the expiration date, depending on any damage that might occur.

What if my hard hat has expired?

In all circumstances where the expiration date has been exceeded, the hard hat should be replaced, regardless of how good a condition it appears to be in. Unfortunately, this rule applies even if the hard hat has never been used. If you noticed that your hard hat has expired alert your foreman immediately so a new one can be given to you.

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		Revised:	07/2023
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Foot Protection 1910.136

It is the policy of the company that as a condition of employment, all employees working on a construction site, in the shop maintenance facility, in the shop yard or engaged in any operation where injury to the feet can occur are required to wear ANSI approved safety shoes to help prevent foot injuries, ankle injuries, slips, and falls.

Those employees who work in the office areas of the company and vendors and visitors will be allowed to walk through the designated work areas without safety shoes if they remain in outlined aisles, walkways or are guided by the Superintendent through an area with no possible exposure to hazards to the feet, unless specifically denied by the host facility.

All employees who are required to wear safety shoe/boots are responsible for purchasing and wearing safety shoes/boots to comply with this policy. Failure to comply will result in disciplinary action up to and including discharge.

Personnel are responsible for informing new employees who are assigned to the designated work areas of the safety shoe policy and the procedures for obtaining them. The new employee is responsible for reporting to his/her first day of work wearing approved safety shoes.

Purchasing: All protective footwear shall meet ASTM F2413-05, Standard specification for Performance Requirements for Foot Protection - Protective Footwear.

All Brieser employees working in the field will need to have work boots with all the following requirements:

- Above the ankle
- Steel or composite toe protection
- Good tread
- Pronounced heel.

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Hand Protection 1910.138

Employees who work in areas that may contain hand hazards are required to wear appropriate gloves. Only gloves that are designated for the task will be worn. To prevent employees from getting caught on equipment, gloves will not be worn in operations around moving machinery.

Employees performing the following work are required to wear physical protective gloves such as leather or heavy canvas:

- General construction work activities & material handling, hot work, working with tools, etc. Welding gloves are required for welding work.

Employees performing the following work are required to wear cut resistant gloves such as paw guard or gloves made with high tech fibers to resist cuts:

- Cutting with a knife or handling sharp objects.

Employees performing the following work with chemicals that would have a possibility of exposure to the hands are required to wear chemical protective gloves that are compatible with the chemical to prevent permeation or degradation of the glove from the chemical exposure.

Examples related to Brieser Construction work would be use of:

- Form Oil, Epoxy's, Cleaning Agents & Portland Cement

All Superintendent and managers are responsible for ensuring employees under their charge are following this policy.

All employees who perform job tasks requiring hand protection are responsible for wearing company provided gloves to comply with this policy. Failure to comply will result in disciplinary action up to and including discharge.

Purchasing: All Hand Protection shall meet ANSI/ISEA 105-2005, American National Standard for Hand Protection Selection Criteria – Hand Protection.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/1/2010
		Revised:	07/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	05
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Personal Protective Equipment PPE	
CROSS REFERENCE:	29 CFR 1926.28 Personal Protective Equipment. 29 CFR 1926 Subpart E, Personal protective and lifesaving equipment 29 CFR 1910 Subpart I Personal protective equipment All related Best Practices from ANSI, ISEA & ASTM NFPA 2112 & 2113		

FLAME RESISTANT GARMENTS

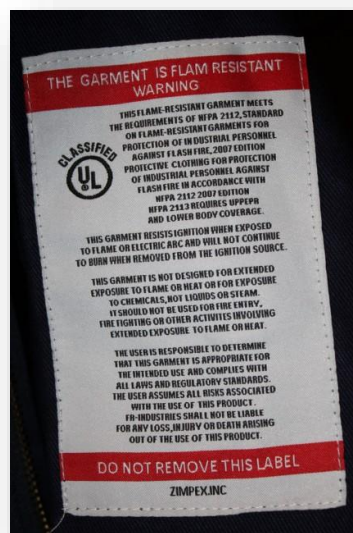
General

All Brieser Construction employees who work in a facility where the risk of a Flash Fire exists shall wear, use, care for and properly maintain Flame Resistant Garments. Flame-resistant garments are made from a variety of either inherently flame-resistant fabrics or fabrics that have been treated with a flame retardant.

Selection

NFPA 2112, Standard on Flame-Resistant Garments for Protection of Industrial Personnel against Flash Fire, provides certification to minimum thermal protective requirements. Brieser Construction utilizes a 3rd. party organization that provides Brieser personnel with flame resistant garments that are in product compliance with the requirements of NFPA 2112 and NFPA 2113 with a labeling/listing/follow-up/maintenance/care program.

All Flame-Resistant Garments worn for Brieser construction shall be labeled with NFPA 2112 Certified. This is located on the inside of the garment and sometimes the label is found on the outside, although this label location is not required.



BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/1/2010
		Revised:	07/2023
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	All related Best Practices from ANSI, ISEA & ASTM		
	NFPA 2112 & 2113		

USE

All Brieser employees shall read and understand the manufacturers user information printed on the label of the garment. The label above is an example of such a label.

Wearing over garments or other PPE that are not flame-resistant over flame-resistant garments can compromise the performance of the flame-resistant garments. Clothing or items worn over flame-resistant garments that are not flame-resistant, such as jackets, rainwear, and high-visibility vests, can ignite and transfer significant heat through the flame-resistant garment and to the exposed body areas such as the head and face, causing severe burn injuries.

- Approved fire-retardant clothing (i.e., NFPA 2112 compliant) is required to be worn as the outermost garment with the following exceptions:
 - Rain or chemical protective gear may be worn over fire retardant clothing when it is raining or if needed for chemical splash protection.
 - Disposable fire-retardant coveralls should be worn over fire retardant clothing when needed to protect the clothing from contamination.
 - Employees engaged in welding may wear welding leathers or the green fire-resistant jackets over their fire-retardant clothing to provide thermal burn protection from hot welding slag.

FRC shall cover legs to below the ankle and arms to over the wrist (long sleeves). These requirements do not apply to personnel working in buildings or trailers unless there is flash fire potential due to the nature of the work.

- It is recommended to wear clothing / undergarments under (closest to the skin) the FRC made of fabrics composed of fibers that are flame-resistant or are natural fibers (e.g.: cotton, wool, aramid, etc.). Clothing / undergarments made of fabrics composed of fibers that are synthetic or synthetic blends (e.g., nylon, polyester, acrylic) can melt when heated and can increase burn injury severity due to melt adhesion to the skin.

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CARE

Adequate cleaning of flame-resistant garments, according to the manufacturers' recommendations, by laundering or dry cleaning is imperative to maintain flame resistance and thermal protection.

Soiling can reduce the protective qualities and increase the risk of second- and third-degree burns. Garments that are contaminated with a significant amount of oily soil or a flammable substance should be decontaminated (or cleaned) to remove the substance.

Any employee who purchases his/her own flame resistance garments will be laundering those garments without the guarantee of Brieser's 3rd. party certified vendor that the FR garments are being cared for properly. Meaning, that if the manufacturers requirements are not met, the garment will be considered unacceptable for use as it pertains to this policy. An example of a popular brand, Carhartt has been provided below to clarify by what is meant by Manufacturers care and use labels and instructions. These care labels shall be legible and always affixed to the inside of the garment.

To maintain the thermal protective properties of Carhartt flame-resistant lined clothing, please follow these laundering instructions: Machine wash warm at temperature not to exceed 140°F (60°C). Do not use chlorine bleach, hydrogen peroxide bleach, softeners, or starch. Tumble dry low, remove promptly. Iron with low heat. Dry cleanable.

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MAINTENANCE

Do not wear your FR garment & tag it out of service if:

- It has been exposed to hazardous chemical or biological agents such as:
 - Blood
 - Solvents
 - Acids
 - Bases
 - Other substances that could leave a visible stain on garment fabrics.
- Missing components (pockets, linings, reflective striping)
- Areas of fabric that show a significant reduction of fabric thickness (by more than 25 percent) as compared to new garment fabric material when measured using an appropriate fabric thickness gauge.
- Discoloration of fabric over more than 10 percent of the garment that cannot be accounted for.
- Holes in or abraded areas of the outer fabric layer that are greater than 645 mm² (1 sq. inch)
- Individual rips, tears, or punctures in the garment fabric that are longer than 25 mm (1 in.) in length.
- Individual seams showing separation or thread loss for a distance greater than 25 mm (1 in.) in length.
- Missing, corroded, or nonfunctional hardware.

All FR garments shall be stored inside out of direct sunlight in a dry, ventilated area. Preferably stored on hangers. Store garments clean and separate from uncleaned garments.

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SAFETY VESTS

It is the policy of the company that as a condition of employment, all employees working on any job site that requires working within a roadways right-of-way are required to wear High Visibility Apparel safety vests.

High Visibility Apparel t-shirts or sweatshirts are acceptable during daylight hours and in good weather. During inclement weather (fog, rain, snow, etc.), High Visibility Apparel vests must be worn since the reflective strips can be seen even under adverse conditions.

All Superintendent and managers are responsible for ensuring employees under their charge are following this policy.

All employees are responsible for wearing company approved High Visibility Apparel colored clothing to comply with this policy. Failure to comply will result in disciplinary action up to and including discharge.

All employees required to wear High Visibility Apparel colored clothing must routinely inspect and properly care for their clothing.

In the facilities that require FRC Brieser will supply all personnel with FR safety vests.

Purchasing: All Safety Vests shall meet ANSI/ISEA 107-2004, American National Standard for High Visibility Apparel

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Temporary Work Agencies or Contractors

Employees from temporary work agencies and contractors are required to wear appropriate PPE if assigned to work on Brieser Construction job sites. It is the responsibility of the agency and/or contractor to ensure the employee reports to his/her temporary assignment at this company wearing minimum PPE requirements and it is the responsibility of the Superintendent and managers to ensure PPE specific to the task is worn and are following this policy.

CLEANING AND MAINTENANCE

It is important that all PPE be kept clean and properly maintained by the employee to whom it is assigned. Cleaning is particularly important for eye and face protection where dirty or fogged lenses could impair vision. PPE is to be inspected, cleaned, and maintained by employees at regular intervals as part of their normal job duties so that the PPE provides the requisite protection. Superintendents are responsible for ensuring compliance with cleaning responsibilities by the employees. If a piece of PPE needs repair or replacement it is the responsibility of the employee to bring it to the immediate attention of the Safety Director/Superintendent. It is against work rules to use PPE that is in disrepair or not able to perform its intended function. Contaminated PPE, which cannot be decontaminated, is disposed of in a manner that protects employees from exposure to hazards.



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 30
PERSONAL PROTECTIVE EQUIPMENT
SUB-SECTION TRAINING**

Personal Protective Learning Exercise

Brieser Construction

Score: %

Employees Name:		Date:	
Company:		Instructor:	
		Job Title:	

Answer the following questions “True” or “False” by circling the appropriate letter.

T	F	1. Equipment worn by employees to reduce exposure to hazards to the eyes, face, head, hands, and feet is known as Personal Protective Equipment (PPE).
T	F	2. PPE should be the first method used to control eye, face, head, hand, and foot hazards.
T	F	3. Welding operations can create a radiant energy hazard to the eyes.
T	F	4. PPE for the head is used to provide protection from the impact of falling objects and electrical hazards.
T	F	5. Stepping on a nail is the only hazard to the feet when wearing safety shoes.
T	F	6. Goggles, a type of eyewear that provides protection from flying particles and chemical splashes, vapors, dust, and mists — can fit over prescription glasses.
T	F	7. Hard hats should never be altered in any way.
T	F	8. One type of glove provides protection against all types of chemicals.
T	F	9. Basic safety shoes with steel toes provide protection for the entire foot.
T	F	10. Supervisors must inspect PPE every day.

Personal Protective Learning Exercise
Brieser Construction
Answers

T	F	1. Equipment worn by employees to reduce exposure to hazards to the eyes, face, head, hands, and feet is known as Personal Protective Equipment (PPE).
T	F	2. PPE should be the first method used to control eye, face, head, hand, and foot hazards. <i>PPE should be used only if engineering and administrative controls do not completely control the hazard.</i>
T	F	3. Welding operations can create a radiant energy hazard to the eyes.
T	F	4. PPE for the head is used to provide protection from the impact of falling objects and electrical hazards.
T	F	5. Stepping on a nail is the only hazard to the feet when wearing safety shoes. <i>Foot hazards include falling objects, sharp objects and rolling objects.</i>
T	F	6. Goggles, a type of eyewear that provides protection from flying particles and chemical splashes, vapors, dust, and mists — can fit over prescription glasses.
T	F	7. Hard hats should never be altered in any way.
T	F	8. One type of glove provides protection against all types of chemicals. <i>Gloves made of various materials are required for chemical protection, depending on the specific chemical and activity.</i>
T	F	9. Basic safety shoes with steel toes provide protection for the entire foot. Most safety shoes protect the toes only. <i>The upper foot area can be protected against impact with integral metatarsal (or over foot) guards that attach to the shoes.</i>
T	F	10. Supervisors must inspect PPE every day. <i>The user should inspect PPE for damage before and after each use. Questions about PPE should be directed to supervisors.</i>

APPENDIX B

Standard PPE worn with all tools and equipment. FRC(If Host Facility Requires), Steel Toe Boots w/defined heel, Hard Hats with Goggles (If Host Facility Requires) and Safety Glasses. If prolonged kneeling is required for your job task, knee pads will be required.

Tools or Equipment		PPE Required
Vehicle/Industrial Batterys	➡	Face Shield, Gloves
Gas/Diesel Equipment	➡	Hearing Protection
Concrete Vibrator	➡	Gloves, Hearing Protection
Soil Pick	➡	Gloves, Hearing Protection, Face Shield
Jack Hammers	➡	Gloves, Double Hearing Protection, Face Shield, NIOSH Dust Mask
Bush Hammers	➡	Gloves, Hearing Protection, Face Shield,
Chain Saw	➡	Gloves, Hearing Protection, Face Shield, Chaps, Stihl Helmet system for forestry use
Concrete Saw	➡	Gloves, Hearing Protection, Face Shield,
Grinder	➡	Gloves, Hearing Protection, U.S Safety Double Matrix Face Shield,Leather forearm sleeves
Vibratory Plate	➡	Gloves, Hearing Protection
Jumping Jack	➡	Gloves, Hearing Protection
Remote Control Rollers	➡	Hearing Protection, Gloves
Welder	➡	Welding Gloves/Hood (with #10-14 shaded lens), Hearing Protection, Leather jacket/FR jacket/sleeves or apron Fire Watch-same protection if exposed
Torch Cutting	➡	Leather Gloves, #5 Goggles & Face Shield. Hearing Protection, Leather jacket/FR jacket/sleeves or apron. Fire Watch-same shaded lens
Manlift	➡	Full Body Harness & Lanyard
Shark Steam Cleaner, Pressure Washer	➡	Gloves, Hearing Protection, Face Shield
Jump Pack (battery jumping)	➡	Gloves, Face Shield
Working within a roadways right-of-way	➡	Orange safety vests or acceptable orange colored clothing. With reflective tape ie (t-shirts or sweatshirts during daylight and clear weather)
Cutting knives	➡	Cut resistant gloves made with kevlar fibers.
Plasma Arc Cutting	➡	Leather Gloves, Eye Protection (See Table 1 in Manufacturers Manual) & Face Shield. Hearing Protection, Leather jacket/FR jacket/sleeves or apron. Fire Watch-same shaded lens
Handling Chemicals	➡	Consult MSDS for proper PPE
Wet Concrete	➡	Make washing facilities available use a pH-neutral or slightly acidic soap or buffered solution, Butyl or nitrile gloves, waterproof boots, When kneeling on wet cement use dry kneeboards. Use face shields when splattering cannot be controlled
Weed Trimmers	➡	Gloves, Nylon string or attachment (no metal), Hearing Protection,Stihl Helmet system for forestry use
Vacuum Excavators	➡	Leather/Rubber Gloves, Double Hearing Protection, Faceshield
Conveyor Truck	➡	Face Shield, Gloves

APPENDIX B

PERSONAL PROTECTIVE EQUIPMENT HAZARD ASSESSMENT All Brieser Construction Job Sites

FOOT	HAND/ARM	HEAD

Task/Job	Impact	Compression	Punctures	Electrical	Cut	Abrasions	Punctures	Chemicals	Thermal Burns	Temperature Extremes	Impact Penetration (Falling Objects)	Impact Penetration (Contact with Stationary Object)	Electric Shock

CERTIFICATION

Location: _____

Evaluated by: _____

Date(s): _____

Evaluated by: _____

(Print Name)

(Signature)

SCAN

SAFETY/PPE/HAZARD ASSESSMENT/MMDDYY

APPENDIX B

PERSONAL PROTECTIVE EQUIPMENT HAZARD ASSESSMENT All Brieser Construction Job Sites

FACE	EYE	WHOLE BODY

Job	Impact	Heat	Chemicals	Dust	Impact	Heat	Chemical	Dust	Light/Radiation	Chemical	Visibility	Heat	Flame	Dust/Fibers

CERTIFICATION

Location: _____

Date(s): _____

Evaluated by: _____

Evaluated by: _____

(Print Name)

(Signature)

SCAN

SAFETY/PPE/HAZARD ASSESSMENT/MMDDYY



Brieser
CONSTRUCTION

Section 31
Safety Health
and
Environmental
Manual

2025

Subcontractor Policy

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	5/30/2008
		Revised	8/12/2013
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
		Reviewed:	12/17/24 KMC
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CROSS REFERENCE:	OSHA Directive CPL 02-00-124 Multi-Employer Citation Policy		

PURPOSE

To familiarize all Brieser Construction Subcontractors with the company's safety rules, procedures, and guidelines for controlling job site incidents and injuries.

SCOPE

This section applies to all Brieser Construction affiliates, all contractors working on a subcontract to Brieser Construction, and all affiliates utilizing subcontract labor.

POLICY

Each subcontractor will be expected to be aware of and comply with all local, state, and federal safety standards and regulations.

Each subcontractor will be furnished a non-controlled copy of the Brieser Construction Safety & Health Program and will be required to comply with those portions of the manual which deal with job site safety and health. At the conclusion of your services, a meeting will be held with our job foreman to evaluate your company's safety performance.

GENERAL

In many states, and under federal OSHA, Brieser Construction is responsible for the safety violations of its subcontractors. Under OSHA's Multi-Employer Worksite Policy more than one employer may be citable for a hazardous condition that violates an OSHA standard. Upon inspection OSHA will determine whether the employer is a creating, exposing, correcting, or controlling employer.

- The Creating Employer
 - The employer that caused a hazardous condition that violates an OSHA standard.
- The Exposing Employer
 - An employer whose own employees are exposed to the hazard.
- The Correcting Employer
 - An employer who is engaged in a common undertaking, on the same worksite, as the exposing employer and is responsible for correcting a hazard. This usually occurs where an employer is given the responsibility of installing and/or maintaining safety/health equipment or devices.

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- **Example:** Employer C, a carpentry contractor, is hired to erect and maintain guardrails throughout a large, 15-story project. Work is proceeding on all floors. C inspects all floors in the morning and again in the afternoon each day. It also inspects areas where material is delivered to the perimeter once the material vendor is finished delivering material to that area. Other subcontractors are required to report damaged/missing guardrails to the general contractor, who forwards those reports to C. C repairs damaged guardrails immediately after finding them and immediately after they are reported. On this project few instances of damaged guardrails have occurred other than where material has been delivered. Shortly after the afternoon inspection of Floor 6, workers moving equipment incidentally damage a guardrail in one area. No one tells C of the damage and C has not seen it. An OSHA inspection occurs at the beginning of the next day, prior to the morning inspection of Floor 6. None of C's own employees are exposed to the hazard, but other employees are exposed.
 - **Analysis: Step 1:** C is a correcting employer since it is responsible for erecting and maintaining fall protection equipment. **Step 2:** The steps C implemented to discover and correct damaged guardrails were reasonable in light of the amount of activity and size of the project. It exercised reasonable care in preventing and discovering violations; it is not citable for the damaged guardrail since it could not reasonably have known of the violation.
- The Controlling Employer
 - An employer who has general supervisory authority over the worksite, including the power to correct safety and health violations itself or require others to correct them. Control can be established by contract or, in the absence of explicit contractual provisions, by the exercise of control in practice.

In addition, an injury to a subcontractor's employee could potentially expose Brieser Construction to a possible civil lawsuit. Therefore, coordination between the incident prevention activities of the subcontractor and those of Brieser Construction is necessary if the objective of incident frequency reduction and lowered costs are to be achieved.

Prior to the commencement of any work on a Brieser Construction project, the subcontractor will ensure that all his personnel, both supervisory and hourly, receive a safety and health orientation from either Brieser Construction superintendent or another Brieser Construction supervisor on the project.

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SUBCONTRACTOR RESPONSIBILITIES

General

The subcontractor will provide to the Brieser Construction superintendent on the project, his job supervisor's telephone number so that he may be contacted after hours in case of an emergency involving the subcontractors work or his equipment.

The subcontractor will ensure that his safety program is in compliance with all the existing safety and health requirements of local, state, and federal regulatory agencies. Where applicable, this may include, but not be limited to, hazard communication training, personal protective equipment training, respiratory protection training (including respirator fit testing), required medical examination and clearance, etc.

In addition to compliance with the safety requirements of all applicable regulatory agencies, the subcontractor is also responsible for complying with the Brieser Safety and Health Program.

The subcontractor is responsible for all employees working for him and for all other persons calling on him or doing business with him while on a Brieser Construction job site. As a Subcontractor, notify the Brieser Construction Supervisor if you have any subcontractors on site.

Prequalification Process

Our prequalification process starts by sending out our Brieser Subcontractor Requirements package. This contains a statement written by the Director of Health & Safety outlining the requirements and expectations of the potential subcontractor. It further highlights Job Safety and Health rules that must be adhered to while under the direction of Brieser Construction. Lastly, the Sub is asked to list their OSHA recordkeeping statistics along with their Experience Modification Rate or equivalent as these numbers are used to assign one of three possible outcomes.

They are:

- Not approved – Any subcontractor that has an EMR greater than 1 along with a three-year average OSHA TCIR rate will not qualify.
- Approved with Supervision- This is a category that has been implemented to further gain knowledge of the subcontractor's safety behavior. This category is used when a variance is needed for category #1 above or if the subcontractor passed the safety statistics listed in category #1 but is lacking in other areas listed on page 5 of our pre-qualification package. If the subcontractor is listed in this category, the Brieser site supervision will automatically assign a Brieser employee with greater than 1 year experience to oversee the subcontractor

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and observe their work practices. This Brieser employee has the authority to stop work as well as recommend the subcontractor be removed from a site.

- Approved- A full approval is given if the subcontractor displays both an EMR and OSHA TCIR below 1 and page 5 is not lacking in any category listed.

The next step in our prequalification process is to communicate with our field employees. A list is sent via email to all Brieser field supervision on a weekly basis.

Our customers are protected from our subcontractor employee and Brieser employees because we list our customer's as additional insured. If our subcontractor employee or our employee sues our customer, our insurance company defends and pays any claim against our customer.

We protect Brieser Construction by requiring the subcontractor to list Brieser Construction and our customer as additional insured. This way if a subcontractor employee sues Brieser or our customer, the subcontractor's insurance company has to defend and pay any claim against Brieser or our customer.

SUMMARY OF SUBCONTRACTOR SAFETY RULES

The following summary of some important incident prevention rules and work procedures apply to all Brieser Construction subcontractors while working on Brieser Construction projects:

Medical Facilities

Subcontractors must furnish their own first aid supplies, which are to be in a place where they are immediately available to his personnel. When requested, Brieser Construction will furnish the subcontractor with Emergency Telephone Number posters, which must be filled out and posted throughout the job site.

Incident Reporting

Promptly report all incidents and near misses to your Brieser Construction Supervision and fill out all required injury and investigation forms as requested, send a copy of all paperwork to Brieser Construction Supervision within 24 hours. An incident is: Any injury of illness to an employee, non-employee, or visitor; any damage to any owned or non-owned property or equipment on the site. A near miss is any incident that happened where there was no significant injury, illness, or property damage but there could have been.

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Clothing

The subcontractor will be expected to comply with Brieser Construction requirement for the wearing of appropriate construction-type clothing by all his personnel. The minimum work clothing that is acceptable for all Brieser Construction or Brieser Construction subcontractor employees working on a Brieser construction site, is long pants, protective footwear meeting ASTM F2413-05, standard specification for performance requirements for foot protection - Protective Footwear, and a shirt that completely covers the workers shoulders and provides adequate protection against such hazards as concrete splash, abrasions to the skin, oil or grease spills, and slag from welding or cutting.

Personal Protective Equipment

Approved hard hats & safety glasses must be always worn when on the job site. Hearing protection must be worn in all areas of high noise levels. Safety goggles, face shields, etc., must be worn whenever the potential for eye injury exists beyond single eye/face protection and the task would warrant extra protection such as grinding, chipping, or welding. Appropriate respiratory protection equipment must be used when conditions warrant. Other suitable protective clothing must be worn when required such as Kevlar lined gloves when using a cutting tool or leather gloves when handling heavy material or welding. All subcontractor employees working at unprotected heights must wear approved safety harness and properly attached safety lines.

Inspections

Subcontractors are required to conduct a daily safety check of each of the areas where their men are working and to report any unsatisfactory conditions to Brieser Construction superintendent. Weekly safety inspections are required on all Brieser Construction job sites and documented. Also, daily safety checks will be conducted either by The Brieser Construction superintendent or an individual whom the Brieser Construction superintendent has assigned to this responsibility. Subcontractors will be required to correct any unsatisfactory safety conditions created because of their operations within a reasonable period of time. If this is not done, violation procedures will apply.

Violation Procedures

When unsafe conditions or practices are observed by Brieser Construction superintendent, the subcontractor supervisor will be requested to correct them. If no action is taken within a reasonable length of time, a letter outlining the violation will be issued and submitted to the management offices of the subcontractor and Brieser Construction for appropriate action.

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Safety Meetings

All Brieser Construction craft personnel are required to participate in weekly toolbox talk safety meetings. These are short training sessions held by Brieser Construction Superintendent to comment on one or more job hazards and safe practices to follow for avoiding incidents.

Subcontractors are required to either participate in these meetings or to conduct similar meetings for their personnel. If separate meetings are held, they should be documented in a brief report filed with Brieser Construction superintendent.

Electrical Equipment

Subcontractors are responsible for maintenance of their extension cords. Defective extension cords must be removed from service immediately. Subcontractors are expected to use ground fault circuit interrupters (GFCI) whenever possible and will furnish a copy of their Assured Equipment Grounding Conductor Program to Brieser Construction Superintendent. Prior to working on electrical equipment, the subcontractor must make certain that all electrical circuits in the immediate vicinity of his work are appropriately protected or that they are either locked out or tagged out of service to assure that no one will incidentally energize the circuit. While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been deenergized, the circuits energizing the parts shall be locked out or tagged or both in accordance with OSHA's Subpart S Electrical standard.

Fire Protection

Gasoline and other flammable liquids must be kept in approved containers and storage requirements for quantities and types used must comply with local and federal regulations. "NO SMOKING" signs must be posted in areas where flammable liquids are stored. The Subcontractor will be expected to enforce all "NO SMOKING" areas located on the job site. The Subcontractor will be expected to furnish the appropriate number, size, and type of portable fire extinguishers required for the job and to provide the necessary training to his personnel in their use. Fire extinguishers are not to be tampered with or removed from their assigned locations.

Housekeeping

Good housekeeping practices are extremely important, and subcontractors are responsible for housekeeping conditions in their respective work areas. Refuse and scraps should not be allowed to accumulate, particularly when they interfere with workflow or create additional fire hazards. Combustible materials must be placed in appropriate metal containers and not be permitted to accumulate in the work area.

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CROSS REFERENCE:	OSHA Directive CPL 02-00-124 Multi-Employer Citation Policy		

SUBCONTRACTOR EMERGENCY ACTION PLAN

Each subcontractor working on a Brieser Construction job site is required to have a site-specific Emergency Action Plan. The minimum elements of the Emergency Action Plan, which must be in writing and physically located at the job site, must include at least the following:

- The method in which emergencies situations are announced.
- Emergency escape procedures and emergency escape route assignments.
- Procedures to be followed by employees who must remain to operate any critical equipment which has to be shut down before they can evacuate.
- A procedure to account for all employees after emergency evacuation has been completed.
- Who will provide rescue and medical duties as required?
- The method of reporting fires and other emergencies.
- Names and/or job titles, as well as telephone numbers, of persons who can be contacted for additional information about the Emergency Action Plan.

The subcontractor must ensure that his Emergency Action Plan is written in accordance with the requirements OSHA Standards, 29 CFR 1926.24, entitled Fire Protection and Prevention, and 29 CFR 1926.35, entitled Employee Emergency Plans, both of which require that each employer be responsible for the development and maintenance of an effective Emergency Action Plan at the job site. Copies of the subcontractor's Emergency Action Plan must be provided to Brieser Construction job site Superintendent and posted where the subcontractor's employees are working at the job site.

SUBCONTRACTOR SITE SECURITY

The subcontractor should take the required security measures to protect his materials, including those furnished to him by Brieser Construction, inasmuch as Brieser Construction will not be responsible for any missing subcontractor materials or tools.

The subcontractor will be responsible for any loss or damage caused by him, his workmen, or his subcontractors to the work or materials, to adjacent property, and to persons.

USE OF THE BRIESER CONSTRUCTION COMPANIES' EQUIPMENT BY THE SUBCONTRACTOR

Subcontractor's will not be authorized to use any Brieser Construction Item of Equipment, including scaffolding, ladders, fall protection harnesses, personal protective equipment, respiratory protection, etc., unless the subcontractor completes an Indemnification Agreement with The Brieser Construction Companies prior to the use of such Equipment.

A sample of an Indemnification Agreement is included within this section.

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Subcontractor Policy Learning Exercise

Score: %

Employees Name:

Date:

Answer each of the following questions by circling the appropriate letter.

1. In many states, and under federal OSHA, Brieser Construction is responsible for the safety violations of its subcontractors.
 - a. True
 - b. False

2. The subcontractor will ensure that his safety program is in compliance with all the existing safety and health requirements of local, state, and federal regulatory agencies. This may include (Circle all that apply)
 - a. Hazard communication training
 - b. Personal protective equipment training
 - c. Respiratory protection training
 - d. High School Diplomas of employees

3. In addition to compliance with the safety requirements of all applicable regulatory agencies, the subcontractor is also responsible for complying with _____.
 - a. The Brieser Safety and Health Program.
 - b. The Brieser Payroll program
 - c. The Brieser Nature Conservation Program
 - d. The Brieser Vehicle Policy

4. The subcontractor is responsible for furnishing their own first aid kits.
 - a. True
 - b. False

5. Subcontractors are required to conduct a daily safety check of each of the areas where their men are working and to report any unsatisfactory conditions to Brieser Construction superintendent. Weekly safety inspections are required on all Brieser Construction job sites and documented.
 - a. True
 - b. False

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Subcontractor Policy Learning Exercise

Answer Sheet

In many states, and under federal OSHA, Brieser Construction is responsible for the safety violations of its subcontractors.

- a. **True**
- b. False

The subcontractor will ensure that his safety program is in compliance with all the existing safety and health requirements of local, state, and federal regulatory agencies. This may include (Circle all that apply)

- a. **Hazard communication training**
- b. **Personal protective equipment training**
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The subcontractor is responsible for furnishing their own first aid kits.

- a. **True**
- b. False

Subcontractors are required to conduct a daily safety check of each of the areas where their men are working and to report any unsatisfactory conditions to Brieser Construction superintendent. Weekly safety inspections are required on all Brieser Construction job sites and documented.

- a. **True**
- b. False

**INDEMNIFICATION AGREEMENT FOR THE USE OF THE BRIESER
CONSTRUCTION COMPANIES EQUIPMENT**

WHEREAS, The Brieser Construction Companies is using, or will cause to be used, certain items of equipment for its own use and convenience, in connection with work performed at the _____ job site, and

WHEREAS _____, A subcontractor to The Brieser Construction Companies, desires to use such items of equipment, for performing certain work at said location.

NOW, THEREFORE, in consideration of the premises and of the undertakings of the subcontractor hereinafter stated, The Brieser Construction Companies hereby consents to said use by the subcontractor of such items of equipment as are listed below, at the convenience of The Brieser Construction Companies, subject to and on the following terms and conditions:

- a. That _____, subcontractor, agrees to indemnify and hold harmless The Brieser Construction Companies for any loss, damage and/or expense because of an injury to the person or property of the parties hereto and their employees, and to the person or property of any other person or corporation arising out of the existence, maintenance or use of such items of equipment by the subcontractor.
- b. That the subcontractor further agrees (1) to ensure the liability assumed in paragraph (a) above, in a reliable and acceptable insurance company, and (2) to maintain insurance in such an insurance company, providing the subcontractor with Workmen's Compensation and Public Liability insurance on the operations of the subcontractor at the premises described above and will furnish to The Brieser Construction Companies certificates of insurance to that effect.
- c. That The Brieser Construction Companies will not and does not guarantee the safety or suitability of any of its items of equipment for the purposes of the subcontractor, nor does it agree to leave in place or to put in place any particular item of equipment at any particular time for another contractor's use. The Brieser Construction Companies makes no warranty or representation, express or implied, as to any matter whatsoever, including, without limitation, the condition of the items of equipment, its merchantability or its fitness for any particular purpose, and as The Brieser Construction Companies, the subcontractor uses the items of equipment "as is" except that The Brieser Construction Companies warrants that The Brieser Construction Companies will have, at the time of use hereunder of each item of equipment, title thereto.

In witness whereof, The Brieser Construction Companies and _____, subcontractor, have executed this instrument this ____ day of _____, (year)_____.

For Brieser Construction:

For Subcontractor:

(Signature)

(Signature)

(Title)

(Title)



Section 32
Safety Health
and
Environmental
Manual

2025

First Aid

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GENERAL

- The Brieser Safety and Health Manual Section 32 of the manual is intended to be used only by persons who are certified or accredited by such agencies as American red cross, US Bureau of Mines, or the American Heart Association regarding providing of first aid, CPR, and other emergency care described herein by documentary evidence.
- Under no circumstances is a person to administer first aid or any other emergency care outlined in this section without proper training and/or certification. This portion of the manual is designed for use by those persons who are properly trained.
- Brieser Construction employees who are certified or accredited by such agencies as American Red Cross, American Heart Association or U.S. Bureau of Mine are not required nor designated by Brieser Construction to administer First Aid or CPR to any employee or person. If an employee does administer First Aid/CPR it would be considered “Good Samaritan” assistance and voluntarily performed.
- In the absence of medical assistance that is reasonably accessible in terms of time and distance to the worksite, a person who has a valid certificate in first aid may be available to render First Aid.
- All worksites shall be supplied with First Aid supplies and shall consist of appropriate items determined to be adequate for the environment in which they will be used.
- All injuries shall follow the Brieser Safety and Health Manual Section 4 for procedures for getting injured persons to the appropriate medical facility.
- All worksites shall contain suitable facilities for quick drenching or flushing of eyes or body where the eyes or body of any person may be exposed to injurious corrosive materials. This area shall be documented on the Brieser TSTI form.
- When warranted calling 911 should be used as quickly as possible along with any on site emergency medical team response. (if applicable)

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TIMES TO CALL 911

- Bleeding that does not stop with direct pressure over the wound.
- A cut or burn that is large, deep, or involved the head, chest, or abdomen.
- Head injury with loss of consciousness, confusion, vomiting, or poor skin color
- Skin or lips that look blue, purple, or gray.
- Seizures (rhythmic jerking or loss of consciousness)
- Sudden inability to move.
- Trouble breathing or choking.
- Unconsciousness or lack of responsiveness from child
- An asthma attack, allergic reaction, or seizure
- Heart attack or stroke
- Unconsciousness due to an accident, overdose of medication or other drugs, or consumption of poison or too much alcohol
- Serious injury resulting from an accident.

What To Expect

The 911 dispatcher will ask you several questions about your victim's condition, the situation that led to the emergency and your location. It will be best for everyone if you can remain calm and speak slowly and clearly to the operator.

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The operator will ask:

- What happened. Give as much information as you can about the incident and how it happened. This will help ensure that the correct emergency personnel are sent to help.
 - Police
 - Ambulance
 - Fire
 - Special / Tactical Rescue
- Where you are. It is best if you can tell the operator your location's street address. If the injured person is at a certain area of a property give the operator as much detail as you can to make it easier for emergency personnel to reach you. You may need to send someone to meet them at the gate and guide them to the exact location.
 - Get the site security involved as well so they can help expedite the personnel into the site.
- That you stay on the phone. Do not hang up until the 911 dispatcher tells you to. The operator may give you instructions to help the victim or might need more information to help emergency personnel find you quickly.
- If you are unsure whether you need to call 911 or not, it is best to call and let the emergency dispatcher determine if you need emergency help.

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FIRST AID KITS

Every Brieser Construction Co. facility, truck and job site will be equipped with a first aid kit. The Facilities and Equipment Manager shall check contents of First Aid Kit before putting into service. The Job Foreman shall check each First Aid Kit weekly and ensure expended items are replaced. The size and the contents of the first aid kit will be determined by Brieser Construction Co. Other medical and first aid supplies will be ordered as necessary for the employees' safety. Personnel of Brieser Construction Co. do not dispense medication. The first aid kit will be in a weatherproof container with individual sealed packages for each type of item and equipped with the following items as a minimum:

- Band aids - 3/4" and 1"
- Gauze - 1" and 2"
- Sterile pads - 3" x 3" or 4" x 4"
- Eye wash
- Antiseptic wipes or cleansing towelettes.
- Scissors
- Adhesive tape - 1"
- Gauze bandages - 1"
- Bandage compress - 4"
- Instant cold packs
- Breathing barrier
- Rubber gloves
- Biohazard Bag
- Large triangular bandages

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APPENDIX A

FIRST AID AND MEDICAL SERVICES

MEDICAL DIRECTIVES AND EMERGENCY CARE OF OCCUPATIONAL AND NON-OCCUPATIONAL INJURIES AND ILLNESSES

These general procedures apply to the following emergency needs:

- Control bleeding
- Restore breathing and maintain open airway.
- Prevent infection and further injury.
- Do not move the injured employee if a neck or back injury is suspected. Only move them if an imminent danger (fire, explosion, etc.) can cause further harm.

EMERGENCY FIRST AID PROCEDURES

ABDOMINAL INJURIES. ACUTE

Trauma to the external abdominal wall may result in injury to underlying organs, even with little evidence of damage. Until seen by a physician, obviously severe or suspected internal abdominal injuries should be cared for as follows:

External Abdominal Injury

- Rapidly check vital signs (pulse, respiration, pupils, and blood pressure); monitor if equipment is available.
- Keep employee flat and quiet.
- Control bleeding and cover wound
- If internal organs are exposed, cover with sterile bandage to avoid contamination.
- DO NOT REMOVE penetrating object.
- Give nothing by mouth.
- Treat for shock and avoid unnecessary handling.
- Arrange for emergency transportation.

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Internal Abdominal Injury

- Keep employee flat and quiet.
- Give nothing by mouth.
- Treat for shock and avoid unnecessary handling.
- Arrange for emergency transportation.
- Monitor pulse and respiration.

ABRASIONS (see wounds)

AMPUTATIONS

- In case of partial or complete amputation, make every effort to preserve the severed part. Place in a plastic bag and put that bag into another bag of cold water. Keep part cool and not in direct contact with cold.
- Control bleeding
- Prevent shock.
- Support with splint if necessary
- Arrange for medical care and transportation.

ASPHYXIATION

- Do not endanger rescuer's life.
- Remove from exposure.
- Move to fresh air as quickly as possible.
- Restore breathing with CPR or oxygen, if available
- Arrange for emergency transportation.

BACK INJURIES OR COMPLAINTS

Back injuries or complaints may or may not be occupational in origin. Good accident information is especially important.

- Apply cold packs, if available
- Refer to job site clinic.
- Notify the Safety Department in case of back injury for possible referral to specialist.

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BITE WOUNDS

Animal Bites

- Wash thoroughly with soap and water as soon as possible for a minimum of ten minutes
- Determine tetanus immunization status (required every ten years)
- Explain the need for animal to be kept under observation.

Insect Bites

- If history indicates or if there is evidence of generalized allergic reaction, arrange for immediate medical care.
- If there is no indication of allergic reaction:
 - Remove stinger if in wound by scraping area with a plastic card.
 - Wash thoroughly with soap and water
 - Apply cold packs.
 - If necessary, arrange for medical care.

BLISTERS FRICTION

1. Clean area with antiseptic soap and water
2. Apply a dry dressing.
3. Do not open routinely.
4. Seek cause and attempt to correct.
5. Arrange for follow-up care.

BRUISES (see Contusions)

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BURNS

Burns experienced in the construction industry can be classified as: thermal, chemical, electrical, and ultraviolet ray.

Thermal Burns

Minor

- Immerse in cold water or apply ice packs immediately, until the burning sensation does not reoccur on exposure to air. Do not place ice directly on skin.
- Wash gently with soap and water
- Arrange for follow-up care.
- If blisters appear as the result of a minor burn, send the employee to the clinic.

Major

- Cover burned area with sterile or clean material so that the entire burned area and immediate surrounding skin area is enclosed.
- **DO NOT REMOVE** clothing which adheres to burned tissue.
- Moisten the burned area.**DO NOT APPLY COLD PACKS.** Too much cold will cause the person to go into shock.
- Treat for shock; monitor pulse and respiration
- Arrange for emergency transportation quickly.

Chemical Burns

Acid and alkali burns can be very deceptive and often result in third degree burns due to continuing action of the chemical long after exposure. Concrete burns are chemical burns. Chemical burns may be very deep and tend to heal slowly.

- Immediate and continuous irrigation with copious quantities of water is the first and most important emergency treatment for both MINOR and MAJOR chemical burns.
- For MAJOR chemical burns of the skin, after copious amounts of water for irrigation has been used, cover with sterile dressing.
- Treat for shock
- Arrange for transportation to emergency facility.
- An SDS for chemical involved must accompany person.

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Electrical Burns

Electrical burns may follow contact with an energized wire or electric apparatus or may result from lightning. Electrical burns vary tremendously on type; some are shallow, whereas others are localized and deep. It is impossible to determine from the appearance of the burn just how serious it is.

- First aid treatment is usually of secondary importance.
- Arrange for immediate transport to medical facility.
- Initiate CPR and monitor pulse and respiration.
- Treat the burned area as a thermal burn.

Ultraviolet Ray Burns (Welding)

- Arrange for transportation to emergency facility.

CARDIAC (HEART) EMERGENCIES

Emergencies which could be caused by cardiac disorders present a wide range of signs and symptoms. Many of these simulate other conditions. Signs and symptoms of possible cardiac disorders may range from mild to severe and may appear gradually or suddenly.

Signs and symptoms which may indicate cardiac disorders:

- Pain originating in the chest or behind the breastbone (sternum) and radiating down the left arm, up the neck, or to the back. This pain is steady and is frequently described by the individual as "pressing," "squeezing," or "choking."
- Indigestion
- Cyanosis (blue color of the skin) around lip area
- Difficulty in breathing, often aggravated by lying down flat.
- Very rapid heartbeat or complaint of chest pains
- Weak, rapid, or irregular pulse
- Weakness, faintness, or shock symptoms

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Severe Cardiac Emergencies Requiring Immediate Action

- Cardiac arrest (heart attack)
- Serious respiratory distress
- Sudden severe and/or persistent chest pain
- Shock and coma of possible cardiac origin

Preparation for Handling Cardiac Emergencies at the Job Site

- Care of the employee with known cardiac disorders which could produce an emergency at work:
 - With the employee's permission, confer with his/her physician about care in an emergency and obtain specific written orders in anticipation of a problem.
 - Talk to the employee about procedures in case he/she becomes ill at work.
 - Aid the employee and his/her physician in carrying out the physician's recommendations while at work.

Care of Cardiac Emergencies

- Cardiac arrest
 - Maintain an open airway.
 - Arrange for transportation to emergency services by ambulance.
 - Administer CPR (if trained)
 - Loosen constrictive clothing.
 - Comfort and reassure.
- **Angina**-When the heart needs more oxygen than it is getting, the lack of oxygen lasts for more than a few seconds. The result is a dull, constricting, or crushing chest pain called angina pectoris.
 - Have the person cease all movement.
 - Place the employee in a semi-reclining or sitting position, or the position which allows the person the easiest breathing.
 - Make sure the airway is open.
 - Loosen constricting clothing.
 - If the pain persists longer than ten minutes, transport to medical facilities immediately.

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CHEST INJURIES

Blow and compression injuries to the chest wall can result in conditions such as rib fractures, punctured lungs, bruised lungs, or a bruised heart.

- Anyone who has suffered a blow to the chest wall should be seen by a physician as soon as possible.
- Handle the employee with particular care to prevent further injury.
- Treat for shock.
- Cover open or sucking chest wounds immediately and make as airtight as possible with dressings.
- Arrange for transportation to emergency facilities immediately.

CONTUSIONS (BRUISES)

Minor Contusions

- Immediately apply cold compresses or cold packs for 20 minutes. Advise employee to apply periodically during the first 48 hours or until the swelling is relieved.
- If soreness persists or there is suspicion of internal bleeding, have the employee visit the clinic or medical facility.

Major Contusions

- Apply cold packs or compresses immediately.
- Arrange to have employee seen by a physician.

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CONVULSIVE DISORDERS (EPILEPTIC SEIZURES)

- Stay as calm as possible. If the employee is conscious, reassure him/her.
- Stay with the employee until the seizure has passed.
- Help him/her lie down so that they will not fall and injure themselves.
- Never try to force something between the person's teeth. Doing so may result in injury to both you and the employee.
- Remove or loosen any tight clothing.
- Turn the employee on his/her side with head extended and face turned slightly downward so that secretions and vomit can drain quickly out of the mouth.
- Maintain an open airway.
- Place a folded jacket or other object underneath the employee's head.
- Do not attempt to restrain the employee unless he/she is in immediate danger.
- Do not move the employee unless something dangerous is nearby.
- If possible, keep people away so that he/she does not become a spectacle.
- Reassure and reorient the person following the seizure.
- If the person lapses into a second seizure without regaining consciousness from the first one, arrange for immediate transport and consider it a medical emergency.

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DIABETIC EMERGENCIES

Insulin Reaction or Shock

The onset of insulin shock is sudden; it may occur within minutes. This indicates there is too much insulin in the body.

Symptoms of insulin shock are headache, dizziness, hunger, irritability, trembling, blurring of vision, and nervousness.

Emergency care includes:

- The employee desperately needs sugar before brain damage and death occur.
- Place sugar on the employee's tongue if unconscious. This should arouse him or her. Use only the amount of sugar the tongue can absorb.
- Do not force liquid into an unconscious person's mouth.
- Sugar in any form (candy or raw sugar) can be given to a conscious employee.
- Arrange for transportation to the emergency facility immediately.

Diabetic Coma

The onset of a diabetic coma is gradual over a period of days. The diabetic has eaten too much that contains or produces sugar or has not taken his/her insulin.

Early symptoms include indigestion, extreme weakness, dry flushed skin, sweet or fruity odor on breath, and drowsiness to unconsciousness.

Emergency care includes:

- Immediate transportation to an emergency facility
- Maintain an open airway.
- Monitor pulse and breathing.
- Keep the employee lying flat.
- If vomiting occurs, turn head to the side.

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ELECTRIC SHOCK

Do not touch the employee until he/she has first been removed from contact with the electric current. Shut off the current, if possible, or use a dry stick, rope, or piece of lumber to free the employee from the source of electrocution.

Emergency care includes:

- Start CPR immediately if there is no pulse and/or no breathing.
- A person sustaining electrical shock may become hysterical and start to run around and behave erratically.
- Force the person to lie down and keep quiet.
- Cover the person with blankets or clothes to help maintain body temperature.
- Treat the burns and treat for shock.
- Request emergency service immediately

EYE EMERGENCIES

Skill, precision, and extreme caution are essential for eye injuries. Many eye injuries, infections, and irritations which appear minor may prove serious if not properly cared for.

Foreign Body in the Eye

Foreign objects, such as particles of dirt, sand, drywall dust, sawdust, or fine pieces of metal are frequently blown or driven into the eye.

Emergency care includes:

- Flush the eye with sterile eye-wash solution, if available. If not available, use clean water as a substitute.
- Flush the eye a second time if not successful the first attempt.
- If flushing the eye is not successful, transport to emergency medical facilities.
- **Do not attempt to remove a foreign object with the corner of a piece of gauze or other material.**

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		Revised:	8/28/2023
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Impaled Object in the Eye

Objects embedded or impaled in the eye should be removed only by a physician.

Emergency care includes:

- Tell the person that both eyes must be bandaged to protect the injured eye.
- Encircle the eye with a gauze dressing or other suitable material.
- Call the paramedics as soon as possible.
- Position a Styrofoam cup or equivalent container over the embedded object. The object should not touch the top or sides of the cup.
- Hold the cup and dressing in place with a bandage that covers both eyes.
- Never leave the employee alone, as he/she may panic with both eyes covered.
- Keep the person as quiet as possible.
- Treat for shock.

Burns to the Eye (Chemical)

The following immediate care is essential:

- Irrigate the eye with copious amounts of water at the scene of the accident (for at least 15 minutes).
- Have someone else call the paramedics while you are flushing the eye.
- Immediately remove the person's clothing, shoes, socks, and any jewelry or apparel that might have become contaminated with the chemical. Take care not to contaminate your own skin, eyes, or clothing.
- After the contaminated items are removed, continue to flush the burned area for another 30 minutes or until the paramedics arrive.
- An SDS for related chemical must accompany individual to the hospital.

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FAINTING

The care for fainting is:

- The employee should lie down with the head lower than the feet or sit with the head between the knees.
- If the person is unconscious for more than two minutes, he/she should be transported to a medical facility as soon as possible.
- Provide as much fresh air as possible.
- Assist breathing (ventilation) if necessary.
- Maintain an open airway.
- Treat for shock.

FRACTURES AND DISLOCATIONS

Symptoms of a fracture or dislocation are:

- Pain or tenderness in the area affected.
- Deformity or irregularity in the region of the injury
- Loss of function of the affected area
- Moderate or severe swelling
- Discoloration
- Employee's information

Emergency care for a suspected fracture or dislocation includes:

- Quiet the employee as much as possible by lying or sitting him/her down.
- Control the bleeding first.
- Carefully splint the fracture or dislocation in its same position if the paramedics cannot attend to the employee before transporting to the medical facility.
- Treat for shock.
- Arrange for transportation to a medical facility.
- Elevate and apply ice packs to injured part when possible.

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FROSTBITE

Emergency procedures for frostbite consist of the following:

- If the tissue is still frozen, keep the tissue frozen until you can begin care. Never initiate thawing procedures if there is any danger of refreezing.
- It is a mistake to thaw frostbitten tissue gradually. Thaw the tissue in water at 105 - 110 degrees Fahrenheit.
- NEVER attempt to rewarm the area by rubbing or massaging.
- Continue the rewarming process until the affected area turns deep red or bluish; the rewarming to this point may take up to 30 minutes.
- Call for emergency medical aid during the rewarming process.
- Bandage thawed areas gently with sterile dressing if medical help is not near. Place cotton or gauze pads between affected toes or fingers. Leave blisters unopened.
- Keep the employee warm.
- Treat for shock.

HEAD INJURIES

If unconsciousness occurs, even momentarily, consider the person to have suffered a possible head injury. Always suspect and assess for a spinal injury in a head-injured person.

Emergency care for head injuries:

- The priority is to establish and maintain an adequate airway, because lack of oxygen to the brain is the most frequent cause of death in a head injury.
- You may have to ventilate the injured person if he/she is not breathing.
- The second priority is to control any bleeding from the scalp or forehead lacerations.
- Call for medical assistance.
- DO NOT ATTEMPT TO STOP BLEEDING AND CEREBROSPINAL FLUID DRAINING FROM THE NOSE OR EARS WHEN A HEAD INJURY HAS OCCURRED - doing so may cause increased pressure on the brain.
- Control bleeding by direct pressure with a sterile cloth to the wound. If evidence indicates a skull fracture, apply pressure only at the edges of the fracture.
- Keep the person in a flat position on their back.
- Treat for shock.
- Avoid overheating the injured person. Strip away some of the clothes if it is a warm day and allow fresh air to cool the person.

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HEAT EMERGENCIES

Heat Exhaustion

The symptoms are:

- Moist, clammy skin
- Weak, dizzy, or faint
- Headache
- No appetite or nausea

Emergency care for heat exhaustion is:

- Move the person to a cool place, but make sure they do not become chilled.
- Lightly apply cold, wet compresses to the skin and face of the person.
- Lie the person down, monitor pulse and breathing.
- Remove as much of the employee's clothing as possible and help make them as comfortable as possible.
- Administer water at the rate of 1/2 glassful every 15 minutes for an hour.
- If the person vomits, stop giving fluids immediately and transport to the medical facility.
- Transport the employee to the medical facility for observation and assistance.

Heat Stroke

Heat stroke is an emergency, and it is a life-threatening situation.

The symptoms of heat stroke are:

- Dry, hot skin
- Red or flushed skin color
- Very high body temperature
- Coma or near coma

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Emergency care for heat stroke includes:

- Establish an airway.
- Request medical help immediately.
- Remove the person from direct sunlight and undress the individual.
- Wet his/her body thoroughly with cold water and fan him/her briskly. Move him/her to an air-conditioned office immediately.
- Use a garden hose to keep him/her wet.
- Where immersion is not feasible, ice massage is the best alternative. Take the ice from the water container on the job site and place in a plastic bag.
- Rub the person all over with the ice bag.
- Place cold packs under the person's arms, around the neck, around the ankles, and behind the knees.
- Never give the person anything to drink.

NOSEBLEED

Treatment for a nosebleed includes:

- Keep the person quiet and in a sitting position, leaning forward.
- Apply pressure by pinching the nostrils for five minutes.
- Apply cold packs to the nose and face.
- If bleeding is controlled, continue to pinch for 10 minutes; if bleeding continues, transport to medical clinic.
- Instruct the person to avoid blowing the nose for several hours, as this could dislodge the clot.

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SHOCK

Shock is a serious condition that causes death. You SHOULD anticipate shock before it develops and assume that every patient is in shock until proven otherwise. It does not hurt the person if you treat him/her for shock and they may not enter that condition.

The three chief dangers associated with shock are:

- Early loss of consciousness that mainly involves the nervous system which may be fatal.
- Progressive loss of blood from the active circulation, which may lead to a failing heart output and insufficient oxygen to cells that are vital for survival.
- Sustained lower blood pressure, which may lead to liver and kidney failure.

The most common symptoms of shock are:

- Restlessness and anxiety will usually precede any other signs.
- Pale skin
- Thirst and dryness of the mouth
- Fainting
- Shallow, labored breathing
- Shaking and trembling of arms and legs (weakness)
- Rapid pulse

Management of shock includes:

- Establish an airway. Breathing and pulse should be constantly monitored.
- Stop bleeding if present. Use gentle, direct pressure with sterile gauze if available.
- Elevate the lower extremities and maintain a head-lowered position, except when other wounds or possible back injury do not allow.
- Immobilize fractures; this lessens damage to soft tissues and prevents further blood loss.
- Avoid any rough or excessive handling.
- Call for medical assistance.
- Keep the injured employee's temperature as normal as possible. Put blankets or jackets underneath and over him/her if cool. Prevent loss of heat, but do not add more heat.
- Monitor the injured person's state of consciousness.
- Do not feed the person or give him/her a drink. Give nothing by mouth.

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SPLINTERS AND SLIVERS

- Cleanse area with soap and water.
- Inspect carefully to evaluate the depth embedded and size of object.
- Remove with tweezers if not embedded too deeply and can be easily grasped.
- Clean with antiseptic and then bandage.
- If embedded too deeply, seek medical assistance.

WOUNDS (LACERATIONS)

The chief duties of the person rendering first aid in caring for an open wound are to stop the bleeding and to prevent germs from entering the wound. In caring for wounds, always give consideration to the employee's immunization status against tetanus, especially when he/she has stepped on a nail.

Emergency care for open wounds includes:

- Where there is severe bleeding, always control it by direct pressure.
- If a limb is involved, elevation of the arm or leg will help control bleeding. Pressure points at arm and groin may be used to control bleeding also.
- Shock usually follows wounds, especially if much blood is lost.
- If loose, foreign particles are around the wound, wipe them away with clean material.
- Always wipe away from the wound, not towards it.
- Do not attempt to remove a foreign object embedded in the wound, since it may aid the physician in determining the extent of the injury. Serious bleeding and other damage may occur if the object is removed. Stabilize the object with a bulky dressing.
- Let the physician cleanse the wound.
- Immobilize the injured part and keep the patient quiet.
- Place a bandage or compress over the wound and tape or tie in place.
- The dressing or bandage should be applied firmly and snugly but should not be so tight as to affect the blood supply to the injured part.
- Preserve all avulsed (amputated) parts.
- Calm and reassure the patient.
- Transport to a medical facility.
- Tourniquets are to be used only when a major amputation occurs.

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DO NOT ATTEMPT TO ADMINISTER CPR IF YOU HAVE NOT BEEN TRAINED.

CPR REVIEW

- ESTABLISH UNRESPONSIVENESS
 - Try to arouse the person by tapping him/her on the shoulder and loudly asking, "Are you okay? Are you okay?"
- CALL FOR HELP
 - Send someone to call for an ambulance and tell them to return.
 - Send someone for an AED (automatic External Defibrillator) if one is available.
- POSITION THE VICTIM ON A HARD, FLAT SURFACE, LYING ON THEIR BACK
- ESTABLISH AN AIRWAY
 - Open the airway (head tilt-chin lift method)
- BREATHING
 - Look
 - Listen
 - Feel
 - If breathless, administer two full ventilations.
- CIRCULATION
 - Establish a pulse.
 - Feel the carotid pulse for 10 seconds.
 - Uncover the person's chest.
 - Locate the xiphoid process on the sternum.
 - Run your fingers along the person's rib cage to the notch where the ribs meet the breastbone in the center of the lower chest.
 - Place one finger on that notch and put your other finger on the lower end of the sternum.
 - Place the heel of your other hand above the two fingers.
 - Place your second hand on top of your first, bringing your shoulders directly over the person's sternum.
 - Pull your fingers up from the chest by interlacing them.

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CIRCULATION continued

- Keeping your arms straight and your elbows locked, apply firm, heavy pressure so that you depress the sternum about 1 1/2 - 2 inches.
- After each compression, completely relax the pressure so that the sternum returns to its normal position, but do not move your hands off the person's chest.
- Deliver compressions at the rate of 80-100 per minute.
- Use the count "one and two and... fifteen and"
- Administer two full ventilations.
- Complete four cycles of 15 chest compressions and two ventilations
- Check for return of a pulse at the carotid artery.
- If no pulse is found, ventilate twice, and continue the cycle of 15 chest compressions and two ventilations until medical help arrives.

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First Aid Learning Exercise

Score: %

Employees Name: **Date:**

Answer each of the following questions by circling the appropriate letter.

1. Certification is not important when it comes to the victim's well-being. You are always allowed to administer first aid or CPR to someone in need.
 - a. True
 - b. False

2. Brieser employees who are certified in CPR and / or First Aid MUST preform these duties when needed by order of the company.
 - a. True
 - b. False

3. Only worksites that pose a significant hazard should have a first aid kit.
 - a. True
 - b. False

4. 911 Should only be called when the victim or foreman says its ok to do so.
 - a. True
 - b. False

5. After you call 911 you may need to send someone to meet them at the gate and guide them to the exact location.
 - a. True
 - b. False

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First Aid Learning Exercise

Answer Sheet

- Certification is not important when it comes to the victim's well-being. You are always allowed to administer first aid or CPR to someone in need.
 - True
 - False**
- Brieser employees who are certified in CPR and / or First Aid MUST perform these duties when needed by order of the company.
 - True
 - False**
- Only worksites that pose a significant hazard should have a first aid kit.
 - True
 - False**
- 911 Should only be called when the victim or foreman says its ok to do so.
 - True
 - False**
- After you call 911 you may need to send someone to meet them at the gate and guide them to the exact location.
 - True**
 - False



Section 33
Safety Health
and
Environmental
Manual

2025

Lifting & Rigging

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		Reviewed:	12/17/24 KMC
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RIGGING & LIFTING

PURPOSE:

The purpose of this procedure is to provide requirements and guidance to support safe rigging and handling of loads. Guidance is included for identification, control, storage, issuance, usage and prior to use inspections of lifting and rigging equipment (cranes, mobile cranes, hand operated hoists, wire ropes, chains, slings, rigging tackle), and for determining the center of gravity, safe working load, and signals.

RESPONSIBILITIES

The Program Administrator: Director of Safety (Kevin Colwell)

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.
- Ensuring that employees receive initial and refresher training on the use of this policy.
- Maintaining training records for all employees included in the training sessions.
- Ensuring all necessary inspections are maintained by conducting field audits of all rigging equipment. Bi-annual informal inspections are made in January and July. Formal annual inspections are conducted in the 3rd. quarter.

Equipment Manager

These people are responsible for:

- Ensuring that the annual formal inspections are conducted on all rigging equipment company wide.
- Ensuring each piece of lifting equipment is appropriately identified.
- Maintaining documentation as required on lifting equipment.
- Maintaining rigging or lifting equipment
 - Repairing, discarding, or destroying damaged or defective rigging / lifting equipment.
 - Assuring proper tagging (depicting rigging or lifting equipment is unsuitable for use) is placed on damaged or defective equipment.
- Maintaining all special lifting equipment within required periodic inspection intervals.

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Equipment Manager continued.

- Ensuring manufacturer's recommended preventative maintenance is performed on rigging or lifting equipment.
- Performing or assisting vendors in performing required periodic inspections of rigging or lifting equipment.
- Purchasing new / replacement lifting, rigging and special equipment, as required.

Project Managers, Superintendents and Foremen

These people are responsible for:

- Review any current revision of the rigging and lifting plans prior to implementation.
- Ensuring personnel assigned rigging tasks are sufficiently trained and qualified in safe rigging practices to perform assigned task adequately and safely.
- Ensuring any rigging and lifting plan is discussed and reviewed during the TSTI prior to making the lift.
- Performance of proper planning, pre-use inspection, safe and correct rigging practices and tagging of equipment that is found damaged or defective.
- Safe rigging and handling of loads during any rigging task.
- Performing any necessary decontamination of rigging or lifting equipment as appropriate.
- Returning rigging or lifting equipment to appropriate rigging and lifting equipment storage area (e.g., Brieser Shop)

Designated Signal Person

These people are responsible for:

- Communicating with the signalman during lifting load evolutions to ensure the crane maintains a safe distance from hazards.
- Communicating with the mobile crane operator when a signalman is not being used during crane travel and maneuvering under "No Load" conditions.
- Know the location of the crane mainline disconnect.
- Walking down the planned travel path before moving the crane to ensure possible hazards and obstructions are identified and communicated to the crane operator / signalman.

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Crane Operator

These people are responsible for:

- Not engaging in any practice that could divert attention while actually engaged in crane operation.
- Only those employees qualified by training or experience shall be allowed to operate equipment and machinery.
 - By November 10th, 2017, employers must ensure operators be qualified/certified by one of the following methods:
 - Certification by an accredited crane operator testing organization.
 - Qualification by an audited employer program
 - Qualification by the U.S. military
 - Licensing by a government entity
- Being physically or otherwise fit for the proficient and safe operation of any crane under his/her controls.
- Being familiar with and understanding hand signals.
- Obeying an emergency always stop signal, no matter who gives it.
- Evaluating potential emergent or abnormal conditions during a lift, and stopping the lift to resolve such conditions, if necessary
- All manufacturer procedures applicable to the operational functions of equipment, including its use with attachments, must be complied with.
- The manufacturer must approve all modifications/additions in writing. A registered professional engineer must be qualified with respect to the equipment involved and must ensure the original safety factor of the equipment is not reduced.
- Whenever there is a safety concern, the operator must have the authority to stop and refuse to handle loads until a qualified person has determined that safety has been assured.
- The operator shall have access to procedures applicable to the operation of the equipment. Procedures include rated capacities (load charts), recommended operating speeds, special hazard warnings, instructions, and operator's manual.

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- The work zone shall be identified by demarcating boundaries such as flag and range limiting devices or defining the work zone as 360 degrees around the equipment up to the maximum working radius. The hazard assessment must determine if any part of the equipment could get closer than 20 feet to a power line.
 - If it is determined that any part of the equipment, load line or load could get closer than 20 feet to a power line then at least one of the following measures must be taken:
 - Ensure the power lines have been deenergized and visibly grounded.
 - Ensure no part of the equipment, load line or load gets closer than 20 feet to the power line.
 - Determine the line's voltage and minimum approach distance permitted. In Table A Attachment 8 of this policy.

Crane Inspection(s).

- Equipment must not be assembled or used unless ground conditions are firm, drained, and graded to a sufficient extent so that, in conjunction (if necessary) with the use of supporting materials, the equipment manufacturer's specifications for adequate support and degree of level of the equipment are met.
- The manufacturer's procedures and prohibitions must be complied with when assembling and disassembling equipment.
- The assembly/disassembly of equipment must be directed by a competent and qualified person.
- A competent person must conduct a visual inspection of equipment prior to each shift. The inspection must consist of observation for apparent deficiencies. Some inspection items shall include control mechanisms, pressurized lines, hooks and latches, wire rope, electrical apparatus, tires (when used), and ground conditions.
- Equipment must be inspected monthly by a competent person. The inspection must be documented. Documentation must include the following: items checked, results of inspection, and name and signature of the inspector. Documentation must be retained for 3 months. (Documented monthly inspection not required if the daily inspection is documented and records are retained for 3 months)
- Safety devices are required to be on all equipment and must be in proper working order before operations begin. If any of the devices are not in proper working order the equipment must be taken out of service and operations must not resume until the device is working properly again. Examples of safety devices may include:
 - Crane level indicator
 - Boom stops.
 - Jib stops.
 - Foot pedal brake locks
 - Horns, etc.

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Signalman Responsibilities

- The Signalman's primary responsibility is to give signal/communicate directions to the crane operator, and he/she should be clearly identifiable (e.g., wearing bright colored vest).
- Know the location of the crane mainline disconnect.
- An appropriate TSTI should be conducted with the signalman and rigging team to ensure the rigging expectations are clear. There are several instances when it is acceptable for the Signalman to touch/guide the load and they are as follows:
 - To check/inspect and adjust the rigging setup prior to lifting the load.
 - When the load is being lifted lowered into a fitted area and the fit is preventing the load from swinging or shifting.
 - When the load is being aligned for lowering over guide rods/alignment pins or lifted/lowered over guide rods/alignment pins that are preventing the load from swinging or shifting.
 - The load is at a minimal height (less than approximately 6 inches above the landing location) and is being lifted/lowered initially or being guided to a precise landing location.
 - When the item is being/lowered into a location that requires hands on guidance (insufficient room for tag lines) AND there is room for only one person to guide the load AND the crane operator will still have a clear view of the Signalman.
- These instances allow the Signalman to determine if there are signs of binding and precise positioning without posing an equipment or personnel safety risk. The signalman's actions should be such that he/she has the ability to immediately provide hand signals with both hands if required.
- During periods when the designated signalman is not working in the capacity of a signalman and performing other rigging activities, he/she should remove his vest.
- For Non-Heavy Load lifts, A Signalman is not required if the load is such that the hoist/crane operator will have control, will be in the immediate vicinity of the load (i.e., pendant controller), and is able to visually see the load during all phases of lifting, moving, and setting the load. A Signalman is to be used for all other hoist/crane handling situation.

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DEFINITIONS

Breaking Strength – The measured strength required to break cable, chain, synthetic webbing, etc.

Critical Load – A lifted load whose uncontrolled movement or release could adversely affect safety related system(s) when such system(s) are required for unit safety or result in potential off-site exposure comparable to the guideline exposures outlined in 10 CFR 100.

Dynamometer / Load Cell – A device used to measure/determine the weight of the load being lifted. Dynamometer / load cell are also used as equivalents in the mobile cranes that have a computer assisted load determining systems.

Dynamic Loading – Is the loading that occurs from force generated by acceleration or deceleration. A dynamic load results from a force applied to the load/rigging (for example, during operation of the crane moving the load). Dynamic load is equal to static load plus the dynamic force applied to the rigging as a result of accelerating or decelerating the crane hook caring the load (typically about 25% greater than the load weight to be lifted).

Dynamic Load Factor – The safety factor use to select the proper rated slings/rigging for a specific load to be lifted. Multiply the Dynamic Load Factor times the weight of the load to be rigged (Static load).

Fabricated Rigging Devices – The design, fabrication, labeling, testing and utilization of fabricated rigging devices shall comply with the requirements of ASME B30.20.

Lifting Equipment – All equipment used for hoisting and lowering loads.

Load Bearing Parts – Any part of a material-handling device in which the induced stress is influenced by a hook load. A primary load-bearing part is one, the failure of which could result in dropping, upset, or uncontrolled motion of the load. Load bearing parts which, if failed, would result in no more than stoppage of the equipment without causing dropping, upset, or loss of control of the load, are not considered to be primary load-bearing parts.

Load Rating – The amount of weight that a component or assembly can safely lift.

Material Handling – The process of moving material using devices that are not classified as rigging and lifting tools. (i.e., be moving material using carts, forklifts, pallet jacks, dollies, and rope)

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Nil Ductility Temperature – Is defined as that temperature at which a material is subject to catastrophic brittle failure when placed under load or stress. This condition may occur in cold weather conditions to carbon steel or carbon steel alloys.

Nominal Strength – Breaking strength of rope which begins to reduce the moment a rope is put in service.

Qualified Person – A person, who by documented training, knowledge, and experience, is competent to perform the required task.

Qualified Rigger - A qualified rigger is a person who, by possession of a recognized degree, certificate, or professional standing, or by extensive knowledge, training, and experience, successfully demonstrated the ability to solve/resolve problems related to the subject matter, the work, or the project. Brieser accepts a 40-hour rigger card issued by a union trade or 10 years of experience.

Rated Capacity – The manufacturer's rated capacity. The maximum load which a piece of hoisting equipment is designed to safely carry. Also, the maximum load which a sling, hook, shackle, or other rigging tackle is designed to safely carry.

- When shackles are to be used at temperatures above 400°F(204°C) or below -40°F(-40°C), the shackle manufacturer or a qualified person should be consulted.
- When adjustable hardware, excluding swivel hoist rings and carbon steel eyebolts, is to be used at temperatures above 400°F(204°C) or below -40°F(-40°C), the hardware manufacturer or a qualified person should be consulted.
- When swivel hoist rings are to be used at temperatures above 400°F(204°C) or below -20°F(-29°C), the hardware manufacturer or a qualified person should be consulted.
- When carbon steel eyebolts are to be used at temperatures above 275°F(135°C) or below 30°F(-1°C), the hardware manufacturer or a qualified person should be consulted.
- When wire rope clips are to be used at temperatures above 400°F(204°C) or below -40°F(-40°C), the wire rope clip manufacturer or a qualified person should be consulted.
- When wedge sockets are to be used at temperatures above 400°F(204°C) or below -4°F(-20°C), the wedge socket manufacturer or a qualified person should be consulted.
- When steel links, rings, or swivels, are to be used at temperatures above 400°F(204°C) or below -40°F(-40°C), the steel link, ring, or swivel manufacturer or a qualified person should be consulted.
- For links, rings, or swivels made from other materials than steel, the steel link, ring, or swivel manufacturer or a qualified person should be consulted.

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Rigging – The act of lifting or moving an object with equipment and/or materials designed for that purpose.

Rigging Equipment – Defined as shackles, turnbuckles, eyebolts, wire rope clips, ropes, pulleys, etc. and includes attachments used for connecting, anchoring, fixing, or supporting the load. Using non rigging equipment devices (unless approved by Engineering) as rigging equipment are not acceptable (i.e., C-Clamps, manufactured parts, etc.)

Rigging and Lifting Plan – Defined as an identification of the load, an assurance that correct rigging equipment is used, a safe travel path designation, and that a lay down area has been designated and any other considerations that apply (Ref: Attachment 13). Rigging and lifting plans that were reviewed, evaluated, or approved by Engineering will require additional reviews, evaluations, or approvals if the plan requires a revision.

Safe Load Path – A path (direction and clearances) defined for transport of heavy or critical loads to minimize the actual or increased potential for exposure release as defined in 10 CFR or would adversely affect safety related system(s) if dropped.

Safe Working Load (SWL) / Working Load Limit (WLL) – The maximum allowable working load for lifting and handling equipment (rigging) also called load capacity, maximum working load or load rating.

Special Lifting Devices – Pieces of equipment especially designed to handle specific types of loads. They are usually made to hang from the hook of a crane during a Special Lift.

Static Load – Is the load that would be indicated on a dynamometer / load cell when a load is suspend in a stationary position.

Suspended Load

- The total superimposed weight on the load block or hook that would result in a load drop if the hoisting device or interfacing rigging equipment were to fail.
- ASME/ANSI B30.20, Below the Hook Lifting Devices, such as lifting beams, spreader beams, "C" beams, and hook boxes are considered suspended loads and shall not be carried over personnel. Portable Load Cells are also considered suspended loads.
- Crane operators should avoid carrying unloaded slings, chain falls, and rigging hardware over personnel when practical.
- All rigging equipment suspended from the crane hook(s) shall be removed prior to leaving the crane unattended.

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GENERAL REQUIREMENTS

Rigging tasks that require special detailed handling instructions require certain minimum information be supplied prior to performance of task. Information may include:

- Weight of object to be rigged.
- Special precautions for handling of load.
- A sketch or drawing showing sling locations, balance points, angle of attachment, and methods of attachments.
- Types and size of rigging to be used should be identified on the drawing plan.
- A rigging and lifting plan should be considered for conditions identified on Attachment 13. The rigging and lifting plan checklist on Attachment 13 is optional and may be used as a rigging and lifting plan.

Precautions shall be taken during performance of task as follows:

- To prevent personnel from passing below or standing under suspended loads. If this is unpreventable the crane hook must have latch and load must be rigged by qualified rigger.
- Exercise care when rigging around electrical wiring or equipment. (See Attachment 13)
- Protective (e.g., leather) gloves shall be worn when handling rigging.
- Hands, feet, arms, and legs shall be kept clear of pinch points.
- Shock loading of rigging equipment shall be avoided.
- Rigging or lifting equipment shall be removed from load prior to performing arc welding.

EXCEPTION

Rigging or lifting equipment may be left in place provided the arc welding is performed in accordance with Section 23, Hot Work, and the potential for the crane chain or wire rope from becoming a path for current flow is mitigated by:

- Using a **DRY** non-conductive sling rated for the load (to ensure the chain, wire rope, and/or hook are insulated from the work piece), **and**
- Establishing the welding ground directly adjacent to the welding joint **and** ensuring that there is electrical contact between the two pieces being welded, **and**
- Covering the portions of the crane chain, wire rope, and/or hook located within 4 feet of the weld location with a non-conductive insulating material, to prevent accidental electrical contact, when applicable.

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Fabrication or modification of rigging devices (tools), or special rigging and lifting equipment outside the control of the company engineering programs is not permitted.

- An Engineering Request should be initiated to solicit Engineering support when a need for fabrication or modification of a rigging device (tool) is identified.
- The Brieser Project Manager shall maintain records of design, fabrication, testing, use and inspection of the rigging device (tool).

Rigging and lifting equipment that does not meet manufacturer's specifications shall not be used.

Rigging and lifting equipment not specifically addressed in approved procedures shall be used in accordance with manufacturer's recommendations.

Use of scaffolding as an attachment or anchor point during rigging activities shall not be allowed unless evaluated and approved by an Engineering firm.

Rigging points shall not be made from permanently installed plant system components at or associated supports (e.g., cable trays, cable tray supports, piping, snubbers), at customer sites unless approved by the customers Engineering department. A record of approval stamped by the resident Engineer shall be filed in the Brieser job file.

Use of non-shouldered eyebolts shall be strictly limited to specialized vertical lift applications where the design of load attachment points prohibits safe use of shouldered type.

Modifications to rigging, lifting and special lifting equipment shall only be authorized by equipment manufacturer and installed through Brieser approved procedures.

Rope shall not be used as direct or indirect load bearing elements of any rigging operation. Rope may be used for tether lines.

Damaged or defective lifting, rigging and special equipment shall be tagged and removed from service.

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Only rigging and lifting equipment identified, inspected, and issued in accordance with approved procedures shall be used.

NOTE: An immovable load rigged in such a way that a failure of the primary securing mechanism will not result in movement of the load (i.e., cribbing to support load from underneath, pipe rigged in place for welding, redundant rigging system, etc.) is not considered a suspended load.

Work shall not be performed on or under a suspended load.

Exception 1: Stationary Loads

- For infrequent situations, work may be performed on or under a suspended load while it is stationary (e.g., not being raised, lowered, or moved) when it is infeasible to conduct the work while the load is not suspended and the work is limited, authorized, and performed in accordance with the three steps listed below (Conduct, Prior & During) and **Attachment 16**. Infeasible situation is defined as a situation which there is no other way to accomplish the work. Working under suspended loads will not be performed simply due to convenience or as an alternate way to accomplish work.

If it is infeasible to conduct the work while the load is not suspended, then:

- CONDUCT** a Job Hazards Analysis that documents why the activity cannot be performed while the load is landed or by using normal means of blocking or cribbing.
 - The Job Hazard Analysis shall address the height the load will be raised, potential swing of the load, trip hazards, body positioning, and explanation of how workers are not at risk of being struck by the load should the rigging shift or fail.
 - Whenever possible, long handle tools and/or redundant rigging systems should be used.
 - PRIOR** to starting the activity:
 - The Brieser Site Qualified Rigger and Brieser Safety, or their designees must grant authorization on **Attachment 16**. A TSTI shall be conducted with all workers prior to starting the activity and at the beginning of each subsequent shift.
 - The TSTI with Job Hazard Analysis and a completed **Attachment 16** shall be posted at the job site.
 - DURING** the activity, a dedicated Brieser Supervisor shall be assigned to the work activity and be in attendance until work activity is completed.
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Exception 2: Steel Erection Connecting

1. If an Iron Worker, who is a Qualified Rigger and Connector, is actively aligning and connecting structural members, that employee may work under a suspended load only if:
 - a. Materials being hoisted must be rigged to **prevent unintentional displacement**.
 - b. Hooks with self-closing safety latches be used to prevent components from slipping out of the hook.
 - c. All loads must be rigged by a qualified rigger.

Suspended loads shall not be left unattended unless specific precautions have been instituted, are in place, and have been approved by the site Superintendent, if no site Superintendent is assigned to the work location, the VP of Operations will be notified. The following criteria must be met:

- Softener material placed under load to lesson impact if drop occurs.
- No safety related areas.
- Keep load as low as possible.
- Safety rope/barriers in place with signage.
- For short periods of time only - < 4hrs.
- No crane hook suspended loads.
- Loads shall be maintained balanced and/or level.
- Do not swing loads.
- Loads shall be blocked / cribbed in a stable condition.
- Uncontrolled movement shall be prevented when rotating a load by maintaining center of gravity below rigging point.
- Loads, rigging or lifting equipment shall not be dragged.
- Damaged or deteriorated rigging or lifting equipment shall not be used.
- Loads shall be maintained as close as possible to nearest floor or load bearing structure.
- Rigging equipment shall not be loaded above its rated capacity.

Special lifting devices shall be controlled per applicable site documents in accordance with ANSI 14.6

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Portable hoist annual inspection shall be verified current prior to use.

Portable hoists controlled by Brieser Construction Co. are tagged with the current year the hoist was inspected in and the expiration date (month and year) is identified on the tag.

- Portable hoist examination shall be in accordance with applicable requirements.
- Personnel shall not engage in any activity, which will divert his/her attention.
- Operator shall ensure personnel are clear before commencing lift.
- Load chain shall not be exposed to temperatures more than 600° F.
- Hoisting wire rope or chain shall not be wrapped around load.
 - NOTE: Planned engineered lifts are only applicable to powered hoists having a load rating of 5 tons and above.

Except for planned engineered lifts and equipment load testing, lifted load shall not exceed maximum load capacity of supporting structure (beam clamps, trolleys, etc.), or hoist and equipment used for rigging. Adhere to the requirements of ASME B30.16-2003 (or latest rev).

- Hoist shall not be operated to jam or dead block at upper travel limit (Two-Block).
- Hooks shall be equipped with a latch except where it would interfere with operation of equipment or create additional personnel hazards.
- Do not place a side, back or tip load on hooks. Rigging shall be centered in hook.
- Swivel hooks shall rotate freely 360°.
- Hooks shall be positioned over the center of gravity of the load to minimize swinging.
- Rated load capacities, and recommended operating speeds, special hazard warnings, or instruction, shall be conspicuously posted on all equipment.
- Instructions or warnings shall be visible to the operator while he/she is at his control station. If all warnings are not visible to the crane operator, then they shall be included in the TSTI.
- An illustration of the signals shall be provided at the job site.
- Accessible areas within the swing radius of the rear of the rotating superstructure of the crane, either permanently or temporarily mounted, shall be barricaded in such a manner as to prevent an employee from being struck or crushed by the crane.
- All exhaust pipes shall be guarded or insulated in areas where contact by employees is possible in the performance of normal duties.
- All windows in cabs shall be of safety glass, or equivalent, that introduces no visible distortion that will interfere with the safe operation of the machine.
- Where necessary for rigging or service requirements, a ladder, or steps, shall be provided to give access to a cab roof.

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- Guardrails, handholds, and steps shall be provided on cranes for easy access to the car and cab.
- Platforms and walkways shall have anti-skid surfaces.
- An accessible fire extinguisher of 5BC rating, or higher, shall be available at all operator stations or cabs of mobile cranes.
- Any overhead wire shall be considered to be an energized line unless and until the person owning such line or the electrical utility authorities indicate that it is not an energized line, and it has been visibly grounded.
- Whenever a crane powered with an internal combustion engine exhaust in enclosed spaces, tests shall be made and recorded to see that employees are not exposed to unsafe concentrations of toxic gases or oxygen deficient atmospheres. Contact the Brieser Safety Professional for guidance.
- Belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating, or other moving parts or equipment shall be guarded if such parts are exposed to contact by employees, or otherwise create a hazard.

RIGGING EQUIPMENT REQUIREMENTS:

The following requirements apply to Slings:

1. Slings shall not be loaded beyond capacity indicated on manufacturer's tag for hitch being used.
2. For all configurations, lifting devices that are not specially designed should be installed and used in accordance with this procedure. In selecting the proper sling, the load used should be the sum of the static and maximum dynamic load. The rating on the sling should be in terms of the "static load" which produces the maximum static and dynamic load.
3. Use a "Dynamic Load Factor" of 1.25 times the load to be lifted (static load) when selecting rigging (i.e., wire/synthetic/nylon slings) unless another value is specified in site specific procedures.
4. Slings shall not be pulled from under a load when load is resting on sling.
5. Twisting and kinking of slings shall be avoided.
6. Slings shall not be shortened with knots, bolts, rope clips or other unapproved methods.
7. Temporary repairs to slings are not permitted.
8. Multiple part slings or chains shall not be twisted around each other.
9. Loads shall not be lifted with unused sling legs dangling loose, use right equipment for job.
10. A single sling shall not be used as a bridle to lift a load by hanging it over the hook if the sling can shift over the hook / shackle.

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RIGGING EQUIPMENT REQUIREMENTS continued:

11. A single sling with spliced eyes shall not be used alone to lift a load.
12. Longest sling(s) possible shall be used to provide minimum angle to load.
13. Slings used in a choker hitch shall be of sufficient length to assure choking action is on webbing.
14. Nylon, Polyester and Polypropylene slings shall not be used where acid or caustic conditions exist.
15. Synthetic and fiber slings may be used at rated capacity between temperatures of minus 20°F to 180°F except for frozen slings, which may not be used.
16. Fiber slings shall be protected when being used near a heat source of 220°F or more.
17. Fiber core wire rope slings shall not be exposed to temperatures in excess of 200°F.
18. Synthetic and fiber slings shall not be left in wet or chemical environments or exposed to direct sunlight for extended periods.
19. Fiber slings shall not be subjected to a sustained load equal to rated capacity for more than three days.
20. Wire rope slings shall not be used above temperature of 400°F or below minus 60°F.
21. Wire rope slings with turned back eyes configurations should not be used.
22. Slings should be stored in an area where they will not be subjected to mechanical, chemical, or ultraviolet damage or extreme temperatures.

The following requirements apply to rigging hardware / fittings:

1. Aluminum rigging fittings shall not be used in caustic environments.
2. Homemade links, makeshift fasteners formed from bolts, rods, etc. or other such attachments shall not be used.
3. Temporary repairs of rigging hardware / fittings are not permitted.
4. Protective covers, pads, softeners, or guards shall be used to protect slings from edges and corners that may cut or damage slings (such as sharp edges, sharp corners, or abrasive edges). Engineered edge protectors/softeners/corner protectors are preferred.
5. Loads lifted in a basket hitch shall be balanced.

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6. Eyebolts must have full thread engagement, shoulder fully seated, only one washer/ shim may be used under eyebolts if needed for orientation purposes to alleviate side pulling of eyebolt. Loads must always be applied to the eyebolts in the plane of the eye, not at some angle to the plane. To attain manufacturers rated capacities for shouldered and plain eyebolts the minimum thread shank length of engagement must be as follows:
 - a. Steel – 1 x Bolt thread diameter
 - b. Cast iron, brass, bronze – 1.5 x Bolt thread diameter.
 - c. Aluminum, magnesium, zinc, plastic – 2 x Bolt thread diameterFor additional information, safe load limits and guidance use the appropriate listed references (e.g., Jerry Klink's Rigging Handbook and Bob's Book of Rigging).
7. Load pins shall be fully seated and secure in shackles and turnbuckles.
8. Eyebolt manufacturer/supplier shall be consulted for safe load ratings of non-shouldered eyebolts prior to use.
9. Shackles with round non-threaded pins shall not be used.
10. Observe temperature limitations identified under the "Rated Capacity" definitions for rigging hardware.
11. When using swivel hoist rings, the user must torque hoist rings to the manufacturer's specifications.

The following requirements apply to selecting proper connection hardware for use with *Tuflex* Roundslings manufactured by Lift-All®:

1. *Tuflex* Roundslings may be connected to hardware that is either specifically designed for use with them or they may be connected to standard hardware, if the hardware meets the following criteria:
 - a. Must be approved for use in lifting applications by the manufacturer.
 - b. Must have an adequate capacity for the lift requirements.
 - c. The hardware opening at the sling attachment must be sufficient to allow the *Tuflex* Roundslings to slide freely.
 - d. Must be of an adequate size such that the bearing area of the hardware conforms to the size requirements specified by Lift-All® or is sized such that the bearing stress value at the connection does not exceed 7,000 lbs./in during sling loading. (Refer to WSTD RS-1)

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CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

I. Inspections

A Pre-use visual inspection by a qualified person is required to be performed prior to the start of each work shift or prior to each use of rigging and lifting equipment for the following equipment using the appropriate attachment guidelines.

1. Overhead and Gantry Crane	Attachment 1
2. Hand Chain Hoists and Come-A-Long	Attachment 2
3. Electric/Air Hoists	Attachment 3
4. Wire Rope Slings	Attachment 4
5. Synthetic/Nylon Slings	Attachment 5
6. Rigging Hardware	Attachment 6
7. Mobile Crane (typical)	Attachment 7
8. Mobile Crane Pre-Lift Checklist	Attachment 8
9. Monorail and Underhung Cranes with Integral Hoisting Mechanism	Attachment 9
10. Monorail and Underhung Cranes without Integral Hoisting Mechanism	Attachment 10
11. Padeye to Steel and Concrete Embedment's	Attachment 11

A documented inspection will be performed for each wire rope sling and synthetic sling per **Attachment 4** and **Attachment 5** respectively when the slings are initially issued to perform a rigging evolution and thereafter conduct a pre-use inspection using the checklist as a guide. The documented forms will be turned in to the Brieser office for filing and scan. The inspection will be performed by a qualified rigger for the assigned task.

Documented periodic inspection of rigging and lifting equipment shall be performed in accordance with approved procedures and performed by qualified personnel.

Vendor/Sub-Contractor owned rigging equipment is to be controlled and inspected by the Vendor/Sub-Contractor per their program.

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II. Lifting Concrete Blocks

PRIOR to lifting concrete blocks, floor plugs, floor covers, and security vehicle barrier system (VBS) blocks by attaching rigging equipment to metal connections that are integral to the load:

1. **VERIFY** the connections installed on the load are intended to be used as rigging points and have rated capacities sufficient for the load based on the lift plan (via design drawings, vendors specifications, or engineering evaluation).
2. **CONFIRM** the connections are free of cracks, excessive wear, or corrosion and that the integral attachments to the load, i.e., inserts that are embedded in concrete blocks, are not degraded and/or loose. If excessive wear or corrosion is present, then **CONDUCT** a non-destructive examination (NDE) to **CONFIRM** the connections are still acceptable for use.
3. **VERIFY** the sling angles are appropriate for the type of fittings / hardware (i.e., eye bolts, lifting lugs, etc.) being used.
 - o *NOTE A lifting beam specifically designed for both the 9 foot and 10-foot VBS concrete barriers is available that provides a direct, vertical lift for each VBS and avoids any stresses other than the direct "dead weight" of each block.*
4. If a security VBS block is being lifted, then the slings shall be kept vertical.

III. Loads with Tight Clearances (i.e., loads suspect to binding, dragging, etc.)

CAUTION

To ensure against rigging failure with disastrous consequences due to over stressing rigging equipment, adhere to this policy when conducting lifts that have potential interferences, drag, binding, or suspect load values.

All rigging lifts that are greater than 1,000 pounds and that have potential interferences, drag, binding, or suspect load values, such as concrete blocks, shoring boxes, etc., must utilize a load cell with a safety factor of at least 5-to-1 to prevent excessive stress which could inadvertently load equipment above its rated capacity.

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If the configuration of lift is not conducive to the use of a load cell such that a load cell cannot be used, **then DEVELOP and IMPLEMENT** a rigging and lifting plan (i.e., **Attachment 13**), reviewed and approved by the Site Qualified Rigger, that utilizes appropriate means to alleviate excessive stress from the allowable concentrated load values, such as:

- Increasing the rigging capacity by at least 100%.
- Mechanically agitating, lubricating, heating, hydraulically jacking and/or prying loose from the rest point prior to lifting.
- Placing indicators / precision levels to visually verify if load is moving correctly (i.e., horizontal / vertical)

IV. Performance of Lifting and Rigging

Rigging activities shall be reviewed and discussed during the pre-job briefing. When possible and practical the pre-job brief should include a tour of the job site. The pre-job brief shall include a review of the roles and responsibilities of all persons involved with the lifting evolution. When using a mobile crane, a Signal Person individual shall be designated during the pre-job brief.

- One person shall be designated (typically during pre-job brief) as in charge of the lift.
- A qualified rigger shall be present during rigging evolutions.

A signalman shall be:

- A qualified rigger per the Brieser Construction Lifting & Rigging S.O.P. or
- Qualified as a signalman in accordance with 1926.1428(c).

Any mobile crane that is operated shall have a designated Signal Person.

The safe travel path should be walked down when required to ensure it is clear of obstacles and personnel hazards. When a Signal Person is supporting the operator of a mobile crane, then the Signal Person and the operator shall have a clear understanding of the crane travel path.

Use a Signal Person if temporary obstructions have the potential to impact the crane's travel path.

Due to wind having a significant effect on loads, Grove Crane manufacturer recommends when wind velocity exceeds 20 mph, the crane's capacities be reduced to 44% of the allowable stability and structural capacities appearing on the crane's load capacity charts and that all crane operation cease when wind velocity reaches or exceeds 30 mph.

Radios may be used to enhance communications between the signalman (when used) and crane operator.

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For Non-Heavy Load lifts, A Signalman is not required if the load is such that the hoist/crane operator will have control, will be in the immediate vicinity of the load (i.e., pendant controller), and is able to visually see the load during all phases of lifting, moving, and setting the load. A Signalman is to be used for all other hoist/crane handling situation.

1. To avoid personnel injury or equipment damage, only one qualified person shall be designated to give hand signals to the crane / hoist operator.
 - a. ANSI / ASME approved hand signals shall be used as the primary means of communication for all crane / hoist movements (see attachment 14 and 15).
 - i. Special operations may require additions to or modifications of standard signals.
 - ii. Special signals shall be agreed upon in advance and understood by the signalperson and the operator.
 - iii. Special signals shall not conflict with standard hand signals.
 - b. The designated signalman shall wear a bright colored vest or other apparel so the signal person can be clearly identified.
 - c. When the crane / hoist operator's view is obstructed, hand signals may be relayed to the crane / hoist operator by more than one person – Continuous radio headset communications would also be an acceptable practice and in this case be the preferred method. The crane operator must be hands-free if radio type of communication is utilized.
2. The crane / hoist operator shall obey ANY emergency stop signal given by ANYONE in the lift area.

When loads are moved past several elevations, personnel performing the lift shall evaluate the need to position attendants at each elevation the load travels past. This evaluation shall include, but is not limited to the following items:

- Size, weight, and shape of load
- Visibility between load and crane / hoist operator
- Size of opening in relation to size of load
- Orientation of load in relation to opening
- Any obstructions in lift path

ENSURE that access to the lift area or any openings created is strictly controlled by a watch person, barriers, or both. Sufficient watch persons and/or barriers must be used to completely limit access to the lift area except for personnel involved with the lift. Barriers may consist of safety tapes, ropes, or hard barricade as necessary and shall be posted with warning signs. The use of barriers is expected when it is possible and practical in those areas where personnel traffic is probable.

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Weight of load shall be determined from one of the following:

- Equipment name plate
- Manufacturer's technical manual or drawing
- Work history
- Calculation using weight chart and formula on **Attachment 12**
- Use of the dynamometer/load cell

NOTE: Planned engineered lifts are only applicable to powered hoists having a load rating of 5 tons and above.

Any load greater than equipment rated capacity shall not be lifted, unless reviewed by 3rd. party Engineering firm. Brieser V.P. of Operations and Safety must be involved.

Adhere to the requirements of ASME B30.16-2010 (or latest rev), Section 16-2.2, "Testing", and Section 16-3.2.2, "Planned Engineered Lifts", prior to performing all lifts above rated capacity.

Type, quantity, rating and use configuration of rigging equipment required to perform lift shall be determined from Manufacturer's recommendations. Where manufacturer's specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a qualified engineer competent in this field and such determinations will be appropriately documented and recorded.

Pre-use and operational check of rigging and lifting equipment shall be performed.

Rigging or lifting equipment shall be installed with hook positioned at center of gravity and rigging attached to load.

- If load is a close fit, odd shaped or unbalanced, then a chain fall, Come-A-Long or turnbuckle of the appropriate load rating should be used to provide additional control.
- Hitches shall be adjusted so that each will share its part of the load.
- Size of rigging shall be adjusted as necessary to support unbalanced loads.
- A tag line should be used if possible and should be of sufficient length and strength to allow manipulation of the load without endangering personnel.
- Precautions shall be taken during load movement to prevent personal injury and equipment damage. All personnel must be clear before lifting load.
- Loads shall be lifted, moved, started, and stopped slowly to minimize dynamic loading of rigging and lifting equipment.

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- Load shall be lifted just enough to check for balance and level. If necessary, load should be lowered, adjustments performed, then lifted and rechecked.
- Load shall be moved slowly and under control to destination. Load shall be lifted the minimum amount necessary to clear obstacles, keeping load as close as possible to nearest load bearing surface.
- Load shall be securely blocked before relaxing rigging.

All rigging and lifting equipment shall be returned to appropriate storage area at completion of the lifting activity. Any Brieser equipment found defective due to rigging and lifting shall be tagged with defective equipment tag and reported to the Tool Room. Any vendor/contractor owned equipment found defective shall be controlled by the vendor/contractor per their program to prevent use.

V. Training, Evaluation, and Observation of Rigging/Lifting Activities

Designated Supervisors or Rigging/Lifting personnel shall conduct performance Observations of personnel performing Rigging/Lifting and material handling quadrennial. Designated Observers will have experience, and knowledge of Rigging/Lifting and material handling activities.

1. Designated Observers shall use **Attachment 17** to document observation.
2. **Attachment 17** will be forwarded to the Brieser office for entry.

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VI. Attachments

Attachment 1, Inspection Requirements for Overhead and Gantry Cranes

Attachment 2, Minimum Inspection for Hand Chain Operated Hoists and Come-A-Longs

Attachment 3, Minimum Inspection for Electric or Air Operated Hoist

Attachment 4, Inspection Requirements for Wire Rope Slings

Attachment 5, Minimum Inspection Requirements for Synthetic/Nylon Slings

Attachment 6, Minimum Inspection Standards for General Rigging Hardware

Attachment 7, Minimum Inspection Requirements for Mobile Cranes

Attachment 8, Mobile Crane Pre-Lift Checklist

Attachment 9, Minimum Inspection Requirements for Monorail and Underhung Cranes with Integral Hoisting Mechanism

Attachment 10, Minimum Inspection Requirements for Monorail and Underhung Cranes without Integral Hoisting Mechanisms

Attachment 11, Inspection Requirements for Padeye to Steel and Concrete Embedment's

Attachment 12, Load Weight Chart and Calculating Load/Tension on Each Leg of a Sling

Attachment 13, Rigging and Lifting Plan Guidance

Attachment 14, Bridge Crane Signals

Attachment 15, Mobile Crane Signals

Attachment 16, Work on/under a Suspended Load – Limited Exceptions.

Attachment 17, Observation Form for Rigging/Lifting Competency

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CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

VII. Attachment 1

Minimum Inspection Requirements for Overhead and Gantry Cranes

PERFORM the following pre-use inspections:

- Visually **INSPECT** hoist ropes for gross damage such as distortion of the rope, corrosion, broken strands, kinks, or any other unusual abnormalities.
- Visually **INSPECT** lines, tanks, valves, pumps, and other parts of air or hydraulic systems for leaks.
- Visually **INSPECT** general rigging hardware in accordance with **Attachment 6**.
- Functionally **TEST** hoisting limit switch.
- Functionally **TEST** lower travel limit switch, if hoist is being used at or near its lower travel limit.
- Functionally **TEST** all other limit switches as applicable (i.e., Trolley/Bridge travel, etc.)
- **CHECK** that the rated load of the crane shall be plainly marked on each side of the crane, and if the crane has more than one hoisting unit, each hoist shall have its rated load marked on it or its load block, and this marking shall be clearly legible from the ground or floor.
- **CHECK** that bridge trucks are equipped with sweeps which extend below the top of the rail and project in front of the truck wheels.
 - NOTE: A gong or other audible alarm is not required for floor-operated cranes.
- **CHECK** that a gong or other effective audible warning signal shall be provided for each crane equipped with a power traveling mechanism.
- The locations of the crane mainline disconnect/breaker must be known and discussed between the riggers and crane operator prior to conducting rigging evolutions associated with the crane.



If any abnormal conditions / defects are found, then **CONTACT** the Brieser Equipment Manager for resolution prior to utilizing the equipment.

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CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

VIII. Attachment 2

Minimum Inspection Requirements for Hand Chain Operated Hoists and Come-A-Long

PERFORM the following pre-use inspections:

- **VERIFY** Portable hoist annual inspection current prior to use.
- Functionally **TEST** controls and operating mechanisms for proper operation in hoisting and lowering directions.
- **CHECK** all load bearing components for apparent damage.
- Visually **INSPECT** load chain for the following:
 - Stretch
 - Wear
 - Twists
 - Broken or damaged links
- Visually **INSPECT** general rigging hardware in accordance with **Attachment 6**.
- **CHECK** load chain for proper operation of chain and sprockets with special focus on the travel area of the chain.



If any abnormal conditions / defects are found, then **CONTACT** the Brieser Equipment Manager for resolution prior to utilizing the equipment.

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STANDARD OPERATING PROCEDURE:	Lifting & Rigging		
CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

IX. Attachment 3

Minimum Inspection Requirements for Electric or Air Operated Hoist

PERFORM the following pre-use inspections:

- **VERIFY** Portable hoist annual inspection current prior to use.
- **CHECK** upper limit switch cut off.
- **CHECK** for proper operation of safety devices.
- **CHECK** all load bearing components for apparent damage.
- **CHECK** wire rope per **Attachment 4** (if applicable).
- **CHECK** wire rope securely attached to hoist drum (if applicable).
- Visually **INSPECT** load chain (if applicable) for the following:
 - Stretch
 - Wear
 - Twists
 - Broken or damaged links
- **CHECK** load chain (if applicable) for proper operation of chain and sprockets with special focus on the travel area of the chain.
- Visually **INSPECT** general rigging hardware in accordance with Attachment
- Functionally **TEST** controls and operating mechanisms for proper operation in hoisting and lowering directions.
- **VERIFY** controls, except in automatic cycling operation, return to the off position when released, and hook motion stops.
- Functionally **TEST** Lower Travel Limit Switch, as applicable, if hoist is being used at or near its lower travel limit.
- Functionally **TEST** all other limit switches as applicable (i.e., Trolley/Bridge travel, etc.)

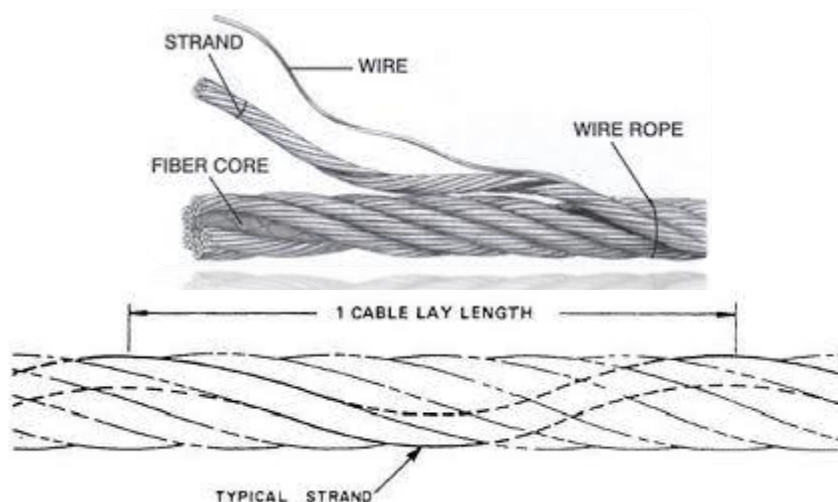


If any abnormal conditions / defects are found, then **CONTACT** the Brieser Equipment Manager for resolution prior to utilizing the equipment.

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CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

X. Attachment 4

Minimum Inspection Requirements for Wire Rope Slings



NOTE: Wire Rope Sling inspection shall be conducted on the entire length of the sling including splices, end attachments and fittings for deterioration which would result in loss of original strength.

WARNING

Protective gloves shall be worn while inspecting wire rope to prevent hand injury.

PERFORM the documented pre-use inspections using **Attachment 4a**.

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CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

XI. Attachment 4a Documented Inspection for Wire Rope Slings

Sling #: _____ Capacity (safe working load): _____ Length: _____

Sling #: _____ Capacity (safe working load): _____ Length: _____

Sling #: _____ Capacity (safe working load): _____ Length: _____

Sling #: _____ Capacity (safe working load): _____ Length: _____

Equipment Name: _____

PERFORM the following pre-use inspections:

(Any unsatisfactory condition listed below is cause for rejection)

Sat	Unsat	
		VERIFY manufacturer's tag is installed indicating rated load.
		Visually INSPECT for worn, corroded or broken wires
Sling shall be considered defective if any of the following conditions exist:		
		Six broken wires in one rope lay
		Kinked, crushed, bird caged or distorted rope structure
		Evidence of heat damage
		Deformed, cracked, corroded, or worn end attachments
		Three broken wires in one strand in one rope lay
		Wear or scraping of one-third original diameter of outside individual wires
		In standing ropes, more than two broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection

Inspection Performed by: _____ Date: _____

If any unusual defects are detected during the inspection, CONTACT the Brieser Equipment Manager to ensure proper documentation and final disposition of the Sling.

ROUTING	PERSONNEL MANAGER	Add to Scan
	SCAN	SAFETY/USER INSPECTIONS/WIRE ROPE SLINGS/MMDDYY

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XII. Attachment 5

Minimum Inspection Requirements for Synthetic/Nylon Slings

Documented Inspection Requirements for Synthetic/Nylon Slings

Sling #: _____ Capacity (safe working load): _____ Length: _____

Sling #: _____ Capacity (safe working load): _____ Length: _____

Sling #: _____ Capacity (safe working load): _____ Length: _____

Sling #: _____ Capacity (safe working load): _____ Length: _____

Sling #: _____ Capacity (safe working load): _____ Length: _____

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Equipment Name: _____

PERFORM the following pre-use inspections:

(Any unsatisfactory condition listed below is cause for rejection)

Sat	Unsat	
		Acid or Caustic burns
		Melting or charring
		Snags, punctures, tears, or cuts
		Broken or worn stitches
		Abnormal wear and wear or elongation exceeding manufacturer's recommendations
		Distortion or fittings/hardware
		Discoloration or rotting
		Excessive stretching or evidence of over-loading
		Powdered fiber between strands (unjacketed slings only)
		Manufacturer's tag is installed indicating rated load
		Hardened sling or stiffness in sling
		If applicable, One or both tell-tails is not visible or is less than ½ inch in length. Remove sling from service
		Lack of fiber-optic light transfer in sling models with the fiber-optic. Remove sling from service

Inspection Performed by: _____ Date: _____

If any unusual defects are detected during the inspection, CONTACT the Brieser Equipment Manager to ensure proper documentation and final disposition of the Sling.

ROUTING	PERSONNEL MANAGER	Add to Scan
	SCAN	SAFETY/USER INSPECTIONS/SYNTHETIC SLINGS/MMDDYY

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CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

XIII. Attachment 6

Minimum Inspection Requirements for General Rigging Hardware

Visually **INSPECT** Hooks for the following:

- Deformation
- Cracks
- Excessive throat opening / overloading.
- Twisting
- Safety Latch in place and operating correctly.
- Hook secure
- Hook rotates freely (where required)
- Excessive corrosion



Visually **INSPECT** Shackles for the following:

- Excessive wear of crown and pin
- Overloading
- Excessive pitting or corrosion
- Missing or illegible manufacturer's name or trademark and/or rated load identification
- Indications of heat damage including weld spatter or arc strikes
- Bent, twisted, distorted, stretched, elongated, cracked, or broken load bearing components.
- Excessive nicks or gouges
- A 10% reduction of the original or catalog dimension at any point around the body or pin
- Incomplete pin engagement
- Excessive thread damage
- Evidence of unauthorized welding
- Other conditions, including visible damage, which cause doubt as to the continued use of the shackle.

Visually **INSPECT** turnbuckles for the following:

- Cracks in the end fittings, especially at the neck of the shank
- Deformed end fittings
- Deformed and bent rods and bodies.
- Cracks and bends around the internally threaded portion
- Any signs of thread damage

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Visually **INSPECT** Compression Hardware, Davit Lifting Eyebolts, Eyebolts, Rings, Links, and Swivels for the following: (All installed hardware must be removed and thoroughly inspected including the blind hole to the criteria below)

- Excessive wear
- Overloading
- Excessive pitting or corrosion
- Missing or illegible identification
- Indications of heat damage including weld spatter or arc strikes
- Bent, twisted, distorted, stretched, elongated, cracked, or broken load bearing components.
- Excessive nicks or gouges
- A 10% reduction of the original or catalog dimension at any point around the body or pin
- Excessive thread damage
- Evidence of unauthorized welding or modification
- For swivels / swivel hoist rings, lack of the ability to freely rotate or pivot when not loaded.
- For swivels, loose or missing nuts, bolts, cotter pins, snap rings, or other fasteners and retaining devices.
- For compression hardware
 - Unauthorized replacement components
 - Insufficient number of wire rope clips
 - Improperly tightened wire rope clips
 - Indications of damaged wire rope
 - Indications of wire rope slippage
 - Improper assembly
- Other conditions, including visible damage, which cause doubt as to continued use.

Visually **INSPECT** Special Rigging or Lifting Hardware for the following:

- Cracks
- Excessive wear
- Overloading
- Excessive corrosion

If any abnormal conditions / defects are found, then **CONTACT** the Brieser Equipment Manager for resolution prior to utilizing the equipment.

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		9-17-13	Attachment 7
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		02	35
STANDARD OPERATING PROCEDURE:	Lifting & Rigging		
CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

XIV. Attachment 7

Minimum Inspection Requirements for Mobile Cranes, Excavators & Backhoes[odk[h

NOTE: The mobile crane, excavator, and backhoe manufacturers' pre-use inspection checklist specific to the machine being used should be consulted for additional pre-use inspections. The following are minimum typical pre-use inspection attributes.

PERFORM the following pre-use inspections:

- **CHECK** control mechanisms for proper operation.
- **CHECK** all hydraulic hoses for leaks or damage, and particularly those which flex during normal crane operation.
- **CHECK** hydraulic system for proper fluid level.
- IF hydraulic fluid level is low, then ADD fluid approved in accordance with Station Lubricant Program and/or Manufacturer's recommendation.
- **CHECK** wire rope which will be used during crane operation for gross damage such as distortion, corrosion, broken strands, kinks, or any other unusual abnormalities.
- **CHECK** engine oil.
- **CHECK** radiator coolant level.
- **CHECK** tire pressure for proper inflation.
- **CHECK** fuel level. Fuel tank shall be at least half full. Fuel tank filler pipe shall be in such a position, or protected in such manner, as to not allow spill or overflow to run onto the engine, exhaust, or electrical equipment of any machine being fueled.
- Visually **INSPECT** general rigging hardware in accordance with **Attachment 6**.

If any abnormal conditions/defects are found, then **CONTACT** the Brieser Equipment Manager for resolution prior to utilizing the equipment.

NOTE: Heavy equipment parked outside in cold weather may have an engine block heater connected. The engine block heater must be disconnected, and the engine allowed warming up at idle prior to increasing throttle position.

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STANDARD OPERATING PROCEDURE:		Lifting & Rigging	
CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

XV. Attachment 8

MOBILE CRANE/EXCAVATOR/BACKHOE PRE-LIFT CHECKLIST

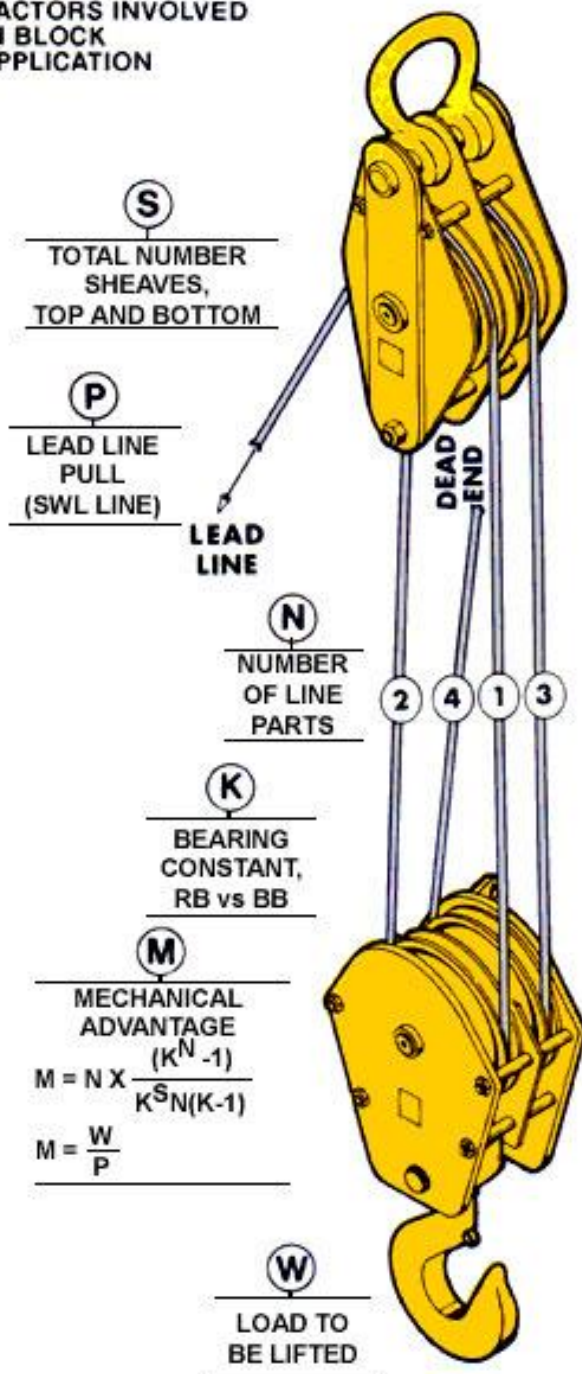
Perform inspection on the following (as applicable):

Yes, No N/A

			Has the travel path been walked down to identify obstructions and hazards?
			Has the minimum clear distance from power lines been verified by measurement (i.e., laser measuring device in lieu of eyeball estimate)?
			Are operations taking place at night? Install adequate lighting.
			Management Approval is required for night operations.
			Are the tires properly inflated?
			Is the fuel tank at least half full?
			Did you complete the equipment pre-use inspection checklist?
			Is the equipment properly grounded?
			Are all personnel clear of the swing radius?
			Are all the outriggers fully extended and level?
			Are you set up on safe ground?
			Do you have an accurate estimate for the weight of the load?
			Did you read and understand all notes on the load chart?
			Are you aware of what quadrants you can safely operate in?
			Have you identified your work radius according to the load chart?
			Do you have clear communications between the operator and the rigger?
			Is the designated Signal Person identified?
Excavator/Backhoe Only			
			Are approved lifting points being used?
			Lift capacity determination for the arm. Is the boom in its transport position?
			Lift capacity determination for the boom. Is the arm fully rotated outward?
Crane Only			
			Did you allow for the weight of the jib boom, hook block, crane cable, and the rigging?
			Are you reeved for the proper mechanical advantage?
			Is the counterweight fully extended and clear?
			Have you considered reduced crane capacity due to wind loading (wind velocity >20mph)?
			If used indoors, is the Fuel Selector Switch in PROPANE mode?

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STANDARD OPERATING PROCEDURE:	Lifting & Rigging		
CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

FACTORS INVOLVED IN BLOCK APPLICATION



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STANDARD OPERATING PROCEDURE:		Lifting & Rigging	
CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

29CFR1926.1408-Power line safety (up to 350 kV) --equipment operations

Hazard assessments and precautions inside the work zone

Before beginning equipment operations, the employer must:

- Identify the work zone by either:
 - Demarcating boundaries (such as with flags, or a device such as a range limit device or range control warning device) and prohibiting the operator from operating the equipment past those boundaries, or
 - Defining the work zone as the area 360 degrees around the equipment, up to the equipment's maximum working radius.
- Determine if any part of the equipment, load line or load (including rigging and lifting accessories), if operated up to the equipment's maximum working radius in the work zone, could get closer than 20 feet to a power line. If so, the employer must meet the requirements in Option (1), Option (2), or Option (3) of this section, as follows:
 - Option (1) --Deenergize and ground. Confirm from the utility owner/operator that the power line has been deenergized and visibly grounded at the worksite.
 - Option (2) --20-foot clearance. Ensure that no part of the equipment, load line, or load (including rigging and lifting accessories), gets closer than 20 feet to the power line by implementing the measures specified in paragraph (b) of this section.
 - Option (3) --Table A clearance.

TABLE A—MINIMUM CLEARANCE DISTANCES

Voltage (nominal, kV, alternating current)	Minimum clearance distance (feet)
up to 50	10
over 50 to 200	15
over 200 to 350	20
over 350 to 500	25
over 500 to 750	35
over 750 to 1,000	45
over 1,000	(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).

Note: The value that follows "to" is up to and includes that value. For example, over 50 to 200 means up to and including 200kV.

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STANDARD OPERATING PROCEDURE:		Lifting & Rigging	
CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

XVI. Attachment 9

Minimum Inspection Requirements for Monorail and Underhung Cranes with Integral Hoisting Mechanism

NOTE: The following inspection requirements apply to cranes whose end trunks operate on the bottom flange of a runway track section and to trolleys operating on monorail systems with integral hoisting mechanisms.

PERFORM the following pre-use inspections:

- Visually INSPECT hoist ropes for gross damage such as distortion of the rope, corrosion, broken strands, kinks, or any other unusual abnormalities.
- CHECK all load bearing components for apparent damage.
- Visually INSPECT lines, tanks, valves, pumps, and other parts of air or hydraulic systems for leaks.
- Visually INSPECT load chain for the following:
 - Stretch
 - Wear
 - Twists
 - Broken or damaged links
- Visually INSPECT general rigging hardware in accordance with Attachment 6.
- CHECK load chain for proper operation of chain and sprockets with special focus on the travel area of the chain.
- Functionally TEST to assure proper operation of, but not limited to, control systems, bridge travel, trolley travel, brake mechanisms and hoisting mechanisms.
- Functionally TEST all limit switches.

If any abnormal conditions / defects are found, then **CONTACT** the Brieser Equipment Manager for resolution prior to utilizing the equipment.

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		02	40
STANDARD OPERATING PROCEDURE:	Lifting & Rigging		
CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

XVII. Attachment 10

Minimum Inspection Requirements for Monorail and Underhung Cranes without Integral Hoisting Mechanisms

NOTE: These inspection requirements apply to hoisting equipment whose end trunks operate on the bottom flange of a runway track section and to trolleys operating on monorail systems and do not have a hoisting mechanism as a permanent part of the system.

REFER TO Attachment 2, 3, and 6 as appropriate for inspections requirements associated with hoists used with these type cranes.

If any abnormal conditions / defects are found, then **CONTACT** the Brieser Equipment Manager for resolution prior to utilizing the equipment.

XVIII. Attachment 11

Inspection Requirements for Padeye to Steel and Concrete Embedment's

PERFORM the following pre-use inspections:

- ✓ Visually **INSPECT** Padeye welds for obvious cracking.
- ✓ Visually **INSPECT** Padeye main body for indications of twisting or stretching.
- ✓ Visually **INSPECT** Padeye hole for indications elongation.
- ✓ If concrete embedment is used, then Visually **INSPECT** Padeye base bolts to ensure Padeye is solid and stable.

If any abnormal conditions / defects are found, then **CONTACT** the Brieser Equipment Manager for resolution prior to utilizing the equipment.

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STANDARD OPERATING PROCEDURE:	Lifting & Rigging		
CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

XIX. Attachment 12

Load Weight Chart and Calculating Load/Tension on Each Leg of a Sling

Load Weights - Calculating

Materials and Liquids - Pounds / cu. ft.				Pounds / sq. ft.	Pounds / gal.
Aluminum	165	Iron Casting	450	Steel plate	Gas 6.0
Asbestos	153	Lead	708	• 1/8" 5	Diesel 7.0
Asphalt	81	Lumber - Fir	32	• 1/4" 10	Water 8.3
Brass	524	Lumber - Oak	62	• 1/2" 20	
Brick	120	Lumber - RR Ties	50	• 1" 40	
Bronze	534	Oil, Motor	58	Aluminum plate	• 7.5 gallons of liquid to a cubic foot • 27 cubic feet to a cubic yard • 2,000 lbs = 1 U.S. ton
Coal	56	Paper	58	• 1/8" 1.75	
Concrete, Reinf.	150	Portland Cement	94	• 1/4" 3.50	
Crushed Rock	95	River Sand	120	Lumber	
Diesel	52	Rubber	94	• 3/4" Fir 2	
Dry Earth, Loose	75	Steel	480	• 3/4" Oak 4	
Gasoline	45	Water	63		
Glass	162	Zinc	437		
Formulas and Information					
• H = Height • W = Width • L = Length • d = diameter • r = 1/2 diameter • $\pi = 3.2$ (approx.) • Area of square or rectangle = LW • Vol. of cube = HWL • Area of circle = πr^2 • Circumference = πd • The area of a circle is approx. 80% of its diameter squared (diameter x diameter) • Load Weight (to estimate) $\rightarrow$ Volume in cu. ft. x 500 lbs. x density factor .02, .05, .10, .20, .30 etc.					

THE ACTUAL LOAD MUST NOT EXCEED THE RATED SLING CAPACITY

As the horizontal angle between the legs of a sling decreases, the load on each leg increases. The effect is the same whether a single sling is used as a basket, or two slings are used with each in a straight pull, as with a 2-legged bridle. Load/ Tension on each leg of a sling may be calculated by

1. measuring length and height of a sling leg or
2. using the Leg Angle Load Factor as follows:

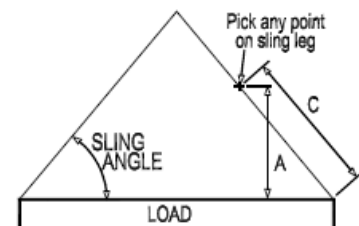
Calculating the Load on Each Leg of a Sling by Measuring Length and Height of a Sling Leg:

Determine tension/load on each sling by using the following formula.

$$A. \text{ Load/Tension on Sling Leg} = \frac{\text{length } C}{\text{length } A} \times \text{share of load wt.}$$

- a. C = sling length
- b. A = Point on sling to load length
- c. $C \div A$ = load factor

$$B. \text{ Share of Load Weight} = \frac{\text{Load Weight}}{\text{Number of Legs}}$$



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STANDARD OPERATING PROCEDURE:	Lifting & Rigging		
CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

EXAMPLE:

C = 10', A = 8', Load Weight = 10,000#

Share of Load = $\frac{10,000}{2} = 5,000$ lbs. each leg

Load/Tension on Sling Leg = $\frac{10}{8} \times 5000 = 1.25 \times 5000 = 6,250$ lbs. on each leg.

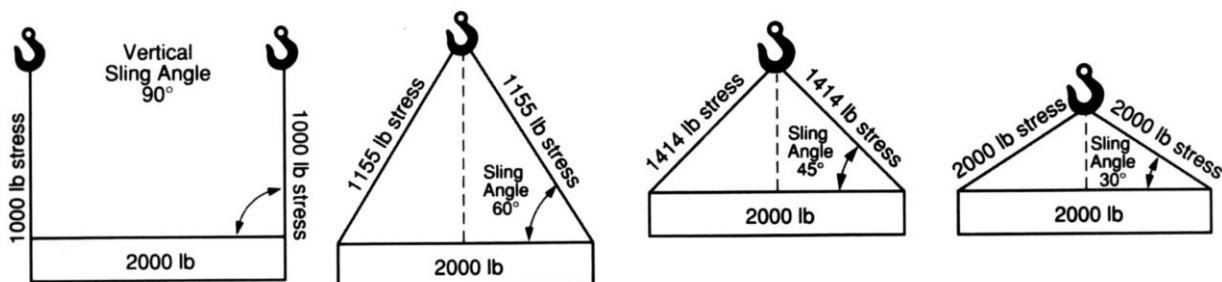
Calculating the Load on Each Leg of a Sling by Using the Leg Angle Load Factor:

Anytime pull is exerted at an angle on a leg or legs of a sling, the load per leg can be determined by using the data in the table at right. Proceed as follows to calculate this load and determine the rated capacity required of the sling, or slings, needed for a lift.

- First, divide the total load to be lifted by the number of legs to be used. This provides the load per leg if the lift were being made with all legs lifting vertically.
- Determine the horizontal angle.
- Then **MULTIPLY** the load per leg (as computed in Step A above) by the Load Factor for the leg angle being used (from the table at right) to compute the **ACTUAL LOAD** on each leg for this lift and angle.

Load Factor Chart	
Leg Angle	Multiplier
90°	1.000
85°	1.003
80°	1.015
75°	1.035
70°	1.064
65°	1.103
60°	1.154
55°	1.220
50°	1.305
45°	1.414
40°	1.555
35°	1.743
30°	2.000

Example



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STANDARD OPERATING PROCEDURE:		Lifting & Rigging	
CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

XX. Attachment 13

Rigging and Lifting Plan Guidance

Conditions When a Rigging and Lifting Plan is Recommended

- The load weight & configuration (including all rigging components) exceeds 85% capacity of crane or rigging equipment.
- The load is “one of a kind” and critical to plant operations/ damage or destruction from the load would result in generation reduction or outage extension.
- The Sling Rating selected for lifting a load should be a minimum of 1.25 times the actual load weight to be lifted is greater than 25% due to the of the approved dynamic loading factor (1.25 x actual load weight = minimum rigging rating)
- The lift requires more than one crane (multiple-crane lift).
- The lift requires a mobile crane with outriggers that will be directly over underground piping or tunnels that could be damaged or collapse.
- The load is being moved horizontally with 2 or more hoists and the angle (at the loads highest position) of the load chain(s) are greater than 45 degrees from horizontal.
- The rigging used will have horizontal sling angles less than 30 degrees/ low headroom in location.
- The load will be lifted near energized power lines as defined in the Safety manual.
- The load is in a hazardous environment and or contains environmentally sensitive or controlled materials.
- Does the load have potential binding or interference fit & load cell usage is needed but not practical.
- Infrequently performed rigging activity or first-time evolution.
- Does the rigging evolution involve/include two or more work groups and have all the rigging equipment/hardware been inspected to verify free of defects and satisfactory for performing the required lifts. All vendor supplied equipment/hardware is required to be inspected and meet the requirements of this procedure.

The Rigging and Lifting Plan Checklist on the next page is optional and may be used as the rigging plan.

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STANDARD OPERATING PROCEDURE:		Lifting & Rigging	
CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

Rigging & Lifting Plan Guidance

Rigging & Lifting Plan Checklist

	Signalman & Single Point of Contact (qualified rigger) has been designated?
	Do you know how much the load weighs by calculation, drawing or markings? Weight = _____ Lbs. Load cell required.
	Is the lift going to be near unprotected energized conductors, such as crane bus or electrical equipment, wires, etc.? – Robust barriers installed – Electrical lines protected or deenergized?
	Do you understand the load path?
	Has the load path been walked down for tag line requirements (for uncontrolled movement of loads) and obstructions or sharp objects that could damage slings?
	Have you inspected your rigging, verified load reductions, and is it satisfactory?
	Is the center of gravity known? Verify stability and capacity according to hitch type. (Vertical, Basket, Choke)
	Calculated for sling angle and de-rated the slings accordingly. Dynamic loading/additional stresses assessed.
	Is all rigging hardware selection adequate for the lift? Inspect periodically during lifting evolutions for signs of imminent failure.
	Does the load have any corners that require softeners / abrasion protection required? (Cornermax sling protection needed)?
	For inverted basket hitches, ensure sling attachment points are above the center of gravity
	Have you verified that nothing could shift when the load is lifted? (i.e., loaded gang box)
	Are the appropriate hand signals, if required, available at the job site? (OSHA standard)
	Has a safe lift zone been properly established and communicated.
	Safe set down contingency established? Cribbing available and inspected for set down.
	Are you aware that outdoor cranes shall be secured at wind speeds sustained 30 mph or above?
	Capacity is reduced approximately 45% when winds are sustained at 20 mph.
	Hoist ring usage – Torque per manufacturers specifications

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STANDARD OPERATING PROCEDURE:		Lifting & Rigging	
CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

Rigging & Lifting Plan Guidance

Rigging & Lifting Plan Checklist-Additional Items to Consider

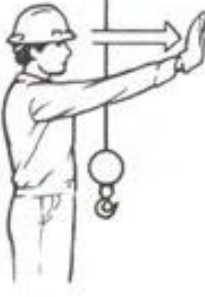
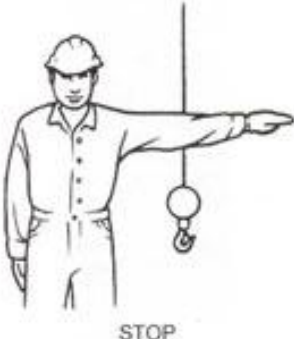
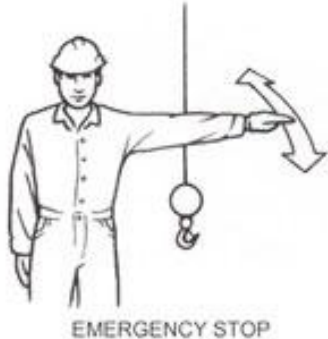
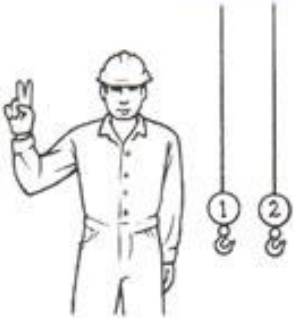
- What is being lifted? _____
- Who is in charge of the lift? Is a competent rigger / Brieser oversight person required prior to moving the load? _____
- Shackle pins fully seated? – Eyebolts shouldered and adequate thread engagement?
- Does the rigging have appropriate identification? – Pre-use inspections completed?
- Does all rigging have adequate/known working load limits?
- Will there be any side or angular loading?
- Turnbuckles have at least full thread engagement?
- Will personnel be clear of suspended load? Safe lift zone established?
- Rigging attachment points approved for use, capacity, and visually inspected?
- Any unusual environmental concerns (weather, electrical wires, visibility, noise, high radiation areas, heat stress, etc.)? _____
- Will personnel be restricted from elevations below the load path?
- For Mobil Crane lifts see **attachment 8**.

Brief description of lifting operation:

Checklist completion performed by:	Date:
Rigging Supervisor:	Date:

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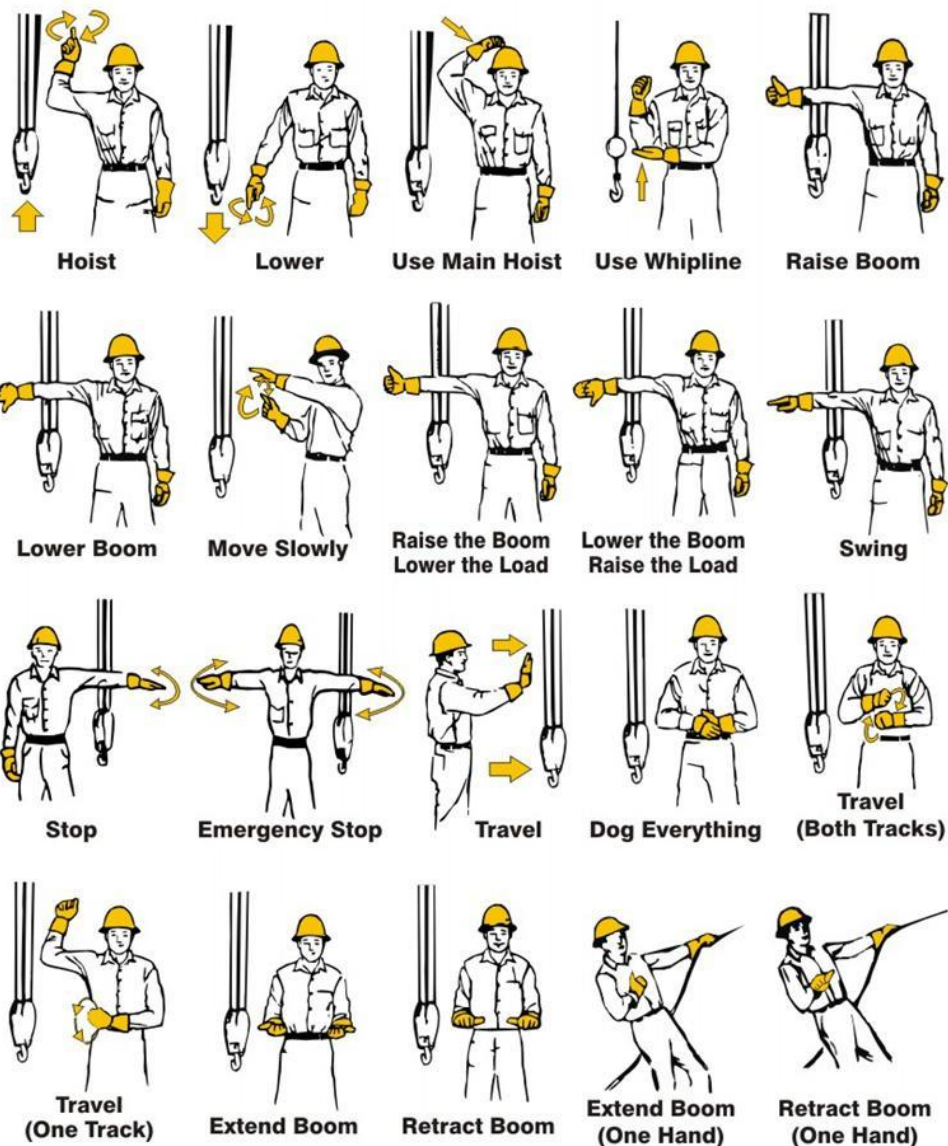
XXI. Attachment 14

 HOIST With forearm vertical, forefinger pointing up, move hand in small horizontal circle.	 LOWER With arm extended downward, forefinger pointing down, move hand in small horizontal circle.	 BRIDGE TRAVEL Arm extended forward, hand open and slightly raised, make pushing motion in direction of travel.
 TROLLEY TRAVEL Palm up, fingers closed, thumb pointing in direction of motion, jerk hand horizontally.	 STOP Arm extended, palm down, hold position rigidly.	 EMERGENCY STOP Arm extended, palm down, move hand rapidly right and left.
 MULTIPLE TROLLEYS Hold up one finger for block marked "1" and two fingers for block marked "2". Regular signals follow.	 MOVE SLOWLY Use one hand to give any motion signal and place other hand motionless in front of hand giving the motion signal.	 MAGNET IS DISCONNECTED Crane operator spreads both hands apart, palms up.

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CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

XXII. Attachment 15

Mobile Crane Hand Signals



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XXIII. Attachment 16

Description of Job _____

Job # _____ Location _____

Start Date _____ Expiration Date _____

Requirements

- The Job Hazard Analysis shall be attached to this authorization and will be posted at the site. Job Hazard Analysis includes (as applicable):
 - Height the load will be raised.
 - Potential swing of the load
 - Trip Hazards
 - Body Positioning
 - Explanation of how workers are not at risk of being struck by the load should rigging shift or fail.
 - Reasons why long handle tools and/or redundant rigging systems could not be used to eliminate the need for working under suspended load.
- A Pre-Job Brief shall be conducted with all workers prior to starting the activity and at the beginning of each subsequent shift.
- A Dedicated First Line Supervisor / Craft Labor supervisor (or designee) shall be assigned to the work activity and be in attendance until work activity is completed.

Name of Dedicated Supervisor _____

Authorization:

I have reviewed the attached Job Hazard Analysis and request for an exception from the normal prohibition against working on/under a suspended load and agree that this limited exception is warranted for the time frame listed above and the activities specified on the JHA.

The activity will be supervised by a dedicated First Line Supervisor/Craft Labor Supervisor (or designee) to ensure the work activity is limited to the described scope and all precautions and limitations documented in the Job Hazard Analysis are followed.

Submitted by Supervisor	Print Name _____	Signature _____	Date _____
Concurrence (Safety or Designee)	Print Name _____	Signature _____	Date _____
Approve (V.P. Operations)	Print Name _____	Signature _____	Date _____

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		02	49
STANDARD OPERATING PROCEDURE:	Lifting & Rigging		
CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

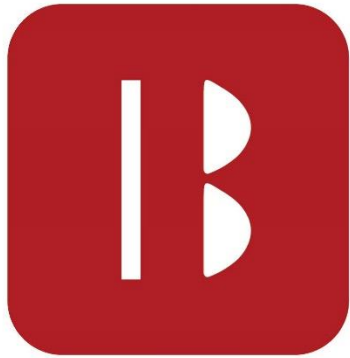
XXIV. Attachment 17

Page 1 of 2

Observation Form for Rigging/Lifting Competency			
Worker's Name _____	Date Observed _____		
Worker's Signature _____	Worker's Trade _____		
Brieser Lifting & Rigging Course Certification Date _____			
Observer's Name _____	Observer's Title _____		
Overall Observation Criteria	SAT	UNSAT	
THE INTENT OF THIS FORM IS TO BE A PROFICIENCY OBSERVATION OF AN ACTUAL RIGGING/LIFTING ACTIVITY			
P = Perform – Use of actual equipment to demonstrate performance. S = Simulate – Create a realistic representation of task performance by simulating performance while explaining the task, expected responses, and required performance standards. D = Discuss – Perform a thorough discussion of the task and required performance standards using procedures, drawing, photos, prints or other similar equipment. This option should only be used if lift equipment is not readily available.			
SAT (Satisfactory) = Acceptable performance of all observable attributes UNSAT (Unsatisfactory) = Unacceptable attributes are observed and mandates disqualification of RIGGING/LIFTING activities			
	Performance Level	SAT	UNSAT
Make necessary calculations to determine the weight of an object.	P/D		
Determine what rigging is necessary and ensure that it is rated appropriately to perform the task.	P		
Following the rigging plan, discussed during the pre-job brief, set up the rigging. During set up activities the observer will focus on the proper pre-use inspection of all RIGGING/LIFTING equipment.	P		
Perform a pre-use inspection of the crane	P/S/D		

BRIESER CONSTRUCTION GENERAL CONTRACTORS		DATE:	PROCEDURE:
		9-17-13	Attachment 17
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	PAGE:
		02	50
STANDARD OPERATING PROCEDURE:	Lifting & Rigging		
CROSS REFERENCE:	29 CFR 1926, Construction Standards. ANSI B30.5, Mobile & Locomotive Cranes; B30.9, Slings; B30.10, Hooks; B30.16, Overhead Hoists; B30.17, Overhead & Gantry Cranes; B30.26 Rigging Hardware		

Observation Form for Rigging/Lifting Competency			
Attach the rigging to the hook and to the object to be lifted	P		
Using the proper hand signals, direct the lifting device to center the hook over the object to be lifted.	P/S/D		
Raise and level the load. Level may be verified visually if a level was not needed for criticality of the lift.	P/S/D		
Using proper hand signals, direct lifting device operator to raise, move, and stabilize the load.	P/S/D		
Prepare cribbing/blocking to set the load upon. Lower the load onto the cribbing/blocking and properly secure.	P/S/D		
Perform a transfer of the load. The load may be transferred from a stationary hoist to an overhead crane. The load may be transferred from the lifting device to a lay down area.	P/D		
Turn the lifted object over in a controlled manner	P/D		
Upright the lifted object in a controlled manner	P/D		
Lift the object, transfer it over an obstacle, then lower the object into a cart and secure it	P/D		
Proper use of guideline was utilized when required	P/D		
Stop a load swing and gain control within 5 moves	D		
Lower the load and remove all rigging	P		
All rigging equipment has been properly stored	P		



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 33
LIFTING & RIGGING
SUB-SECTION TRAINING**

Brieser Construction
Section 33 Test

Score: %

Employees Name:		Date:	
Company:		Instructor:	
		Job Title:	

Answer the following questions “True” or “False” by circling the appropriate letter.

T	F	1. A Signaller should be clearly identifiable. Such as wearing a safety vest.
T	F	2. A Dynamometer measures wind speed?
T	F	3. Rated Capacity means: The manufacturers rated capacity. The maximum load which a piece of hoisting equipment is designed to safely carry.
T	F	4. Rigging is the same as Material Handling?
T	F	5. Fabrication or modification of rigging devices (tools), or special rigging and lifting equipment outside the control of the company engineering programs is not permitted?
T	F	6. It is not necessary to obtain a record of approval stamped by the (customer) resident Engineer to be filed in the Brieser job if I am rigging from permanently installed plant system components at or associated supports (e.g., cable trays, cable tray supports, piping, snubbers)?
T	F	7. Work shall NEVER be performed on or under a suspended load?
T	F	8. Rigging shall be centered in hook?
T	F	9. An illustration of the signals shall be provided at the job site?
T	F	10. Any overhead wire shall be considered to be an energized line unless and until the person owning such line or the electrical utility authorities indicate that it is not an energized line, and it has been visibly grounded?

Brieser Construction
Section 33 Test

Answers

<i>T</i>	<i>F</i>	1. A Signelman should be clearly identifiable. Such as wearing a safety vest.
<i>T</i>	<i>F</i>	2. A Dynamometer measures wind speed? Pg. 6
<i>T</i>	<i>F</i>	3. Rated Capacity means: he manufacturers rated capacity. The maximum load which a piece of hoisting equipment is designed to safely carry.
<i>T</i>	<i>F</i>	4. Rigging is the same as Material Handling? Pg. 6 Definition
<i>T</i>	<i>F</i>	5. Fabrication or modification of rigging devices (tools), or special rigging and lifting equipment outside the control of the company engineering programs is not permitted?
<i>T</i>	<i>F</i>	6. It is not necessary to obtain a record of approval stamped by the (customer) resident Engineer to be filed in the Brieser job if I am rigging from permanently installed plant system components at or associated supports (e.g., cable trays, cable tray supports, piping, snubbers)? Pg.10
<i>T</i>	<i>F</i>	7. Work shall NEVER be performed on or under a suspended load. Pg. 10
<i>T</i>	<i>F</i>	8. Rigging shall be centered in hook?
<i>T</i>	<i>F</i>	9. An illustration of the signals shall be provided at the job site?
<i>T</i>	<i>F</i>	10. Any overhead wire shall be considered to be an energized line unless and until the person owning such line or the electrical utility authorities indicate that it is not an energized line, and it has been visibly grounded?



Section 34
Safety Health
and
Environmental
Manual

2025

Construction General Waste Management

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/8/2010
		Revised:	4/23/2010
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Construction General Waste Management		
CROSS REFERENCE:	35 IAC CH. 1 Part 1100 CLEAN CONSTRUCTION OR DEMOLITION DEBRIS		

Construction General Waste Management

PURPOSE

This written program documents the steps *Brieser Construction* has taken to minimize General Refuse and Construction & Demolition debris resulting from various construction activities consistent with Civil Industrial operations present at our construction sites. Through the use of sound waste minimization practices utilizing a, reduce, reuse, and recycle approach Brieser Construction will strive to reduce their volume of waste.

Brieser Construction Management has overall responsibility for coordinating Safety, Health, and Environmental programs in this company. Copies of the written program may be obtained at the job site or in the Corporate Office.

If, after reading this program, you find that improvements can be made, please contact Brieser Construction. We encourage all suggestions because we are committed to creating a safe workplace for all our employees and to the success of our Construction Waste Management Program. We strive for clear understanding, safe behavior, and involvement with the program from every level of the company.

RESPONSIBILITIES

The Program Administrator: Brieser Safety Manager

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.
- Identifying waste minimization opportunities and prescribing appropriate solutions

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Project Managers, Superintendents and Foreman

These people are responsible for:

- Estimation of the waste that will be generated prior to work being performed so that the need for containers and waste removal, if necessary, can be determined.
- Coordinate with the project site or owner to ensure proper disposal of wastes or construction and demolition debris.
- Assign or ensure a Brieser employee is given the responsibility to handle the task of proper disposal, reuse or recycling of wastes or C&D debris.
- Assuring that safe operations are maintained on the jobsite to prevent injuries to the eyes, face, head, hands, and feet during handling of wastes.
- Enforcing the use of this program in the areas in which it is required or necessary.

Employees

- Using PPE when required
- Properly store and maintain all General and C&D debris.

Designated Recycling Coordinators

- TBD

DEFINITIONS

General trash/refuse – Includes domestic, office and warehouse wastes, paper, and other nonhazardous refuse. Waste should be free of liquids and should not include any recyclable waste, used oil, hazardous wastes, or universal wastes.

Clean construction or demolition debris – Also known as "clean fill", is defined as uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, reclaimed asphalt pavement, or dirt or sand generated from construction or demolition activities.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/8/2010
		Revised:	4/23/2010
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
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General construction or demolition debris – Is defined as non-hazardous, uncontaminated materials resulting from the construction, remodeling, repair, and demolition of utilities, structures, and roads, limited to the following:

- Soil
- Wall coverings
- Reclaimed asphalt pavement.
- Rock
- Plaster
- Glass
- Non-hazardous painted wood
- Drywall
- Plastics
- Non-hazardous treated wood
- Plumbing fixtures
- Electrical wiring
- Non-hazardous coated wood
- Non-asbestos insulation
- Bricks
- Wood products
- Roofing shingles
- Concrete
- General roof coverings

To the extent allowed by federal law, clean construction or demolition debris shall not be considered "waste" if it is used as fill material outside of a setback zone if the fill is placed no higher than the highest point of elevation existing prior to the filling immediately adjacent to the fill area, and if covered by sufficient uncontaminated soil to support vegetation within 30 days of the completion of filling or if covered by a road or structure; or separated or processed and returned to the economic mainstream in the form of raw materials or products, if it is not speculatively accumulated and, if used as a fill material, it is used in accordance with the first identical paragraph immediately above within 30 days of its generation; or solely broken concrete without protruding metal bars used for erosion control; or generated from the construction or demolition of a building, road, or other structure and used to construct, on the site where the construction or demolition has taken place, a manmade functional structure not to exceed 20 feet above the highest point of elevation of the property immediately adjacent to the new manmade functional structure as that elevation existed prior to the creation of that new structure, provided that the structure shall be covered with sufficient soil materials to sustain vegetation or by a road or structure, and further provided that no such structure shall be constructed within a home rule municipality with a population over 500,000 without the consent of the municipality. [415 ILCS 5/3.160(b)]

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/8/2010
		Revised:	4/23/2010
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
		Reviewed:	12/17/24 KMC
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Program Activities

C&D versus General Trash or Refuse

Construction and demolition (C&D) debris is nonhazardous, uncontaminated material resulting from construction, remodeling, repair, or demolition of utilities, structures, and roads. These materials include the following:

- Bricks, concrete, and other masonry materials
- Soil
- Rock
- Wood, including nonhazardous painted, treated, and coated wood and wood products.
- Wall coverings
- Plaster
- Drywall
- Plumbing fixtures
- Non-asbestos insulation
- Roofing shingles and other roof coverings
- Reclaimed asphalt pavement.
- Glass
- Plastics that do not conceal waste.
- Electrical wiring and components that do not contain hazardous substances.
- Piping
- Metal materials incidental to any of the materials above

General trash includes domestic, office and warehouse wastes, paper, and other nonhazardous refuse. Waste should be free of liquids and should not include any recyclable waste, used oil, hazardous wastes, or universal wastes.

Accumulation and Storage

- Use appropriate PPE, such as rubber or neoprene gloves, boots and safety glasses, and a facemask or goggles.
- When handling trash, use caution to avoid splinters, cuts, or other injuries.
- Trash can be accumulated in bags, drums, baskets, gondolas, or dumpsters. Outdoor receptacles should be covered to prevent stormwater pollution.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/8/2010
		Revised:	4/23/2010
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
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Waste Management Locations

- Dumpsters should be kept within plain sight of the office, if possible, to facilitate oversight of contractors or others who use it. C&D debris can be transported to a permitted facility by any hauler. The hauler is not required to have a special waste haulers permit. You should first call the disposal facility to determine if it accepts C&D debris.
- If you have lead-based paint that was removed from non-household waste (for example, paint that was removed from the substrate), the paint waste must be tested by a laboratory using the toxicity characteristic leachate procedure (TCLP) before landfilling. Currently this waste must be managed as a special waste.
- Well labeled trash barrels are to be located throughout the jobsite, covered, and labeled; “General Trash.”

Recycling and Disposal

- All general refuse other than office waste is currently thrown in the dumpster and hauled to the landfill. Employees will be made aware of the proper disposal of waste at their jobsites (refer to Construction Waste Management Plan for details). However, every effort should be made to recycle or reuse certain types of general refuse.
- C&D debris: Three recycling methods available to contractors include the following:
 - **Mixed material collection** - Recyclable materials are transported from the job site, sorted at a designated facility, and sent to processors for recycling.
 - **Source separation** - Similar materials are separated from other wastes at the job site by category (such as wood, metal, and concrete) and sent to processors for recycling.
 - **On-site processing** - Recyclable materials are processed on site and made ready for reuse.

CONSTRUCTION WASTE MANAGEMENT PLAN

Company Name:

Contact Person:

Telephone #:

Address:

Project Location:

Contractor:

Contact Person:

Telephone #:

Recycling Coordinators:

Designated Recycling Coordinators:

Project Description:

Waste Management Goals:

- This project will recycle or salvage for reuse a minimum of ____ % by weight of the waste generated on-site.
- Waste reduction will be achieved through building design, and reuse and recycling efforts will be maintained throughout the construction process.

Waste Prevention Planning:

- Voluntary recycling requirements for Brieser Construction project recyclables include:
 - newspaper
 - corrugated cardboard
 - white and colored office paper
 - glass bottles and jars
 - metal cans
- Compliance with IEPA. and Illinois Landfill Bans, i.e., no disposal of tires, appliances, yard waste, mandatory recyclables, hazardous waste, batteries, fluorescent tubes, and large metal items.
- Project Construction Documents – Requirements for waste management which will be included in all work. The General Contractor will contractually require all subcontractors to comply with any client driven mandatory recycling requirements. A copy of this Construction Waste Management Plan will accompany all Subcontractor Agreements and require subcontractor participation.

- The Construction Waste Reduction Plan shall be implemented and executed as follows and as on the chart:
 - Salvageable materials will be diverted from disposal where feasible.
 - There will be a designated area on the construction site reserved for a row of dumpsters each specifically labeled for respective materials to be received.
 - Before proceeding with any removal of construction materials from the construction site, Recycling Coordinators will inspect containers for compliance with local landfill requirements.
 - Wood cutting will occur in centralized locations to maximize reuse and make collection easier.
 - Hazardous waste will be managed by a licensed hazardous waste vendor.

Communication & Education Plan:

- The General Contractor will conduct an on-site pre-construction meeting with subcontractors. Attendance will be required for the subcontractor's key field personnel. The purpose of the meeting is to reinforce to subcontractor's key field employees the commitments made by their companies regarding the project goals and requirements.
- As each new subcontractor comes on site, the recycling coordinators will present him/her with a copy of the Waste Management Plan and provide a tour of the recycling areas.
- The subcontractor will be expected to make sure all their crews comply with the Waste Management Plan.
- All recycling containers will be clearly labeled. Containers shall be located in close proximity to the building(s) under construction in which recyclables/salvageable materials will be placed.
- Lists of acceptable/unacceptable materials will be posted throughout the site.
- All subcontractors will be informed in writing of the importance of non-contamination with other materials or trash.
- Recycling coordinators shall inspect the containers on a weekly basis to ensure that no contamination is occurring, and precautions shall also be taken to deter any contamination by the public.

Evaluation Plan:

- The General Contractor will develop, update, and post at the jobsite a graph indicating the progress to date for achieving the project's waste recycling goal of XX% by weight of the total project waste stream.

Expected Project Waste, Disposal, and Handling:

The following charts identify waste materials expected on this project, their disposal method, and handling procedures:

Material	Quantity	Disposal Method	Handling Procedure
Land clearing debris		Keep separate for reuse and or wood sale	Keep separated in designated areas on site
Clean dimensional wood and palette wood		Keep separate for reuse by on-site construction or by site employees for either heating stoves or reuse in home projects. Recycle at:	Keep separated in designated areas on site. Place in "Clean Wood" container.
Plywood, OSB, particle board		Reuse, landfill	Keep separated in designated areas on site. Place in "Trash" container.
Painted or treated wood		Reuse, landfill	Keep separated in designated areas on site. Place in "Trash" container.
Concrete		Recycle	
Concrete Masonry Units		Keep separate for re-use by on-site construction or by site employees	Keep separated in designated areas on site
Metals		Recycle at:	Keep separated in designated areas on site. Place in "Metals" container.
Gypsum drywall (unpainted)		Recycle with supplier:	Keep scraps separate for recycling – stack on pallets in provided on site. All scrap drywall will be taken back by contractor to drywall supplier
Paint		Reuse or recycle at:	Keep separated in designated areas on site
Insulation		Reuse, landfill	
Flooring		Reuse, landfill	
Carpet and pad		Reuse or recycle with carpet manufacturer	

Material	Quantity	Disposal Method	Handling Procedure
Glass		Glass Bottles: Recycle at:	Keep separated in designated areas on site. Place in "Glass/Plastic bottles/Metal Cans/Mixed Paper/Cardboard" container
Plastics		Plastic Bottles: Recycle at: Plastic bags/scraps: Reuse, landfill	Keep separated in designated areas on site. Place in "Glass/Plastic bottles/Metal Cans/Mixed Paper/Cardboard" container
Beverage		Recycle at:	Keep separated in designated areas on site. Place in "Glass/Plastic bottles/Metal Cans/Mixed Paper/Cardboard" container
Cardboard		Recycle at:	Keep separated in designated areas on site. Place in "Glass/Plastic bottles/Metal Cans/Mixed Paper/Cardboard" container
Paper and newsprint		Recycle at:	Keep separated in designated areas on site. Place in "Glass/Plastic bottles/Metal Cans/Mixed Paper/Cardboard" container
TOTAL			

Waste Disposal: Contractor:

Contact:

- **Name of landfill for disposal of non-recyclable waste:**
 - Transfer Stations:
 - Landfills (ultimate disposal location):
- **Landfill tipping fee:** \$XX / ton
- **Estimate of waste for landfill disposal:**

Recycling Calculation:

If all construction waste was disposed in landfill: XX lbs = XX tons x \$XX/ton = **\$XX**

With recycling: TOTAL = **\$XX**

General Waste Management Learning Exercise

Score:

%

Employees Name:		Date:	
Company:		Instructor:	
Trade:		Job Title:	

Answer each of the following questions “True” or “False” by circling the appropriate letter.

- T F 1. Construction and demolition debris is nonhazardous, uncontaminated material resulting from construction, remodeling, repair, or demolition of utilities, structures, and roads.
- T F 2. General trash includes domestic, office and warehouse wastes, paper, and other nonhazardous refuse.
- T F 3. Waste should never be free of liquids and should always include any recyclable waste, used oil, hazardous wastes, or universal wastes.
- T F 4. Trash can be accumulated in bags, drums, baskets, gondolas, or dumpsters. Outdoor receptacles should be covered to prevent stormwater pollution.
- T F 5. Construction and demolition debris can be transported to a permitted facility by any hauler. The hauler is not required to have a special waste haulers permit. You should first call the disposal facility to determine if it accepts Construction and demolition debris.
- T F 6. Compliance with the IEPA. and Illinois Landfill does not ban disposal of tires, appliances, yard waste, mandatory recyclables, hazardous waste, batteries, fluorescent tubes, and large metal items.
- T F 7. As each new subcontractor comes on site, the recycling coordinators will present him/her. with a copy of the Waste Management Plan and provide a tour of the recycling areas. The subcontractor will then be expected to make sure all their crews ignore the Waste Management Plan.
- T F 8. All recycling is voluntary. However, the containers will be clearly labeled. Containers shall located in close proximity to the building(s) under construction in which recyclables/salvageable materials will be placed.

General Waste Management Learning Exercise

Answer Sheet

- True** 1. Construction and demolition debris is nonhazardous, uncontaminated material resulting from construction, remodeling, repair, or demolition of utilities, structures, and roads.
- True** 2. General trash includes domestic, office and warehouse wastes, paper, and other nonhazardous refuse.
- False** 3. Waste should never be free of liquids and should always include any recyclable waste, used oil, hazardous wastes, or universal wastes.
- True** 4. Trash can be accumulated in bags, drums, baskets, gondolas, or dumpsters. Outdoor receptacles should be covered to prevent stormwater pollution.
- True** 5. Construction and demolition debris can be transported to a permitted facility by any hauler. The hauler is not required to have a special waste haulers permit. You should first call the disposal facility to determine if it accepts Construction and demolition debris.
- False** 6. Compliance with the IEPA. and Illinois Landfill does not ban disposal of tires, appliances, yard waste, mandatory recyclables, hazardous waste, batteries, fluorescent tubes, and large metal items.
- False** 7. As each new subcontractor comes on site, the recycling coordinators will present him/her with a copy of the Waste Management Plan and provide a tour of the recycling areas. The subcontractor will then be expected to make sure all their crews ignore the Waste Management Plan.
- True** 8. All recycling is voluntary. However, the containers will be clearly labeled. Containers shall be located in close proximity to the building(s) under construction in which recyclables/salvageable materials will be placed.



Section 35
Safety Health
and
Environmental
Manual

2025

Compressed Gas Safety

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	6/24/2010
		Revised:	8/8/2017
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	05
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Compressed Gas Safety		
CROSS REFERENCE:	29 CFR 1910.101, 1910.252, 1910.253, 29 CFR 1926.350		

Compressed Gas Safety

PURPOSE

Assure that employees handling compressed gases are adequately trained in the inherent hazards of the cylinders and their contents, as well as proper handling, storage, and use according to OSHA requirements. Compressed gas cylinders can present a variety of hazards due to their pressure and /or contents. This chapter of the safety manual covers requirements which must be followed for the use of all compressed gases. In addition to the standard required work practices for inert gases, hazardous gases may require additional controls and work practices including, but not limited to, the use of gas cabinets, gas monitors, emergency shutoffs, proper equipment design, leak testing procedures, and the use of air supplying respirators for certain highly toxic gases.

POLICY

It is the policy of Brieser Construction that all compressed gases be handled, stored, received, and used in a safe manner consistent with this chapter. Compressed air shall not be used for cleaning or blow down activities unless air pressure is regulated to below 30 psi and areas have been isolated from pedestrian traffic and effective chip guarding and personal protective equipment is implemented.

DEFINITIONS

Any material that is under pressure can be dangerous if it is not handled properly. If the material is a compressed gas, it may be flammable, explosive, reactive, toxic or any combination of these. Because of the hazards of compressed gasses, it is important to know what you are working with, what its hazardous properties are and how to safely handle its container: **THE COMPRESSED GAS CYLINDER.**

The following compressed gasses require special treatment:

OXYGEN: While not flammable itself, oxygen increases the tendency of things around it to burn or explode. Keep oxygen cylinders away from combustible materials, flammable materials, and fire hazards, including oil or grease on your hands, clothes, and work area. Oxygen should not be used in place of compressed air.

ACETYLENE AND HYDROGEN: These both highly explosive gases that must be handled with extreme caution. Hydrogen escapes easily from threaded fittings that are not completely tight, and such leaks can ignite spontaneously from the friction of the escaping gas. Hydrogen has no odor to warn of a leak and burns almost invisibly.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	6/24/2010
		Revised:	8/8/2017
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	05
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CROSS REFERENCE:	29 CFR 1910.101, 1910.252, 1910.253, 29 CFR 1926.350		

Please follow safe handling procedures found on SDS for specific information on other gasses contained in compressed gas cylinders.

RESPONSIBILITIES

The Program Administrator – Safety Director

These people are responsible for:

- Maintaining the training records of all employees included in the training sessions.
- Reviewing and updating this program, as necessary.

The Office/Equipment Manager

- This department is responsible for: Ensure shop audits are being performed and to include elements from this section to comply with all Compressed Gas safety rules.
- Work with the Safety Department to continually improve compressed gas safety storage, use and handling.

The Job Superintendent/Foreman

This person is responsible for:

- Immediately responding to any employee concerns and requests for information.
- Ensure all compressed gas cylinders are in compliance with this section.

Employees

These people are responsible for:

- Read and understand this section of the Brieser Safety & Health Manual
- Use proper methods for storage, use and handling of all compressed gases used at project jobsites and while driving company vehicles containing compressed gases.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	6/24/2010
		Revised:	8/8/2017
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	05
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STORAGE AND HANDLING

- Inspections of compressed gas cylinders must be performed visually before use. Check all valve connections, hoses, clamps and regulators for excessive wear, damage, or incompatible parts. Remove from service if inspection does not pass.
- Always secure gas cylinders upright to a wall, cylinder truck, cylinder rack or post. This is especially important when gas is in use because the regulator is on the cylinder valve and the cap is not in place.
- Close the valve and replace the cylinder cap when the cylinder is not in use or being transported.
- Do not drop a cylinder, use them to hold up other objects, or let them strike each other violently. 1910.253(b)(5)
- Oxygen cylinders should be stored a minimum distance of 20 ft or have at least 5 ft high 1/2-hour fire rated wall from fuel gas cylinders and combustibles. 1910.253(b)(3)(ii)
- Never lift the cylinder by its valve, valve cap, chains, slings, or magnets. If a crane is needed to move several cylinders, the cylinders should be secured on a platform or cradle. A cylinder should never be dragged. Tilt the cylinder sideways and roll it along its bottom edge.
- Do not place cylinders in hallways or work areas. Assigned storage spaces should be located where cylinders will not be knock over or damaged by passing or falling objects and equipment.
- Keep cylinders away from radiators and other sources of heat, such as sparks, hot slag, and machining or foundry operations. Keep cylinders out of direct sunlight, or where they may get hotter than 130° F. Gasses expand when heated, the hotter a cylinder gets, the higher the gas pressure will become. A cylinder at 2200 psig and 70° F will increase in pressure to 2451 psig at 130° F.
- Before attaching a gas regulator to any cylinder other than Hydrogen or fuel gas, **“CRACK”** the cylinder valve by opening it slightly and close it immediately to remove any dirt and debris from the outlet, do not stand in front or point the outlet at anyone while cracking it. **DO NOT “CRACK” A HYDROGEN OR FUEL GAS CYLINDER.** Hydrogen is highly flammable and will ignite if it is released into the air too fast. Merely wipe out the outlet connections with a clean, dry, lint free cloth.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	6/24/2010
		Revised:	8/8/2017
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	05
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Compressed Gas Safety	
CROSS REFERENCE:	29 CFR 1910.101, 1910.252, 1910.253, 29 CFR 1926.350		

- Always check the regulator before attaching it to a cylinder. If the connections do not fit together readily, the wrong regulator is being used.
- Always use a cylinder wrench or other tightly fitting wrench to tighten the regulator nut and hose connections. If a valve will not open by hand, call the gas distributor.
- Compressed gas cylinders with the regulators installed are considered by OSHA to be "connected for use." A "special truck" is a vehicle or cart used for the specific purpose of transporting the aforementioned "connected for use" compressed gas cylinders in the workplace. The "special truck" must be designed so that the following conditions can be met: 1) when cylinders are on the special trucks, they must be held in an erect or nearly erect position; and 2) protection of the cylinder valves and regulators must be provided. Brieser identifies "special trucks" in our organization as company welding trucks or welding trailers that are equipped with cylinder holders and outfitted with regulator guards such as in the picture below.



GENERAL PRECAUTIONS

- Do not rely on the color of the cylinder to identify the gas inside. Suppliers used different color codes. Return any unidentifiable cylinders to the supplier.
- Do not use gas for any purposes other than for which it was intended.
- Never use a cylinder unless the gas it contains is clearly stenciled on it or marked with a decal. Altering or defacing the name, numbers or other markings on a gas cylinder is illegal and hazardous.
- Never hammer, pry, or wedge a stuck or frozen cylinder valve to loosen it. Do not use a wrench; use warm, not hot, water too free frozen cylinders from the ground.

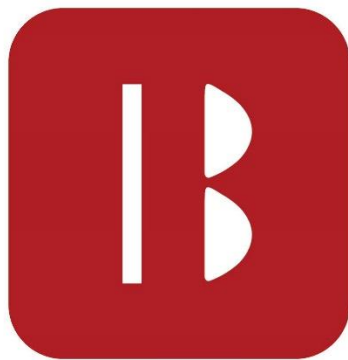
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- Do not allow grease, oil, or other combustible materials to touch any part of a cylinder. This tip is especially important when oxygen cylinders are involved. Grease or oil that oxidizes very slowly in air will burst into flame in pure oxygen.
- Never hang tools, gloves, or spark lighters on top of the cylinder. They may interfere with the operation of the valve and prevent the gas from being shut off quickly in an emergency.
- Every air receiver shall be equipped with an indicating pressure gauge, so located as to be readily visible, and with one or more spring-loaded safety valves. The total relieving capacity of such safety valves shall be such as to prevent pressure in the receiver from exceeding the maximum allowable working pressure of the receiver by more than 10 percent.
- All safety valves shall be tested frequently and at regular intervals to determine whether they are in good operating condition. Safety valves, indicating/controlling devices, and other safety appliances need to be constructed, located, and installed so they cannot be rendered inoperative by any means.
- The drain valve on air receivers shall be opened and the receiver completely drained frequently and at such intervals as to prevent the accumulation of excessive amounts of liquid in the receiver.

NOTE

Under certain conditions, otherwise harmless gases can kill. Inert gases such as argon, helium, carbon dioxide and nitrogen can asphyxiate a person. Always use these gases in well-ventilated areas.

CHECK MANUFACTURER'S GUIDELINES FOR ADDITIONAL SAFETY MATERIAL OR CONTACT A COMPETENT PROFESSIONAL



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 35
COMPRESSED GAS
SAFETY TRAINING**

Score:

%

Employees Name:	Date:
Company:	Instructor:
	Job Title:

Answer the following questions "True" or "False" by circling the appropriate letter.

T	F	1. Compressed air shall not be used for cleaning or blow down activities unless air pressure is regulated to below 20 psig and areas have been isolated from pedestrian traffic.
T	F	2. Always secure gas cylinders upright to a wall, cylinder truck, cylinder rack or post.
T	F	3. Oxygen cylinders should be stored a minimum distance of 20 ft or have at least 5 ft high 1/2-hour fire rated wall from fuel gas cylinders and combustibles.
T	F	4. Before attaching a gas regulator to any cylinder other than Hydrogen or fuel gas, " CRACK " the cylinder valve by opening it slightly and close it immediately to remove any dirt and debris from the outlet, do not stand in front or point the outlet at anyone while cracking it.
T	F	5. <u>DO NOT "CRACK" A HYDROGEN OR FUEL GAS CYLINDER.</u> Hydrogen is highly flammable and will ignite if it is released into the air too fast. Merely wipe out the outlet connections with a clean, dry, lint free cloth.
T	F	6. The best way to identify the gas contained in a cylinder is to know the standard colors for gases and simply observe what color the cylinder is?
T	F	7. Inert gases such as argon, helium, carbon dioxide and nitrogen are ok to use in a confined space?
T	F	8. Never use a cylinder unless the gas it contains is clearly stenciled on it or marked with a decal.
T	F	9. Do not allow grease, oil, or other combustible materials to touch any part of a cylinder.
T	F	10. Never hang tools, gloves, or spark lighters on top of the cylinder. They may interfere with the operation of the valve and prevent the gas from being shut off quickly in an emergency.

Answers

Brieser Construction
Section 35 Test

T	F	1. Compressed air shall not be used for cleaning or blow down activities unless air pressure is regulated to below 20 psig and areas have been isolated from pedestrian traffic. <i>Pg. 2</i>
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T	F	10. Never hang tools, gloves, or spark lighters on top of the cylinder. They may interfere with the operation of the valve and prevent the gas from being shut off quickly in an emergency.



Section 36
Safety Health
and
Environmental
Manual

2025

Benzene Exposure

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/19/2019
		Revised:	12/2024
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	06
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Benzene Exposure		
CROSS REFERENCE:	OSHA 29CFR1910.1028 ACGIH, 2011., in TLV TWAs and BEIs		

Benzene Exposure

PURPOSE

This standard will outline the protective measures needed when working around excavations that are impacted with hydrocarbons typically found in oil refineries, which could contain benzene, toluene, ethylbenzene, or xylene. This is the only exposure task that Brieser employees should encounter due to the nature of our work and activities performed at these refineries. All protective procedures will be driven with personal monitoring techniques as well as monitoring the area around an excavation. Section 26 of the Brieser SH&E Manual will detail the procedures for assessing risk for health issues such as benzene exposure.

SCOPE

To define the requirements, responsibilities, and procedures necessary to reduce the risk of our employees to Benzene exposure.

RESPONSIBILITIES

The Program Administrator: Brieser Safety Manager

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.
- Ensuring that employees have available to them initial and refresher training on the use of this policy.
- Maintaining training records for all employees included in the training sessions.

Project Managers, Superintendents and Foremen

These people are responsible for:

- Ensuring that any potential excavation that is reported or expected to be contaminated with benzene either by way of smell, visual, or through the use of air monitoring equipment is fully evaluated and the contents of this policy are followed before any employee is allowed to work in or around that excavation.
- Providing training in the signs and symptoms of benzene exposure to workers on site
- Ensure employees are fitted with the correct respirator and have been medically cleared to wear it.

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Project Managers, Superintendents and Foremen continued.

- Ensure all testing equipment is functioning properly, calibrated and assigned a competent user.
- Ensure that all excavations suspected of benzene contamination are monitored using a PID (Photo ionizing detector) currently the Ultra Rae 3000 equipped with a benzene filter.
- Ensure that all supervision is trained in emergency procedures when an employee exhibits symptoms consistent with possible heat illness.

Employees

- Understanding common signs and symptoms of benzene exposure
- Review the Benzene Safety Data Sheet before work commences.
- Understand the routes of entry and exposure to benzene.
- Report all “funny” smells while excavating.
- If a “funny” smell is detected while excavating, evacuate the area and call your supervisor.

GENERAL

Benzene is an organic chemical compound with the molecular formula C₆H₆. Its molecule is composed of 6 carbon atoms joined in a ring, with 1 hydrogen atom attached to each carbon atom. Because its molecules contain only carbon and hydrogen atoms, benzene is classed as a hydrocarbon.

Benzene is a natural constituent of crude oil and is one of the most basic petrochemicals. Benzene is a colorless and highly flammable liquid with a sweet smell. Vapors may form explosive mixtures in air. Fire extinguishers must be readily available in areas where benzene is used or stored. Because it has a high-octane number, this is an important component of gasoline, composing a few percent of its mass. Benzene is not soluble in water therefore it will float on top.

Brieser construction will employ the American Conference of Governmental Industrial Hygienists (ACGIH) values. The permissible exposure over an 8-hour workday is defined as the TLV TWA or Threshold Limit Value Time Weighted Average. The TLV TWA for Benzene is .5 ppm. The STEL or Short-Term Exposure Limit is defined as a 15-minute exposure. The STEL for Benzene is 2.5 ppm. If either the TLV TWA or the STEL are expected to be met or exceeded, additional monitoring requirements, medical surveillance, and annual employee training will be needed. In addition, when employee exposures exceed either the TLV TWA or STEL, the regulation requires the establishment of a regulated area and a written compliance program using engineering and work practice controls where feasible to reduce employee exposure levels, augmented by an effective respiratory protection program.

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PROCEDURES IF BELOW TLV TWA OR STEL

The Brieser supervision shall monitor the excavation with an issued PID monitor. The supervision will alert the customer to monitor the excavation using their monitoring equipment. A side-by-side comparison shall be evaluated between the Brieser and Customer's monitor. If readings are greater than or equal to .5 ppm the excavation will be barricaded off and left to dissipate into the atmosphere. Whenever it is determined that Brieser employees will work in an excavation that contains benzene the Brieser employee that has been trained in the use, care and maintenance of our PID monitor will take readings of the area in concentric circles, starting at what the employee thinks is a safe distance every minute until a STEL of 15 minutes is established. To establish a STEL, average the one-minute readings taken with the PID monitor. If that STEL is below 2.5 ppm, the employee may be closer to the excavation repeating the process until they are at the area where employees will be working from.

All data shall be collected on the Brieser IH (Industrial Hygiene) Sample Form and turned into the Safety Department for recordkeeping. See Appendix A

At times, the Brieser Safety Department may perform periodic personal exposure monitoring to ensure our employees are below the TLV TWA of .5 ppm.

PROCEDURES IF CONCENTRATIONS OF BENZENE ARE EXPECTED TO BE AT OR ABOVE THE TLV TWA OR STEL

1. Brieser Safety Department must be contacted.
2. The Safety Department will conduct personal sampling monitoring on no less than 25% of the workforce that is expected to be exposed.
3. A regulated area must be established.
4. A written plan must be developed that outlines how employee exposures will be reduced through hazard control methods.

EXPOSURE LIMITS

TLV TWA: .5 ppm

STEL: 2.5 ppm

PERIODIC MONITORING

The Brieser Safety Department will periodically monitor employee exposures to benzene at least every 6 months if conditions permit using a passive badge monitor in addition to a direct reading PID monitor. **The Brieser Safety Department will periodically review and revise this procedure to reflect the most recent exposure monitoring data.**

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REGULATED AREA

A regulated area must be established wherever the airborne concentration of benzene exceeds, or can reasonably be expected to exceed, either the TLV TWA of .5 ppm or the STEL of 2.5 ppm. The area must be demarcated from the rest of the work site by physical means or signs that limit access to only authorized, properly equipped personnel in order to minimize the exposure to benzene.

Signs with the following legend shall be posted at entrance to the regulated work areas:



Smoking is prohibited in areas where benzene is used or stored.

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METHODS OF COMPLIANCE

Where feasible, benzene exposure must be controlled through engineering controls and work practices in preference to respiratory protection. Respirators can and should be used to control exposures that are intermittent or caused by emergency conditions and while awaiting engineering controls.

In cases of exposure levels above the limit, a written plan to reduce that exposure will be prepared. This plan will be explained in the monitoring results letter sent to the exposed employee. The area superintendent will receive a copy of this notice and will be responsible for the prompt implementation of this plan.

In the case of a customer “in-plant or host” release of Benzene all Brieser personnel shall be trained and follow our customers Emergency procedures and contingency plan. All Brieser employees are required to sign the host facilities permit to work in an area where Benzene is used.

RESPIRATORY PROTECTION

Respirators shall be provided at Company expense and used by the employee in the following circumstances:

1. During the time necessary to install and/or implement feasible engineering controls
2. Where feasible engineering controls and work practices by themselves are not sufficient to reduce employee exposure to or below the PEL.
3. During intermittent or limited duration work operations where engineering controls and work practices are not feasible or required
4. In emergencies.

The Brieser Safety Health and Environmental Manual Section 7 Respiratory Protection shall be referenced if the use of respirators will be used to control benzene exposure on the jobsite.

Generally, for exposures in atmospheres between 1 and 5 ppm, the appropriate respirator will be a negative pressure respirator with organic vapor cartridges. Filter elements must be changed at the end of the service life or at the beginning of each shift, whichever comes first.

Employees exposed to benzene shall be given adequate time to wash their face and respirator to prevent skin irritation and to change filter elements. Protective clothing should be provided as necessary to limit exposure to the eyes or skin.

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RESPIRATORY PROTECTION continued

The job supervisor is responsible to ensure the proper respirators are worn in the approved manner, and that all hygiene considerations (wash-up time, filter element changes and protective clothing) are followed.

Before an employee can use a negative pressure respirator for benzene exposure, that employee must be fit tested properly on an annual basis. This fit test must follow the protocol for fit testing to be done at the appropriate intervals and the Safety Department will assist operating and maintenance areas in determining which employees are to be included in this program. A current listing of respiratory fit tested employees will be maintained by the Safety Department as part of its Industrial Hygiene requirements as part of this written program. Employees without a current fit test shall not be assigned to jobs with known benzene exposures above the action level.

MEDICAL SURVEILLANCE

A medical surveillance program must be made available to those employees who are or may be exposed to benzene:

- At or above the TLV TWA for 10 or more days per year

HAZARD COMMUNICATION/TRAINING

Employees must receive training and information on benzene prior to initial assignment. If exposures are above the TLV TWA, training must be repeated annually. A standard Safety Data Sheet SDS shall be used for training content for levels below the TLV TWA limit. Otherwise, a written plan will be used for training purposes if warranted by this policy.

PERSONAL PROTECTIVE EQUIPMENT

Appropriate personal protective equipment (PPE) is to be worn by all personnel handling or potentially encountering liquids containing greater than 0.1% benzene. PPE should include protection of eyes/face, protective clothing for skin and gloves for hand protection. Nitrile glove material is superior to PVC glove material for protection against hydrocarbons.

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HEALTH EFFECTS

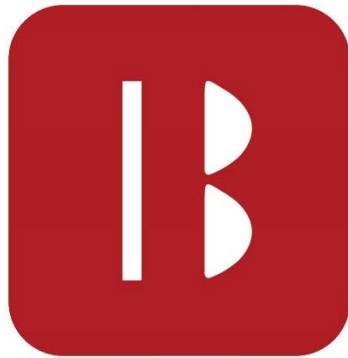
- Exposure routes include:
 - Inhalation, Skin Absorption, Ingestion, Skin and/or Eye Contact
- Target Organs
 - Eyes, Skin, Respiratory System, Blood, Central Nervous System, Bone Marrow
- Short term effects of overexposure may include irritation of eyes, nose and skin, breathlessness, irritability, euphoria, headache, dizziness, or nausea.
- Long term effects may result in blood disorders such as leukemia and anemia.

PERSONAL HYGIENE

- Wash hands, arms, and face thoroughly with soap and water. Rinse thoroughly and dry. Before eating, drinking or after you have left the contaminated area.

APPENDIX A

IH SAMPLING FORM																																																																							
Sample Description																																																																							
(Project Code-Yr/Mth/Day-Sample Description-Sample # (start with 001))																																																																							
Sample Type		(Personal) (Area) (Blank) (Bulk) (Grab) (Source)																																																																					
Person Sampled (Employee Last name, First Name)																																																																							
EHS Job (Job Description)		(Carpenter) (Finisher) (Iron Worker) (Laborer) (Operator) (Tech Eng) (Teamster)																																																																					
Collected By (Last name, First Name)																																																																							
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Calculation Method		(Zero) (Same)		<table border="1"> <thead> <tr> <th>Tasks</th> <th>Controls</th> </tr> </thead> <tbody> <tr> <td></td> <td>Admin Controls</td> </tr> <tr> <td>Brazing</td> <td>Isolation of Worker</td> </tr> <tr> <td>Chipping - Bushhammering</td> <td>Work Practice Contols</td> </tr> <tr> <td>Chipping - Hand Held</td> <td>Worker Rotation</td> </tr> <tr> <td>Chipping - Hequip. Attmt.</td> <td>Eng. Solutions</td> </tr> <tr> <td>Chipping - Jack Hammer</td> <td>Air Conditioning</td> </tr> <tr> <td>Compacting</td> <td>Barrier - Noise</td> </tr> <tr> <td>Cutting/Sawing</td> <td>Damping - Noise</td> </tr> <tr> <td>C/S - Circular Saw</td> <td>Enclosure</td> </tr> <tr> <td>C/S - Miter Saw</td> <td>Gen Dilution Vent.</td> </tr> <tr> <td>C/S - Partner Saw</td> <td>Local Exhaust (LEV)</td> </tr> <tr> <td>C/S - Torch Cutting</td> <td>Misting Dust Control</td> </tr> <tr> <td>C/S - Table Saw</td> <td>Portable LEV</td> </tr> <tr> <td>C/S - Walk Behind</td> <td>Eye Protection</td> </tr> <tr> <td>C/S - Walk Behind Soft Cut</td> <td>Chemical Goggles</td> </tr> <tr> <td>Concrete Vibrating</td> <td>Safety Glasses</td> </tr> <tr> <td>Grinding</td> <td>Welding Shaded Lenses</td> </tr> <tr> <td>Grinding - Hand Held</td> <td>Foot Protection</td> </tr> <tr> <td>Power Finishing</td> <td>Boot Chemical Prot</td> </tr> <tr> <td>Pouring/Setting</td> <td>Safety-toe Shoe</td> </tr> <tr> <td>Welding</td> <td>Gloves</td> </tr> <tr> <td>Welding - FCAW</td> <td>Butyl Alcohol</td> </tr> <tr> <td>Welding - MIG</td> <td>Butyl Rubber</td> </tr> <tr> <td>Welding - SAW</td> <td>Kevlar</td> </tr> <tr> <td>Welding - TIG</td> <td>Leather Gauntlet</td> </tr> <tr> <td></td> <td>Latex</td> </tr> <tr> <td></td> <td>Nitrile</td> </tr> <tr> <td>Chemical Protective Suit</td> <td>Neoprene</td> </tr> <tr> <td>Flame Reistant</td> <td>PVC</td> </tr> <tr> <td>Tyvek Suit</td> <td>Respirators</td> </tr> <tr> <td></td> <td>(N95) (Supplied Air) (SAR) 1/2Mask APR</td> </tr> <tr> <td></td> <td>(FF Multi Gas) (FF-OV) (1/2 Mask OV)</td> </tr> </tbody> </table>		Tasks	Controls		Admin Controls	Brazing	Isolation of Worker	Chipping - Bushhammering	Work Practice Contols	Chipping - Hand Held	Worker Rotation	Chipping - Hequip. Attmt.	Eng. Solutions	Chipping - Jack Hammer	Air Conditioning	Compacting	Barrier - Noise	Cutting/Sawing	Damping - Noise	C/S - Circular Saw	Enclosure	C/S - Miter Saw	Gen Dilution Vent.	C/S - Partner Saw	Local Exhaust (LEV)	C/S - Torch Cutting	Misting Dust Control	C/S - Table Saw	Portable LEV	C/S - Walk Behind	Eye Protection	C/S - Walk Behind Soft Cut	Chemical Goggles	Concrete Vibrating	Safety Glasses	Grinding	Welding Shaded Lenses	Grinding - Hand Held	Foot Protection	Power Finishing	Boot Chemical Prot	Pouring/Setting	Safety-toe Shoe	Welding	Gloves	Welding - FCAW	Butyl Alcohol	Welding - MIG	Butyl Rubber	Welding - SAW	Kevlar	Welding - TIG	Leather Gauntlet		Latex		Nitrile	Chemical Protective Suit	Neoprene	Flame Reistant	PVC	Tyvek Suit	Respirators		(N95) (Supplied Air) (SAR) 1/2Mask APR		(FF Multi Gas) (FF-OV) (1/2 Mask OV)
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Media Type		(3M 3500 OVM)(Dosimeter)(3M 3720 Formaldehyde) (Mercury SKC 520 or Assay Badge)(CT:Charcoal Tube) (Direct Reading Instrument) (GammaRaell) (Vrae) (3M eg5 Noise Dosimeter)																																																																					
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HS Equipment		(dose Badge) (Draeger Pump) (SKC Pump)(Sirius PID) (RAE Benzene PID)(Sound Level Meter) (3M eg5 Noise Dosimeter)																																																																					
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Unit Of Measure		(PPM) (MG/M3) (L/min) (cc/min) (dBA)																																																																					
Laboratory		(Galson Labs)																																																																					
Exchange Rate		3dBA (only with noise, leave blank if not noise)																																																																					
Direct Reading Results		(Non Detect)																																																																					



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 36
BENZENE EXPOSURE
SUB-SECTION TRAINING**

Personal Protective Learning Exercise

Brieser Construction

Score: %

Employees Name: 	Date:
Company: 	Instructor:
Employee #: 	Job Title:

Answer the following questions “True” or “False” by circling the appropriate letter.

T	F	1. Benzene is extremely flammable?
T	F	2. Exposure to benzene does not cause cancer?
T	F	3. Routes of entry to benzene exposure are: inhalation, ingestion, skin contact and eye contact?
T	F	4. Symptoms of overexposure may include the following: ▪ Dizziness, ▪ Excitation, ▪ Pallor, followed by ▪ Flushing ▪ Weakness ▪ Headache ▪ Breathlessness ▪ Chest constriction ▪ Irritation of eyes, skin, nose, respiratory system. ▪ Nausea ▪ Staggered gait ▪ And fatigue?
T	F	5. If benzene contaminated liquid got into your eyes, you should flush with water for 5 minutes?
T	F	6. Benzene is flammable. I should have the proper fire extinguisher at the jobsite?
T	F	7. The ACGIH TLV TWA for Benzene is 1 ppm?
T	F	8. The Vapor Density of Benzene is 2.7 when compared to air at 1.0 this information found on the Safety Data Sheet tells me that vapors from benzene in an excavation are likely to settle at the bottom?
T	F	9. The Specific Gravity of Benzene is .88 when compared to water at 1.0 this information found on the Safety Data Sheet tells me that benzene liquid will float on top of water?
T	F	10. Nitrile glove material is superior to PVC glove material when I am trying to protect my hands from benzene exposure?

Personal Protective Learning Exercise
Brieser Construction
Answers

T	F	1. Benzene is extremely flammable?
T	F	2. Exposure to benzene does not cause cancer?
T	F	3. Routes of entry to benzene exposure are: inhalation, ingestion, skin contact and eye contact?
T	F	4. Symptoms of overexposure may include the following: Dizziness, excitation, pallor, followed by flushing, weakness, headache, breathlessness, chest constriction. Irritation of eyes, skin, nose, respiratory system. Nausea, staggered gait, fatigue?
T	F	5. If benzene contaminated liquid got into your eyes, you should flush with water for 5 minutes? <i>You will flush for a minimum of 15 minutes</i>
T	F	6. Benzene is flammable. I should have the proper fire extinguisher at the jobsite?
T	F	7. The ACGIH TLV TWA for Benzene is 1 ppm? <i>It is .5 ppm pg. 3</i>
T	F	8. The Vapor Density of Benzene is 2.7 when compared to air at 1.0 this information found on the Safety Data Sheet tells me that vapors from benzene in an excavation are likely to settle at the bottom?
T	F	9. The Specific Gravity of Benzene is .88 when compared to water at 1.0 this information found on the Safety Data Sheet tells me that benzene liquid will float on top of water?
T	F	10. Nitrile glove material is superior to PVC glove material when I am trying to protect my hands from benzene exposure?



Section 37
Safety Health
and
Environmental
Manual

2025

Hydrogen Sulfide

//BRIESER CONSTRUCTION /GENERAL CONTRACTORS		Developed:	3/19/2013
		Revised:	9/27/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	06
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Hydrogen Sulfide		
CROSS REFERENCE:	OSHA 29CFR1910.1028 ACGIH, 2011., in TLV TWAs and BEIs		

Hydrogen Sulfide (H₂S)

PURPOSE

This standard will outline the protective measures needed when working inside oil refineries or other sites that have the potential for exposure to Hydrogen Sulfide. Section 26 of the Brieser SH&E Manual will detail the procedures for assessing risk for health issues such as Hydrogen Sulfide exposure.

SCOPE

To define the requirements, responsibilities, and procedures necessary to reduce the risk of our employees to Hydrogen Sulfide gas exposure.

RESPONSIBILITIES

The Program Administrator: Brieser Safety Director

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.
- Ensuring that employees have available to them initial and refresher training on the use of this policy.
- Maintaining training records for all employees included in the training sessions.

Project Managers, Superintendents and Foremen

These people are responsible for:

- Ensuring that all employees working at site that has the potential for exposure to Hydrogen Sulfide gas be trained in this standard.
- Providing training in the signs and symptoms of H₂S exposure to workers on site
- Ensure employees are familiar with project site alarms for Hydrogen Sulfide.
- Ensure all personal monitors and testing equipment is functioning properly, calibrated and assigned a competent user.
- Ensure that all supervision is trained in emergency procedures when an employee exhibits symptoms consistent with possible overexposure to H₂S.

//BRIESER CONSTRUCTION /GENERAL CONTRACTORS		Developed:	3/19/2013
		Revised:	9/27/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	06
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Hydrogen Sulfide		
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Employees

- Understanding common signs and symptoms of H₂S exposure
- Review the H₂S Safety Data Sheet before work commences.
- Understand the routes of entry and exposure to H₂S.
- Report any rotten egg smells while at jobsite.
- Be aware that each client or customer has their own set of emergency plans. Consult the Brieser site specific safety plan before working at new facility.
- If a H₂S personal monitor alarms, evacuate the area, notify a representative from the customer facility, and call your supervisor.

GENERAL

Hydrogen sulfide (H₂S) is the chemical compound with the formula H₂S. It is a colorless gas; it is heavier than air, very poisonous, corrosive, flammable, and explosive. In concentrations less than 100 ppm, H₂S has an offensive odor like rotten egg, but at approximately 100 ppm, loss of the sense of smell occurs.

Hydrogen sulfide is introduced into the refinery by sour crude and may be found throughout most of the operating areas. Hydrogen sulfide is normally handled in closed systems with exposure occurring only when opening process equipment for gauging, sampling, repairs, draining process water from vessel accumulator boots, or draining petroleum tank bottoms.

Brieser construction will employ the American Conference of Governmental Industrial Hygienists (ACGIH) values. The permissible exposure over an 8-hour workday is defined as the TLV TWA or Threshold Limit Value Time Weighted Average. The TLV TWA for H₂S is 1 ppm. The STEL or Short-Term Exposure Limit is defined as a 15-minute exposure. The STEL for H₂S is 5 ppm. All Brieser H₂S personal monitors are set to alarm at 5 ppm for both STEL and TWA as the limit of detection on current models of gas meters cannot meet the 1 ppm TWA limit. If either the TLV TWA or the STEL are expected to be met or exceeded, additional monitoring requirements, medical surveillance, and annual employee training will be needed.

HEALTH HAZARDS

Vapors are extremely hazardous and are absorbed through the mucous membranes of the respiratory tract causing respiratory paralysis and suffocation. Symptoms of overexposure include headache, fatigue, irritability, and gastrointestinal problems. Causes strong eye irritation and some skin irritation. Loss of sense of smell at 100 ppm, drowsiness, loss of consciousness, respiratory failure, or death can result from exposure above 100 ppm.

//BRIESER CONSTRUCTION /GENERAL CONTRACTORS		Developed:	3/19/2013
		Revised:	9/27/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	06
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CROSS REFERENCE:	OSHA 29CFR1910.1028 ACGIH, 2011., in TLV TWAs and BEIs		

EMERGENCY FIRST AID

Eye Contact – Flush eyes thoroughly with water for at least 15 minutes. Call Fire and Safety for immediate medical assistance.

Skin Contact – Wash contact areas with soap and water.

Inhalation – Remove the victim from further exposure. Rescuer must wear properly fitted self-contained breathing apparatus before attempting rescue. If breathing has stopped, use artificial respiration, administer supplementary oxygen if available, and call Fire and Safety for immediate medical assistance.

EXPOSURE LIMITS

TLV TWA: 1 ppm

STEL: 5 ppm

PERSONAL MONITORING

- Every Brieser employee wears a personal monitor that measures the concentration of H₂S gases if in areas that have the potential for exposure to H₂S gas. Each monitor is bumped/calibrated every day against a primary calibration gas. All bumps and calibrations are recorded onto a flash drive located in each calibration unit. These flash drives are downloaded into an excel spreadsheet from each individual calibration unit at least quarterly by the Brieser Safety Department. A checkmark ✓ must be verified on the personal monitor before the employee can use it.
- Each monitor is set to be calibrated every 30 days or if a monitor fails a daily bump test.
- Personal H₂S monitors must be worn in the users breathing zone (collar or outside shirt pockets). NOTE: H₂S MONITORS MAY NOT BE WORN ON THE BACKSIDE A SHIRT COLLAR OR CLIPPED ONTO THE HARDHAT AS THE HARDHAT CAUSES THE CLIP TO WEAR OUT LOSE THE ABILITY TO GRIP ONTO CLOTHING/OBJECTS WHICH CAUSES MONITORS TO FALL OFF. Personal H₂S monitors should not be used to conduct gas checks.

//BRIESER CONSTRUCTION /GENERAL CONTRACTORS		Developed:	3/19/2013
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PERSONAL MONITORING continued

- If a personal H₂S / a customer's Fixed alarm sounds:
 - Notify personnel in the surrounding area.
 - Immediately leave the area, exiting upwind or crosswind. Report all occurrences per site regulations.
 - Notify supervisor of alarm and the peak reading on the meter,
 - Notify Fire and Safety if needed to investigate.
 - Return to area only when determined to be safe to do so or with proper respirator.
 - Frequent alarms from the same activity are to be reported and investigated to evaluate the need for control measures.
 - Ensure all meter alarms are reported as Near Misses.
 - Should a worker experience a valid personal alarm exceeding 50 ppm (OSHA peak) and was not wearing respiratory protection at the time of the alarm, he/she must be removed from any other H₂S exposure for the remaining of the work shift, unless respiratory protection is to be worn.

TRAINING

All Brieser employees who work inside facilities that have the potential for H₂S exposures shall have H₂S Awareness training.

1. Initial training shall include awareness of H₂S safety and its health effects, emergency response procedures, and proper use of personal protective equipment (when applicable). This is satisfied by completing Brieser's Orientation I.
2. Annual H₂S awareness training shall be provided by completing an annual Three Rivers computer-based training module or site orientation training for the facility the employee will be working in.
3. Refresher training may also be satisfied by completing the section 37 test located at the end of this policy.

//BRIESER CONSTRUCTION /GENERAL CONTRACTORS		Developed:	3/19/2013
		Revised:	9/27/2023
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METHODS OF COMPLIANCE

Where feasible, H2S exposure must be controlled through engineering controls and work practices in preference to respiratory protection. Respirators can and should be used to control exposures that are intermittent or caused by emergency conditions and while awaiting engineering controls.

In cases of exposure levels above the limit, a written plan to reduce that exposure will be prepared. This plan will be explained in the monitoring results letter sent to the exposed employee. The area superintendent will receive a copy of this notice and will be responsible for the prompt implementation of this plan.

RESPIRATORY PROTECTION

Respirators shall be provided at Company expense and used by the employee in the following circumstances:

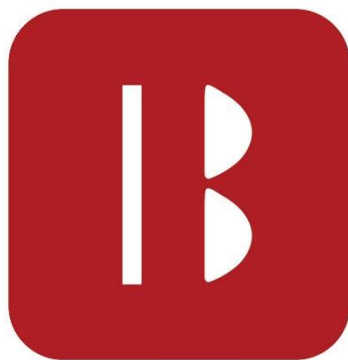
- During the time necessary to install and/or implement feasible engineering controls
- Where feasible engineering controls and work practices by themselves are not sufficient to reduce employee exposure to or below the PEL.
- During intermittent or limited duration work operations where engineering controls and work practices are not feasible or required
- In emergencies.

The Brieser SH&E Manual Section 7 Respiratory Protection shall be referenced if the use of respirators will be used to control H2S exposure on the jobsite.

Generally, for exposures in atmospheres between 1 and 5 ppm, the appropriate respirator will be a negative pressure respirator with organic vapor cartridges. Filter elements must be changed at the end of the service life or at the beginning of each shift, whichever comes first.

PERSONAL PROTECTIVE EQUIPMENT

Brieser does not open any process equipment therefore the exposures to H2S will most likely be from impacted soils or from process leaks. If a situation arises that a Brieser employee will be working in an area contaminated with H2S gas, a specific plan will be developed and approved by the Safety Department.



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 37
H₂S EXPOSURE
SUB-SECTION TRAINING**

Hydrogen Sulfide Exercise

Brieser Construction

Score: %

Employees Name:		Date:	
Company:		Instructor:	
Employee #:		Job Title:	

Answer the following questions “True” or “False” by circling the appropriate letter.

T	F	1. H ₂ S is heavier than air?
T	F	2. H ₂ S gas always smells like rotten eggs?
T	F	3. Exposure to H ₂ S gas may cause respiratory paralysis & suffocation?
T	F	4. Symptoms of overexposure may include: headache, fatigue, irritability, and gastrointestinal problems?
T	F	5. If H ₂ S contaminated liquid got into your eyes, you should flush with water for 5 minutes?
T	F	6. All Brieser personal monitors must be bumped or calibrated against a primary calibration gas before use daily?
T	F	7. The ACGIH TLV TWA for H ₂ S is 1 ppm?
T	F	8. A checkmark √ must be verified on the personal monitor before the employee can use it?
T	F	9. If my personal H ₂ S monitor alarms I must evacuate the area upwind?
T	F	10. If my personal H ₂ S monitor alarms I must tell my supervisor and complete a Near Miss report?

Hydrogen Sulfide Learning Exercise

Brieser Construction

Answers are in bold type.

T	F	1. H ₂ S is heavier than air?
T	F	2. H ₂ S gas always smells like rotten eggs? >100 ppm loss of the sense of smell occurs. The gas deadens your sense of smell
T	F	3. Exposure to H ₂ S gas may cause respiratory paralysis & suffocation?
T	F	4. Symptoms of overexposure may include: headache, fatigue, irritability, and gastrointestinal problems?
T	F	5. If H ₂ S contaminated liquid got into your eyes, you should flush with water for 5 minutes? 15 minutes or longer is the correct timeframe
T	F	6. All Brieser personal monitors must be bumped or calibrated against a primary calibration gas before use daily?
T	F	7. The ACGIH TLV TWA for H ₂ S is 1 ppm?
T	F	8. A checkmark √ must be verified on the personal monitor before the employee can use it?
T	F	9. If my personal H ₂ S monitor alarms I must evacuate the area upwind? Crosswind and then upwind.
T	F	10. If my personal H ₂ S monitor alarms I must tell my supervisor and complete a Near Miss report?



Section 38
Safety Health
and
Environmental
Manual

2025

Spill Prevention

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/12/2015
		Revised:	10/2/2018
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Spill Prevention & Response	
CROSS REFERENCE:	• 29 CFR 1910.120 Hazardous Waste Operations & Emergency Response • 29 CFR 1926.65 Hazardous Waste Operations and Emergency Response. • OSHA Instruction CPL 2.94, OSHA Responses to Significant Events of Potentially Catastrophic Consequences • 29 CFR 1910.1200 Hazard Communication		

SPILL PREVENTION AND RESPONSE

PURPOSE

The purpose of this plan is to document spill prevention and response requirements. Due to the type of work and the materials involved, many activities carried out by Brieser Construction Company have the potential for accidental spills. The following standard operating procedures apply to spill prevention and response. **Contact Brieser President @ (815) 955-3972, any time a spill occurs.**

SCOPE

This procedure applies to all Brieser Construction operations. When work is performed on a non-owned or client's site, the client's program shall take precedence; however, this document covers Brieser Construction. Employees and Sub-Contractors and shall be used on owned premises, or when a client's program does not exist or is less stringent.

DEFINITIONS:

Minor Spills – Small quantities of oil, gasoline, paint, or other material that are small enough to be controlled by a first responder upon discovery of the spill.

Semi-Significant Spills – Spills that can be controlled by a first responder with help from other Brieser personnel.

Significant or Hazardous Spills – Spills that cannot be controlled by Brieser Construction personnel.

SPILL RESPONSE

In the event of a spill please contact, Brieser President @ (815) 955-3972 IMMEDIATELY.

CLEAN THE AREA

Clear the location of all persons except those needed to deal with the spill.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/12/2015
		Revised:	10/2/2018
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DETERMINE EXTENT OF SPILL

Determine the nature of the spill, its size, and the source of the spill. Use the SDS sheets to determine the seriousness of the spill and type of precautions is necessary in dealing with the spill.

PROCEDURES

Spill Prevention

- Keep work areas neat and well organized.
- Areas where chemicals may be used or stored must be maintained using good housekeeping best management practices. This includes, but is not limited to, clean and organized storage, labeling, and secondary containment where necessary.
- Maintain Safety Data Sheet (SDS) for each hazardous chemical.
- Provide tight fitting lids for all containers.
- Keep containers clearly labeled according to Brieser Construction hazardous chemical labeling requirements.
- Store containers, drums, and bags away from major traffic routes.
- Inspect storage containers regularly for signs of leaking or deterioration.
- **IMMEDIATELY** replace or repair leaking storage containers.
- Use care when transferring from one container to another.
- Use powered equipment or get assistance when moving materials to and from a storage area. Use care to prevent puncturing containers with the equipment.
- Chemical substances should be stored in proper containers to minimize the potential for a spill. Whenever possible, chemicals shall be kept in closed containers and stored so they are not exposed to stormwater.
- Do not wash down or hose down any outdoor work areas or trash/waste container storage areas except where wash water is captured and discharged into the sanitary sewer (if approved).
- Conduct periodic inspections to ensure that materials and equipment are being handled, disposed/recycled, and stored correctly.
- Provide adequate spill kits for trucks / job sites with sufficient equipment and supplies necessary for each work area where the potential for spills or leaks exists.
- Inspect each spill kit or locker regularly and after each spill response. Replace any spent supplies or repair any equipment that is worn or not suitable for service.
- Stock adequate personal protective equipment.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/12/2015
		Revised:	10/2/2018
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SAFETY

Always consider safety. Anticipate and avoid all likely hazards. Never approach, contact, or sample an unknown substance. If a highly toxic or flammable substance is discovered, employees should leave the immediate area and contact Safety. If there is any question about a substance, contact the appropriate identified response authority or other designated representative at your facility or jobsite.

PROCEDURES.

- Stop the leading edge of the spill. Block or divert the spill to avoid discharge to the storm sewer system and to minimize the area requiring cleanup.
- Determine the source of the spill and stop the spill at its source by closing a valve, plugging a leak, or setting a container upright. Transfer material from a damaged container.
- Identify the material and volume spilled. Contact the appropriate identified response authority or other designated representative if you cannot identify the material and its properties.
- Refer to the **SDS** to determine appropriate personal protective equipment, such as gloves and safety glasses and appropriate cleanup methods.
- Clean up spills immediately to prevent spreading of wastes by wind, rain, and vehicle traffic and potential safety hazards.
- Use sand absorbents, socks, pillows, or pads to quickly capture spilled liquid and properly dispose of all clean-up materials. Use dry clean-up methods only.
- All spill response material must be segregated and containerized. Do not mix spill pads and pillows with granular absorbent, etc. Do not mix contaminated disposable personal protective equipment (i.e., gloves, shoe covers, coveralls, etc.) with other spill response clean-up debris. Do not mix contaminated soils with anything else. (Safety Director will advise)
- Complete all necessary reports.

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SPILL REPORTING

There are certain hazardous substances listed in 40 CFR 302.6 by the U.S. Environmental Protection Agency that require immediate notification to local, state, or federal authorities in the event of a spill. Depending upon the hazardous substance involved and the amount or quantity of the spill, which occurs within any 24-hour period, it may be necessary to notify the federal government, local public safety officials, such as police or fire department, and specific agencies of local or state government. In cases of this type, every effort should be made to contact Brieser's President (815) 955-3972 who will handle the required notification.

- A spill of any quantity chemical, oil, petroleum product, or sewage that enters waters of our facilities or clients' facilities (that include surface water, ground water, and dry gullies and storm sewers leading to surface water) must be reported immediately to Brieser Construction Safety Department.
- Release of a substance into a storm drain, or onto a parking lot or roadway as part of a storm sewer leading to surface water, is reportable. However, if the material can be contained and cleaned within the storm sewer system to the degree that a subsequent flow in the storm sewer will not flush the substance to waters of the State, it may not need to be reported.

EMPLOYEE TRAINING

All Brieser employees will be trained on proper communication, techniques to avoid a spill and spill response. Training shall include use of spill containment's, use of absorbents, and proper disposal techniques based on possible chemicals utilized on projects.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	4/12/2015
		Revised:	10/2/2018
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DISPOSAL

Absorbents

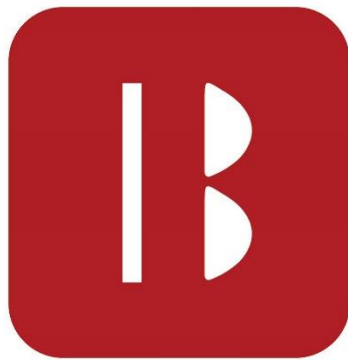
NOTE:

- Cleaning up spills and releases of chemicals and petroleum products generally involves the use of materials such as kitty litter type substances (known as "quick dry," "speedy dry," or "oil dry"), clay absorbent, pads, pillows, booms, towels, and other such absorbent materials. Sawdust is also sometimes used as an absorbent. Used absorbents, therefore, may be subject to the hazardous waste requirements under the Resource Conservation and Recovery Act if: (1) they are contaminated with a hazardous material (e.g., solvents or gasoline), or (2) they exhibit a hazardous waste characteristic such as ignitability, reactivity, toxicity or corrosivity

Records

The following records could be used to document activities performed:

- Records of any major spills and the action taken.
- Records of employee training with sign-in sheet.



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 38
SPILL PREVENTION & RESPONSE
TRAINING**

Brieser Construction
Section 38 Test

Score: %

Score: %

Employees Name:
Company:

Date:
Instructor:
Job Title:

T	F	1. An ordinary spill is one that can be safely handled by the workers and is not an emergency. Such employees should have the proper equipment and training under other OSHA standards such as the Hazard Communication Standard?
T	F	2. Minor Spills are small quantities of oil, gasoline, paint, or other material that are small enough to be controlled by a first responder upon discovery of the spill?
T	F	3. In order to determine the nature of the spill, its size, and the source of the spill. Brieser competent person shall use the SDS sheets to determine the seriousness of the spill and type of precautions is necessary in dealing with the spill?
T	F	4. Depending upon the hazardous substance involved and the amount or quantity of the spill, it is not necessary to notify the federal government, local public safety officials?
T	F	5. After a spill and clean up the used absorbents, are not subject to the hazardous waste requirements under the Resource Conservation and Recovery Act?
T	F	6. After you discover a chemical waste container that has a minor leak, the 1st procedural step should be to stop the leading edge of the spill. Block or divert the spill to avoid discharge to the storm sewer system and to minimize the area requiring cleanup.
T	F	7. All Brieser employees will be trained on proper communication, techniques to avoid a spill and spill response.
T	F	8. Floor drains and storm drains must be protected in the event of a spill if they are in the spill pathway.
		9. Check the appropriate steps to follow in the event of an incidental spill? ☐ Determine the source of the spill and stop the spill at its source by closing a valve, plugging a leak, or setting a container upright. Transfer material from a damaged container ☐ Identify the material and volume spilled. Contact the appropriate identified response authority or other designated representative if you cannot identify the material and its properties. ☐ Refer to the SDS to determine appropriate personal protective equipment, such as gloves and safety glasses and appropriate cleanup methods. ☐ Clean up spills immediately to prevent spreading of wastes by wind, rain, and vehicle traffic and potential safety hazards. ☐ None of the above procedures.
		10. Spill cleanup kits should be stored: ☐ Near our break areas. ☐ Where the greatest threat of an oil spill exists ☐ In every Brieser Truck.

Employees Name:	ANSWERS	Date:
Company:		Instructor:
		Job Title:

T	F	1. An ordinary spill is one that can be safely handled by the workers and is not an emergency. Such employees should have the proper equipment and training under other OSHA standards such as the Hazard Communication Standard?
T	F	2. Minor Spills are small quantities of oil, gasoline, paint, or other material that are small enough to be controlled by a first responder upon discovery of the spill?
T	F	3. In order to determine the nature of the spill, its size, and the source of the spill. Brieser competent person shall use the SDS sheets to determine the seriousness of the spill and type of precautions is necessary in dealing with the spill?
T	F	4. Depending upon the hazardous substance involved and the amount or quantity of the spill, it is not necessary to notify the federal government, local public safety officials?
T	F	5. After a spill and clean up the used absorbents, are not subject to the hazardous waste requirements under the Resource Conservation and Recovery Act?
T	F	6. After you discover a chemical waste container that has a minor leak, the 1st procedural step should be to stop the leading edge of the spill. Block or divert the spill to avoid discharge to the storm sewer system and to minimize the area requiring cleanup.
T	F	7. All Brieser employees will be trained on proper communication, techniques to avoid a spill and spill response.
T	F	8. Floor drains and storm drains must be protected in the event of a spill if they are in the spill pathway. 9. Check the appropriate steps to follow in the event of an incidental spill? ☒ Determine the source of the spill and stop the spill at its source by closing a valve, plugging a leak, or setting a container upright. Transfer material from a damaged container ☒ Identify the material and volume spilled. Contact the appropriate identified response authority or other designated representative if you cannot identify the material and its properties. ☒ Refer to the SDS to determine appropriate personal protective equipment, such as gloves and safety glasses and appropriate cleanup methods. ☒ Clean up spills immediately to prevent spreading of wastes by wind, rain, and vehicle traffic and potential safety hazards. ☐ None of the above procedures. 10. Spill cleanup kits should be stored: ☐ Near our break areas. ☐ Where the greatest threat of an oil spill exists ☒ In every Brieser Truck.



Section 39
Safety Health
and
Environmental
Manual

2025

Best Practice Guidelines

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	6/17/2015
		Revised:	
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	01
		Reviewed:	12/17/24 KMC
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CROSS REFERENCE:	OSHA BEST PRACTICE GUIDELINES FOR CONSTRUCTION		

BRIESER CONSTRUCTION BEST PRACTICE GUIDELINES

Brieser Construction Company Best Practices Section is provided with one goal in mind: to prevent accidents and injuries at our jobsites. This goal will be accomplished by helping Brieser employees to identify hazards that are specific to our line of work (and a particular Civil Construction) and raise awareness of these hazards and the risks associated with them. Furthermore, these Best Practice Guidelines (included and future additions) will assist our employee's, regardless of the size or complexity of their operations, to create guidelines and safe work practices for their own operations that will contribute to safe work environments. It is not the intent of Brieser Construction or of this Best Practices to create mandatory policy or procedures that binds our employees to a certain way of doing things. The Best Practice material is provided primarily as a guide.

DEFINITION OF BEST PRACTICE

We define a Best Practice as a process or method that can be applied throughout the construction industry that will assist Brieser Construction Company in reducing the frequency of incidents and near misses.

This Procedures contains the following Best Practices:

Say Hi Say Bye

360° Walk Around

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		Revised:	
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SAY HI SAY BYE

The purpose of the “**Say Hi – Say Bye**” Best Practice is to improve the safety of Brieser personnel and equipment when vehicles are required to move, and the use of a spotter is beneficial. The goal is to prevent accidents and injuries that could occur due to blind spots, and undetected movement of personnel and equipment. This will be achieved by improved communication between the driver and the spotter. Use of this document will encourage a standard set of directional signals and rules of conduct.

The signals included are not meant to be all encompassing but provide the minimum basic signals for the driver and spotter. Other signals needed in particularly difficult areas must be discussed and agreed upon in advance by the driver and the spotter.

GENERAL RULES FOR DRIVERS AND SPOTTERS

1. Never be in a rush when backing or parking!
2. Do not start to back or park when unsure of the area.
3. Do not put the vehicle into reverse gear until it has come to a complete stop.
4. When it is dark outside use the side and rear spotlights when backing to light the area.
5. If the vehicle has a backup alarm that can be disengaged, it should always be in the on position before backing the vehicle.

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SPOTTER

Spotters are a proven method of protecting employees on foot behind vehicles with an obstructed view, but spotters themselves can be at risk for injury or even death. Brieser employers must implement the following actions to help keep our spotters safe:

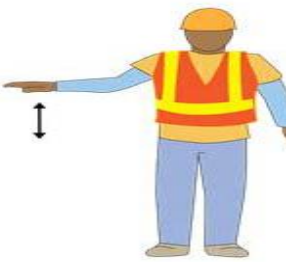
- **Say Hi Say Bye best practice.-Pass out Brieser wallet card to driver and review.**
- Ensure that spotters and drivers agree on hand signal procedures before backing up.
- Check gate before & after loading and create safe zone around truck for spotting duties.
- Instruct spotters to always maintain visual contact with the driver while the vehicle is backing.
- Instruct drivers to stop backing immediately if they lose sight of the spotter.
- Do not give spotters additional duties while they are acting as spotters.
- Instruct spotters not to use personal mobile phones, personal headphones, or other items which could pose a distraction during spotting activities.
- Provide spotters with high-visibility clothing, especially during night operations.
- Under circumstances where no Brieser employee are available to assist, the driver shall park the vehicle, get out, and make a complete (360 degree) survey of the space around all four sides of the vehicle to determine if any obstructions are present before proceeding to back the vehicle.
- Spotters are never permitted to ride the bumpers or running boards while the vehicle is in motion. The spotter should be in a visible safe zone positioning him/herself ten (10) to fifteen (15) feet at the left rear of the vehicle.

SIGNALS

When it is necessary to move a vehicle, it is important that everyone understands exactly what is being done. This will ensure the safety of everyone involved in the operation. There should be no confusion about the hand signals to be used. Make sure workers involved understand who is directing the move and the procedures to be followed. Review all the hazards associated with this particular move and the precautions taken to minimize or eliminate them. It is also very important to designate one spotter so there is no confusion in the signaling procedures. The following represent FIVE (5) basic signals to assist in vehicle repositioning.

Purpose and Action Descriptions The driver and the spotter share responsibility for safe vehicle movement during repositioning. The spotter takes a leadership role during repositioning.

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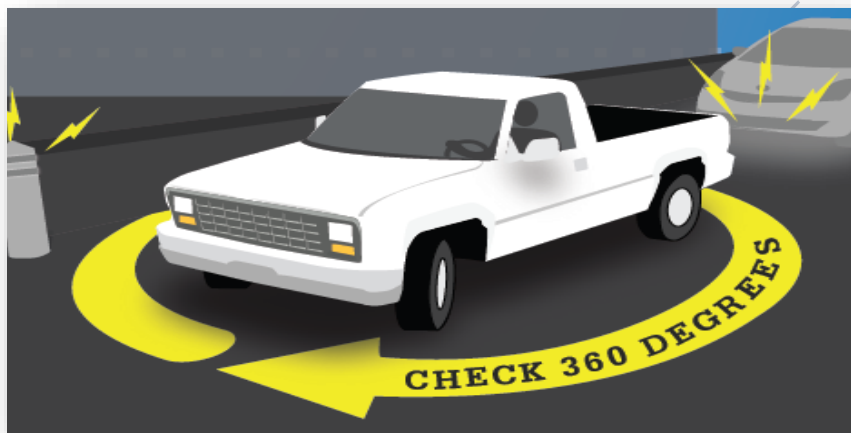
Suggested Spotting Signals				
 Back up		 Back, turn left		 Back, turn right
 Move forward	 Distance left to back	 Slow down	 Stop	

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360 DEGREE WALK AROUND

Brieser Construction Company employees use a 360 Degree Walk around to identify hazards any time they move their vehicles. The focus is on the prevention of the most common collision on our job sites. **Backing into and Hitting Stationary Objects.**

At Brieser Construction we are promoting “**360° Walk Around**” a Best Practice that encourages Brieser Drivers to visually perform a 360 degree walk around their vehicle to ensure there are no pedestrians or obstacles.



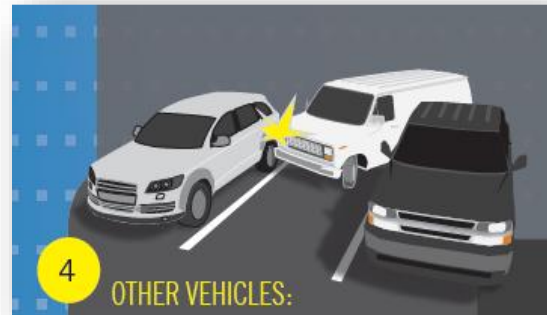
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HOW DO AVOID COMMON LOW SPEED COLLISIONS

1. Before you back up, perform a visual check of the area. If you are not sure it is safe, exit your vehicle and check for hazards.



2. Be aware of your clearances. Check for any obstructions behind, to the sides, above and below your vehicle.



3. Maintain a safe space cushion when arriving to or departing from the fuel island.



4. Be careful of other vehicles around you when arriving to or departing from a parking space or job site.



5. Check your mirrors for hazards on the sides of your vehicles.



Section 40
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Powered Industrial Trucks

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	11/17/2015
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POWERED INDUSTRIAL TRUCKS

PURPOSE

All employees who operate or anticipate operating a forklift during their employment must complete forklift safety training and comply with this program. The following requirements are incorporated into the forklift safety program.

SCOPE

RESPONSIBILITIES

The Program Administrator: Brieser Safety Director

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.
- Ensuring that employees receive initial, refresher training or the required 3 yr. evaluation.
- Maintaining training records for all employees included in the training sessions.
- Ensuring all necessary inspections are maintained by conducting field audits.

Equipment Manager

These people are responsible for:

- Ensuring daily use inspections are conducted.
- Ensuring that forklifts are repaired when malfunctioning.
- Maintaining documentation for any attachments that are used on forklifts.
- Maintaining forklift equipment
- Ensuring manufacturer's recommended preventative maintenance is performed.

Project Managers, Superintendents and Foremen

These people are responsible for:

- Review any current revision of the Powered Industrial Truck policy prior to implementation.
- Ensuring personnel assigned to operate Forklifts are sufficiently trained.
- Performance of proper planning, pre-use inspection, safe and correct forklift loading practices.
- Ensuring employees receive their 3 yr. evaluation.
- Ensuring employees attend refresher training.

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Forklift Operator

These people are responsible for:

- Not engaging in any practice that could divert attention while engaged in forklift operation.
- Being physically or otherwise fit for the proficient and safe operation of any forklifts under his/her controls.
- Attend and pass forklift safety training.
- Attend and pass forklift refresher training.
- Attend and demonstrate an operator evaluation at least every three years.
- Operate and maintain their forklift in a safe manner according to their training.
- Document a daily equipment inspection form and report all problems to their supervisor.

DEFINITIONS

Powered Industrial Trucks – The American Society of Mechanical Engineers (ASME) defines a powered industrial truck as a mobile, power-propelled truck used to carry, push, pull, lift, stack, or tier materials. Powered industrial trucks, often called forklifts or lift trucks, can be ridden, or controlled by a walking operator. Excluded from the OSHA standard are vehicles used for earth moving or over-the-road haulage. Specialized equipment used in the construction industry includes rough terrain straight-mast and extended-reach forklift trucks.

Refresher Training – Refresher training is required when the operator has been observed driving unsafely, been involved in an accident or near-miss, received an evaluation that indicates unsafe operation, is assigned to drive a different type of truck, or if a workplace condition affecting safe operation changes. An operator evaluation is required after refresher training.

Operator Training – Training shall consist of a combination of formal instruction (e.g., lecture, discussion, interactive computer learning, video tape, written material), practical training (demonstrations performed by the trainer and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace.

Certified – Brieser will certify that each operator has been trained and evaluated as required by the standard. The certification includes the name of the operator, the date of training, the date of evaluation, and the identity of the person(s) performing the training or evaluation.

Material Handling – The process of moving material using devices that are not classified as rigging and lifting tools. (i.e., be moving material using carts, forklifts, pallet jacks, dollies, and rope).

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GENERAL REQUIREMENTS

- All certified and trained operators must ensure proof of current authorization/license by verifying on their status on the company website via the training matrix.
- Store and handle liquid fuels such as gasoline and diesel in accordance with Flammable and Combustible Liquids Code.
- Turn off engine before filling fuel tanks.
- Ensure the seat belt is securely fastened before operation.
- Do not stand or pass under the elevated portion of any forklift.
- Passengers are prohibited from riding on forklifts.
- Do not place arms or legs between the uprights of the mast or outside the running lines of the truck.
- A forklift is considered unattended when the operator is 25 feet or more away from the vehicle and it remains in his view, or whenever the operator leaves the vehicle, and it is not in his view. When a forklift is left unattended: fully lower load-engaging means, neutralize controls, shut off power and set brakes.
- When the forklift operator is dismounted, within 25 feet and in view of the forklift, then fully lower the engaging means, neutralize the controls, and set the brakes to prevent movement.
- Maintain a safe distance from the edge of ramps or platforms while on any elevated dock or platform.
- Forklifts are not to be used to open or close freight doors.
- Where general lighting is less than two lumens per square foot, provide auxiliary directional lighting on the truck.
- Fixed jacks may be necessary to support a semi-trailer and prevent upending during the loading or unloading when the trailer is not coupled to a tractor.

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GENERAL REQUIREMENTS continued

- Set brakes and block wheels to prevent movement of trucks and trailers while loading or unloading. The truck operator is required to check the blocks personally.
- Check the flooring of trucks and trailers for breaks and weakness before loading or unloading.
- Check for sufficient headroom under overhead hazards such as lights, pipes, or sprinkler systems.
- Use only approved forklifts in hazardous locations.
- Whenever a truck is equipped with a lifting carriage or forks for lifting personnel, take the following precautions: use safety platform firmly secured to the lifting carriage and/or forks, provide means whereby personnel on the platform can shut off power to the truck, provide protection from falling objects, and keep fire aisles, access to stairways and fire equipment clear.
- Whenever a truck is equipped with attachments that are designed for lifting loads. Section 33 may need to be consulted if rigging equipment will be involved. All truck attachments shall be inspected and designed for the specific truck you are using.

HANDLING AND MOVING WITH THE LOAD

- Only pick up stable and safely arranged loads within the rated capacity of the forklift.
- Adjust long or high (including multiple tiered) loads, which may affect capacity.
- Square up on the center of the load and approach it straight with forks in traveling position.
- Stop when the tips of the forks are about a foot away from the load.
- Level the forks and slowly drive forward until the load is resting against the backrest.
- Lift the load high enough to clear whatever is under it. Carefully tilt the mast back to stabilize the load.
- Starts and stops should be gradual.

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HANDLING AND MOVING WITH THE LOAD continued.

- Observe all traffic regulations and always keep forklift under control.
- Reduce speed and sound horn at cross aisles and other locations where vision is obstructed.
- Pedestrians have the right-of-way. Always be aware of their presence especially in aisles and doorways.
- Do not drive forklift up to anyone standing in front of a bench or other fixed object.
- Keep a clear view of the path of travel. Always look in the direction of travel.
- Always travel with a load tilted slightly back for added stability. Do not lift or lower the load when the forklift is in motion.
- Travel with the load at a height of four to six inches at the tips and two inches at the heels to clear most uneven surfaces and avoid debris.
- Horseplay is not permitted.
- Slow down for wet, slippery, or uneven floors.
- Avoid running over loose objects on the roadway surface.
- Properly secure dock boards and bridge plates before driving over them. Drive over slowly and never exceed their rated capacity.
- Drive in reverse rather than looking around the load if you are unable to see over it.
- Travel down inclines in reverse and up inclines going forward. Ascend and descend grades slowly. If the grade is in excess of 10 percent, drive with load up grade.

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STEERING

- Never make a turn at normal traveling speed, always slow down to maintain balance.
- Stay wide when turning into an aisle to help clear the sides and square up with the destination.
- Allow enough room for forks to clear the sides before turning, when backing out of an aisle.

SETTING THE LOAD DOWN

- Square up and stop about a foot away.
- Level the forks and then drive the rest of the way in.
- Lower the load.
- Tilt the forks slightly forward to avoid hooking the load.
- Look over both shoulders and back straight out until the forks clear the pallet.

BATTERY HANDLING

- Locate battery charging installations in designated areas that provide flushing and neutralizing of spilled electrolyte, fire protection, protection of charging apparatus, damage by trucks and adequate ventilation for dispersal of battery gassing fumes.
- Battery handling equipment and a carboy tilter or siphon for handling electrolyte should be provided.
- Smoking is prohibited in the designated area.
- When charging batteries, pour acid into water, not water into acid.
- Properly position forklift and apply brake before attempting to change or charge batteries.
- Properly position and secure reinstalled batteries in the forklift.

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BATTERY HANDLING continued

- Ensure vent caps are functioning and the battery (or compartment) cover(s) are open to dissipate heat.
- Prevent open flames, sparks or electric arcs in battery charging areas.
- Keep tools and other metallic objects away from the top of uncovered batteries.

LP GAS HANDLING

- Storage of fuel containers must be outside.
- The container shutoff valve must be closed after the shift or when the vehicle is out of service.
- After changing fuel containers, the driver should check for leaks.
- A properly adjusted engine burning L-P gas will generally produce a substantially lower concentration of carbon monoxide.
- If the carbon monoxide concentration is suspicious, air monitoring will be utilized. The ACGIH TLV is 50 PPM of carbon monoxide for an eight-hour exposure.

INSPECTION & MAINTENANCE

- Ensure that a Daily Equipment Inspection is conducted prior to use.
- All repairs and deficiencies noted on the inspection document shall be reported to your supervisor to determine if the truck should be taken out of service.
- Only employees authorized and trained in the proper process of forklift maintenance can do maintenance on company units.
- Do not use open flames to check for electrolyte level in storage batteries or liquid fuel level in tanks.
- Conduct repairs to fuel and ignition systems of forklifts, which involve fire hazards in designated locations.

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INSPECTION & MAINTENANCE continued

- Disconnect batteries prior to repairing electrical systems.
- Use only replacement parts equivalent with those in the original design.
- Do not alter the relative positions of various parts from what they were received from the manufacturer. Do not add any parts not supplied by the manufacturer nor delete any parts supplied by the manufacturer (no additional counterweighing of forklifts unless approved by the manufacturer).
- Keep forklift mufflers in proper working condition and free of debris.
- Keep the forklift in clean condition, free of lint, excess oil, and grease.
- Never pick up and drive a forklift left for maintenance without checking with maintenance to make sure the service or repair has in fact been completed.

TRAINING PROCEDURE

- Only authorized and trained personnel should be permitted to operate a lift truck.
- Only trained personnel are permitted to operate powered industrial (forklift) trucks. All new operators will receive training which includes formal instruction, practical training, and evaluation of the operator's performance in the workplace. This training will be conducted by a competent trainer and will cover the topics required in OSHA 1910.178 (1) (3). Including:
 - Load Capacity ratings
 - Manufacturer's instructions or Operators' Manual
 - Safe distances from the edge of ramps or platforms
 - Refueling and/or charging or recharging of batteries
 - Visibility limitations during loading and unloading.
 - Prohibited use of additional counterweight
- An evaluation of each powered industrial truck operator's performance shall be conducted at least once every three years. If an operator has previously received training and such training is appropriate to the truck and working conditions encountered, additional training is not required if the operator has been evaluated and found competent to operate the truck safely.

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- Refresher training in relevant topics shall be provided to the operator when:
 - The operator has been observed to operate the vehicle in an unsafe manner.
 - The operator has been involved in an accident or near-miss incident.
 - The operator has received an evaluation that reveals that the operator is not operating the truck safely.
 - The operator is assigned to drive a different type of truck; or
 - A condition in the workplace changes in a manner that could affect safe operation of the truck.
- Certification that each operator has been trained and evaluated will be maintained. The certification will include the name of the operator, the date of the training, the date of the evaluation, and the identity of the person (s) performing the training or evaluation

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Attachment 1- Operator Evaluation Form

Instructions: Use this checklist during the field session to evaluate operator proficiency. It can also be used for period evaluation to ensure that operators are continuing to operate forklifts properly.

Operator Name		Evaluator Name	
Date of Evaluation	Equipment Operated		

OPERATOR BEHAVIORS	RATING				COMMENTS
Pre-use Inspection					
1. Follow Operator’s Daily Checklist.	GOOD	FAIR	POOR	N/A	
2. Look for Damage.	GOOD	FAIR	POOR	N/A	
3. Document all findings on the checklist	GOOD	FAIR	POOR	N/A	
Picking Up the Load					
1. Square up on the center of the load.	GOOD	FAIR	POOR	N/A	
2. Stop with the fork tips about 1 foot from the load.	GOOD	FAIR	POOR	N/A	
3. Clear personnel from the area near the load.	GOOD	FAIR	POOR	N/A	
4. Level the forks; then slowly drive forward until the load contacts the carriage.	GOOD	FAIR	POOR	N/A	
5. Lift the load carefully and smoothly until it is clear.	GOOD	FAIR	POOR	N/A	
6. Tilt the mast back slightly to stabilize the load.	GOOD	FAIR	POOR	N/A	
7. Look over both shoulders.	GOOD	FAIR	POOR	N/A	
8. After out and stopped, lower the load to travel height.	GOOD	FAIR	POOR	N/A	
Traveling					
1. Do not raise or lower the load and forks while traveling.	GOOD	FAIR	POOR	N/A	
2. Maintain a safe speed.	GOOD	FAIR	POOR	N/A	

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3. Observe all traffic rules, warning signs, floor load limits and overhead clearances.	GOOD	FAIR	POOR	N/A	
4. Keep arms and legs inside the forklift.	GOOD	FAIR	POOR	N/A	
5. Follow other vehicles at safe distance.	GOOD	FAIR	POOR	N/A	
6. Slow down when cornering.	GOOD	FAIR	POOR	N/A	
7. Use the horn to alert others.	GOOD	FAIR	POOR	N/A	
8. Travel with the load facing uphill while on a ramp or incline.	GOOD	FAIR	POOR	N/A	
9. Stop smoothly.	GOOD	FAIR	POOR	N/A	
Putting Down a Load					
1. Make sure there is sufficient clearance for the load.	GOOD	FAIR	POOR	N/A	
2. Clear personnel from the area near the load.	GOOD	FAIR	POOR	N/A	
3. Square up to the location; then stop about 1 foot away.	GOOD	FAIR	POOR	N/A	
4. Raise the load to placement level.	GOOD	FAIR	POOR	N/A	
5. Move slowly forward.	GOOD	FAIR	POOR	N/A	
6. If the load is on a pallet, lower it into position and lower the forks further.	GOOD	FAIR	POOR	N/A	
7. Look over both shoulders before backing out.	GOOD	FAIR	POOR	N/A	
8. Back straight out until the forks have cleared.	GOOD	FAIR	POOR	N/A	
9. Lower the forks to traveling position.	GOOD	FAIR	POOR	N/A	
Parking					
1. Fully lower the forks.	GOOD	FAIR	POOR	N/A	
2. Neutralize the controls.	GOOD	FAIR	POOR	N/A	
3. Set the brakes.	GOOD	FAIR	POOR	N/A	
4. Turn off the power.	GOOD	FAIR	POOR	N/A	
5. If parked on an incline, block the wheels.	GOOD	FAIR	POOR	N/A	

BRIESER CONSTRUCTION GENERAL CONTRACTORS		DATE:	PROCEDURE:
		11-17-15	Attachment 1
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		01	13
STANDARD OPERATING PROCEDURE:		Powered Industrial Trucks	
CROSS REFERENCE:	29 CFR 1910.178 Powered Industrial Trucks		

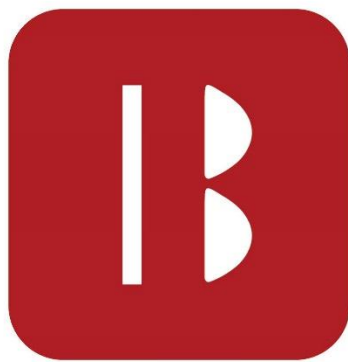
6. Park only in authorized areas.	GOOD	FAIR	POOR	N/A	
Fueling And Battery Recharging					
1. Engine off.	GOOD	FAIR	POOR	N/A	
2. Fire extinguisher nearby.	GOOD	FAIR	POOR	N/A	
3. Proper personal protective equipment worn.	GOOD	FAIR	POOR	N/A	
4. Safe fueling and battery recharging procedures followed.	GOOD	FAIR	POOR	N/A	
5. Spills cleaned up immediately.	GOOD	FAIR	POOR	N/A	

Based on my evaluation, the operator has successfully completed the evaluation and is qualified to operate the following equipment:

Based on my evaluation, the operator has not demonstrated competence in operating the following equipment:

Evaluator Signature: _____

Operator Signature: _____



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 40
POWERED INDUSTRIAL TRUCK
SUB-SECTION TRAINING**

Score: %

Employees Name:

Date:

Company:

Instructor:

Job Title:

Answer the following questions “True” or “False” by circling the appropriate letter.

T	F	1. The operator must be trained and understand how to operate the machine.
T	F	2. It is the responsibility of Brieser to maintain all training records.
T	F	3. Training needs to be refreshed after an incident or following questionable operation of the lift.
T	F	4. Turn off the engine when refueling with gas, not necessary for diesel engines.
T	F	5. You may walk under elevated forks when time is a factor.
T	F	6. Forklifts must follow traffic laws.
T	F	7. When carrying a load and crossing a pedestrian walkway, the pedestrian must stop and let the forklift pass.
T	F	8. Carry the load as high as possible so you can see where you are going.
T	F	9. Forklifts may not be used to raise overhead garage doors.
T	F	10. Traveling backwards going downhill is a safe practice when carrying a load.

Brieser Construction
Section 40 Test

Answers

T	F	1. The operator must be trained and understand how to operate the machine.
T	F	2. It is the responsibility of Brieser to maintain all training records.
T	F	3. Training needs to be refreshed every 3 years, after an incident, or following questionable operation of the lift.
T	F	4. Turn off the engine when refueling with gas, not necessary for diesel engines. Page 4
T	F	5. You may walk under elevated forks when time is a factor. Page 4
T	F	6. Forklifts must follow traffic laws.
T	F	7. When carrying a load and crossing a pedestrian walkway, the pedestrian must stop and let the forklift pass. Page 6
T	F	8. Carry the load as high as possible so you can see where you are going. Pages 5 and 6
T	F	9. Forklifts may not be used to raise overhead garage doors. Page 4.
T	F	10. Traveling backwards going downhill is a safe practice when carrying a load.



Section 41
Safety Health
and
Environmental
Manual

2025

Material Handling Equipment

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Mobile Equipment

PURPOSE

All employees who operate or anticipate operating Mobile Equipment at Brieser Construction during their employment must comply with this policy. This section describes safety requirements for the operation of the following motorized equipment:

- Earth Moving Equipment
- Powered Industrial Trucks (Also see Section 40)
- Mowers (Tractor)
- Off-Road Vehicles (ATVs and Snow Machines)

Operational information and safety precautions provided in the following sections should be applied when operating the described equipment.

RESPONSIBILITIES

The Program Administrator: Brieser Safety Director

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.
- Ensuring all necessary inspections are maintained by conducting field audits.

Equipment Manager

These people are responsible for:

- Ensuring daily use inspections are conducted.
- Ensuring that equipment is repaired when malfunctioning.
- Confirming defects observed in machinery or equipment shall be repaired or replaced before being used again.
- Documenting that preventive maintenance is performed on machinery or equipment and retained for the life of the machinery or equipment.
- Maintaining documentation for any attachments that are used.

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- Supervision of a preventative maintenance schedule based on manufacturer requirements and industry standards.

Project Managers, Superintendents and Foremen

These people are responsible for:

- Review any current revision of the Material Handling Equipment policy prior to implementation.
- Ensuring personnel assigned to operate equipment are sufficiently trained.
- Performance of proper planning, pre-use inspection, safe and correct operating practices.

Equipment Operator

These people are responsible for:

- All equipment operators must be trained and certified for the equipment that they operate.
- Not engaging in any practice that could divert attention while engaged in forklift operation.
- Being physically or otherwise fit for the proficient and safe operation of any equipment under his/her controls.
- Document a daily equipment inspection form.
- Defects observed in machinery or equipment shall be reported to a supervisor and must be repaired or replaced before being used again.

DEFINITIONS

Powered Industrial Trucks – The American Society of Mechanical Engineers (ASME) defines a powered industrial truck as a mobile, power-propelled truck used to carry, push, pull, lift, stack, or tier materials. Powered industrial trucks, often called forklifts or lift trucks, can be ridden, or controlled by a walking operator. Excluded from the OSHA standard are vehicles used for earth moving or over-the-road haulage. Specialized equipment used in the construction industry includes rough terrain straight-mast and extended-reach forklift trucks.

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DEFINITIONS continued:

Earth Moving Equipment – Machines, attachments, and derived machinery designed for loosening, picking-up, moving, transporting and/or distributing earth, or to grade earth and rock.

Off-Road Vehicle – Any type of vehicle which can be driven on and off paved or gravel surface. It is characterized by having large tires with deep, open treads, a flexible suspension, or even caterpillar tracks.

GENERAL REQUIREMENTS

- All certified and trained operators must ensure proof of current authorization/license by verifying on their status on the company website via the training matrix.
- Store and manage liquid fuels such as gasoline and diesel in accordance with Flammable and Combustible Liquids Code.
- Turn off engine before filling fuel tanks.
- Contact filler nozzle with the tank during fuel filling.
- No smoking or open flame within the immediate area during filling operations
- Set brakes and block wheels to prevent movement of trucks and trailers while loading or unloading. The truck operator is required to check the blocks personally.
- No alterations or modifications shall be performed to the equipment without the manufacturer's approval, which must be documented.
- Equipment will be operated within capacity as outlined in the manufacturers operating manual.
- All Material Handling Equipment shall:
 - Have seatbelts installed, in proper working order and worn when in use.
 - Be equipped with engineered ROPS (Rollover Protection)
 - Have manufacturer-installed horns that are functional.
 - Have audible, functional back-up alarms.
 - Have all required lighting and the lighting shall be functional.
 - Have fire suppression equipment suitable to the conditions and hazards.

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SAFE OPERATION

- Brieser employees operating Material Handling Equipment shall:
 - Before starting the engine, the operator shall fasten seat belts and adjust them for a proper fit and wear when operating.
 - No operator shall operate mobile equipment without the protection of an enclosed cab or approved eye protection.
 - The operator shall not use or attempt to use any vehicle in any manner or for any purpose other than for which it is designated.
 - The operator shall not load the vehicle/equipment beyond its established load limit and shall not move loads which because of the length, width, or height that have not been centered and secured for safe transportation.
 - Use standard horn signals.
 - Ensure lighting is functional and used, as necessary.
 - Comply with all Site traffic control plans.
 - Not use communication devices or allow other distractions during operation.
 - Not climb Equipment while in motion
 - Not allow others to climb Equipment while in motion.
 - Not allow other Workers to ride on Equipment, except in the seats provided (ensuring that all passengers wear seatbelts)
 - Be cautious when rotating the cab or when maneuvering through tight spots.
 - Be cautious when entering/exiting buildings.
 - Be cautious when reversing and use a Signaler/Spotter when vision is obscured or when required by the TSTI.
 - Limit equipment use in congested work zones unless a clear work plan is established and communicated to affected Workers.
 - Adhere to the capacity ratings.
 - Make the unit inoperative and ensure it is in a safe state prior to exiting the equipment.
- Prior to operating Material Handling Equipment, the operator shall:
 - Document a pre-use inspection on the Brieser Daily Inspection Form
 - Ensure all loose objects are secured.
 - Conduct a circle check of the equipment for:
 - Potential obstructions and approach distances
 - Fluids on, or under, the equipment

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- Equipment damage

SAFE OPERATION continued:

- Be completely familiar with all the following:
 - Controls, indicators, and warning lights
 - Caution, warning, and danger decals affixed to the equipment.
 - Limits of the equipment
 - Equipment blind spots

INSPECTION AND MAINTENANCE

- The employee responsible for the equipment will inspect their equipment once per shift using the Daily Equipment/Vehicle Inspection Report booklets and forward the report to Brieser's Main Office.
- Defects observed in machinery or equipment shall be reported to a supervisor and must be repaired or replaced before being used again.
- Vehicle maintenance can take the form of three distinct programs: preventive maintenance, demand maintenance, and crisis maintenance. While all three types have their role in the maintenance of equipment, the most cost-effective control is preventive maintenance. A review of manufacturer's specifications and recommendations for periodic preventive maintenance is used to determine preventive maintenance schedules.
 - Preventive maintenance (PM) is performed on a mileage or time basis which is tracked monthly. Typical PM includes oil/filter changes, lubrication, tightening belts and components, engine tune-ups, brake work, tire rotation, hose inspection/replacement and radiator maintenance. Additional PM on commercial vehicles or trailers may include blower, lift, hydraulic or boom inspections.
 - Demand maintenance is performed only when the need arises. Some vehicle parts are replaced only when they fail. These include light bulbs window glass, gauges, wiring, air lines, etc. Other "demand maintenance" items involve vehicle components that are worn based on information from the vehicle condition report. These include tires, engines, transmissions, universal joints, bushings, batteries, etc.
 - Daily vehicle inspection reports are used to identify demand maintenance items which are reported and tracked to completion.

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- Work orders are used for items that are not necessarily demand maintenance items such as painting, identification replacement or fleet updates.
- Crisis maintenance involves an equipment breakdown while in the field. Though minimized through standard PM procedures, situations of this type are resolved by the on-site mechanic or Equipment & Facilities V.P.

RECORD KEEPING

- Employees forward all vehicle maintenance records for maintenance performed each month to the Equipment & Facilities V.P. This data is then tracked, scanned, and maintained on monthly basis.
- Daily Inspections
 - Received daily.
 - Those with a demand maintenance issue are logged separately for repair.
 - Scanned into our electronic filing system monthly by equipment number.
- Preventative Maintenance
 - Specified data is tracked to determine next maintenance date.
 - Notes are entered under the equipment number.
 - Maintenance receipts are scanned into our electronic filing system monthly by equipment number.
 - Records are maintained for the life of the piece of equipment.

TRAINING PROCEDURE

- Only authorized and trained personnel should be permitted to operate Material Handling Equipment.
- All new operators will receive training which includes formal instruction, practical training, and evaluation of the operator's performance of each type of Material Handling Equipment. This training will be conducted by a competent trainer and certification will be offered by the employee's local Operators Union. This will involve most Heavy equipment. Such as but not limited to:
 - Excavators
 - Combination Backhoe
 - Loaders
 - Crawlers
 - Scrapers

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- Equipment Safety Training Manual will cover all other forms of equipment training. A current list is maintained on our company website. All Brieser employees have access to the site and its contents.
- Refresher training in relevant topics shall be provided to the operator when:
 - The operator has been observed to operate the vehicle in an unsafe manner.
 - The operator has been involved in an accident or near-miss incident.
 - The operator has received an evaluation that reveals that the operator is not operating the equipment safely.
- Certification that each operator has been trained and evaluated will be maintained. The certification will include the name of the operator, the date of the training, the date of the evaluation, and the identity of the person (s) performing the training or evaluation.

Material Handling Equipment Learning Exercise

Score: _____ **%**

Employees Name: _____

Date: _____

Answer each of the following questions by circling the appropriate letter.

1. As a general requirement you should always store and manage liquid fuels such in accordance with Flammable and Combustible Liquids Code.
 - a. True
 - b. False
2. Material Handling Equipment should never have roll over protection.
 - a. True
 - b. False
3. Be cautious when reversing and use a _____ when vision is obscured or when required by the TSTI.
 - a. Safe Intersection
 - b. Foreman
 - c. Flashlight
 - d. Signal Person / Spotter
4. Vehicle maintenance can take the form of three distinct programs: Circle all the types that apply)
 - a. Demand
 - b. Preventative

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- c. Elective
- d. Crisis

Material Handling Equipment Learning Exercise

Answer Sheet

1. As a general requirement you should always store and manage liquid fuels such in accordance with Flammable and Combustible Liquids Code.
a. True
 b. False
2. Material Handling Equipment should never have roll over protection.
 a. True
b. False
3. Be cautious when reversing and use a _____ when vision is obscured or when required by the TSTI.
 a. Safe Intersection
 b. Foreman
 c. Flashlight
d. Signal Person / Spotter
4. Vehicle maintenance can take the form of three distinct programs: Circle all the types that apply)
a. Demand
b. Preventative
 c. Elective
d. Crisis



Section 42
Safety Health
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2025

Cold Stress Prevention

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/27/2017
		Revised:	09/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Cold Stress Prevention	
CROSS REFERENCE:	Section 5(a)(1) of the Occupational Safety and Health Act of 1970 ACGIH TLV/BEI		

Cold Stress Prevention

Purpose

All employees who work outdoors in cold environments that may be at risk of cold stress. This section describes safety requirements for working outdoors in cold environments that may be subject to the following cold stresses:

- Hypothermia
- Frostbite
- Trench Foot
- Chilblains

Responsibilities

The Program Administrator: Brieser Safety Director

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.
- Ensuring all necessary precautions contained in this section by conducting field audits.

Equipment Manager

These people are responsible for:

- Ensuring that equipment is repaired when malfunctioning such as heaters in equipment equipped with enclosed cabs.
- Documenting that preventive maintenance is performed on machinery or equipment and retained for the life of the machinery or equipment.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/27/2017
		Revised:	09/2023
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Project Managers, Superintendents and Foremen

These people are responsible for:

- Review any current revision of this policy prior to implementation.
- Ensuring personnel assigned are sufficiently trained in this section.
- Performance of proper planning for cold environments, and ensuring correct practices are being utilized
Such as:
 - Use of radiant heaters
 - Wind breaks
 - Temporary Shelters
 - Schedule outdoor work during the warmest part of the day
 - Allowing frequent breaks from the cold weather
- Conduct an assessment to identify the types of jobs or employees who are at risk for cold exposure.
- All employees should be informed of the dangers and destructive potential caused by unstable snow buildup, sharp icicles, and ice dams and know how to prevent accidents caused by them and be documented on the Brieser TSTI form or similar Job Hazard Analysis.
- Conduct a regular inspection on cold weather supplies (e.g., hand warmers, gloves, hardhat FR inserts, etc.) should be carried out to ensure that supplies are always in stock.

Employee

These people are responsible for:

- Dressing appropriately for cold weather conditions. The following are recommendations for working in cold environments:
 - Wear at least three layers of loose-fitting clothing. Layering provides better insulation. Do not wear tight fitting clothing.
 - An inner layer of wool, silk or synthetic to keep moisture away from the body.
 - A middle layer of wool or synthetic to provide insulation even when wet.
 - An outer wind and rain protection layer that allows some ventilation to prevent overheating.
 - Wear a hat or hood to help keep your whole-body warmer. Hats reduce the amount of body heat that escapes from your head.
 - Use a knit mask to cover the face and mouth (if needed).
 - Use insulated gloves to protect the hands (water resistant if necessary).
 - Wear insulated and waterproof boots (or another footwear).

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Employee continued.

- Have knowledge of this section and know the symptoms of cold stress.
- Stay dry in the cold because moisture or dampness, e.g., from sweating, can increase the rate of heat loss from the body.
- Keep extra clothing (including underwear) handy in case you get wet and need to change.
- Drink warm sweetened fluids (no alcohol).
- Use proper engineering controls, safe work practices, and personal protective equipment (PPE) provided by your employer.

Definitions

Cold Stress – What constitutes cold stress, and its effects can vary across different areas of the country. In regions that are not used to winter weather, near freezing temperatures are considered factors for "cold stress." Increased wind speed also causes heat to leave the body more rapidly (wind chill effect). Wetness or dampness, even from body sweat, also facilitates heat loss from the body. Cold stress occurs by driving down the skin temperature, and eventually the internal body temperature. When the body is unable to warm itself, serious cold-related illnesses and injuries may occur, and permanent tissue damage and death may result. Types of cold stress or cold related illness include trench foot, frostbite, and hypothermia.

Hypothermia – When exposed to cold temperatures, your body begins to lose heat faster than it can be produced. When the core body temperature drops below the normal 98.6° F to around 95° F, the onset of symptoms normally begins. Prolonged exposure to cold will eventually use up your body's stored energy. The result is hypothermia, or abnormally low body temperature. A body temperature that is too low affects the brain, making the victim unable to think clearly or move well. This makes hypothermia particularly dangerous because a person may not know it is happening and will not be able to do anything about it.

Frostbite – Frostbite is an injury to the body that is caused by freezing. Frostbite causes a loss of feeling and color in the affected areas. It most often affects the nose, ears, cheeks, chin, fingers, or toes. Frostbite can permanently damage body tissues, and severe cases can lead to amputation. In extremely cold temperatures, the risk of frostbite is increased in workers with reduced blood circulation and among workers who are not dressed properly.

Trench Foot – Trench foot, also known as immersion foot, is an injury of the feet resulting from prolonged exposure to wet and cold conditions. Trench foot can occur at temperatures as high as 60 degrees F if the feet are constantly wet. Injury occurs because wet feet lose heat 25-times faster than dry feet. Therefore, to prevent heat loss, the body constricts blood vessels to shut down circulation in the feet. Skin tissue begins to die because of lack of oxygen and nutrients and due to the buildup of toxic products.

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Chilblains – Chilblains (*CHILL-blaysns*) are caused by the repeated exposure of skin to temperatures just above freezing to as high as 60 degrees F. The cold exposure causes damage to the capillary beds (groups of small blood vessels) in the skin. This damage is permanent, and the redness and itching will return with additional exposure. The redness and itching typically occurs on cheeks, ears, fingers, and toes.

General Requirements

Workers should avoid exposure to extremely cold temperatures when possible. When cold environments or temperatures cannot be avoided, workers should follow the instructions contained within this policy.

Symptoms & First Aid of Cold Illnesses

All employees who are required to perform work in cold conditions should be knowledgeable on how to administer first aid treatment on cold induced injuries or illnesses.

- **Hypothermia**

- Symptoms (time sensitive)
 - Early Symptoms
 - Shivering
 - Fatigue
 - Loss of coordination
 - Confusion and disorientation
 - Late Symptoms
 - No shivering
 - Blue skin
 - Dilated pupils
 - Slowed pulse and breathing.
 - Loss of consciousness
- First Aid
 - Alert the supervisor and request medical assistance.
 - Move the victim into a warm room or shelter.
 - Remove their wet clothing.
 - Warm the center of their body first-chest, neck, head, and groin-using an electric blanket, if available; or use skin-to-skin contact under loose, dry layers of blankets, clothing, towels, or sheets.
 - Warm beverages may help increase the body temperature, but do not give alcoholic beverages. Do not try to give beverages to an unconscious person.

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- After their body temperature has increased, keep the victim dry and wrapped in a warm blanket, including the head and neck.
- If victim has no pulse, begin cardiopulmonary resuscitation (CPR).

- **Frostbite**

- Symptoms
 - Reduced blood flow to hands and feet (fingers or toes can freeze)
 - Numbness
 - Tingling or stinging
 - Aching
 - Bluish or pale, waxy skin
- First Aid
 - Get into a warm room as soon as possible.
 - Unless necessary, do not walk on frostbitten feet or toes-this increases the damage to the tissue.
 - Immerse the affected area in warm-not hot-water (the temperature should be comfortable to the touch for unaffected parts of the body).
 - Warm the affected area using body heat; for example, the heat of an armpit can be used to warm frostbitten fingers.
 - Do not rub or massage the frostbitten area; doing so may cause more damage.
 - Do not use a heating pad, heat lamp, or the heat of a stove, fireplace, or radiator for warming. Affected areas are numb and can be easily burned.

- **Trench Foot**

- Symptoms
 - Reddening of the skin
 - Numbness
 - Leg cramps
 - Swelling
 - Tingling pain
 - Blisters or ulcers
 - Bleeding under the skin
 - Gangrene (the foot may turn dark purple, blue, or gray)
- First Aid
 - Remove shoes/boots and wet socks.
 - Dry their feet.
 - Avoid walking on feet, as this may cause tissue damage. Get into a warm room as soon as possible.

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- **Chilblains**

- Symptoms
 - Redness
 - Itching
 - Possible blistering
 - Inflammation
 - Possible ulceration in severe cases
- First Aid
 - Avoid scratching.
 - Slowly warm the skin
 - Use corticosteroid creams to relieve itching and swelling.
 - Keep blisters and ulcers clean and covered.

Cold Stress Prevention Controls

- **Engineering Controls**

- Use radiant heat sources to help raise the temperature of the work area.
- Use of shields to block the wind to reduce wind chill.

- **Administrative/Work Practice Controls**

- Use Table 6.4 Threshold Limit Values Work/Warm-Up Schedule to gauge work rest schedules.
- Scheduling jobs that expose workers to the cold weather in the warmer part of the day
- Regularly used walkways and travel routes shall be sanded, salted, or cleared of snow and ice as soon as practicable.
- Before any task is started, all employees shall be informed of the dangers and destructive potential caused by unstable snow buildup, sharp icicles, and ice dams in and around the work area and travel routes. These hazards shall be document with the appropriate hazard elimination or reduction technique on Brieser's TSTI or equivalent Job Hazard Analysis.
- Avoiding exposure to extremely cold temperatures when possible
- Limiting the amount of time spent outdoors on extremely cold days.
- Using relief workers to assign extra workers for long, demanding jobs.
- Providing warm areas for use during break periods
- Providing warm liquids (no alcohol) to workers
- Monitoring workers who are at risk of cold stress

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- Implement a "Buddy System" to ensure that no employee is working alone in cold work environments.

- **Administrative/Work Practice Controls continued**

- Monitoring the weather conditions during a winter storm, having a reliable means of communicating with workers and being able to stop work or evacuate when necessary.
- Acclimatizing new workers and those returning after time away from work by gradually increasing their workload, and allowing more frequent breaks in warm areas, as they build up a tolerance for working in the cold environment.
- Having a means of communicating with workers, especially in remote areas
- Train all employees that have the potential to be exposed to cold weather environments on this section and test for knowledge.

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		Revised:	09/2023
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Table 6.4 Threshold Limit Values Work/Warm-Up Schedule for Four-Hour Shift*

Air Temperature		No Noticeable Wind		5 mph Wind		10 mph wind		15 mph wind		20 mph wind	
Sunny Sky		Max		Max		Max		Max		Max	
°C (Approx.)	°F (Approx.)	Work Period	No. of Breaks	Work Period	No. of Breaks	Work Period	No. of Breaks	Work Period	No. of Breaks	Work Period	No. of Breaks
-26 to -28	-15 to -19	(Norm. Breaks)	1	(Norm. Breaks)	1	75 min	2	55 min	3	40 min	4
-29 to -31	-20 to -24	(Norm. Breaks)	1	75 min	2	55 min	3	40 min	4	30 min	5
-32 to -34	-25 to -29	75 min	2			40 min	4	30 min	5	Non-emergency work should cease	
-35 to -37	-30 to -34	55 min	3	40 min	4	30 min	5	Non-emergency work should cease		Non-emergency work should cease	
-38 to -39	-35 to -39	40 min	4	30 min	5	Non-emergency work should cease		Non-emergency work should cease		Non-emergency work should cease	
-40 to -42	-40 to -44	30 min	5	Non-emergency work should cease		Non-emergency work should cease		Non-emergency work should cease		Non-emergency work should cease	
-43 and below	-45 and below	Non-emergency work should cease		Non-emergency work should cease		Non-emergency work should cease		Non-emergency work should cease		Non-emergency work should cease	

Notes:

- Schedule applies to moderate to heavy work activity with warm-up breaks of ten (10) minutes in a warm location. For light to moderate work (limited physical movement): apply the schedule one step lower. For example, at -35°C (-30°F) with no noticeable wind (step 4), a worker at a job with little physical movement should have a maximum work period of 40 minutes with four breaks in a 4-hour period (step 5).
- The following is suggested as a guide for estimating wind velocity if accurate information is not available: 5 mph: light flag moves; 10 mph: light flag fully extended; 15 mph: raises newspaper sheet; 20 mph: blowing and drifting snow.
- If only the wind chill cooling rate is available, a rough rule of thumb for applying it rather than the temperature and wind velocity factors given above would be: (1) special warm-up breaks should be initiated at a wind chill cooling rate of about 1,750 W/m²; (2) all non-emergency work should have ceased at or below a wind chill of 2,250 W/m². In general, the warm-up schedule provided above slightly under-compensates for the wind at the warmer temperatures, assuming acclimatization and clothing appropriate for winter work. On the other hand, the chart slightly over-compensates for the actual temperatures in the colder ranges, since windy conditions rarely prevail at extremely low temperatures.
- TLVs apply only for workers in dry clothing.

- Personal Protective Equipment**

Employers must provide personal protective equipment (PPE), for example, fall protection, when required by OSHA standards to protect workers' safety, and health. However, in limited cases specified in the standard (29 CFR 1910.132), there are exceptions to the requirement for employers to provide PPE to workers. For instance, there is no OSHA requirement for employers to provide workers with ordinary clothing, skin creams, or other items, used solely for protection from weather, such as winter coats, jackets, gloves, parkas, rubber boots, hats, raincoats, ordinary sunglasses, and sunscreen (29 CFR 1910.132(h)(4)).

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- Dressing properly is extremely important to preventing cold stress. When cold environments or temperatures cannot be avoided, the following would help protect workers from cold stress:
 - Wear at least three layers of loose-fitting clothing. Layering provides better insulation.
 - An inner layer of wool, silk or synthetic (polypropylene) to keep moisture away from the body. Thermal wear, wool, silk or polypropylene, inner layers of clothing that will hold more body heat than cotton.
 - A middle layer of wool or synthetic to provide insulation even when wet.
 - An outer wind and rain protection layer that allows some ventilation to prevent overheating.
 - Tight clothing reduces blood circulation. Warm blood needs to be circulated to the extremities. Insulated coat/jacket (water resistant if necessary)
 - Knit mask to cover face and mouth (if needed)
 - Hat that will cover your ears as well. A hat will help keep your whole-body warmer. Hats reduce the amount of body heat that escapes from your head.
 - Insulated gloves (water resistant if necessary), to protect the hands.
 - Insulated and waterproof boots to protect the feet
- Schedule Defects observed in machinery or equipment shall be reported to a supervisor and must be repaired or replaced before being used again.

Recordkeeping

Training records shall be maintained by Human Resources and updated, as necessary.

Any medical records that have been produced by a medical facility as a result where an employee suffered a cold related illness as defined in this policy shall be maintained and kept in the Human Resources office.

Training Procedure

Workers exposed to cold should receive initial and annual training regarding the health effects of cold exposure, proper rewarming procedures, recognition and first aid for frostbite and hypothermia, required protective clothing, proper use of warming shelters, the buddy system, vehicle breakdown procedures, and proper eating and drinking habits for working in the cold.

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BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 42
COLD STRESS PREVENTION
SUB-SECTION TRAINING

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/27/2017
		Revised:	09/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
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Cold Stress Prevention Learning Test

Score: %

Employee Name:		Date:	
Company:		Instructor:	
Employee #:		Job Title:	

Answer the following questions "True" or "False" by circling the appropriate letter.

T	F	1. All employees who work outdoors in cold environments may be at risk of the following cold stresses: Hypothermia, Frostbite, Trench Foot, and Chilblains.
T	F	2. All employees should be informed of the dangers and destructive potential caused by unstable snow buildup, sharp icicles, and ice dams and know how to prevent accidents caused by them and be documented on the Brieser TSTI form or similar Job Hazard Analysis.
T	F	3. When exposed to cold temperatures, your body begins to lose heat faster than it can be produced. This is called Hyperthermia
T	F	4. Some signs and symptoms of Hypothermia are Shivering, Fatigue, Loss of coordination, Confusion, and disorientation
T	F	5. Some measures you can use as first aid for frostbite are: Rubbing or massage the frostbitten area and using a heating pad, heat lamp, or the heat of a stove, fireplace, or radiator for warming.
T	F	6. According to the <u>Threshold Limit Values Work/Warm-Up Chart for 4-Hour Shift</u> - When it is -30°F to -39°F with a 15-mph wind You can work 4 hours with a warmup break every 15 mins.
T	F	7. Some examples of the Administrative and Work Practices Controls that should be implemented are: Limiting the amount of time spent outdoors on extremely cold days, using relief workers to assign extra workers for long, demanding jobs Providing warm areas for use during break periods, and implementing a "Buddy System" to ensure that no employee is working alone in cold work environments.
T	F	8. There is no need to have any extra PPE or dress in layers because of the amount of breaks you will get when it is cold.

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Cold Stress Prevention Learning Test

Score: %

Employees Name:	ANSWER KEY	Date:	
Company:		Instructor:	
Employee #:		Job Title:	

Answer the following questions "True" or "False" by circling the appropriate letter.

T	F	1. All employees who work outdoors in cold environments may be at risk of the following cold stresses: Hypothermia, Frostbite, Trench Foot, and Chilblains.
T	F	2. All employees should be informed of the dangers and destructive potential caused by unstable snow buildup, sharp icicles, and ice dams and know how to prevent accidents caused by them and be documented on the Brieser TSTI form or similar Job Hazard Analysis.
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T	F	8. There is no need to have any extra PPE or dress in layers because of the amount of breaks you will get when it is cold.



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Safety Health
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2025

Stop Work Authority

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/1/2017
		Revised:	1/7/2020
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Stop Work Authority		
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Stop Work Authority

PURPOSE

This standard will outline the protective measures that employees are encouraged to utilize to reinforce employee participation in their own safety while recognizing unsafe work practices, procedures, or unsafe conditions. All Brieser employee are given full Stop Work Authority training during Orientation I training which is always completed before initial assignment and reiterated quarterly in our newsletter.

SCOPE

All Brieser employees have the authority and obligation to stop any task or operation where concerns or questions regarding the control of Health, Safety or Environmental risk exist.

The Stop Work Authority program is intended to promote safe work environments as monitored by the very people who perform the work, without the fear of retribution from the company or harassment from fellow workers. Any form of retribution or intimidation directed at any individual or company for exercising their right to issue a stop work authority will not be tolerated.

Once a Stop Work Condition has been issued, no work will resume until all stop work issues and concerns have been adequately addressed.

DEFINITIONS

- **Stop Work Condition** – Includes any of the following conditions:
 - Unsafe Act or Condition
 - A concern or question regarding the control of HSE risk exists.
 - Any task or situation where you feel uncomfortable that HSE risk exists.
- **Unsafe Act** - The actions of a person in a manner which vary from the accepted or legislated safe practice and create a hazard to themselves, another person, or equipment.
- **Unsafe Condition** - A condition in which something exists that varies from a normal accepted safe condition and, if not corrected, could cause injury, death, or property damage.
- **Safety Suggestion** – A thought, idea or procedure that may improve safety on the jobsite and is not related to any Stop Work Condition

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		Revised:	1/7/2020
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STANDARD OPERATING PROCEDURE:	Stop Work Authority		
CROSS REFERENCE:			

RESPONSIBILITIES

The Program Administrator: Brieser Safety Manager

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.
- Create a culture where Stop Work Authority is exercised freely.
- Maintaining training records for all employees included in the training sessions.

Project Managers, Superintendents and Foremen

These people are responsible for:

- Promote a culture where Stop Work Authority is exercised freely.

Employees

- Read & understand the elements of this policy.
- Initiate a Stop Work Intervention when warranted.

GENERAL

- When a Stop Work Condition is identified the Stop Work Intervention will be initiated, coordinated through the supervisor, initiated in a positive manner, notify all affected personnel and supervision of the stop work issue, correct the issue, and resume work when safe to do so.
- It is the desired outcome of any Stop Work Intervention that the identified safety concern(s) have been addressed to the satisfaction of all involved persons prior to the resumption of work. Most issues can be adequately resolved in a timely manner at the job site, occasionally additional investigation and corrective actions may be required to identify and address root causes.

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CROSS REFERENCE:			

METHODS OF COMPLIANCE

- Stop Work Intervention
 - The employee informs the supervisor that work has been stopped and that a resolution of an immediate safety concern is necessary.
 - The supervisor and the employee(s) discuss the problem and develop an approach for a resolution. Involved personnel should obtain assistance if necessary Brieser Operations or Safety Department
 - The supervisor informs the employee(s) of the planned resolution, obtains agreement and the job is restarted.
 - The employee(s) will update the TSTI to reflect the changes.
 - If the employee(s) and the supervisor cannot agree on the resolution of the problem, then the next level of supervision will be contacted.
 - If representatives from management and safety agree on a plan and the employee(s) still do not feel comfortable completing the task, then the employee(s) will be reassigned to other duties. There will be no repercussion for this action.
 - At the conclusion, the site supervisor will complete the **Stop Work Authority Report**

REPORTING AND RECORDKEEPING

- Stop Work Authority Report
 - All Stop Work Authority Conditions will have a Stop Work Authority Report
 - Stop Work Reports shall be documented by the site supervisor and recorded with the following information:
 - Date of the Stop Work Intervention
 - Employee(s) involved.
 - Description of event or perceived Stop Work Condition
 - Corrective action including preventing future reoccurrence.
- Stop Work reports shall be reviewed by the V.P. of Operations and the Director of Safety to measure participation, determine quality of interventions and follow-up, trend common issues, identify opportunities for improvement, and facilitate sharing of learnings.

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		Revised:	1/7/2020
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		Reviewed:	12/17/24 KMC
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CROSS REFERENCE:			

TRAINING

All Brieser employees will be trained on Stop Work Authority through our Orientation I program which can be found in Section 10 Safety Education within the Brieser SH&E Manual.

- Orientation I is performed before initial assignment or before any task has been performed by a Brieser employee.

I. Anonymous Reporting Procedures

An anonymous form is available on site for those wishing to retain anonymity. This form is called the Anonymous Risk Report Form: This form is provided for the reporting of any at risk situation, near misses or safety suggestions and is intended to promote a continuing effort to make our jobsites a safety place. This form shall be available at each Brieser job site; the location shall be such that an employee can obtain a form while still retaining anonymity.

Brieser Construction Company also gives employees the right & responsibility to file complaints about workplace safety and health hazards, near misses or safety suggestions by utilizing an offsite internet-based method. This is intended to promote a continuing effort to make our jobsites a safety place. Further, this policy gives complainants the right to request that their names not be revealed to their employers. Complaints from our employees are taken seriously by Brieser Management personnel.

If you would like to report hazards, near misses or have any safety suggestions at your worksite to Brieser Construction, or you have been discriminated against because of safety and health issues, choose the following:

- File an Anonymous Report Form, online if you believe your working conditions are at risk, near miss or have a safety suggestion. Follow these steps:
 - Go to Brieser Construction Web Site at www.brieserconstruction.com
 - Hover over the Employee Resources Tab.
 - Click on Submit a Report.
 - This will take you a page for you to enter in your Report or Feedback.
 - Take the time to fill out the comment box. When completed click on the submit button under the text box. Your report will be sent directly to the President of Brieser Construction. The employee's name and email address of the individual submitting the ASRRF are desirable but not mandatory.

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STOP WORK AUTHORITY REPORT

STOP WORK INTERVENTION INFORMATION

Supervisor

Date of Stop Work

Customer Name

Job Number

Email

Project name

EMPLOYEE(S) INVOLVED INFORMATION

Employee

Employee

Employee

Employee

Employee

Employee

DESCRIPTION OF EVENT OR PERCEIVED STOP WORK CONDITION

CORRECTIVE ACTION INCLUDING PREVENTION OF REOCCURRENCE

MANAGEMENT EVALUTATION (Participation-Quality of Intervention-Follow up-Improvement)

Submitted by (Brieser Site Supervisor)

Date

Reviewed by (Brieser V.P. Operations)

Date

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CROSS REFERENCE:			

ANONYMOUS SAFETY RISK REPORT FORM

This form is provided for the reporting of any at risk situation, near misses or safety suggestions and is intended to promote a continuing effort to make our jobsites a safer place. The signature and address of the individual submitting the ASRRF are desirable but not mandatory. A signature is required if the individual wishes to have a copy of the completed report returned.

Does this hazard(s) immediately threaten serious physical harm? Yes____ No____

(If yes, immediately contact your supervisor or Company President @ 815-955-3972)

1.Operation/Activity_____

2. Briefly describe any hazard, at-risk behavior, safety suggestion or near miss.

3. Please indicate your desire:

- ☐ I do not want my name revealed (however; office may contact me to gain further information.)
- ☐ My name may be revealed
- ☐ Anonymous (*This office will be unable to contact with findings/results*)
- ☐ Anonymous (*I will call Company President @ 815-955-3972 to explain details, complete confidentiality will be retained*)

Typed or Printed Name of Employee or Employee Representative (optional)

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CROSS REFERENCE:			

Employees Name:

Company:

Date:

Instructor:

Job Title:

T	F	1. A Stop Work Condition includes conditions such as, any unsafe act, condition, or situation where you feel a risk exists.
T	F	2. The first part of the Stop Work Intervention is the employee informs the supervisor that work has been stopped and that a resolution of an immediate safety concern is necessary.
T	F	3. The second part of the Stop Work Intervention is the supervisor and the employee(s) discuss the problem and develop an approach for a resolution.
T	F	4. The third part of the Stop Work Intervention is the employee informs the supervisor that work will only continue when agreement on a better time for lunch.
T	F	5. The fourth part of the Stop Work Intervention is the employee(s) will update the TSTI to reflect the changes.
T	F	6. All Stop Work Authority Conditions will have a Stop Work Authority Report.
T	F	7. Stop Work Reports shall be documented by the site supervisor and recorded with: Date of the Stop Work Intervention, Employee(s) involved, Description of event or perceived Stop Work Condition, and Corrective action including preventing future reoccurrence
T	F	8. Stop Work reports shall be reviewed by the V.P. of Operations and the Director of Safety to measure participation, determine quality of interventions and follow-up.
T	F	9. All Brieser employees will be trained on Stop Work Authority through our Orientation I program which can be found in <u>Section 27 Aerial Work Platforms within the Brieser SH&E Manual.</u>
T	F	10. Brieser Construction Company also gives employees the right & responsibility to file complaints about workplace safety for those wishing to retain anonymity.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		DATE:	PROCEDURE:
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Answers

T	F	1. A Stop Work Condition includes conditions such as, any unsafe act, condition, or situation where you feel a risk exists.
T	F	2. The first part of the Stop Work Intervention is the employee informs the supervisor that work has been stopped and that a resolution of an immediate safety concern is necessary
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Section 44
Safety Health
and
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Manual

2025

In Plant Rail Safety

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/6/2017
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		In Plant Rail Safety	
CROSS REFERENCE:	General Duty Clause, Section 5(a)(1) of the Occupational Safety and Health Act (OSHA) of 1970		

In Plant Rail Safety

Purpose

This policy covers safe work practices when working around our customers In Plant Rail System. This policy does not cover any work on Railroad tracks that are considered public, commercial, or industrial rail line.

Scope

Working around and on railroad tracks is high-risk and countermeasures need to be taken to prevent rail-related accidents. In most cases, the rail work is an internal plant department, but some companies have outsourced this function to contractors. In-plant railroads are typically under OSHA’s general industry regulations. However, there are minimal references to rail activity in the regulations, and as such, most rail safety violations are addressed under the General Duty “catchall” clause. The Federal Railroad Administration (FRA) has established extensive safety requirements under 49 CFR; however, in-plant railroads do not come under FRA jurisdiction.

Definitions

In Plant Rail Safety – Any railroad tracks used and maintained by our customer which lies within their protected boundaries of ownership.

Responsibilities

The Program Administrator: Brieser Safety Manager

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/6/2017
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		In Plant Rail Safety	
CROSS REFERENCE:	General Duty Clause, Section 5(a)(1) of the Occupational Safety and Health Act (OSHA) of 1970		

Project Managers, Superintendents and Foremen

These people are responsible for:

- Implementing this program when work involving in-plant rail lines is scheduled.

Employees

- Read & understand the elements of this policy.
- Read and follow this program when working in and around in-plant railroad lines.

General

- Most rail-related injuries to construction workers fall into two categories: crushing injuries between & under cars and struck-by injuries. The following list is representative of the important items that Brieser Construction want their employees to be aware of:
 - PPE
 - Parking & Walking Around Tracks
 - Crossing Railroad Tracks
 - Head-End Protection
 - Work on or Near Tracks
 - Reporting & Recordkeeping

Methods of Compliance

- **Personal Protective Equipment**
 - Approved Hardhats, metatarsal boots & safety glasses with permanently attached side shields shall be worn in designated areas.
- **Parking & Walking Around Tracks**
 - In all cases pedestrians/employees shall cross at existing designated pedestrian rail crossings where provided. Additionally, vehicle crossings are not intended as pedestrian crossings unless they are so identified and/or located, and no other pedestrian crossings exist in the area.
 - No vehicle or equipment should be parked within 8 feet of the center of the tracks. This assures that moving rail equipment will not strike other equipment.
 - Pedestrians should never walk inside the rails, but rather walk at least 6 feet from the outside of the rail.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/6/2017
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	03
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CROSS REFERENCE:	General Duty Clause, Section 5(a)(1) of the Occupational Safety and Health Act (OSHA) of 1970		

- **Crossing Railroad Tracks**

- If a designated crossing is not available. Do not cross within 10 feet of the end of a parked rail car, do not cross between uncoupled cars, stop, look, and listen prior to proceeding across the tracks, and never step on rails, as they may be slippery.
- Never attempt to crawl under rail equipment or climb over moving rail equipment or attempt to cross in front of moving equipment.
- Never position any part of the body in a potential pinch point. Rail equipment can move in either direction at any time.

- **Head-End Protection**

- Simply put, this refers to positioning a worker at the front end of the train to watch for pedestrians or other equipment that may be in the direction of travel. This can be the locomotive operator if he/she has a clear view of the rails ahead. It may also be a brakeman or switchman who is in radio contact with the locomotive operator. If the locomotive is operated by a radio-controlled remote, then the remote operator must be at the front of the train, watching in the direction of travel.

- **Work On or Near Tracks**

- Prior to performing work within six (6) feet of any railroad track, permission must be obtained from railroad Supervisor/Designated person to take the track out of service. (Permit may need to be filled out.)
- The Brieser Section 12 Control of Hazardous Energy Lockout Tagout policy shall be followed where applicable.
- When any type of maintenance or repair is being performed on or near railroad tracks, some form of positive track protection should be utilized. This could be:
 - Railroad car wheel chocks shall be placed to prevent movement of the locomotive.
 - A derailer placed in front of the work area.
 - A switch that has been diverted and locked out.
- A blue flag or light shall be placed in front of the work area to serve as a warning device.
- The positive protection and warning devices may need to be placed on both sides of the work area if rail equipment can travel both ways.

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Reporting & Recordkeeping

- If work is performed on or near tracks the following documents shall be completed and sent to Brieser's office for storage.
 - Lockout Tagout Permit
 - TSTI showing listing the positive track protection used.
 - Written permission from railroad Supervisor/Designated person.

Training

Appropriate training based on complexity of the job and potential hazards related to in plant rail shall be provided to all applicable employees. Assessments shall be used to determine whether the personnel have the knowledge and have demonstrated skills to safely perform their work assignments. Retraining and testing shall be required for unsatisfactory/ unsafe performance of job assignment.

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In Plant Rail Safety Learning Exercise

Score: %

Employees Name: Date:

Answer each of the following questions by circling the appropriate letter.

1. Working around and on railroad tracks is high-risk and countermeasures need to be taken to prevent rail-related accidents. In most cases, the rail work is an internal plant department, but some companies have outsourced this function to contractors.
 - a. True
 - b. False

2. Most rail-related injuries to construction workers fall into two categories:
 - a. Respiratory Distress and Fall from heights.
 - b. Slips, Trips, & Falls and Laceration Injuries.
 - c. Mental Health and Puncture wounds.
 - d. Crushing injuries between & under cars and struck-by injuries.

3. Prior to performing work within _____ feet of any railroad track, permission must be obtained from railroad Supervisor/Designated person to take the track out of service. (Permit may need to be filled out.)
 - a. 6
 - b. 8
 - c. 10
 - d. 12

4. When working on or near these tracks what color flag or light shall be placed in front of the work area to serve as a warning device
 - a. RED
 - b. YELLOW
 - c. BLUE
 - d. GREEN

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In Plant Rail Safety Learning Exercise

Answer Sheet

Answer each of the following questions by circling the appropriate letter.

1. Working around and on railroad tracks is high-risk and countermeasures need to be taken to prevent rail-related accidents. In most cases, the rail work is an internal plant department, but some companies have outsourced this function to contractors.
a. True
b. False
2. Most rail-related injuries to construction workers fall into two categories:
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 - d. GREEN



Section 45
Safety Health
and
Environmental
Manual

2025

Silica Exposure Control Plan

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/6/2017/
		Revised:	2/21/2020
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Silica Exposure

PURPOSE

The purpose of an exposure control plan (ECP) is to set out our approach to protecting workers from harmful exposure to airborne silica dust.

A combination of control measures will be required to achieve this objective. We commit to being diligent in our efforts to select the most effective control technologies available, and to ensure that the best practices, as described in this ECP, are followed at our worksites.

The work procedures we establish will protect not only our workers but all workers on our customers' worksites. This standard will outline the protective measures needed when performing tasks that create silica dusts such as cutting, grinding, abrading, or sawing concrete or natural rock.

All protective procedures will be driven using personal monitoring techniques as well as monitoring the area around dust generation activities. Section 26 of the Brieser SH&E Manual will detail the procedures for assessing risk for health issues such as silica exposure.

SCOPE

To define the requirements, responsibilities, and procedures necessary to reduce the risk of our employees to Silica exposure.

DEFINITIONS

Competent Person -means an individual who is capable of identifying existing and foreseeable respirable crystalline silica hazards in the workplace and who has authorization to take prompt corrective measures to eliminate or minimize them. The competent person must have the knowledge and ability necessary to fulfill the responsibilities set forth in this policy.

Employee Exposure - means the exposure to airborne respirable crystalline silica that would occur if the employee were not using a respirator.

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DEFINITIONS continued

High-efficiency particulate air [HEPA] filter - means a filter that is at least 99.97 percent efficient in removing mono-dispersed particles of 0.3 micrometers in diameter.

Respirable crystalline silica - means quartz, cristobalite, and/or tridymite contained in airborne particles that are determined to be respirable by a sampling device designed to meet the characteristics for respirable-particle-size-selective samplers specified in the International Organization for Standardization (ISO) 7708:1995: Air Quality – Particle Size Fraction Definitions for Health-Related Sampling.

Physician or other licensed health care professional [PLHCP] - means an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide or be delegated the responsibility to provide some or all of the particular health care services required by this policy.

RESPONSIBILITIES

The Program Administrator: Brieser Safety Director

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.
- Ensuring that employees have available to them initial and refresher training on the use of this policy.
- Conducting a periodic review of the effectiveness of the ECP. This would include a review of the available dust-control technologies to ensure these are selected and used when practical.
- Initiating sampling of worker exposure to concrete dust when there are non-standard work practices for which the control methods to be used have not been proven to be adequately protective.
- This Silica Exposure Control Plan must be evaluated at least once per year and as necessary. Situations where reevaluation may be necessary include regulatory updates, changes in equipment, and exposure incidents. Any changes resulting from this process must be communicated to affected employees.

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Project Managers, Superintendents and Foremen

These people are responsible for:

- Substitution of less hazardous products for those that contain crystalline silica is required. Such as a Project Manager sourcing grout mix that has less silica content.
- Ensuring that the materials (e.g., tools, equipment, personal protective equipment) and other resources (i.e., worker training materials) required to fully implement and maintain this exposure control plan (ECP) are readily available where and when they are required.
- Providing a job specific ECP for each project, which outlines in detail the work methods and practices that will be followed on each site. Considerations will include.
 - Availability and delivery of all required tools/equipment
 - Scope and nature of silica dust generation work to be conducted.
 - Control methods to be used and level of respiratory protection required.
 - Ensuring supervisors and workers are educated and trained to an acceptable level of competency.
 - Coordinating the work with the prime contractor and other employers to ensure a safe work environment.
- Selecting, implementing, and documenting the appropriate site-specific control measures
- Providing adequate instruction to workers on the hazards of working with silica-containing materials (e.g., concrete) and on the precautions specified in the job-specific plan covering hazards at the location.
- Ensuring that workers are using the proper respirators and have been fit-tested, and that the results are recorded.
- Directing the work in a manner that ensures the risk to workers is minimized and adequately controlled.
- Communicating with the prime contractor and other sub-contractors to ensure a safe work environment.

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Human Resources

These people are responsible for:

- Maintaining records of training, fit-test results, crew talks, and inspections (equipment, PPE, work methods/practices).
- Maintaining training records for all employees included in the training sessions.

Equipment Manager

These people are responsible for:

- Ensuring that all required tools, equipment, and personal protective equipment are readily available to the field as required by the ECP.

Employees

- Knowing the hazards of silica dust exposure
- Using the assigned personal protective equipment in an effective and safe manner
- Using the appropriate control methods outlined within the Silica Control Permit
- Ensure you are trained on any equipment used.
- Setting up the operation in accordance with the site-specific plan
- Following established work procedures as directed by the supervisor.
- Reporting any unsafe conditions or acts to the supervisor.
- Knowing how and when to report exposure incidents.

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GENERAL

Silica is the second most common mineral on earth and makes up nearly all of what we call “sand” and “rock.” Silica exists in many forms—one of these, “crystalline” silica (including quartz), is the most abundant and poses the greatest concern for human health. Some common materials that contain silica include:

- Rock and sand
- Topsoil and fill
- Concrete, cement, and mortar
- Masonry, brick, and tile
- Granite, sandstone, and slate
- Asphalt (containing rock and stone)
- Fibrous-cement board containing silica.

Silica is a primary component of many common construction materials, and silica-containing dust can be generated during many construction activities, including:

- Abrasive blasting (e.g., of concrete structures)
- Jackhammering, chipping, or drilling rock or concrete.
- Cutting brick or tiles
- Sawing or grinding concrete.
- Tuck point grinding
- Road construction
- Loading, hauling, and dumping gravel.
- Demolition of structures containing concrete
- Sweeping concrete dust

Unprotected workers performing these activities, or working in the vicinity, can be exposed to harmful levels of airborne silica. Workers in other industries can also be exposed to silica, for example in the manufacture of toothpaste or pottery, or when loading coal (which can contain quartz) into the hold of a ship.

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HEALTH EFFECTS

Exposure to silica has been shown to cause silicosis, lung cancer, pulmonary tuberculosis, and other airway diseases. Crystalline silica dust can cause a disabling, sometimes fatal disease called silicosis. The fine particles are deposited in the lungs, causing thickening, and scarring of the lung tissue. The scar tissue restricts the lungs' ability to extract oxygen from the air. This damage is permanent, but symptoms of the disease may not appear for many years.

A worker may develop any of three types of silicosis, depending on the concentrations of silica dust and the duration of exposure:

- Chronic silicosis—develops after 10 or more years of exposure to crystalline silica at relatively low concentrations.
- Accelerated silicosis—develops 5 to 10 years after initial exposure to crystalline silica at high concentrations.
- Acute silicosis—develops within a few weeks, or 4 to 5 years, after exposure to very high concentrations of crystalline silica.

Initially, workers with silicosis may have no symptoms; however, as the disease progresses, a worker may experience:

- Shortness of breath
- Severe cough
- Weakness

These symptoms can worsen over time and lead to death. Exposure to silica has also been linked to other diseases, including bronchitis, tuberculosis, and lung cancer.

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INDUSTRIAL HYGIENE

Threshold Limit Value / Time Weighted Average – TLV / TWA

Brieser construction will employ the American Conference of Governmental Industrial Hygienists (ACGIH) values. The permissible exposure over an 8-hour workday is defined as the TLV TWA or Threshold Limit Value Time Weighted Average. The TLV TWA for Respirable Silica is 0.025 mg/m³.

A worker's exposure to silica is kept as low as reasonably achievable. Employees must not be exposed or expected to be exposed to airborne concentrations of silica more than 0.025 mg/m³ over an 8-hour period will be assessed by conducting personal air monitoring. Atmospheric testing results should be assessed before a worker is exposed.

METHOD OF COMPLIANCE – PERSONAL AIR MONITORING

All protective procedures will be driven using personal monitoring techniques as well as monitoring the area around dust generation activities. Section 26 of the Brieser SH&E Manual will detail the procedures for assessing risk for health issues such as silica exposure.

All data shall be collected on the Brieser IH Sample Form and turned into the Safety Department for recordkeeping. See Appendix A

At times, the Brieser Safety Department may perform periodic personal exposure monitoring to ensure our employees are below the TLV TWA of 0.025 mg/m³.

Exposure Limits

Respirable Silica: TLV TWA: 0.025 mg/m³

Respirable Dust: TLV TWA: 2.5 mg/m³

Periodic Monitoring

The Brieser Safety Department will periodically monitor employee exposures to respirable silica dusts and respirable dust at least every 3 months, as the needs arises, or at the discretion of the safety director if conditions permit using an industry standard cyclone to capture respirable particles.

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METHODS OF COMPLIANCE

Where feasible, silica dust exposure must be controlled through engineering controls and work practices in preference to respiratory protection. Respirators can and should be used in conjunction with engineering, administrative & work practice controls. PPE should always be selected as the last line of defense and should not be the first and only control method.

In cases of exposure levels above the limit, a written plan to reduce that exposure will be prepared. This plan will be explained in the monitoring results letter sent to the exposed employee. The area superintendent will receive a copy of this notice and will be responsible for the prompt implementation of this plan.

A key step in developing a silica exposure control plan is to identify the work activities that would put workers at risk of exposure.

- Work activities — that may generate airborne silica dust—for silica, the route of exposure is through the inhalation of airborne dust. Brieser Construction has established a table to identify our work activities or more specifically the tools or equipment used that have the potential to create silica dusts. Please see Appendix B, Silica Exposure Control Matrix.
- Identify workers at risk of exposure—At Brieser Construction we have identified three crafts that are at risk of exposure. They are:
 - Finishers
 - Laborers
 - Operators.
- Amount of exposure—Brieser construction will rely on our Silica Exposure Control Matrix in conjunction with Industrial Hygiene exposure monitoring to determine the magnitude of exposure to respirable crystalline silica dusts.
- Duration of exposure—Briesers Silica Exposure Control Matrix is separated between workers who will be creating silica dusts for <4 hours and >4 as the workers who grind concrete for a full shift would be at greater risk than workers jackhammering for an hour.

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Effective control options must be used to eliminate or reduce the risk to workers from the hazards of silica dust exposure. The following hierarchy of control measures must be followed:

- Elimination/Substitution (e.g., using products with less silica or using work methods that would eliminate the need for surface grinding)
- Engineering Controls (e.g., local exhaust ventilation, negative pressure enclosure, dust collection system)
- Work Practice Controls (e.g., water)
- Administrative controls (e.g., coordination of tasks with subcontractors, signage)
- The use of proper PPE such as gloves, coveralls and eye protection when exposed to silica. Personal protective equipment such as gloves, coveralls and eye protection will be used to control silica exposures.

Brieser Construction commits to developing knowledge and expertise about these controls, and to establishing policies/procedures to protect workers from harmful exposure and to minimize reliance on respirators. Effective engineering controls such as HEPA vacuum attachments and wetting methods, which control silica dust at its source, are readily available. These controls have been proven to reduce airborne dust levels significantly when selected and operated in accordance with best practices. We know that engineering controls alone do not reduce airborne silica to safe levels; so, in most cases other control measures, including respiratory protection, will be necessary. However, engineering and work practice controls must be used to reduce employee exposure to respirable crystalline silica to the lowest feasible level and maintain it at that level when required.

If we take on a job that could release an unusually high amount of dust, and we are unsure of the adequacy of our control measures, we will conduct air sampling to ensure that control methods are protective.

We will reduce or eliminate worker exposure to silica dust by selecting a combination of the following controls listed in order of preference:

- Elimination and substitution
- Engineering
- Administrative
- Personal protective equipment

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ELIMINATION & SUBSTITUTION

We recognize the importance of planning the work to minimize the amount of silica dust generated. During the project planning phase, we will advocate for the use grout mixes that either contains zero silica or the least amount as possible.

ENGINEERING CONTROLS

Selecting an appropriate control measure depends on the specifics of the operation. In some cases, local exhaust ventilation (LEV) is more effective at controlling exposure (e.g., during grinding operations) than wetting methods. In a different application, wetting may be more effective (e.g., during cutting operations) than LEV. However, using LEV may reduce the amount of final cleaning required, as the silica dust is captured.

Our dust control systems may employ the following techniques:

- Local exhaust ventilation (LEV)
- Restricting or isolating the work activity with barriers or full enclosures (this may be the only option where LEV or WDS is not practical or effective). This includes use of a Negative Pressure Enclosure utilizing negative air machines.

Local Exhaust Ventilation (LEV)

When LEV is used in our work, we will employ the following systems and safe work practices:

- Vacuum attachment systems to capture and control the dust at its source whenever possible.
- Dust control systems (used regularly and well maintained).
- Grinding wheels operated at the manufacturers recommended rpm (operating more than this can generate significantly higher airborne dust levels not to mention cause serious injury due to the wheel exploding).
- Retrofit shrouds or exhaust cowlings for corner grinding; use manufacturer-specified rpm speeds and a well-maintained HEPA vacuum.
- Diamond stone grinders, which allow for the use of a more efficient suction casing on the grinder, whenever practicable.

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Local Exhaust Ventilation (LEV) continued

- HEPA or good quality, multi-stage vacuum units approved for use with silica dust. [The vacuum units should be capable of creating a target airflow of at least 70 cfm. This should achieve a face velocity at the shroud of about 1.3 m/s (260 fpm)—the higher the face velocity, the more dust captured at source.]
- Work planning, so that concrete grinding, sawing, or cutting can be completed when wet (dust release can be significantly reduced).
- Good housekeeping work practices (for example, use vacuums with high-efficiency particulate air (HEPA) filters, or use wet sweeping).
- Train workers and supervisors on how to properly use and maintain the equipment.

BARRIERS & ENCLOSURES

When barriers or enclosures are used in our work, we will follow these safe work practices:

- The site foreman will determine the type and design of barrier or enclosure (based on the work activity and the work area) and ensure it is constructed in accordance with the work plan. Barriers may be simple hazard-flagging ribbon or more restrictive enclosure.
- We will use commercially available negative air units when constructing a full enclosure. And will outfit the enclosure with enough negative air units to maintain at a minimum 4 air changes per hour. See the Negative Air Machine equipment training before use.

ADMINISTRATIVE / WORK PRACTICE CONTROLS

We will be following administrative work practice controls:

- The *Silica Exposure Control permit (Appendix A)* and the *Silica Exposure Control Matrix (Appendix B)* shall be utilized prior to the start of work.
- We will establish procedures for housekeeping, restricting work areas, personal hygiene, worker training, and supervision.
- As part of our project planning, we will assess when silica dust may be generated and plan to eliminate or control the dust at the source. We recognize that awareness and planning are key factors in the prevention of silicosis.

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ADMINISTRATIVE / WORK PRACTICE CONTROLS continued

- Warning signs will be posted to warn workers about the hazards of silica and to specify any protective equipment required (for example, respirators).
- Work schedules will be posted at the boundaries of work areas contaminated with silica dust.
- Work that generates silica dust will be conducted after hours, when access to other unprotected workers cannot be restricted.
- We will develop a site-specific exposure control plan to cover project-specific issues (e.g., scope of work, project location and site-specific hazards) and to be kept available at the worksite.

When water spray systems are used in our work, we will follow these safe work practices:

- Pneumatic grinders will be used instead of electric-powered grinders if water is the method of control.
- Pressure and flow rate of water will be controlled in accordance with tool manufacturers' specifications (for cutting saws, a minimum of 0.5 liters of water per minute should be used).
- When sawing concrete or masonry, we will use only saws that provide water to the blade.
- Wet slurry will be cleaned from work surfaces when the work is completed, using a wet vacuum or wet sweeping.

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RESPIRATORY PROTECTION

Respirators shall be provided at Company expense and used by the employee in the following circumstances:

1. During the period, necessary to install and/or implement feasible engineering controls.
2. Where feasible engineering controls and work practices by themselves are not sufficient to reduce employee exposure to or below the exposure limits.
3. During intermittent or limited duration work operations where engineering controls and work practices are not feasible or required
4. In emergencies.

The Brieser SH&E Manual Section 7 Respiratory Protection shall be referenced if the use of respirators will be used to control silica dust exposures on the jobsite.

Generally, for exposures in atmospheres between 0.025 mg/m³ and 0.125 mg/m³, the appropriate respirator will be a negative pressure respirator with P-100 HEPA cartridges. Filter elements must be changed at the end of the service life or at the beginning of each shift, whichever comes first.

Employees exposed to Silica shall be given adequate time to wash their face and respirator to prevent skin irritation and to change filter elements. Protective clothing should be provided as necessary to limit exposure to the eyes or skin.

The job supervisor is responsible to ensure the proper respirators are worn in the approved manner, and that all hygiene considerations (wash-up time, filter element changes and protective clothing) are followed.

Before an employee can use a negative pressure respirator for silica exposure, that employee must be fit tested properly on an annual basis. This fit test must follow the protocol for fit testing to be done at the appropriate intervals and the Safety Department will assist in determining which employees are to be included in this program. A current listing of fit tested employees will be maintained by the Safety Department as part of this written program. Employees without a current fit test shall not be assigned to jobs that are known to create silica exposures.

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CROSS REFERENCE:	OSHA 29 CFR 1926.1153 Respirable Crystalline Silica ACGIH, TLV TWAs and BEIs		

MEDICAL SURVEILLANCE

A medical surveillance program must be made available to those employees who are or may be exposed to silica:

- At no cost to the employee
- At a reasonable time and place
- For each employee who will be required under this policy to wear a respirator for 30 or more days per year
- All medical examination and procedures are performed by a PLHCP

INITIAL EXAM

Brieser Construction will make available an initial baseline medical exam within 30 days after initial assignment, unless the employee has received a medical examination that meets the requirements of this policy within the last three years.

The examination shall consist of:

- A medical work history concentrating on silica exposure in the past, present and future. Any history of respiratory system dysfunction, including signs and symptoms of respiratory disease; history of tuberculosis; and smoking status and history.
- A physical exam with emphasis on the respiratory system.
- A chest X-ray (a single posteroanterior radiographic projection or radiograph of the chest at full inspiration recorded on either film (no less than 14 x 17 inches and no more than 16 x 17 inches) or digital radiography systems), interpreted and classified according to the International Labor Office (ILO) International Classification of Radiographs of Pneumoconiosis by a NIOSH-certified B Reader
- A pulmonary function test to include forced vital capacity (FVC) and forced expiratory volume in some second (FEV1) and FEV1/FVC ratio, administered by a spirometry technician with a current certificate from a NIOH-approve spirometry course.

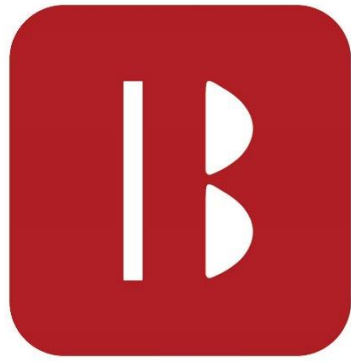
BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/6/2017/
		Revised:	2/21/2020
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Silica Exposure Control Plan	
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PERIODIC EXAMS

Brieser shall make available medical examinations that include the procedures outline above at least every 3 years, or more frequently if recommended by the PLHCP

Recordkeeping & Training

- A copy of this policy is located on Briesers Website
- A copy of the PLHCP's written report for the employee shall be kept in accordance with Brieser Construction's Human Resources duties outline in Section 3 of this SH&E Manual
- Air monitoring data shall be kept in accordance with Brieser Construction's Human Resources duties outline in Section 3 of this SH&E Manual
- Objective data shall be kept in accordance with Brieser Construction's Human Resources duties outline in Section 3 of this SH&E Manual
- Brieser will ensure that each employee with respect to training can demonstrate knowledge and understanding of:
 - Health hazards associated with silica exposure.
 - The tasks in their workplace that could result in exposure to respirable crystalline silica
 - Proper use, storage and maintenance of engineering controls, work practices and respirators
 - The contents of this policy
 - Who the competent person is on their site?
 - The purpose and description of the medical surveillance program



Brieser
CONSTRUCTION

**BRIESER CONSTRUCTION
SAFETY & HEALTH MANUAL
SECTION 45
SILICA EXPOSURE CONTROL PLAN
SUB-SECTION TRAINING**

 Brieser
OSHA - VPP

Sample Description					 OSHA - VPP																																																																					
(Project Code-Yr/Mth/Day-Sample Description-Sample # (start with 001))																																																																										
Sample Type		(Personal) (Area) (Blank) (Bulk) (Grab) (Source)																																																																								
Person Sampled (Employee Last name, First Name)																																																																										
EHS Job (Job Description)		(Carpenter) (Finisher) (Iron Worker) (Laborer) (Operator) (Tech Eng) (Teamster)																																																																								
Collected By (Last name, First Name)																																																																										
Sample Period		(8 hour shift) (10 hour shift) (12 hour shift); (STEL)			TABS-																																																																					
Calculation Method		(Zero) (Same)			<table border="1"> <thead> <tr> <th>Tasks</th> <th>Controls</th> </tr> </thead> <tbody> <tr> <td></td> <td>Admin Controls</td> </tr> <tr> <td></td> <td>Isolation of Worker</td> </tr> <tr> <td></td> <td>Work Practice Contols</td> </tr> <tr> <td></td> <td>Worker Rotation</td> </tr> <tr> <td></td> <td>Eng. Solutions</td> </tr> <tr> <td></td> <td>Air Conditioning</td> </tr> <tr> <td></td> <td>Barrier - Noise</td> </tr> <tr> <td></td> <td>Damping - Noise</td> </tr> <tr> <td></td> <td>Enclosure</td> </tr> <tr> <td></td> <td>Gen Dilution Vent.</td> </tr> <tr> <td></td> <td>Local Exhaust (LEV)</td> </tr> <tr> <td></td> <td>Misting Dust Control</td> </tr> <tr> <td></td> <td>Portable LEV</td> </tr> <tr> <td></td> <td>Eye Protection</td> </tr> <tr> <td></td> <td>Chemical Goggles</td> </tr> <tr> <td></td> <td>Safety Glasses</td> </tr> <tr> <td></td> <td>Welding Shaded Lenses</td> </tr> <tr> <td></td> <td>Foot Protection</td> </tr> <tr> <td></td> <td>Boot Chemical Prot</td> </tr> <tr> <td></td> <td>Safety-toe Shoe</td> </tr> <tr> <td></td> <td>Gloves</td> </tr> <tr> <td></td> <td>Butyl Alcohol</td> </tr> <tr> <td></td> <td>Butyl Rubber</td> </tr> <tr> <td></td> <td>Kevlar</td> </tr> <tr> <td></td> <td>Leather Gauntlet</td> </tr> <tr> <td></td> <td>Latex</td> </tr> <tr> <td></td> <td>Nitrile</td> </tr> <tr> <td></td> <td>Full Body Protection</td> </tr> <tr> <td></td> <td>Neoprene</td> </tr> <tr> <td></td> <td>PVC</td> </tr> <tr> <td></td> <td>Respirators</td> </tr> <tr> <td></td> <td>(N95) (Supplied Air) (SAR) 1/2Mask APR)</td> </tr> <tr> <td></td> <td>(FF Multi Gas) (FF-OV) (1/2 Mask OV)</td> </tr> </tbody> </table>		Tasks	Controls		Admin Controls		Isolation of Worker		Work Practice Contols		Worker Rotation		Eng. Solutions		Air Conditioning		Barrier - Noise		Damping - Noise		Enclosure		Gen Dilution Vent.		Local Exhaust (LEV)		Misting Dust Control		Portable LEV		Eye Protection		Chemical Goggles		Safety Glasses		Welding Shaded Lenses		Foot Protection		Boot Chemical Prot		Safety-toe Shoe		Gloves		Butyl Alcohol		Butyl Rubber		Kevlar		Leather Gauntlet		Latex		Nitrile		Full Body Protection		Neoprene		PVC		Respirators		(N95) (Supplied Air) (SAR) 1/2Mask APR)		(FF Multi Gas) (FF-OV) (1/2 Mask OV)
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Sample Template		(Asbestos) (Benzene-Direct Reading) (BTX Full Shift) (BTEX- STEL) (Resp Silica) (Noise) (Welding)			Brazing Chipping - Bushhammering Chipping - Hand Held Chipping - Hequip. Attmnt.																																																																					
Media Type		(3M 3500 OVM)(Dosimeter)(3M 3720 Formaldehyde) (Mercury SKC 520 or Assay Badge)(CT:Charcoal Tube) (Direct Reading Instrument) (GammaRaell) (Vrae) (3M eg5 Noise Dosimeter)			Chipping - Jack Hammer Compacting Cutting/Sawing																																																																					
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HS Equipment		(dose Badge) (Draeger Pump) (SKC Pump)(Sirius PID) (RAE Benzene PID)(Sound Level Meter) (3M eg5 Noise Dosimeter)			Grinding Grinding - Hand Held Power Finishing Pouring/Setting																																																																					
HS Equipment Serial Number																																																																										
Calibrator		5) (RAE PID Cal gas) (MSA Sirius Galaxy)(Quest QC-10)			Welding Welding - FCAW Welding - MIG																																																																					
Calibrator Serial Number					Welding - SAW Welding - TIG																																																																					
Calibration		Initial Final Total Strokes																																																																								
Unit Of Measure		(PPM) (MG/M3) (L/min) (cc/min) (dBA)																																																																								
Laboratory		(Galson Labs)																																																																								
Exchange Rate		3dBA (only with noise, leave blank if not noise)			Chemical Protective Suit Flame Reistant Tyvek Suit																																																																					
Direct Reading Results		(Non Detect)																																																																								

Silica Exposure Control Permit

Date Completed:			
Crew Foreman:		Competent Person:	
Customer Site/Project #:			
Worker(s):			
Scope of work to be completed:			
Work start date:		Duration: ☐ Days ☐ Months ☐ Years	
Workers trained in (training records must be available for review):			
Proper use of equipment	Y ☐ N ☐	Proper use of admin & work practice controls	Y ☐ N ☐
Proper use of engineering controls	Y ☐ N ☐	Proper use of PPE	Y ☐ N ☐
Proper disposal methods	Y ☐ N ☐	Other (fall protection, confined spaces, etc.)	Y ☐ N ☐
Respirators			
Required: Y ☐ N ☐	Available: Y ☐ N ☐	Fit-tested: Y ☐ N ☐	
Documents to be attached to control plan (☒ if present)			
☐ TSTI ☐ SDS ☐ Training records			
Supervisor Signature		Position:	Date:

Task/risk management matrix (relating to silica dust) use table 1 for codes, separate with a comma (,)						
#	Date/Duration	Task	Controls		PPE	Supplies/ Equipment
			Engineering	Admin/Work Practice		

SITE INSPECTION CHECKLIST (complete pre-work & periodically during project)

Engineering Controls		Problem noted (DETAIL)	Problem corrected (DETAIL)
Available at site	Y ☐ N ☐		
Operating correctly	Y ☐ N ☐		
Used appropriately	Y ☐ N ☐		
Effective in dust control	Y ☐ N ☐		
Admin/Work Practice Controls			
Available at site	Y ☐ N ☐		
Used appropriately	Y ☐ N ☐		
In place before work start	Y ☐ N ☐		
Effective	Y ☐ N ☐		
Cleanup			
Vacuum used properly	Y ☐ N ☐		
Large pieces picked up	Y ☐ N ☐		
Vacuum capacity maintained	Y ☐ N ☐		
Pre-filters in place	Y ☐ N ☐		
Vacuum attachments used	Y ☐ N ☐		
Collection bags in place	Y ☐ N ☐		
Waste properly disposed of	Y ☐ N ☐		

TABLE 1 (Codes for task/risk management matrix)

Engineering Controls		Admin/Work Practice Controls		PPE		Supplies/Equipment	
1	Exhaust fan	1	Signage	1	½ Face Neg Pressure Respirator	1	Hammer/Impact Attachments
2	Local Exhaust Ventilation	2	After hours' work	2	N-95 Respirator	2	Jackhammer
3	Partial enclosure	3	Scheduling	3	P-100 HEPA Filter	3	Handheld Chipping Gun
4	Full enclosure	4	Wetting	4	P-100 Combo Filter	4	Bush Hammer
5	HEPA Vacuum Tool Attachment					5	Drills
6	Barriers					6	Partner Saw
7	Negative Pressure Enclosure					7	Walk Behind Saw
8	Dust Collection System					8	Grinder
						9	Mixer
						10	Soil Pick
						11	Vibratory Plate
						12	Grader
						13	HEPA filter (vacuum)

This is a placeholder for the **Silica Exposure Control Matrix**
This document can be located on the Brieser Website under
Employee Resources/Brieser Forms

Silica Exposure Control Plan Learning Exercise

Score:

%

Employees Name:

Date:

Company:

Instructor:

Trade:

Job Title:

Answer each of the following questions by circling the appropriate letter.

1. This Silica Exposure Control Plan must be evaluated at least _____ and as necessary. Situations where reevaluation may be necessary include regulatory updates, changes in equipment, and exposure incidents. Any changes resulting from this process must be communicated to affected employees.
 - a. Once per year
 - b. Twice per year
 - c. Once every 2 Years
 - d. Every Five Years
2. Silica is the second most common mineral on earth circle all the items that could also be considered silica from the list below: (Circle all that apply)
 - a. Rock and sand
 - b. Topsoil and fill
 - c. Concrete, cement, and mortar
 - d. Masonry, brick, and tile
 - e. Granite, sandstone, and slate
3. Silica is a primary component of many common construction materials, and silica-containing dust can be generated during many construction activities, EXCEPT:
 - a. Abrasive blasting (e.g., of concrete structures)
 - b. Jackhammering, chipping, or drilling rock or concrete
 - c. Sawing or grinding concrete.
 - d. Painting
 - e. Loading, hauling, and dumping gravel.
 - f. Demolition of structures containing concrete
 - g. Sweeping concrete dust
4. Crystalline silica dust can cause a disabling, sometimes fatal disease called _____.
 - a. Cirrhosis
 - b. Gangrene
 - c. Diabetes
 - d. Silicosis
5. Initially, workers with silicosis may have no symptoms; however, as the disease progresses, a worker may experience:
 - a. Shortness of breath
 - b. Severe cough
 - c. Weakness
 - d. All the above

Silica Exposure Control Plan Learning Exercise

Page 2

6. Identify workers at risk of exposure—At Brieser Construction we have identified three crafts that are at risk of exposure. They are: (Circle all that apply)
 - a. Finishers
 - b. Laborers
 - c. Operators
 - d. Iron Workers
7. Which is the correct order for the Hierarchy of Controls? (Put in order 1st to 5th)
 - ___ Administrative Controls
 - ___ Substitution
 - ___ Elimination
 - ___ PPE
 - ___ Engineering Controls
8. The Silica Exposure Control permit and the Silica Exposure Control Matrix shall be utilized after the work is completed.
 - a. True
 - b. False
9. A medical surveillance program must be made available to those employees who are or may be exposed to silica and the employee must pay for 50% of the cost for this test.
 - a. True
 - b. False
10. Brieser will ensure that each employee with respect to training can demonstrate knowledge and understanding of all the following EXCEPT:
 - a. Health hazards associated with silica exposure.
 - b. The tasks in their workplace that could result in exposure to respirable crystalline silica.
 - c. Proper use, storage and maintenance of engineering controls, work practices and respirators
 - d. Making personal dental records available.
 - e. Who the competent person is on their site?
 - f. The purpose and description of the medical surveillance program

Silica Exposure Control Plan Learning Exercise

Answer Sheet

1. This Silica Exposure Control Plan must be evaluated at least _____ and as necessary. Situations where reevaluation may be necessary include regulatory updates, changes in equipment, and exposure incidents. Any changes resulting from this process must be communicated to affected employees.
a. Once per year
2. Silica is the second most common mineral on earth circle all the items that could also be considered silica from the list below: (Circle all that apply)
a. Rock and sand
b. Topsoil and fill
c. Concrete, cement, and mortar
d. Masonry, brick, and tile
e. Granite, sandstone, and slate
3. Silica is a primary component of many common construction materials, and silica-containing dust can be generated during many construction activities, EXCEPT:
d. Painting
4. Crystalline silica dust can cause a disabling, sometimes fatal disease called _____.
d. Silicosis
5. Initially, workers with silicosis may have no symptoms; however, as the disease progresses, a worker may experience:
d. All the above
6. Identify workers at risk of exposure—At Brieser Construction we have identified three crafts that are at risk of exposure. They are: (Circle all that apply)
a. Finishers
b. Laborers
c. Operators
7. Which is the correct order for the Hierarchy of Controls? (Put in order 1st to 5th)
4 Administrative Controls
2 Substitution
1 Elimination
5 PPE
3 Engineering Controls
8. The Silica Exposure Control permit and the Silica Exposure Control Matrix shall be utilized after the work is completed.
b. False
9. A medical surveillance program must be made available to those employees who are or may be exposed to silica and the employee must pay for 50% of the cost for this test.
b. False
10. Brieser will ensure that each employee with respect to training can demonstrate knowledge and understanding of all the following EXCEPT:
d. Making personal dental records available.



Section 46
Safety Health
and
Environmental
Manual

2025

Toxic & Hazardous Substances

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/13/2017
		Revised:	3/13/2017
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	01
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Toxic & Hazardous Substances	
CROSS REFERENCE:	OSHA 29 CFR 1910 Subparts Z & H ACGIH, TLV TWAs and BEIs		

Toxic & Hazardous Substances

PURPOSE

The purpose of this policy is to set out our approach to protecting workers from harmful exposure to in-plant hazards such as process chemicals or other toxic or hazardous substances.

SCOPE

This policy is not a comprehensive plan to provide Brieser employees with safe work procedures. It is merely an awareness level program designed to inform our employees on the physical & health characteristics of a substance that they may come into contact or work around while on some of our customer's sites.

In all cases where employees may be potentially exposed to harmful chemicals the site competent person for Brieser, which is the site supervisor or superintendent, will conduct a full job hazard analysis utilizing the entire Brieser SH&E Manual to eliminate or reduce the hazard to acceptable levels before any task has been started.

PURPOSE

Competent person -means an individual who can identify existing and foreseeable respirable crystalline silica hazards in the workplace and who has authorization to take prompt corrective measures to eliminate or minimize them. The competent person must have the knowledge and ability necessary to fulfill the responsibilities set forth in this policy.

Health Hazard - means a chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees.

Physical Hazard - means a chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive), or water reactive.

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		Revised:	3/13/2017
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RESPONSIBILITIES

The Program Administrator: Brieser Safety Director

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.
- Ensuring all necessary inspections are maintained by conducting field audits.
- Conducting a periodic review of this program.

Project Managers, Superintendents and Foremen

These people are responsible for:

- Ensuring that employees are trained in this policy before working in the host facility where process operations contain chemicals listed within this policy.
- Conducting a job hazard analysis such as the Brieser TSTI before work starts to identify all site hazards.
- Selecting the appropriate PPE for chemicals listed in this policy.

Human Resources

These people are responsible for:

- Maintaining training records for all employees included in the training sessions.

Employees

- Knowing the physical characteristics & health hazards of the chemicals presented within this policy.
- Know where plant chemicals listed in this policy are used.
- Know & understand host facility contingency/emergency plans before working around chemicals listed in this policy.
- Using the appropriate control methods outlined within the Silica Control Permit
- Ensure you are trained on any equipment used including Personal Protective Equipment
- Following established work procedures as directed by the supervisor.
- Reporting any unsafe conditions or acts to the supervisor.
- Knowing how and when to report exposure incidents.

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		Revised:	3/13/2017
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Anhydrous Ammonia

General

Anhydrous ammonia is widely used as a refrigerant in many industrial facilities, including:

- Meat, poultry, and fish processing facilities
- Dairy and ice cream plants
- Wineries and breweries
- Fruit juice, vegetable juice, and soft drink processing facilities
- Cold storage warehouses
- Other food processing facilities
- Petrochemical facilities

Other uses are.

- Metal heat treating, annealing, and hardening.
- Production of Nitric Acid
- Acid neutralization in water treatment facilities
- Petroleum & Mining industries to extract chemicals and ores.
- Power plant stack emissions reduction
- Diesel Engine pollution reduction
- Beverage industry to supply nitrogen for yeast and other organisms.
- Leather industry to cure hides.
- Heat recovery air conditioning

If your task is working on or nearby.

- Industrial Refrigeration machinery rooms, equipment and/or piping
- Petroleum refineries
- With or near agricultural fertilizer

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		Revised:	3/13/2017
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All Brieser employees must obtain a permit from the host facility and understand the types of chemicals they may be working on/near and take the necessary precautions to eliminate or reduce the hazard.

HEALTH EFFECTS

- Exposure to Anhydrous Ammonia has been shown to be corrosive to the skin, eyes, and lungs.
- High concentrations of ammonia gas, liquid ammonia and solutions of ammonia can cause harm if inhaled or if they come into contact with eyes or skin.
- Exposure of the eyes to ammonia may cause burning, tearing, temporary blindness and severe eye damage. Exposure of the skin to ammonia may cause severe burns and blistering. Exposure of the respiratory tract (mouth, nose, and throat) to ammonia may cause runny nose, coughing, chest pain, severe breathing difficulties, severe burns, and death.

PHYSICAL CHARACTERISTICS

- Pungent Odor, detectable at 3-5 ppm
- Colorless gas under normal ambient conditions, liquid when under pressure
- Hydrophilic, meaning it likes water. Creates a strong base, pH 14.
- Likes water mean it likes living things.
- Flammable at 12,000 to 16,000 ppm
- Liquid will cause freeze burns.
- Never add heat (water) to liquid ammonia
- Very corrosive in concentrated ammonia solutions
- Lighter than air when dry, heavier in moist air or around water

EXPOSURE LIMITS

- TLV TWA: 25 ppm
- IDLH: 300 ppm for ½ hr.

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METHODS OF COMPLIANCE

Employees should be provided with and required to use impervious clothing, gloves, face shields and other appropriate protective clothing necessary to prevent any possibility of skin contact with liquid anhydrous ammonia or aqueous solutions of ammonia containing more than 10% by weight of ammonia. Similar precautions should be taken to prevent the skin from becoming frozen from contact with vessels containing liquid anhydrous ammonia.

Recordkeeping & Training

- A copy of this policy is located on Brieser's Website
- Brieser will ensure that each affected employee with respect to training can demonstrate knowledge and understanding of.
 - Health hazards associated with Anhydrous Ammonia exposure.
 - The tasks in their workplace that could result in exposure to Anhydrous Ammonia
 - Proper use, storage, and maintenance PPE
 - The contents of this policy
 - Who the competent person is on their site?

NITROGEN

GENERAL

Nitrogen is widely used to purge equipment, tanks, and pipelines of vapors and gases in many industrial facilities, including:

- Chemical plants
- Petroleum Refineries
- Other Industrial Facilities

Nitrogen is also used to maintain an inert and protective atmosphere in tanks, vessels and storage tanks containing flammable liquids or air-sensitive materials.

If your task is working with on or nearby.

- Industrial machinery rooms, equipment and/or piping
- Petroleum refineries
- Compressed cylinders

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All Brieser employees must obtain a permit from the host facility and understand the types of chemicals they may be working on/near and take the necessary precautions to eliminate or reduce the hazard. Documented planning will be conducted for those operations involving potential nitrogen exposure on the Brieser TSTI and/or customer permit. This includes anytime an active purge is being applied to a system in or around equipment associated with work.

If working with Nitrogen Cylinders Section 35 Compressed Gas Safety shall be referenced for a complete guide to working with compressed gasses including Nitrogen. This policy will reference some specific precautions but is not comprehensive, therefore Section 35 of our Safety Manual be utilized.

HEALTH EFFECTS

- Nitrogen is a simple asphyxiant by displacing the oxygen in the air.
- Inhalation of excessive amounts of nitrogen can cause dizziness, nausea, vomiting, loss of consciousness, and death.

PHYSICAL CHARACTERISTICS

- Odorless, colorless, tasteless, and nonirritating, nitrogen has no properties that can warn people of its presence.
- Liquid Nitrogen is a cryogenic liquid, has an extremely low boiling point of -320 degrees F.
- Produces large volumes of nitrogen gas when it vaporizes.
- Colorless gas under normal ambient conditions, liquid when under pressure
- Nitrogen gas is only slightly lighter than air and readily mixes with air at room temperature. Cold vapors are denser and will settle.

EXPOSURE LIMITS

- IDLH: Any Oxygen level below 19.5% to by oxygen-deficient

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/13/2017
		Revised:	3/13/2017
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	01
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Toxic & Hazardous Substances	
CROSS REFERENCE:	OSHA 29 CFR 1910 Subparts Z & H ACGIH, TLV TWAs and BEIs		

METHODS OF COMPLIANCE

- Appropriate signage will include adequate warning by stating Danger, Inert Gas Present, Possible Oxygen Deficient Environment.
- As determined by the hazard assessment (TSTI), nitrogen vent / purge points will be labeled and barricaded.
- As determined by the hazard assessment (TSTI), nitrogen vent / purge points will be labeled and barricaded with a 3' diameter or as determined by oxygen monitoring (must be > 19.5 outside of the barrier.)
- Nitrogen cylinders should contain an identifying label UN1066.
- Nitrogen cylinders should be upright, properly supported, and stored outdoors or in a well-ventilated area. The protective cap must be in place when not in use.
- Nitrogen must not be used to power pneumatic tools or blowers except when they are used in an inert atmosphere.

RECORD KEEPING & TRAINING

- A copy of this policy is located on Brieser's Website
- Brieser will ensure that each affected employee with respect to training can demonstrate knowledge and understanding of.
 - Health hazards associated with Nitrogen exposure.
 - The tasks in their workplace that could result in exposure to Nitrogen.
 - Proper use, storage, and maintenance PPE
 - The contents of this policy
 - Who the competent person is on their site.

Toxic and Hazardous Substances Learning Exercise

Score:

%

Employees Name:

Date:

Answer each of the following questions by circling the appropriate letter.

1. The purpose of this policy is to set out our approach to protecting workers from harmful exposure to in-plant hazards such as process chemicals or other toxic or hazardous substances.
 - a. True
 - b. False
2. Some uses for Anhydrous Ammonia are the following (circle all that apply)
 - a. Wineries and breweries
 - b. Cold storage warehouses
 - c. Petrochemical facilities
 - d. Leather industry to cure hides.
3. Exposure to Anhydrous Ammonia is not shown to be corrosive to the skin, eyes, and lungs.
 - a. True
 - b. False
4. _____ is widely used to purge equipment, tanks, and pipelines of vapors and gases in many industrial facilities, including:
 - a. Anhydrous Ammonia (NH₃)
 - b. Nitrogen (N₂)
 - c. Compressed Air
 - d. Water (H₂O)
5. All Brieser employees must obtain a _____ from the host facility and understand the types of chemicals they may be working on/near and take the necessary precautions to eliminate or reduce the hazard. Documented planning will be conducted for those operations on the _____. This includes anytime an active purge is being applied to a system in or around equipment associated with work.
 - a. Parking Pass / Big Truck
 - b. Permit / Brieser TSTI
 - c. Radio / Correct Frequency
 - d. Nitrogen / Anhydrous Ammonia

Toxic and Hazardous Substances Learning Exercise

Answer Sheet

1. The purpose of this policy is to set out our approach to protecting workers from harmful exposure to in-plant hazards such as process chemicals or other toxic or hazardous substances.
 - a. **True**
 - b. False

2. Some uses for Anhydrous Ammonia are the following (circle all that apply)
 - a. **Wineries and breweries**
 - b. **Cold storage warehouses**
 - c. **Petrochemical facilities**
 - d. **Leather industry to cure hides.**

3. Exposure to Anhydrous Ammonia is not shown to be corrosive to the skin, eyes, and lungs.
 - a. True
 - b. **False**

4. _____ is widely used to purge equipment, tanks, and pipelines of vapors and gases in many industrial facilities, including:
 - a. Anhydrous Ammonia (NH₃)
 - b. **Nitrogen (N₂)**
 - c. Compressed Air
 - d. Water (H₂O)

5. All Brieser employees must obtain a _____ from the host facility and understand the types of chemicals they may be working on/near and take the necessary precautions to eliminate or reduce the hazard. Documented planning will be conducted for those operations on the _____. This includes anytime an active purge is being applied to a system in or around equipment associated with work.
 - a. Parking Pass / Big Truck
 - b. **Permit / Brieser TSTI**
 - c. Radio / Correct Frequency
 - d. Nitrogen / Anhydrous Ammonia



Section 47
Safety Health
and
Environmental
Manual

2025

Falling Object Prevention

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/19/2018
		Revised:	5/1/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Falling Object Prevention Policy	
CROSS REFERENCE:	OSHA General Duty Clause 29 CFR 1910.28 Duty to have fall protection & falling object protection		

Dropped Object Prevention

PURPOSE

The purpose of this Dropped Object Prevention Sample Plan is to establish corporate-wide guidelines for eliminating dropped objects when working at height. This prevention plan is intended to significantly reduce both hazards and serious injury and risks to employees that dropped objects can pose. This plan should help mitigate dropped objects by ensuring that workers are properly trained to secure tools at height and understand correct procedures.

OBJECTIVE

This Dropped Object Prevention Sample Plan applies to:

- All locations where personnel are employed to perform work at height or where they may be exposed to a dropped object by working below other personnel, tools, equipment, and platforms.
- The requirements of this plan must be observed by all personnel involved in working at height or below at height activities.
- This Dropped Object Prevention Sample Plan must be reviewed in any job safety analysis or pre-task planning for activities that require working at height with tools, and in those activities that require working below such activities.
- This plan establishes minimum expectations to mitigate the risk of damage to property or personnel done by dropped or falling objects. It is the expectation of Brieser Construction that any tools and materials that could be considered drop hazards are secured with secondary drop systems.

DEFINITIONS

Anchorage – A secure point of attachment for tethers, tools and transport buckets with closure systems which is independent of an anchorage used for fall protection for personnel.

Attachment Point – A device designed and utilized to create a connection point on a tool to which the user can connect a tether or lanyard.

Barricades – For this program, barricades are a protection tool to notify personnel of a “Drops Zone” hazard. Drops zones must be taped off with “Drop Zone” tape and/or constructed and tagged under the elevated work area in a way to ensure personnel will NOT ENTER a danger zone of potential falling objects. The barricaded area under the work zone shall have four sides and tags must be attached to all sides of entry. The tag must identify the originator, hazard, and date of erection. Unauthorized personnel shall keep away from these danger zones. Knowledge and ability necessary to fulfill the responsibilities set forth in this policy.

Drop Hazard – Any tool, material or object that has an opportunity to fall from elevation to a lower level causing potential for damage to property, injury, or death.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/19/2018
		Revised:	5/1/2023
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DEFINITIONS continued

Dropped Object Zone (DOZ) – An area with potential to be impacted by drop hazards currently present in a work-in-progress above. These Dropped Object Zones are to be secured with barricades to prevent unauthorized entry. Signage stating the hazard and who to contact for information will be posted at the DOZ as well.

Dynamic Load Maximum – Refers to the load an object can withstand without failing when dropped from a specified Drop Distance. Maximum Dynamic Load is usually much less than Maximum Static Load due to the dramatic increase in force caused by the velocity of a falling object.

Elevated Work – For the purpose of this program, any work performed at 6 ft. or more above the ground is considered elevated work or where people could work or pass underneath.

Mitigation – The elimination or reduction of the frequency, magnitude, or severity of exposure to risks by the minimization of the potential impact of a threat or warning.

Primary Drop System – Systems which serve as the tool's primary form of drop prevention and typically include the worker's hand placement or grip on the tool. Other forms of primary protection may include main support systems for the tool (such as holstering a tool on the body or the platform a tool may be resting while not in use).

Safety Net – A device installed beneath work-in-progress to catch falling objects or personnel.

Secondary Drop System – Serves as a backup in the event the primary system fails and are utilized to prevent damage from a dropped or falling object after it has fallen. Secondary systems may include passive systems such as guardrails with toe-board and mesh netting, screens, floor/hole coverings, and tool canopies that have side protection. They may also include tool restraint systems which are utilized to secure a tool or object to an employee or stationary structure to prevent it from falling (these include pouches and transport buckets with closure systems). Tool arrest systems include tool tethers, which will arrest the fall of the tool and prevent it from striking a lower level and others below.

Static Load Maximum – Refers to the maximum load an object can withstand before failing. This measurement does not take into account Drop Distance or Velocity.

Tool Belt – A device that is designed to ergonomically support and manage other dropped prevention items such as, lanyards/tethers, pouches, and holsters on the person of the worker.

Tool Bucket – A bucket designed for the purpose of carrying tools and materials. These tool buckets must be capable of being closed and secured to prevent the contents of the tool bucket from spilling. All tool buckets being utilized by employees must utilize a closure system.

Tool Canopy – A structure designed to rest over an area that is capable of withstanding the impact force of dropped objects or tools. It is recommended that tool canopies have side protection if a potential for tool deflection exists.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/19/2018
		Revised:	5/1/2023
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DEFINITIONS continued

Tool Holster – A bag or pouch designed to secure single tools or items (hammers, wrenches, levels, radios, bottles, etc.) in order to keep them easily accessible while in use with other necessary components, helps prevent them from becoming drop hazards.

Tool Lanyard/Tether – An extension made of durable materials that is designed to prevent an object from being dropped. These will typically utilize a connection point on either end of the tether for securing an object to a worker or stationary item.

Tool Pouch – A bag or pouch that is designed to secure its contents (nuts, bolts, nails, screws, small hand tools, etc.) from being spilled or dropped. Many tool pouches allow the user to remove a tool for use while preventing it from becoming a drop hazard through use of tethers, retractors, etc.

RESPONSIBILITIES

The Program Administrator: Brieser Safety Director

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.
- Conducting a periodic review of this program.
- Communicating the expectation that dropped objects will be eliminated within the company and ensuring that this plan and associated procedures are implemented.
- Coordinating assessments to ensure implementation and effectiveness of the procedure.
- Ensuring employees have appropriate equipment and materials to implement the procedure effectively.
- Ensuring workers have the necessary opportunity for required training.

Project Managers, Superintendents and Foremen

These people are responsible for:

- Communicating this procedure and supporting information to applicable employees.
- Knowing the hazards in their areas requires the use of this policy.
- Reviewing where this may be of minor and or significant issue on the worksite. This should be documented on the TSTI for crew to reference.
- Enforcing the use of this policy in the areas in which it is required.
- Selecting the appropriate dropped object prevention tools. Such as tool lanyards, canopies, or netting.

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RESPONSIBILITIES *continued*

Employees

These people are responsible for:

- Notifying the supervisor of any drop hazards within their scope of work.
- Knowing this procedure and ensuring falling objects are considered and mitigation is documented on the Brieser TSTI/Fall Protection Permit.
- Conducting work only after all drop hazards have been eliminated or properly mitigated.
- Stopping work if hazardous conditions prevent the job from being done safely.
- Immediately report any dropped or fallen objects.
- Contributing to the company's safe work policy.
- Seek guidance when you do not understand a particular section within this policy.

DROP PREVENTION SAFE WORK PRACTICES

Tool Attachment Points

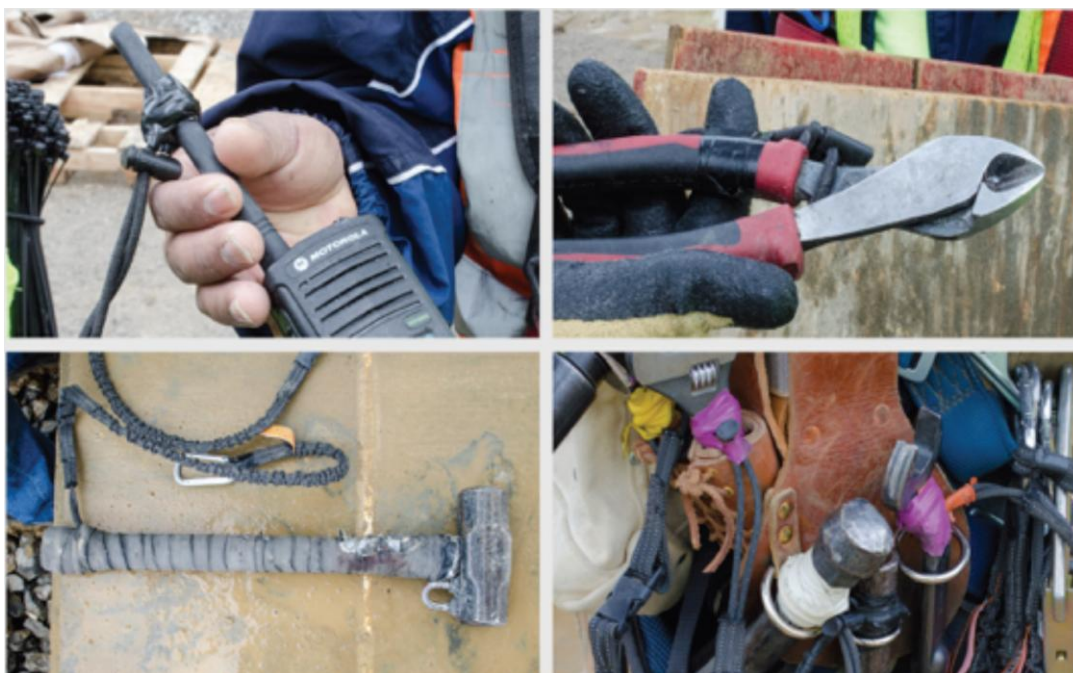
Prior to selecting a tool lanyard, a proper attachment point must be established on the tool. If a tool has a built-in connection point placed by the manufacturer for the purpose of drop prevention, this step is not required. The load rating of the attachment point should be appropriate for the tool's weight.

Examples of CORRECT tool attachment:



BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/19/2018
		Revised:	5/1/2023
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Examples of INCORRECT tool attachment:



Tool Lanyards/Tethers

After establishing an adequate attachment point on a tool, a proper tool tether will then need to be selected which has an appropriate load rating for the tool to be tethered.

Examples of CORRECT tether/lanyard selections for different sized tools



BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/19/2018
		Revised:	5/1/2023
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Tool Holsters and Pouches

For some tools and objects, a tool holster or tool pouch may be appropriate. Tools used in these holsters should weigh less than or equal to the manufacturer stated load-rating.

Examples of holstered tools:



Tool Belts

Upon choosing a proper method for tethering, it becomes necessary to select an appropriate anchor point for the remaining end of the tethering device. For many small tools, connecting to the worker can be the best option. This is only acceptable for tools weighing less than 5 lbs. D-Rings on fall protection harnesses which have been designated by the manufacturer for use as a tool connection point are a good option. Tool Belts designed with tether points are also a good option.

Examples of tethered tools utilizing tool belts:



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		Revised:	5/1/2023
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Safety Netting

In applications where the utilization of safety nets is necessary, nets should be designed with specific sized webbing approved by the manufacturer for use based on the specific task, location and type of tools/materials being used. Forged steel safety hooks or shackles will be used to fasten the net to its supports. Nets should be installed as closely below the work in progress as is deemed practicable, but never more than 30 feet below. Safety nets shall be hung, maintained, and tested in accordance with the manufacturer's instructions as well as the requirements set forth by the Occupational Safety and Health Administration found in CFR 1926.502. Nets designed for use to prevent falling objects shall not be used as fall protection for human beings. These nets may be deployed below fall protection nets in these cases. When falling object nets are used alone, signs will be posted informing employees that "Fall Protection is still required in work areas above placed netting." Inspections of safety netting should occur weekly and defective netting will not be deployed.

Toe Boards

When being used as a secondary drop system, toe boards will be erected along the edge of overhead work in order to protect employees below. Toe boards will be capable of withstanding a force of at least 50 lbs. in any downward or outward motion. Toe boards will be at least 3 ½ inches tall with no greater than ¼ inch clearance over the working surface.

Dropped Object Zones

Dropped Object Zones are to be clearly marked with barricades or caution/danger tape to restrict access. Only employees directly engaged in the activity conducted overhead will be admitted into a Dropped Object Zone.

Guardrail Systems

If guardrail systems are to be engaged as a secondary drop system, they will need to be inspected to ensure any openings are not large enough for tools or materials to pass through. It is recommended they be enclosed with a small mesh netting or screen to prevent materials from passing through.

HUMAN PERFORMANCE

Housekeeping

Trash and waste should be kept in appropriate bins which are to be located in convenient locations across the workplace. When at height, these are to be stored in transport buckets with closure systems, pouches, etc. with an ability to be closed and prevent spillage until the material can be properly stored in a waste bin. Employees should "clean as you go" and maintain an orderly work area, resulting in a lower chance for dropped material. Tools and other materials should also be kept in an organized, orderly fashion.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/19/2018
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Tool and Material Storage

Where tools or materials are stacked higher than the edge of the toe boards, screening or paneling will be constructed from the working surface to the top of the guardrail or mid-rail. This will be done for a sufficient distance to ensure these objects will not have an opportunity to become drop hazards. Unless guardrails with screening or paneling have been erected, materials should not be stored within four feet of the leading edge. All stacked materials should be stable and self-supporting.

Tool and Material Handling

Positive tool transfer should be utilized by employees. When transferring a tethered tool from one employee to another, “100% tie off” should be engaged. The tool should be tethered to the passing employee. Prior to handing off, the receiving employee should connect their tether to the tool as well. After positive connection has been completed, the passing employee may disconnect their tether from the tool. By utilizing this passing method, the tool never has an opportunity to become a drop hazard.

Equipment Inspection

All drop prevention systems shall be inspected prior to use. Excessively worn or damaged tools or materials must be immediately removed from service and replaced. Absolutely no modification of equipment is to be made without first notifying the Safety Department, and Equipment Director. These changes can then be discussed, approved, or denied. If denied a solution will be found to follow. Example: different tool brand.

Discipline

Failure to implement these procedures or to use necessary drop prevention systems will be considered a failure to abide by Brieser Construction safety rules and may result in discipline action up to removal from the project.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/19/2018
		Revised:	5/1/2023
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SUPPORTING ILLUSTRATIONS

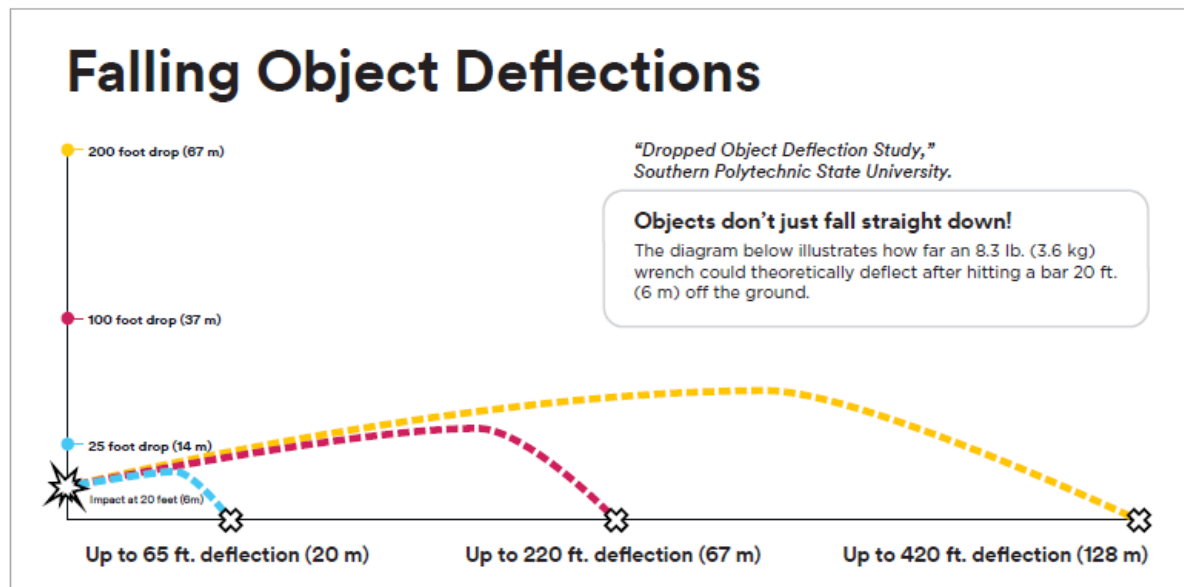
Impact Force Chart

Impact of an 8.3 lb. (3.6 kg) dropped wrench*

Drop Height		Speed		Impact Force	
Feet	Meters	MPH	KPH	Lbs.	Newtons
5	1.5	12	19	166	738
10	3	17	27	332	1477
25	7.6	27	43	830	3692
50	15.2	39	63	1660	7384
100	30.5	55	88	3320	14768
200	61	77	124	5540	29536
300	91	95	152	9960	44304
400	122	109	175	13280	59072
500	152	122	196	16600	73840

*Assumes a 3 in. (7.6 cm) deceleration distance for purposes of this calculation of impact force.

Tool Deflection Program



BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/19/2018
		Revised:	5/1/2023
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PHYSICAL BARRIERS

Where work activities cannot be coordinated to eliminate work above another work activity and a potential for falling objects exist, a physical barrier such as roof/bulkheads, debris netting, or other control measures may be used to protect the work crews below.

Examples of physical barriers are, but not limited to:

- Fencing
- Netting
- Toe boards
- Bulk heads
- Fire Blanket
- Plastic Sheeting

Plastic, fire blanket, or similar sheeting material of good repair shall be used to prevent items from falling through grating or scaffold decks when the potential exists. This shall be placed in a way that would cover a large enough area to be effective and will be maintained **to** prevent tripping hazards.

Ensure toe boards are installed on all scaffolding. This includes openings in scaffolds around pipes or other equipment where gaps can occur. Debris netting will also be required on scaffolds.

BARRICADES

Use of barricade DANGER tape is required for all overhead work. Tags will be attached to the barricade bearing the nature of work and labeled, “**OVERHEAD WORK**,” name of the person who barricaded the area, date, and company. The area barricaded should include the potential fall area but should not be so large to hamper work traffic in the area. Mass barricading is not allowed.

The use of barricades “only,” i.e., if tool falls no one will be in the area must be approved by the Safety Department and only in extreme situations.

Barricades “only” are not allowed if there is a potential to damage customer process equipment or instrumentation.

No unauthorized personnel can be within a barricaded “drops zone” while overhead work is going on.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/19/2018
		Revised:	5/1/2023
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BARRICADES continued

In situations where work crews and or different contractors are utilizing the same barricade, each work group shall tag barricade to ensure the barricade is **NOT REMOVED** before all the work is completed.

- Each work group **MUST COMMUNICATE** to the other groups that they are using the barricade and when their work is done, they will remove their tag. As each group completes their task, they **MUST NOTIFY** the remaining work groups that they are done, and they are removing their tag.
- When the last group has completed their work and **NO OTHER TAGS** are on the barricade, the last work crew can remove the barricade.
- If a tag remains on the barricade, and the other work crew cannot be contacted; **DO NOT REMOVE** the barricade. Brieser site supervision must be notified of this situation.

When cranes are used to hoist objects, the lift area shall be barricaded off. If the area barricaded is too large, one or more spotters will be used to warn people and direct them away from the lift area. These spotters will use horns to communicate with the people working in the area where a lift is about to begin. Items that are lifted must be rigged.

TRAINING

In many circumstances additional training related specifically to dropped and falling objects will be necessary for employees. Training will be provided to each employee who may create or be exposed to drop hazards on their worksite. This training shall include:

- The nature of drop hazards and dropped objects in the workplace.
- Correct procedures and equipment use for drop prevention.
- Purpose and application of applicable Primary and Secondary Drop Systems
- Proper storage and handling of equipment and materials at height
- Reporting requirements for incidents and near misses
- A copy of this policy is located on Brieser's Website
- Brieser will ensure that each affected employee with respect to training can demonstrate knowledge and understanding of.
 - Falling Object hazards associated with elevated work.
 - Proper use, storage, and maintenance of tethered tools
 - The contents of this policy

When there is reason to believe that an employee who has undergone training does not have adequate understanding or comprehension of these standards regarding drop prevention, it will be required that said employee is re-trained. Other circumstances which could necessitate re-training are changes in procedure, changes in drop prevention equipment, etc. Training will be documented.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/19/2018
		Revised:	5/1/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
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Dropped Object Prevention Learning Exercise

Score: %

Employees Name:		Date:	
Company:		Instructor:	
Trade:		Job Title:	

Answer each of the following questions “True” or “False” by circling the appropriate letter.

1.	T	F	All locations where personnel are employed to perform work at height must adhere to this program. Except for those people that work at federally owned facilities.
2.	T	F	This plans main expectation is that any tools and materials that could be considered drop hazards are secured with secondary drop systems
3.	T	F	Tool lanyards / tethers should only be used on all tools over 5 pounds.
4.	T	F	Tools not in use and in a toolbelt should be tethered to the tool belt?
5.	T	F	Tools being used under 5 pounds should be tethered to the user’s wrist?
6.	T	F	Only specific tool buckets with closure systems should be used to haul tools to height. 5-gallon plastic buckets are never allowed.
7.	T	F	When being used as a secondary drop system, toe boards will be capable of withstanding a force of at least 50 lbs. in any downward or outward motion. Toe boards will be at least 3 ½ inches tall with no greater than ¼ inch clearance over the working surface.
8.	T	F	When at height, trash bins are to be stored in open cast iron buckets without an ability to be closed and prevent spillage.
9.	T	F	Where tools or materials are stacked higher than the edge of the toe boards, screening or paneling will be constructed from the working surface to the top of the guardrail or mid-rail.
10.	T	F	All drop prevention systems shall be inspected yearly. Excessively worn or damaged tools can be removed from service at the end of the workday.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	2/19/2018
		Revised:	5/1/2023
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Dropped Object Prevention Learning Exercise

Answer Sheet

1. FALSE
2. TRUE
3. FALSE
4. TRUE
5. TRUE
6. TRUE
7. TRUE
8. FALSE
9. TRUE
- 10.FALSE



Section 48
Safety Health
and
Environmental
Manual

2025

Inclement Weather

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Develop:	3/27/2020
		Revised	10/2023
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		Reviewed	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Inclement Weather		
CROSS REFERENCE:	OSHA.GOV, Severe Weather National Oceanic and Atmospheric Administration		

PURPOSE

This procedure is designed to provide guidance to personnel in response to severe weather events including high winds, lightning, and tornados. NOAA and the National Weather Service are recognized as the preferred source for weather related information and local guidance.

Where Brieser Construction Employees are performing work at a host facility, those employees will follow the host facilities guidance and Emergency Action Plan except in cases where those employees feel that they are in danger or are unprotected.

This procedure does not include personal hot/cold weather guidelines. (see Brieser SH&E manual Section 42 for Cold Emergencies)

DEFINITIONS

Severe Weather – Any dangerous meteorological phenomena with the potential to cause damage, serious social disruption, or loss of human life.

Tornado – A violently rotating column of air, usually pendant to a cumulonimbus, with circulation reaching the ground. It nearly always starts as a funnel cloud and may be accompanied by a loud roaring noise. On a local scale, it is the most destructive of all atmospheric phenomena (NOAA)

Tornado Watch – is issued by the National Weather Service when conditions are favorable for the development of tornadoes in and close to the watch area. They are usually issued for a duration of 4 to 8 hours and normally are issued well in advance of the actual occurrence of severe weather. During the watch, people should review tornado safety rules and be prepared to move a place of safety if threatening weather approaches. (NOAA)

Tornado Warning – is issued when a tornado is indicated by radar or sighted by spotters; therefore, people in the affected area should seek safe shelter immediately. They can be issued without a Tornado Watch being already in effect. They are usually issued for a duration of around 30 minutes. (NOAA)

Tornado Refuge Area – A designated area inside a structure where personnel are directed to assemble in the event of a tornado. These areas have the highest probability of protecting personnel.

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RESPONSIBILITIES

Safety Director:

These People are responsible for:

- Maintaining the training records of all employees included in the training sessions.
- Reviewing and updating this program, as necessary.
- Issuing and administering this program.
- Making sure a tornado drill is performed at the office at least yearly.
- Providing initial and annual training of employees to include tornado drills.
- Monitoring NOAA or National Weather Service at-least daily to provide weather related updates to employees working remotely.

The Job Superintendent/Foreman

These people are responsible for:

- Knowing and understanding this procedure.
- Immediately responding to any weather event listed in this procedure.
- Assessing the risks and providing training to employees.
- Identifying safe shelters and refuge areas for their work site.
- Establishing a means of communication with all employees, sub-contractors, vendors, and visitors at their work site.
- Any office employees who can work remotely from their homes should the office need to close due to weather, may need to do this. A communication should be sent from the office manager prior to the forecasted weather incident.
- Monitoring NOAA or National Weather Service when weather conditions change and at-least daily.
- Directing employees, sub-contractors, visitors, and vendors during a severe weather event.
- Maintaining an accurate daily head count by name.
- Taking head count after a Severe Weather event and reporting the head count to the Company President.
- Contacting Local Emergency Response if needed (911).

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Employees:

These people are responsible for:

- Knowing and understanding this procedure.
- Staying alert to changing weather conditions.
- Following the direction of their Job Superintendent/Foreman.
- Reporting to their Job Superintendent/Foreman immediately after a Severe Weather event.
- Assisting as directed after a Severe Weather event.

High Winds

Wind speed shall be determined based on the best available information, NOAA, National Weather Service or Specific Site Guidance.

Prior to forecasted high wind events, Employees must:

- Secure loose and/or lightweight material (I.e., tarps, insulation, jacketing, etc.) as well as partially constructed structures (E.g., partial built building, tanks, etc.)
- Secure cranes/lifts per manufacturer's recommendations.

When wind speed reaches **20 mph:**

- Use of Personnel Platforms (man baskets) shall meet the wind restrictions outlined in the manufacturer's recommendations.
- Use of cranes shall meet the wind restrictions outlined in the manufacture's recommendations ("If crane manufacturer's recommendation for wind speed de-rating is unavailable, the limit will be set no greater than 20 mph.").
- Additional eye protection (I.e., sealed eyewear or goggles) should be worn when the following conditions exist:

When wind speed reaches **30 mph:**

- Potential for injury caused by flying dust and debris generated during high wind conditions (E.g., dry weather months). Supervisors should consider upgrading to sealed eyewear or goggles.

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When winds sustain **40 mph and/or gusts of 58 mph or higher**, Job Superintendent/Foreman should:

- Limit outdoor "Working at Heights" activities including roofs and scaffolding that are exposed to wind conditions to:
 - Emergency response efforts
 - Critical activities to ensure safe operations.

When winds > **70 mph** are occurring, Job Superintendent/Foreman should:

- Suspend all outdoor activity and relocate to a building that has a “*Tornado Refuge Area*” if available.
- Pre-plan evacuation routes and refuge area / alternate if anticipating winds over 70 mph and/or Tornado Watch has been issued.

Thunderstorms and Lightning / Snowstorms (Blizzards)

When severe weather (I.e., Thunderstorms and Lightning / Snowstorms (Blizzards) are usually forecasted for the area, Job Superintendent/Foreman should:

- Evaluate outside activities of their personnel for potential safety concerns relative to lightning. If personnel are performing work not permitted during a Lightning Alert, advise personnel discontinue activities.
 - Examples of work NOT permitted during a Lightning Alert:
 - Work on top of structures, tanks/vessels, elevated pipe racks, trucks, etc.
 - Work involving a crane.
 - Work in “open areas” (Supervisor’s discretion)
 - Vacuum truck operations involving static/low flash materials. (Use SDS as a resource to help identify)
 - If someone has been struck by lightning, call 911 and notify Lexi Southall Company President and Safety Director immediately.

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Employees:

- If outside during a Lightning Strike, be aware of the immediate hazard(s) and conduct a Two-Minute Drill to determine if outside activities can or should continue.
- If someone has been struck by lightning, notify Job Superintendent/Foreman immediately.
 - If you are qualified, administer First Aid and/or CPR immediately.
- After a storm has passed and no lightning has been detected within ten miles for 30 minutes:
 - Perform checks of their areas to determine if any unsafe conditions exist or if any damage has occurred.
 - Report any damage or unsafe condition to the Job Superintendent/Foreman for appropriate follow up.
 - If no damage or unsafe condition is found, normal work activities may resume (Note: For permitted work, ensure permit is valid per permitting guidelines.

Tornado Watch

Prepare NOW:

- Know your area's tornado risk. In the U.S., the Midwest and the Southeast have a greater risk for tornadoes.
- Know the signs of a tornado, including a rotating, funnel-shaped cloud; an approaching cloud of debris; or a loud roar—like a freight train.
- Sign up for your community's warning system. The Emergency Alert System (EAS) and National Oceanic and Atmospheric Administration (NOAA) Weather Radio also provide emergency alerts. If your community has sirens, then become familiar with the warning tone.
- Pay attention to weather reports. Meteorologists can predict when conditions might be right for a tornado.
- Identify and practice going to a safe shelter in the event of high winds, such as a safe room built using FEMA criteria or a storm shelter built to ICC 500 standards. The next best protection is a small, interior, windowless room on the lowest level of a sturdy building.

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When tornado watch is issued for the area:

Job Superintendent/Foreman:

- Notify respective employees/ sub-contractors/ vendors of the “Tornado Watch” and provide appropriate instructions. Ensure Employees will have method of receiving alarms/announcements.
- Review tornado safety rules and be prepared to move employees to a place of safety if threatening weather approaches.
- Locate closest and alternate “Approved Tornado Refuge Area”!
- Stay alert for the abrupt onset of violent wind, rain, hail, or a funnel-shaped cloud.
- If tornado type conditions exist or funnel-shaped cloud(s) are witnessed, do not wait for alarm. Seek appropriate shelter immediately.

Employees:

- Review tornado safety rules and be prepared to move to a place of safety if threatening weather approaches.
- Locate closest and alternate “Approved Tornado Refuge Area”!
- Stay alert for the abrupt onset of violent wind, rain, hail, or a funnel-shaped cloud.
- If tornado type conditions exist or funnel-shaped cloud(s) are witnessed, do not wait for alarm. Seek appropriate shelter immediately.

NOTES:

- A Tornado Watch is issued by the National Weather Service when conditions are favorable for the development of tornadoes in/and close to the watch area.
- Tornado Watch is usually issued for a duration of 4 to 8 hours, and they normally are issued well in advance of the actual occurrence of severe weather.

Tornado Warning

IF YOU ARE UNDER A TORNADO WARNING, FIND SAFE SHELTER RIGHT AWAY

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When a “Tornado Warning” has been issued that affects any area that Brieser Construction employees are working:

Job Superintendent/Foreman:

- Once phone message alert is received by Safety Manager or Weather Service of a “Tornado Warning,” notify all affected employees with a “Tornado Warning” announcement.
- Gather the daily employee roster.
- When the threat of a tornado no longer exists in the area notify all affected employees with an “All Clear” announcement.
- Take head count of all assigned Employees, Sub-Contractors, Visitors, and Vendors.
- Account for all assigned personnel and notify the Company President and Safety Director
- Report "Missing" personnel to Company President, Safety Director, and Local emergency response crews, dial 911.
- Assess for storm damage in your work area or areas of responsibilities.
- Communicate to respective employee/sub-contractors/vendors/visitors that/if normal work may resume.

Employees:

- Assemble in a designated “Tornado Refuge Area” as instructed by their Job Superintendent/Foreman.
- If you can safely get to a sturdy building, then do so immediately.
- Go to a safe room, basement, or storm cellar.
- If you are in a building with no basement, then get to a small interior room on the lowest level.
- Stay away from windows, doors, and outside walls.
- Do not get under an overpass or bridge. You are safer in a low, flat location.
- Watch out for flying debris that can cause injury or death.
- Use your arms to protect your head and neck.
- If unable to get inside, seek shelter in a low-lying ditch.
- Report to Job Superintendent/Foreman either face to face (preferred) or verbally via telephone or radio for accountability purposes.

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Be Safe AFTER The Storm

- Keep listening to EAS, NOAA Weather Radio, and local authorities for updated information.
- If you are trapped, cover your mouth with a cloth or mask to avoid breathing dust. Try to send a text, bang on a pipe or wall, or use a whistle instead of shouting.
- Stay clear of fallen power lines or broken utility lines.
- Do not enter damaged buildings until you are told that they are safe.
- Save your phone calls for emergencies. Phone systems are often down or busy after a disaster. Use text messaging or social media to communicate with family and friends.
- Be careful during clean-up. Wear thick-soled shoes, long pants, and work gloves.

Acceptable Indoor Shelters and Areas to Avoid During **Thunderstorms and Lightning ONLY**

(I.e., these areas may not be considered Tornado Refuge areas, however, all Tornado Refuge areas provide protection from thunderstorms and lightning. **Tornado Refuge Area** is a designated area inside a structure where personnel are directed to assemble in the event of a tornado. These areas have the highest probability of protecting personnel)

Acceptable Indoor Shelters include:

- Dwellings, trailers, or other buildings which are protected against lightning.
- Metal frame buildings
- Automobiles and trucks
- Enclosed metal barges or boats

NOTE: *Personnel should be inside the shelters, not standing beside them or touching any metal.*

Areas to Avoid include:

- Small, unprotected buildings, sheds, or smoking shelters
- Temporary shelters near construction or repair work (tents)
- Open fields and/or parking lots
- Areas on top of buildings and/or storage tank roofs
- Open pools of water
- Near wire fences, overhead wires, above ground pipelines and railroad tracks
- Under isolated trees
- On hilltops

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Inclement Weather Learning Exercise

Score: %

Employees Name:		Date:	
Company:		Instructor:	
Trade:		Job Title:	

Answer each of the following questions “True” or “False” by circling the appropriate letter.

T	F	1. A tornado watch is when conditions are favorable for the development of tornadoes in and close to the watch area. They are usually issued for a duration of 4 to 8 hours and normally are issued well in advance of the actual occurrence of severe weather.
T	F	2. During the tornado watch, people should review tornado safety rules and be prepared to move a place of safety if threatening weather approaches.
T	F	3. Tornado warning is issued when a tornado is indicated by radar or sighted by spotters; therefore, people in the affected area should seek safe shelter immediately.
T	F	4. When winds reach speeds of 15 MPH Potential for injury caused by flying dust and debris generated during high wind conditions (E.g., dry weather months). Supervisors should consider upgrading to sealed eyewear or goggles.
T	F	5. During high wind conditions Supervisors should make sure all personnel are aware of the evacuation and or muster points in case of emergencies.
T	F	6. If tornado type conditions exist or funnel-shaped cloud(s) are witnessed, you must wait for alarm. Never seek appropriate shelter until the alarm is signaled.
T	F	7. Prior to the weather incident you should secure loose and/or lightweight material (I.e., tarps, insulation, jacketing, etc.) as well as partially constructed structures (E.g., partial built building, tanks, etc.) Secure cranes/lifts per manufacturer’s recommendations.
T	F	8. If any injuries, deaths, or missing personnel occur due to the weather incident you must notify the Company payroll department immediately.

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Inclement Weather Learning Exercise

Answer Sheet

- True** 1. A tornado watch is when conditions are favorable for the development of tornadoes in and close to the watch area. They are usually issued for a duration of 4 to 8 hours and normally are issued well in advance of the actual occurrence of severe weather.
- True** 2. During the tornado watch, people should review tornado safety rules and be prepared to move a place of safety if threatening weather approaches.
- True** 3. Tornado warning is issued when a tornado is indicated by radar or sighted by spotters; therefore, people in the affected area should seek safe shelter immediately.
- False** 4. When winds reach speeds of 15 MPH Potential for injury caused by flying dust and debris generated during high wind conditions (E.g., dry weather months). Supervisors should consider upgrading to sealed eyewear or goggles
- True** 5. During high wind conditions Supervisors should make sure all personnel are aware of the evacuation and or muster points in case of emergencies
- False** 6. If tornado type conditions exist or funnel-shaped cloud(s) are witnessed, you must wait for alarm. Never seek appropriate shelter until the alarm is signaled.
- True** 7. Prior to the weather incident you should secure loose and/or lightweight material (I.e., tarps, insulation, jacketing, etc.) as well as partially constructed structures (E.g., partial built building, tanks, etc.) Secure cranes/lifts per manufacturer's recommendations.
- False** 8. If any injuries, deaths, or missing personnel occur due to the weather incident you must notify the Company payroll department immediately.



Section 49
Safety Health
and
Environmental
Manual

2025

Pandemic and Public Health Emergency

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/15/2021
		Revised:	
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	01
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Pandemic and Public Health Emergency		
CROSS REFERENCE:	Will County Emergency Management Agency, OSHA, and CDC		

PURPOSE

The purpose for this procedure is to identify organizational responsibilities needed to manage in the event of a pandemic or other public health emergency. This plan will be implemented by the Company President and includes various steps to be taken depending on the severity of the Pandemic. It will follow OSHA and CDC guidelines. This plan will be reviewed at least annually along with current CDC guidance and prevention techniques.

ORGANIZATIONAL FUNCTIONS AND RESPONSIBILITIES

The Office Manager shall maintain a list of outside emergency services such as ambulance, hospital, doctors, fire department, police and other emergency services that may be necessary to call for assistance during a pandemic or other public health emergency. This list shall be specific for each job site. If a pandemic or public health emergency arises, the company President will initiate this plan and take the appropriate steps to protect our employees, customers, and business functions. The HR Manager will monitor Federal and Local sources to keep the Company President informed about the pandemic or public health emergency. The goal of this plan is to give specific guidance for reduced exposure and spread of the virus or health emergency and to minimize business interruption. The Company President is in control of this plan and its implementation and execution.

PREVENTION

For most employers, protecting their employees will depend on emphasizing proper hygiene (disinfecting hands and surfaces) and practicing social distancing. Social distancing means reducing the frequency, proximity, and duration of contact between people (both employees and customers) to reduce the chances of spreading pandemic influenzas from person-to-person. All employers should Implement good hygiene and infection control practices.

Occupational safety and health professionals use a framework called the "*Hierarchy of controls*" to select ways of dealing with workplace hazards. The hierarchy of controls prioritizes intervention strategies based on the premise that the best way to control a hazard is to systematically remove it from the workplace, rather than relying on employees to reduce their exposure. In the setting of a pandemic, this hierarchy should be used in concert with current public health recommendations. The types of measures that may be used to protect yourself, your employees, and your customers (listed from most effective to least effective) are engineering controls, administrative controls, work practices, and personal protective equipment (PPE).

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Brieser Construction will use a combination of control methods. There are advantages and disadvantages to each type of control measure when considering the ease of implementation, effectiveness, and cost. For example, hygiene and social distancing can be implemented relatively easily and with little expense, but this control method requires employees to modify and maintain their behavior which may be difficult to sustain. On the other hand, installing clear plastic barriers or a drive through window will be more expensive and take more time to implement, although in the long run may be more effective at preventing transmission during a pandemic. Brieser Construction will evaluate our workplace to develop a plan for protecting our employees that may combine both immediate actions as well as longer term solutions.

WORK PRACTICE AND ENGINEERING CONTROLS

Historically, infection control professionals have relied on personal protective equipment (for example, surgical masks and gloves) to serve as a physical barrier to prevent the transmission of an infectious disease from one person to another. This reflects the fact that close interactions with infectious patients is an unavoidable part of many healthcare occupations. The principles of industrial hygiene demonstrate that work practice controls and engineering controls can also serve as barriers to transmission and are less reliant on employee behavior to provide protection. Work practice controls are procedures for safe and proper work that are used to reduce the duration, frequency, or intensity of exposure to a hazard. When defining safe work practice controls, it is a good idea to ask your employees for their suggestions, since they have firsthand experience with the tasks. These controls should be understood and followed by managers, supervisors, and employees. When work practice controls are insufficient to protect employees, some employers may also need engineering controls.

Engineering controls involve making changes to the work environment to reduce work-related hazards. These types of controls are preferred over all others because they make permanent changes that reduce exposure to hazards and do not rely on employee or customer behavior. By reducing a hazard in the workplace, engineering controls can be the most cost-effective solutions for employers to implement.

During a pandemic, engineering controls may be effective in reducing exposure to some sources of pandemic influenza and not others. For example, installing sneeze guards between customers and employees would provide a barrier to transmission. The use of barrier protections, such as sneeze guards, is common practice for both infection control and industrial hygiene. However, while the installation of sneeze guards may reduce or prevent transmission between customers and employees, transmission may still occur between coworkers. Therefore, administrative controls and public health measures should be implemented along with engineering controls.

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Examples of work practice controls implemented by Brieser Construction include:

- Providing resources and a work environment that promotes personal hygiene. For example, provide tissues, no-touch trash cans, hand soap, hand sanitizer, disinfectants, and disposable towels for employees to clean their work surfaces.



- Brieser Construction will encourage employees to obtain a seasonal influenza vaccine (this helps to prevent illness from seasonal influenza strains that may continue to circulate).
- Brieser Construction will provide employees with up-to-date education and training on the Pandemic, protective behaviors, and instruction on proper behaviors (for example, cough etiquette and care of personal protective equipment).
- We will develop policies to minimize contacts between employees and between employees and clients or customers.

More information about protecting yourself, your coworkers and employees, and your family can be found at [OSHA.gov](https://www.osha.gov) and the [CDC](https://www.cdc.gov).

ADMINISTRATIVE CONTROLS

Administrative controls include controlling employees' exposure by scheduling their work tasks in ways that minimize their exposure levels.

Examples of administrative controls include:

- Brieser Construction encourages ill employees to stay at home without fear of any reprisals, the discontinuation of unessential travel to locations with high illness transmission rates and consider practices to minimize face-to-face contact between employees such as e-mail, websites, and teleconferences.
- Where possible, we encourage flexible work arrangements such as telecommuting or flexible work hours to reduce the number of employees who must be at work at one time or in one specific location.
- Consider home delivery of goods and services to reduce the number of clients or customers who must visit the workplace.

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MANDATORY WORK PRACTICE CONTROLS

- Limit face to face meetings/attendance - adhere to "social distancing" guidelines (>6 ft separation between participants) or virtual meetings.
- Additional cleaning by employees and cleaning services

PERSONAL BEHAVIORS/ACTIONS (AT WORK & HOME)

- Monitor your temperature daily. If you develop symptoms, notify your supervisor immediately.
- Frequently wash hands. For remote locations, hand sanitizer will be provided.
- Minimize touching your face.
- Be deliberate about practicing social distancing with limited direct contact, which means maintaining >6ft separation, minimize shaking hands, etc. Direct contact is considered being within 6ft of another person for an extended period (> 15 minutes).
- Remote working - when / if appropriate to extend broad guidance for non-essential personnel to work from home.
- Limit in person communication. Use email, Skype, and conference calling when possible.
- Clean and sanitize all surfaces in the work area wherever possible.
- Follow recommendations of customer sites. Limit site visits. Use email or phone for communication.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

While administrative controls, engineering controls and proper work practices are considered more effective in minimizing exposure to the virus, the use of PPE may also be indicated during certain exposures. If used correctly, PPE can help prevent some exposures; however, they should not take the place of other prevention interventions, such as engineering controls, cough etiquette, and hand hygiene.

[Follow this link to see Healthy Habits to Protect Against FLU
https://www.cdc.gov/flu/prevent/actions-prevent-flu.htm](https://www.cdc.gov/flu/prevent/actions-prevent-flu.htm)

Examples of personal protective equipment are gloves, goggles, face shields, surgical masks, and respirators (for example, N-95). It is important that personal protective equipment be:

- Selected based upon the hazard to the employee.
- Properly fitted and some must be periodically refitted (e.g., respirators)
- Conscientiously and properly worn.
- Regularly maintained and replaced, as necessary
- Properly removed and disposed of to avoid contamination of self, others, or the environment.

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ADDITIONAL GUIDANCE FOR COVID-19 AND OTHER PANDEMICS

Implement Basic Infection Prevention Measures

For most employers, protecting workers will depend on emphasizing basic infection prevention measures. As appropriate, all employers should implement good hygiene and infection control practices, including:

- Promote frequent and thorough hand washing. This includes providing workers, customers, and worksite visitors with a place to wash their hands. If soap and running water are not immediately available, provide alcohol-based hand rubs containing at least 60% alcohol.
- Encourage workers to stay home if they are sick.
- Encourage respiratory etiquette, including covering coughs and sneezes.

Guidance on Preparing Workplaces for COVID-19

- Provide customers and the public with tissues and trash receptacles.
- Brieser will explore whether they can establish policies and practices, such as flexible worksites (e.g., telecommuting) and flexible work hours (e.g., staggered shifts), to increase the physical distance among employees and between employees and others if state and local health authorities recommend the use of social distancing strategies.
- Discourage workers from using other workers' phones, desks, offices, or other work tools and equipment, when possible.
- Maintain regular housekeeping practices, including routine cleaning and disinfecting of surfaces, equipment, and other elements of the work environment. When choosing cleaning chemicals, employers should consult information on Environmental Protection Agency (EPA)-approved disinfectant labels with claims against emerging viral pathogens. Products with EPA-approved emerging viral pathogens claims are expected to be effective against SARS-CoV-2 based on data for harder to kill viruses. Follow the manufacturer's instructions for use of all cleaning and disinfection products (e.g., concentration, application method and contact time, PPE).
- Develop Policies and Procedures for prompt identification and isolation of sick people, if appropriate.
- Prompt identification and isolation of potentially infectious individuals is a critical step in protecting workers, customers, visitors, and others at a worksite.
- Employers should inform and encourage employees to self-monitor for signs and symptoms of COVID-19 if they suspect possible exposure.
- Employers should develop policies and procedures for employees to report when they are sick or experiencing symptoms of COVID-19.

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Guidance on Preparing Workplaces for COVID-19 continued

- Where appropriate, employers should develop policies and procedures for immediately isolating people who have signs and/or symptoms of COVID-19, and train workers to implement them. Move potentially infectious people to a location away from workers, customers, and other visitors. Although most worksites do not have specific isolation rooms, designated areas with closable doors may serve as isolation rooms until potentially sick people can be removed from the worksite.
- Take steps to limit spread of the respiratory secretions of a person who may have COVID-19. Provide a face mask, if feasible and available, and ask the person to wear it, if tolerated. Note: A face mask (also called a surgical mask, procedure mask, or other similar terms) on a patient or other sick person should not be confused with PPE for a worker; the mask acts to contain potentially infectious respiratory secretions at the source (i.e., the person's nose and mouth).
- If possible, isolate people suspected of having COVID-19 separately from those with confirmed cases of the virus to prevent further transmission—particularly in worksites where medical screening, triage, or healthcare activities occur, using either permanent (e.g., wall/different room) or temporary barrier (e.g., plastic sheeting).
- Restrict the number of personnel entering isolation areas.
- Protect workers in close contact with (i.e., within 6 feet of) a sick person or who have prolonged/repeated contact with such persons by using additional engineering and administrative controls, safe work practices, and PPE.

Workers whose activities involve close or prolonged/ repeated contact with sick people are addressed further in later sections covering workplaces classified at medium and extremely high or high exposure risk.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/15/2021
		Revised:	
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	01
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Pandemic and Public Health Emergency		
CROSS REFERENCE:	Will County Emergency Management Agency, OSHA, and CDC		

Develop, Implement, and Communicate about Workplace Flexibilities and Protections

- Actively encourage sick employees to stay home.
- Ensure that sick leave policies are flexible and consistent with public health guidance and that employees are aware of these policies.
- Talk with companies that provide your business with contract or temporary employees about the importance of sick employees staying home and encourage them to develop non-punitive leave policies.
- Do not require a healthcare provider's note for employees who are sick with acute respiratory illness to validate their illness or to return to work, as healthcare provider offices and medical facilities may be extremely busy and not able to provide such documentation in a timely way.
- Maintain flexible policies that permit employees to stay home to care for a sick family member. Employers should be aware that more employees may need to stay at home to care for sick children or other sick family members than is usual.
- Recognize that workers with ill family members may need to stay home to care for them. See CDC's Interim Guidance for Preventing the Spread of COVID-19 in Homes and Residential Communities:

[Follow this link to see how to best Prevent the Spread of COVID-19](https://www.cdc.gov/coronavirus/2019-ncov/easy-to-read/prevent-getting-sick/how-covid-spreads.html)

- <https://www.cdc.gov/coronavirus/2019-ncov/easy-to-read/prevent-getting-sick/how-covid-spreads.html>
- Be aware of workers' concerns about pay, leave, safety, health, and other issues that may arise during infectious disease outbreaks. Provide adequate, usable, and appropriate training, education, and informational material about business-essential job functions and worker health and safety, including proper hygiene practices and the use of any workplace controls (including PPE). Informed workers who feel safe at work are less likely to be unnecessarily absent.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/15/2021
		Revised:	
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	01
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Pandemic and Public Health Emergency		
CROSS REFERENCE:	Will County Emergency Management Agency, OSHA, and CDC		

Score: _____ %

Employees Name: _____ **Date:** _____
Company: _____ **Instructor:** _____

Answer the following questions “True” or “False” by circling the appropriate letter.

- T** **F** 1. According to the hierarchy of controls wearing PPE is the best way to protect yourself from any and all health emergencies.
- T** **F** 2. During a pandemic, engineering controls may be effective in reducing exposure to some sources of pandemic influenza and not others.
- T** **F** 3. Brieser Construction will always provide resources and a work environment that promotes personal hygiene.
- T** **F** 4. Brieser Construction encourages all sick or ill employees to come into their assigned work site, so you do not lose hours.
- T** **F** 5. Brieser Construction will take the extra steps to make sure all office and job sites are furnished with the appropriate PPE and health / hygiene products to keep the site safe and clean.
- T** **F** 6. Hand washing and sanitizing is only required twice a work shift.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	3/15/2021
		Revised:	
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	01
		Reviewed:	12/17/24 KMC
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Answers

T	F	1. According to the hierarchy of controls wearing PPE is the best way to protect yourself from any and all health emergencies.
T	F	2. During a pandemic, engineering controls may be effective in reducing exposure to some sources of pandemic influenza and not others.
T	F	3. Brieser Construction will always provide resources and a work environment that promotes personal hygiene.
T	F	4. Brieser Construction encourages all sick or ill employees to come into their assigned work site, so you do not lose hours.
T	F	5. Brieser Construction will take the extra steps to make sure all office and job sites are furnished with the appropriate PPE and health / hygiene products to keep the site safe and clean.
T	F	6. Hand washing and sanitizing is only required twice a work shift.



Section 50
Safety Health
and
Environmental
Manual

2025

Cyber Security

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	10/4/2021
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Cyber Security Policy		
CROSS REFERENCE:	None		

PURPOSE

The purpose of the policy is to describe the physical safeguards applicable for each server, desktop computer system and wireless computer system used to access, transmit, receive and store PII and sensitive company data to ensure that appropriate security is maintained, and that access is restricted to authorized employees. The purpose of the policy is also to assure that systems containing PII and/or sensitive company data are accessed only by those persons or software programs that have been granted appropriate access rights. It is also to develop the response to and reporting of security incidents, including the identification of and response to suspected or known security incidents, the mitigation of the harmful effects of known security incidents, to the extent possible, and the documentation of security incidents and their outcomes.

NETWORK SECURITY

The Company will take reasonable and appropriate steps to prevent unauthorized access to workstations, servers and portable devices including laptops, smartphones, CD-ROMs, DVDs, USB Drives, etc. that store or access PII and sensitive company data. However, it is up to you the employee to be proactive in doing your best to prevent cyber breaches with your assigned equipment.

- Workstations and laptops that are in common areas that store or access PII and/or sensitive company data should be physically placed with the monitor so that it prohibits unauthorized people from viewing confidential information such as logins, passwords, PII and/or sensitive company data.
- Workstations and laptops that are in common areas that store or access PII and sensitive company data should utilize privacy screens to prevent unauthorized access to the data.
- Workstations and laptops that are in common areas that store or access PII and sensitive company data should be secured by restraints such as locking cables.
- To the extent technically feasible all portable devices that contain PII and/or sensitive company data should be encrypted to protect the contents. In addition, encryption should be used when sending any PII and/or sensitive company data across public networks and wireless networks. Public networks include email and Internet access.
- Portable devices and media should be concealed from view when offsite to prevent theft.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	10/4/2021
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Cyber Security Policy	
CROSS REFERENCE:	None		

NETWORK SECURITY continued

- All network servers, application servers, routers, database systems, device management system hardware, and other servers should be located in a room or an area that can be physically secured by lock and key or any other appropriate security mechanism to limit access to only authorized personnel.
- All workstations, servers and portable devices will run anti-virus / anti-malware software that protect against malicious software. The software must be current and up to date with virus / malware definitions. Employees must use and keep active current versions of approved anti-virus / anti-malware software scanning tools to detect and remove malicious software from workstations and files. Employees must not disable these tools unless specifically directed by computer support personnel to do so to resolve a particular problem.
- A network firewall should be in place to protect PII and/or sensitive company data. The firewall protection should be up to date. Firewalls should be monitored, and alerts should be triggered in the event of unauthorized intrusion or suspected intrusion.
- Log files from network equipment should be stored and retained. Log files from network equipment include firewalls, network servers, desktops, laptops, and other devices. The required length of retention of log files may vary depending on federal, state or industry regulations.
- All workstations, servers, and portable devices, where feasible, must implement a security patch and update procedure to ensure that all relevant security patches and updates are promptly applied based on the severity of the vulnerability corrected.
- Periodic network vulnerability scans should be performed on all internal as well as external (Internet facing servers, websites, etc.) systems. Results of the vulnerability scans should be analyzed and known vulnerabilities should be remediated and/or patched. After all vulnerabilities are remediated, an external network penetration test should be performed to ensure that unauthorized external access into the network is prevented.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	10/4/2021
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Cyber Security Policy	
CROSS REFERENCE:	None		

NETWORK SECURITY continued

- Reasonable and appropriate steps will be taken to prevent unauthorized access to workstations, servers and portable devices from misuse and physical damage, vandalism, power surges, electrostatic discharge, magnetic fields, water, overheating and other physical threats.
 - Workstations must not be located where they will be directly affected by extremes of temperature or electromagnetic interference. Precautions should also be taken to ensure that workstations cannot be affected by problems caused by utilities, such as water, sewer and/or steam lines that pass through the facility.
 - All facilities that store systems that contain PII and/or sensitive company data, should have appropriate smoke and/or fire detection devices, sprinklers, or other approved fire suppression systems, and working fire extinguishers in easily accessible locations throughout the facility.
 - All servers that contain PII and/or sensitive company data, should be connected to an Uninterrupted Power Supply (UPS) to prevent server crashes during power outages or spikes. Servers should be configured to shut down in a controlled manner if the power outage is for an extended period.
 - All systems should be connected to surge protectors, where feasible, to protect against power spikes and surges.
- A user identification and password authentication mechanism shall be implemented to control user access to the system.
- Employees who suspect any inappropriate or unauthorized use of workstations should immediately report such incident or misuse to the Security Officer.

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		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
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CROSS REFERENCE:	None		

UNIQUE USER IDENTIFICATION

Employees will be assigned a unique user identification (i.e., user-ID) to access any system or application that transmits, receives or stores PII and/or sensitive company data.

- Each employee must ensure that their assigned user identification is appropriately protected and only used for legitimate access to systems or applications.
- If an employee believes their user identification has been comprised, they must report the security incident.
- Employees should be aware of the following password procedures to create and use strong passwords to protect PII and sensitive company data:
 - Should be a minimum of eight characters in length.
 - Should incorporate both upper- and lower-case letters (e.g., a-z and A-Z)
 - Should incorporate digits and punctuation characters as well as letters e.g., 0-9, (! @ # \$ % ^ & * () _ - + = { } [] : ; “ ‘ | \ / ? < > , . ~ `)
 - Should not be words found in a Dictionary.
 - Should not include easily guessed information such as personal information, names, pets, birth dates, etc.
- Employees should be aware of the following procedures to protect passwords:
 - Passwords should not be written down.
 - Passwords should not be shared with other employees.
 - If an employee suspects that their password has been compromised, they should report the incident immediately.
- Passwords should be changed at least every 90 days.
- After several failed password attempts, the employee's account should be disabled (e.g., 3 or 5 failed attempts)

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	10/4/2021
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Cyber Security Policy	
CROSS REFERENCE:	None		

Automatic Logoff

- Systems that access or store PII and/or sensitive company data should implement an automatic logoff after a determined period of inactivity (i.e., 10 minutes of inactivity). Employees would need to login again to regain access and continue the session.
- When leaving a server, workstation, or other computer system unattended, employees must lock or activate the system's automatic logoff mechanism (e.g., CTRL, ALT, DELETE and Lock Computer) or logout of all applications and database systems containing or accessing PII and/or sensitive company data.

Encryption and Decryption

- To the extent technically feasible all portable devices that contain PII and/or sensitive company data should be encrypted to protect the contents. In addition, encryption should be used when sending any PII or sensitive company data across public networks and wireless networks. Public networks include email and Internet access.
- Employees should be trained on the use of encryption to protect PII and sensitive company data.
- All backup tapes and media that contain PII and/or sensitive company data should utilize encryption to protect the data.
- Secure encrypted remote access procedures should be implemented to protect systems that access or store PII and/or sensitive company data.
 - Authentication and encryption mechanisms should be required for all remote access sessions to networks containing PII and/or sensitive company data. Examples of such mechanisms include VPN clients, authenticated SSL web sessions, and encrypted Citrix/RDP client access.
 - Two-factor authentication (i.e., SMS pin notification) should be implemented where technically feasible.
- All wireless access to networks should utilize encryption mechanisms.
 - Employees should not utilize open public Wi-Fi networks.

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		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Cyber Security Policy		
CROSS REFERENCE:	None		

Email and Phone Scam Safety

Scammers use email or text messages to trick you into giving them your personal and financial information. But there are several ways to protect yourself.

Phishing – The fraudulent practice of sending emails or other messages purporting to be from reputable companies in order to induce individuals to reveal personal information, such as passwords and credit card numbers.

Smishing – The fraudulent practice of sending text messages or other messages purporting to be from reputable companies in order to induce individuals to reveal personal information, such as passwords and credit card numbers.

Scammers use email or text messages to try to steal your passwords, account numbers, or Social Security numbers. If they get that information, they could get access to your email, bank, or other accounts. Or they could sell your information to other scammers. Scammers launch thousands of phishing attacks like these every day — and they are often successful. Many times, these messages are embedded with links that if clicked on can automatically download code to your device that will then send the scammers all of your personal or company information. This will open the door for the scammers to manipulate that information to their advantage.

Scammers often update their tactics to keep up with the latest news or trends, but here are some common tactics used in phishing emails or text messages:

Phishing emails and text messages often tell a story to trick you into clicking on a link or opening an attachment. You might get an unexpected email or text message that looks like it is from a company you know or trust, like a bank or a credit card or utility company. Or maybe it is from an online payment website or app. The message could be from a scammer, who for example:

- Say they have noticed some suspicious activity or log-in attempts — they have not!
- Claim there is a problem with your account or your payment information — there is not!
- Say you need to confirm some personal or financial information — you do not!
- Include an invoice you do not recognize — it is fake!
- Want you to click on a link to make a payment — but the link has malware!
- Say you are eligible to register for a government refund — it is a scam!
- Offer a coupon for free stuff — it is not real!
- Disguise themselves as a coworker’s email asking for a gift card or the release of company funds— it is a scam.

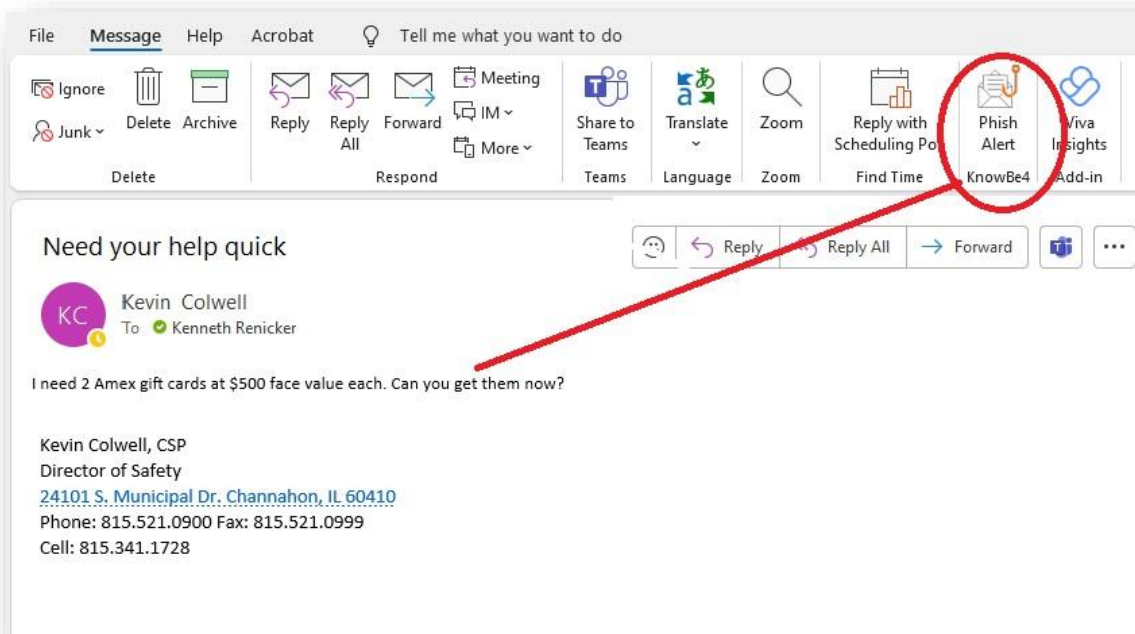
BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	10/4/2021
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Cyber Security Policy	
CROSS REFERENCE:	None		

Email and Phone Scam Safety continued

If any of these types of examples occur or if you just get that feeling it is not right, do not touch anything and alert your supervisor or IT department immediately.

Phishing Example

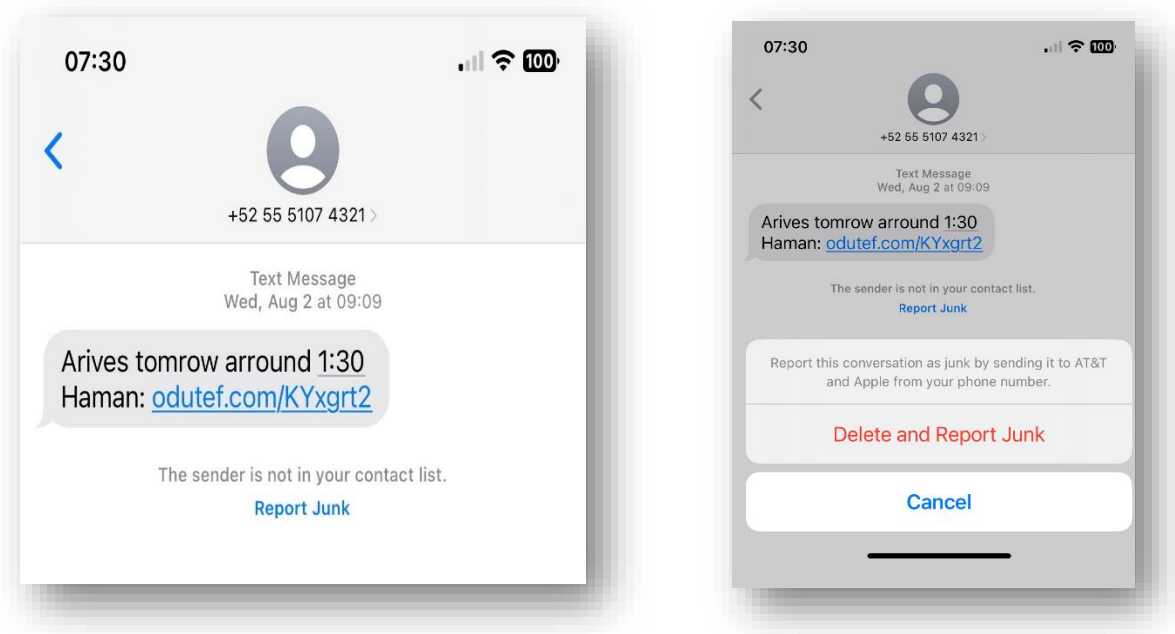
If you received an email that looks to be a scam of some sort you can quickly click the PHISH ALERT button on the far right of the open window. This will send this email to our IT department and automatically block that sender.



BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	10/4/2021
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Cyber Security Policy	
CROSS REFERENCE:	None		

Smishing Example

If you received a text that looks to be a scam, or some sort of junk **DON'T CLICK THE LINK!** Click the **REPORT JUNK** link on the text. You will then click the **Delete and Report Junk** and this will be reported to your phone provider, and it will also block that sender.



If you have any questions or concerns about any email or text, stop and call the person attempting to contact you for verification or call our contracted IT department. EXCAL-TECH at 847-842-9570

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	10/4/2021
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:		Cyber Security Policy	
CROSS REFERENCE:	None		

REPORTING AND RESPONSE

- The Company will ensure that all incidents, threats, or violations that affect or may affect the privacy, confidentiality, integrity, or availability of PII and sensitive company data will be reported and responded to.
- The Company shall have a Security Incident Response Team (SIRT) charged with the responsibility of identifying, evaluating, and responding to security incidents. The Privacy Security Officer shall oversee the activities of the SIRT.
 - The SIRT will be responsible for investigating all known or suspected privacy and security incidents.
 - The SIRT will document a procedure for all employees to follow to report privacy and security incidents.
 - The Company will ensure that all employees receive training on how to identify and report security incidents.
 - All employees must follow the documented procedure to report security incidents. In addition, employees must report all known or suspected security incidents.
 - All employees must assist the SIRT with any security incident investigations.

Breach Determination

The Security Incident Response Team (SIRT) will investigate all reported and suspected security breaches. The SIRT will refer to federal or state regulations to help with breach determination. Breach determination varies between federal regulations such as HIPAA and GLBA. In addition, breach determination varies significantly between state regulations (for example, what may be considered a breach in one state may not be a breach in another state).

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	10/4/2021
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Cyber Security Policy		
CROSS REFERENCE:	None		

Breach Notification

If the SIRT determines that a breach of unsecured PII has occurred, breach notification of affected individuals may be required. The SIRT will refer to federal or state regulations to help with breach notification requirements. Breach notification requirements varies between federal regulations such as HIPAA and GLBA. In addition, breach notification requirements vary significantly between state regulations (for example, one state may have breach notification requirements that varies significantly from breach notification requirements in another state).

Key elements of a breach notification include:

- **Date of discovery**
 - Usually, a breach will be treated as discovered as of the first day the breach is known or by exercising reasonable diligence would have been known.
- **Timeliness of notification**
 - The Company will provide the required notifications without unreasonable delay after discovery of a breach. The amount of time The Company must notify affected individuals varies between federal and state regulations.
- **Content of notification**
 - If required, a notification will be provided to everyone affected by the discovered breach. The notification should include the following:
 - A brief description of what happened, including the date of the breach and the date of the discovery of the breach, if known.
 - A description of the types of unsecured PII that were involved in the breach (such as whether full name, social security number, date of birth, home address, account number or other types of information were involved).
 - Any steps individuals should take to protect themselves from potential harm resulting from the breach.
 - A brief description of what The Company is doing to investigate the breach, to mitigate harm to individuals, and to protect against any further breaches; and
 - Contact procedures for individuals to ask questions or learn additional information, which should include a telephone number, an e-mail address, Web site, or postal address.
 - The notification should be written in plain language.

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	10/4/2021
		Revised:	12/2023
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	02
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Cyber Security Policy		
CROSS REFERENCE:	None		

Methods of notification

The following methods are usually used to notify individuals affected by the discovered breach:

- **Written notice**
 - Written notification by first-class mail to the individual at the last known address of the individual or, via e-mail if the individual agrees to e-mail notice. The notification may be provided in one or more mailings as information is available.
 - If the individual is deceased notifications are usually sent to next of kin or personal representative
- **Substitute notice.**
 - If contact information is out of date and written notification cannot be made, a substitute notification may be used.
 - A substitute notification usually in the form of either a conspicuous posting on The Company's home page of its Web site, or conspicuous notice in major print or broadcast media in geographic areas where the individuals affected by the breach reside. The notice should include a contact phone number.
- **Notification to media**
 - In addition to notifying individuals of a known breach, a notification to the media may be required as well.
- **Notification to federal or state regulatory agencies**
 - The Company may need to report breaches of unsecured information to federal or state regulatory agencies.
- **Notification by Third Party Service Providers**
 - Third Party Service Provider responsible for a breach of The Company's PII or sensitive company data should be required to notify The Company within a pre-determined reasonable timeframe. The timeframe should be defined in a Service Provider Agreement.
 - Third Party Service Provider breaches may result in The Company having to notify The Company's affected individuals (such as customers & employee).

Cyber Security Policy Learning Exercise

Score:

%

Employees Name:

Date:

Answer each of the following questions by circling the appropriate letter.

1. The purpose of the policy is to describe the physical safeguards applicable for each server, desktop computer and wireless computer system used to access, transmit, receive, and store sensitive company data to ensure that appropriate security is maintained, and that access is restricted to authorized employees.
 - a. True
 - b. False
2. The Company will take reasonable and appropriate steps to prevent unauthorized access to workstations, servers etc. However, it is up to _____ to be proactive to prevent cyber breaches with your assigned equipment.
 - a. Company President
 - b. Safety Director
 - c. Foreman
 - d. You the employee
3. All workstations and portable devices will run anti-virus / anti-malware software. The software must be current and up to date Employees must not disable these tools unless specifically directed by computer support personnel to do so to resolve a particular problem.
 - a. True
 - b. False
4. Workstations and portable devices must not be located where they will be directly affected by _____.
 - a. Time & space.
 - b. Facebook and Apple TV.
 - c. Emails and Text Messages
 - d. Extremes of temperature or electromagnetic interference.
5. (Circle all that apply) Employees should follow the following password procedures:
 - a. Should be a minimum of eight characters in length.
 - b. Should incorporate both upper- and lower-case letters (e.g., a-z and A-Z)
 - c. Should incorporate digits and punctuation characters as well as letters e.g., 0-9, (!@#\$%^&*()_ - += { } [] : ; “ ‘ | \ / ? < > , . ~ `)
 - d. Should be written down and saved somewhere easily found.
 - e. Should not be shared with other employees.

6. If you receive an email or text message with a link you should always click on it to see what the sender is talking about?
 - a. True
 - b. False

7. If you believe you are being sent phishing or smishing scams you must alert the IT department immediately by clicking the phish alert button in an email or calling the IT Department phone number.
 - a. True
 - b. False

Cyber Security Policy Learning Exercise

Answer Sheet

1. The purpose of the policy is to describe the physical safeguards applicable for each server, desktop computer and wireless computer system used to access, transmit, receive, and store sensitive company data to ensure that appropriate security is maintained, and that access is restricted to authorized employees.
a. True
b. False
2. The Company will take reasonable and appropriate steps to prevent unauthorized access to workstations, servers etc. However, it is up to _____ to be proactive to prevent cyber breaches with your assigned equipment.
a. Company President
b. Safety Director
c. Foreman
d. You the employee
3. All workstations and portable devices will run anti-virus / anti-malware software. The software must be current and up to date Employees must not disable these tools unless specifically directed by computer support personnel to do so to resolve a particular problem.
a. True
b. False
4. Workstations and portable devices must not be located where they will be directly affected by _____.
a. Time & space.
b. Facebook and Apple TV.
c. Emails and Text Messages
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a. Should be a minimum of eight characters in length.
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d. Should be written down and saved somewhere easily found.
e. Should not be shared with other employees.
6. If you receive an email or text message with a link you should always click on it to see what the sender is talking about?
a. True
b. False
7. If you believe you are being sent phishing or smishing scams you must alert the IT department immediately by clicking the phish alert button in an email or calling the IT Department phone number.
a. True
b. False



Brieser
CONSTRUCTION

Section 51
Safety Health
and
Environmental
Manual

2025

Vac-Truck Operations

BRIESER CONSTRUCTION GENERAL CONTRACTORS		Developed:	12/5/2022
		Revised:	N/A
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	01
		Reviewed:	12/17/24 KMC
STANDARD OPERATING PROCEDURE:	Vacuum Truck Operations		
CROSS REFERENCE:	29 CFR 1926.651(b)(2) and (b)(3).		

Vac Truck Operations

PURPOSE

This written program documents the steps *Brieser Construction* has taken to protect and safeguard our employees and to prevent damage to publicly or privately owned property resulting from various Vacuum Truck Excavation operations present at our construction sites. This policy applies to all forms of vacuum excavation.

This specification contains the specific operating and safety rules, supervisor and operator qualification and training requirements, specific responsibilities, general equipment operating guidelines, regulations, and environment guidelines to safely manage and perform vacuum excavation operations including “potholing” and “slot trenching” for underground utility locating, shafts and pits, and other types of excavations.

If there are any other questions or concerns regarding the operation of the specific Vacuum Truck, please refer to the operator’s manual for the make and model vehicle you are assigned.

OBJECTIVE

This document is intended to highlight the safety precautions required for carrying out vacuum truck and vacuum system activities. This document should be used in conjunction with the relevant service provider’s safe operating procedures, industry standards and established risk mitigation practices. In cases where this Standard is different from governing regulations or codes, the more stringent of the two standards or regulations will apply.

SCOPE

To define the requirements, responsibilities, and procedures necessary for an effective Vacuum Truck Operations program. When work is performed on a non-owned or operated site, employees will be aware of provisions of site-specific contingency/emergency plans by either Brieser Construction or of a facility owner.

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		Revised:	N/A
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	01
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RESPONSIBILITIES

The Program Administrator: Brieser Safety Director

This person is responsible for:

- Issuing and administering this program and making sure that it satisfies all applicable federal, state, and local requirements.
- Ensuring that employees receive initial and refresher training on the use of this policy.
- Maintaining training records for all employees included in the training sessions.

Project Managers, Superintendents and Foremen

These people are responsible for:

- Ensuring an 811-dig request (JULIE) and or private locate is called in and completed at each job site prior to commencement of vacuum excavation activities.
- Reviewing the Engineering Survey between Project Manager and Site Superintendent or Job Foreman.
- Knowing the hazards in their areas that require the use of this policy.
- Assuring that safe operations are maintained within their departments to prevent injuries during vacuum excavation activities.
- Enforcing the use of this policy in the areas in which it is required.

Employees

- Understanding what constitutes vacuum excavation activities.
- Adhering to and completing all required permits for vacuum excavation activities.
- Contributing to the company's safe work policy.
- Seek guidance when you do not understand a particular section or permit within this policy.

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DEFINITIONS

Bonding – is the act of joining two electrical conductors together. These may be two wires, a wire, and a pipe, or these may be two pieces of equipment. Bonding ensures that these two things which are bonded will be at the same electrical potential. No current flow can take place between two bonded bodies because they have the same potential. (See also Grounding)

CDL – Commercial Driver’s License

Flammable liquid – Any liquid with a Flash Point less than 100° Fahrenheit. Examples are: crude oil, gasoline, naphtha, natural gasoline, raffinate, benzene, xylene, toluene, alkylate, Cat Gasoline, unstripped kerosene, unstripped distillate, unstripped LCO, and similarly light liquids.

Grounding – is establishing an electrical connection between equipment and an earth ground. This is required when working in any facilities and where flammable chemicals are present. This is also required when the possibility of static charges is present. Please refer to the specific make and model manual for further direction.

Note: This dissipates static currents that have the potential to cause sparks.

HAZMAT Trained Employee– Refers to the words Hazardous Materials. When on a job with a HAZMAT situation please note the following:

- Brieser Construction may work on sites where the client has identified hazardous materials. In those cases, work methods shall be in place to protect people, equipment, and the environment. Employees working on the Vac-Trucks will have completed a minimum of Union Hall training on HAZMAT awareness and or 40-Hour OSHA HAZ-Whopper training.

Hydro Excavating – The technique for excavating the earth’s surface using water under pressure.

Hydro Vacuum Excavating Unit –Truck or trailer equipped with high-pressure water pumps, vacuum pumps and a separator holding tank to receive excavated spoils.

Inert Solids –Inert solids shall be defined as solids that pose minimal risk of reactivity with dissimilar materials, and shall exclusively be defined as non-contaminated soil, sand, sandblast media, and FCC catalyst.

Minimum Approach Distance (MAD) – The closest distance an employee may approach an energized or grounded object.

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DEFINITIONS -continued

Off-Site – Off-Site means any property other than property work is being performed on.

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 the authorization to take prompt corrective measures to eliminate them.

Qualified Electrical Worker (QEW) – A qualified electrical worker who has the knowledge and training to perform one or more specific tasks. That worker must also have sufficient training to recognize and know how to address the specific electrical hazards associated with working electrical power.

Qualified Person – means one with a recognized degree or professional certificate and extensive knowledge and experience in the subject field who is capable of design, analysis, evaluation and specifications in the subject work, project, or product.

**For this standard practice, adequately trained carrier representatives, owning department operators and chemical vendors may be considered as qualified persons.*

Vacuum Truck – A transportable vacuum system vehicle consisting of a vacuum pump, vacuum cargo tank, and associated appurtenances and accessory equipment mounted on a motor vehicle. This vehicle is also conveying material, using a high velocity air stream, into a receiving tank. Common names for these trucks are “Vac Truck,” “super-sucker,” “guzzler,” and “vac all.” These trucks may not be used to purposefully or knowingly pick up liquid hydrocarbons or hydrocarbon contaminated sludges.

Pyrophoric – Spontaneously combustible on contact with air.

SDS – is an acronym for Safety Data Sheet

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SAFE WORK PRACTICES

Safe work procedures for vacuum truck operations must address the potential for chemical reactions and the potential release of toxic gas or fumes. They must also consider the variety of fluids or substances that vacuum trucks typically carry.

Before starting any vacuum truck operations, Brieser Construction shall make sure that vacuum truck operators, as well as facility personnel, are aware of the following:

- All personnel shall satisfactorily complete a training course, provided by Local Union Hall.
- Supervisors and Operators shall successfully complete a written examination to demonstrate understanding of this operating procedure.
- Some instances of operation may result in the operator being dispatched alone. In those instances, the operator shall notify the client of the nature of operation, potential hazards, emergency procedures, and a procedure for communication in the event of an emergency.
- There are numerous potential hazards associated with vacuum truck operations. These hazards can be found in almost all of the site work is performed.
- Vacuum truck tanks, pumps, and other equipment shall conform to all applicable codes which would include the Department of Transportation (DOT) etc.
- Operator(s) must be thoroughly familiar with and follow the operator's procedure and operator's handbook guidelines. Individuals operating the hydro vacuum excavation equipment shall be qualified per this specification and the site's operating procedure.
- Prior to operating the unit, completing an Operator Daily Checklist prior to using the hydro vacuum excavation equipment.
- All tasks shall be reviewed to ensure the proper equipment/attachments for the job are used.
- All employees other than the individuals using the hydro vacuum excavation equipment will maintain a safe distance from the task being performed.
- Employees' driving/riding in the cab of the hydro vacuum excavation truck are required to use a restraint system (seatbelts) when the vehicle is traveling.
- The hydro vacuum excavation equipment must not be used for any purpose other than that for which it was designed.
- The wheels of the hydro vacuum excavation equipment shall be chocked prior to operating the equipment.
- The hydro vacuum excavation equipment shall not be operated beyond its specified capabilities as outlined in the operator's manual without special approval.
- Never leave the hydro vacuum excavation equipment running and unattended.
- A spotter will be required when the view to the rear of the hydro vacuum excavation equipment is obstructed or when positioning/repositioning equipment in highly congested areas.
- All drivers of hydro excavation equipment shall adhere to Section 16 – Company Vehicle Policy of the Brieser Construction Safety Manual.

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SAFE WORK PRACTICES – continued

- Drivers of the hydro vacuum excavation equipment shall follow all applicable aspects of any site excavation specifications, guidelines, and procedures around safe vehicle usage.
- Keep the suction line away from your body and face.
- Complete a specific job safety analysis sheet identifying all hazards associated with task.
- When working close to the edge of an excavation and a potential fall hazard exists, a plan shall be in place and addressed on appropriate site forms.
- Ensure all the following permits are in place prior to beginning the job:
 - a. TSTI
 - b. Excavation Permit
 - c. Lock Out / Tag Out Permit (if required).
 - d. Fall Protection Permit (if required).
 - e. Confined Space Entry Permit (if required).
- Before any excavation work is to be performed, an 811-utility marking request is to be completed for all public and municipality owned utilities.
- A private utility request may also be needed depending on requested services. This request is to be made separately and may include but is not limited to: electromagnetic locating, ground penetrating radar, concrete scanning, video pipe inspection, leak detection etc.
- When working inside plants, substations, etc. underground utility prints will need to be requested and used in conjunction or as the sole means of utility location. Always consult with the owner and or client for this information.
- Prior to excavating, always check for any sources of ignition, flammable atmospheres, and potential hazards associated with the surrounding area, such as toxic vapors and their PEL's and STEL's.
- Identify hazards such as slips and falls, spills and releases, fires and explosions and accidents within the facility or on the highway.
- Understand the evacuation and rescue procedures for the specific location and job being performed in the event of a product leak from any pipe, conduit, or duct.
- If working in potentially dangerous atmospheres, ensure that air quality monitoring at the work site is continuous at locations such as the discharge area of the vacuum truck.
- Ensure that first aid is readily available on site in the event of injury or environmental exposure.
- Transporting spoils and dumping of material must be managed by site environmental coordinators and comply with all federal environmental and DOT regulations.
- Prior to start up, equipment should be inspected and in a safe working condition. Ensure that the tank interior, filter bag house, and cyclone separators are clean and free of any substances that may react with the liquids to be vacuumed or transferred.

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SAFE WORK PRACTICES – continued

- Under normal conditions, the absence of oxygen minimizes the risk of ignition in a vacuum truck. However, operating rotary lobe blowers and vacuum pumps at high speeds creates high air movement and high vacuum levels, resulting in high discharge air temperatures and high discharge vapor concentrations that can present potentially ignitable conditions.
- All employees have full authority to stop work if the need presents itself. Please refer to the Brieser Construction SH&E Manual Section 43 for further direction or information

WORK PERMITTING

A Brieser TSTI / Excavation Permit & Site related permits are required for all operations including vacuum truck operation. Additional permits may be required as site requirements or job types change.

As a part of work permitting, when the potential exists for exposure to airborne contaminants above permissible exposure limits, atmospheric monitoring shall be conducted by Brieser Safety Department or client industrial hygiene department. This will help define proper PPE and/or barricading requirements. Respiratory protection requirements will be determined through atmospheric monitoring. PPE that is appropriate for the material being handled must be worn when there is potential for exposure.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Please refer to the Brieser Construction PPE Matrix for further direction or information.

When using the Vac-Truck you must at a minimum be wearing:

- Appropriate clothing for weather and site requirements.
- Hard hat
- ANSI approved safety glasses with rigid side.
- Work gloves.
- Dielectric safety gloves (when working near overhead and or underground power lines.)
- Safety toe boots / rubber boot
- Hearing protection.
 - All vac truck assigned employees along with anyone working within work area of the running / working vac-truck is required to wear double hearing protection.
 - All Vac-Truck operators must participate in a yearly hearing test as part of the Brieser Hearing Conservation Program explained in Brieser Construction SH&E Manual Section 21. The cost of this test is 100% covered by the company.

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PERSONAL PROTECTIVE EQUIPMENT (PPE) – continued

Other specific PPE may be required depending on the site or situation:

- The operators of the high-pressure water or air nozzle and the vacuum pipe shall wear face shields.
- FR Clothing will be required where applicable.
- Safety vest
- Respiratory protection,
- Rain Suit / FR Rain Suit

OVERHEAD POWER LINES

Due to the height of the vehicle and its ability to move in different ways the dangers of overhead hazards may exist. Always look up and survey the site for overhead power lines.

- Best safety practice: never get closer than 10 feet to an overhead power line.
- Consider all overhead lines as energized until the electric utility indicates otherwise, or an electrician verifies that the line is not energized and has been grounded.
- In construction work, an overhead power line safety component is part of your Brieser overall safety and health program and safety training.
- If overhead lines are present, call the utility company and find out what voltage is on the lines.
- Ask if the utility company can shut off the lines while you are working near them.
- If overhead lines cannot be shut down, ask the utility company if they can install insulation over the lines during the time you will be working near them.
- If the lines cannot be shut down and/or insulation applied, a minimum safe distance of 10 feet must be established. Have a brief job site meeting to discuss the planned work as it relates to the power lines. Discuss topics such as the use of long handled tools, and equipment (raised dump trucks, back hoes, etc.) that could encounter the lines. Consider the need for a designated person to monitor activities around the lines.
- Only use nonconductive ladders when working on or near overhead power lines.
- Employees shall not be permitted to approach or carry any conductive object closer than 10 feet to an energized line. The only exception is for trained and qualified employees using insulated tools designed for high voltage lines.
- When working near overhead powerlines, the following table shall be followed to maintain safe distances. *NOTE:* Without a Qualified Electrical Worker (QEW) present, the table for Non-Qualified Employees shall be followed.

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**MINIMUM APPROVE DISTANCE FOR
NON-QUALIFIED & QUALIFIED EMPLOYEES.**

Minimum Approach Distance for Non-Qualified Employees	
50 kV and below	10 ft.
69 kV	11 ft.
130 kV	13 ft.
220 kV	16 ft.
345 kV	20 ft.
500 kV	25 ft.
765 kV	34 ft.

MAD for Qualified Electrical Employees From Uncovered Conductors, Phases, or Equipment		
Voltages Between Phases	Phase to Ground exposure	Phase to Phase Exposure
50 – 300 V	Avoid Contact	Avoid Contact
480 V	1 ft. 1 in.	1 ft. 1 in.
2 to 15 kV	2 ft. 2 in.	2 ft. 3 in.
34 kV	2 ft. 6 in.	2 ft. 11 in.
69 kV	3 ft. 3 in.	3 ft. 11 in.
138 kV	3 ft. 7 in.	4 ft. 11 in.
345 kV	8 ft. 6 in.	12 ft. 6 in.
765 kV	14 ft. 11 in.	26 ft.

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BONDING & GROUNDING

The owner, operator and user are responsible for determining if static grounding is required and what level of protection is required for the specific job. The site the work will be performed at may also mandate that proper grounding be needed. (i.e., electrical generation facilities that require a QEW to ensure proper grounding). The complete vacuum transfer system needs to be bonded so there is a continuous conductive path from the vacuum truck through the hoses and nozzle to the tank or source container and grounded to dissipate stray currents to earth (ground). Prior to starting operations, the vacuum truck needs to be grounded directly to the earth or bonded to another object that is inherently grounded (due to proper contact with the earth) such as a large storage tank or underground piping. A safe and proper ground to earth may be achieved by connecting to any properly grounded object including but not limited to any one or more of the following examples:

- A metal frame of a building, tank, or equipment that is grounded.
- An existing facility grounding system such as that installed at a loading rack.
- Fire hydrants, metal light posts, or underground metal piping with at least 10' of contact with earth.
- The ground rod shall be appropriate for the vehicle and according to manufacturer settings. Be advised that some sites require only Qualified Electrical Workers to perform any grounding of vehicles and equipment.

EMERGENCY SHUTDOWN

Being prepared for any type of situation is something that needs to be a part of the safety procedure. If a situation arises or knowing that turning off the unit would be beneficial to that safety crisis. Knowing how to perform an emergency shutdown is key for all persons assigned to the vehicle. Always refer to your specific vehicles owner's manual. However, the procedure should be very close to the following instructions:

In an emergency you must activate the emergency stop.

To shut down the system:

- Stop vacuuming.
- Enable vacuum relief valves.
- Reduce engine/blower/fan RPM.
- If required, shut down the engine.

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EMERGENCY SHUTDOWN – continued

Know the procedures for shutting down the various components and options available on the unit. During rodding operations, placing the rodder pump switch in the off position can immediately stop propulsion of a nozzle. As a safety feature, the switch must be pulled forward and forced up to engage the rodder pump. This feature prevents accidental engagement of the pump. However, the switch can be placed in the off position by simply pushing down on the toggle lever. In an emergency, slap or place the switch in the off position, the rodder pump will stop immediately.

The vacuum relief switch can be used to vent the vacuum system and immediately stop airflow at the end of the vacuum tube. Place the switch in the on position to stop airflow and in the off position to resume air flow. Some units are equipped with an emergency stop switch that will open the vacuum relief and lower the engine to idle. Actual functions will vary with the model. Refer to the Operations section of the vehicle owner's manual for specific details on the unit. This material is intended as an overall guide for Vactor units in general. Get to know the throttle controls associated with the vehicle! In many situations, disengaging the throttle may prevent an accident or damage to the vehicle. Study the owner's manual for your specific make and model for information related to equipment operation and safety procedures.

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Emergency stop procedures.

Know the procedures for shutting down the various components and options available on the unit.

The vacuum relief switch can be used to vent the vacuum system and immediately stop airflow at the end of the vacuum hose. Some units are equipped with an emergency stop switch that will open the vacuum relief and lower the engine to idle. Actual functions will vary with the model.

Get to know the throttle controls associated with the vehicle! In many situations, disengaging the throttle may prevent an accident or damage to the vehicle. Study this manual for information related to equipment operation and safety procedures. The in-line vacuum relief valve is the primary safety to relieve vacuum at the hose end and must be used in all operations.



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HOSES

Vacuum hoses constructed of conductive material or thick-walled hose with imbedded vacuum relief valve and conductive wiring shall be used when transferring flammable and combustible liquids when the potential for a flammable atmosphere exists in the area of operations.

The proper hose material is to be chosen depending on site requirements and known hazards in the excavation area. When setting up the hose, it is best to take the shortest straight line possible from the vacuum source to the loading area. If the distance encompasses more than 50 feet during “dry” product loading, it is best to run the set-up line with “hard pipe” as long as possible using gradual turns where possible. When the loading area is reached, then a lightweight flexible hose can be used as a “work whip.” Refer to owner’s handbook on guidelines for hose set-up.



Vacuum Hazard

NEVER operate the vacuum system without the Vacuum Relief Valve being installed. Failure to install and operate the Vacuum Relief Valve properly may result in serious injury and / or death.

The INLINE VACUUM RELIEF VALVE must be INLINE within 50 feet from the end of the hose or pipe for proper operation.

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VENTING

Several methods can be used by vacuum truck operators to safely vent vacuum pump exhaust vapors, including but not limited to the following:

- Operators can prevent dieseling by locating the vacuum truck upwind of vapor sources and by extending the vacuum pump discharge away from the diesel engine air intake.
- Vapors may be returned to the source container using conductive and closed connections.
- Vapors may be vented into the atmosphere to a safe location using a safety venture.
- Vacuum truck operators may provide vertical exhaust stacks extending approximately 12' above the vacuum truck (or higher if necessary) to dissipate the vapors before they reach ignition sources or other potential hazards and personnel.
- Vacuum truck operators may attach a length of exhaust hose to the vacuum exhaust that is long enough to reach an area that is free from potential hazards, sources of ignition, and personnel. The hose should be preferably extended downwind of the truck and away from the source of the liquids.

CONFINED SPACES

By definition, a confined space:

- Is large enough for an employee to enter fully and perform assigned work.
- Is not designed for continuous occupancy by the employee; and
- Has a limited or restricted means of entry or exit.

These spaces may include underground vaults, bodies, storage bins, pits and diked areas, vessels, silos, and other similar areas.

By definition, a permit-required confined space has one or more of these characteristics:

- Contains or has the potential to contain a hazardous atmosphere.
- Contains a material with the potential to engulf someone who enters the space.
- Has an internal configuration that might cause an entrant to be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section; and/or
- Contains any other recognized serious safety or health hazards.

For further information or direction, please refer to the Brieser Construction Safety Manual Section 18.

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ATMOSPHERIC TESTING

The areas where vacuum trucks will operate must be free of flammable vapors or other dangerous VOC's. If there is any question whether the area is vapor or toxic gas free, atmospheric testing shall be performed by a qualified person using properly calibrated and adjusted detectors.

Testing shall be conducted prior to starting any operations, and if necessary, during operations, including but not limited to the following:

- When operations in the area are subject to change such as automatic pump start-up or product receipt into, or transfer out of, a tank located in the vicinity of the transfer operations.
- When dumping.
- When atmospheric conditions change such as wind direction.
- When an emergency, such as product release, occurs in within the facility that may affect atmospheric conditions in the transfer area.

The use of an H2S or 4-Gas monitor maybe implemented by the company foreman, superintendent, or site manager.

Position vent lines away from workers and workstations, including control panels, valve handles, gauges, shut offs, and hose attachment points if possible and use a vertical exhaust stack to divert exhaust gases away from workers and ignition sources. Check air monitoring equipment during operations to confirm that venting is proceeding safely.

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SEWER

The following pages cover basic cleaning of catch-basins, jet rodding operations and simultaneous vacuum and jet rodding operation. Be aware of traffic and pedestrians on the job site. Use extreme caution while moving around the vehicle to avoid contact with moving vehicles.

When moving the boom or vehicle make sure pedestrians are clear of the area. Use orange safety cones to mark the work area. Germs and other biological hazards are common in sewers. All operators must wear safety apparel: hard hat, visor and / or goggles, ear protection, ~~rain suit~~, safety-toe shoes or boots with non-skid soles and waterproof gloves are required to avoid injury and contamination. Additional equipment may be required as determined by an on-site safety assessment.



Sewer gas hazard.

Sewer lines often contain poisonous or explosive gas such as methane. NEVER enter or bend over a sewer without proper ventilation and personal protective equipment. If another person needs help in a sewer, immediately call for emergency assistance. NEVER enter the sewer to help unless you have been trained to do so and have proper personal protective equipment.

NEVER smoke in or around sewer lines, drains, or catch basins.

Failure to follow these instructions may result in death or serious injury.



Before Jetting a Line, The Operator Should Consider the Following Points:

- If the manhole is surcharged, relocate to a manhole downstream. A surcharged manhole is one that water has risen above the top of the outlet pipe. This makes it impossible to see the line you are trying to clean.
- The size of pipe should be determined to use the proper size nozzle and nozzle support guide.
- Determine the direction the line is supposed to flow. Always jet against the flow or upstream.

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When jetting a line

When starting to jet a line or anytime the rodder nozzle cleaning the line is near the manhole, spray, or mist can be forced out. If equipped, use the unit's vacuum system. to reduce the spray or mist by lowering the vacuum tube into the manhole about one foot or more and allowing the vacuum airflow to capture it.

Starting nozzle in line

- Place nozzle in the line before turning water pump on.
- Use low water flow to minimize water jetting out of the line.
- Allow slack in line to enable the nozzle to move quickly up the line.
- Once assured nozzle is in the line, distance yourself from manhole and mist.
- If equipped, use a remote control to enable distance from manhole.

Retracting nozzle in line

- As nozzle comes close to manhole, lower water flow and retract slowly.
- Turn off pump before retracting nozzle out of the line

Be mindful of the environment and ecology.

Observe environmental protection regulations before draining any fluids, find out the correct way to dispose of them. Observe the relevant environmental protection regulations when disposing of oil, fuel, coolant, brake fluid, filters, and batteries.



Chemical waste hazard

Many chemicals are illegally dumped in storm drains, catch basins and sewers. To prevent contamination and injury wear chemical resistant gloves, long sleeves, trousers and safety glasses or face shields. Seek immediate medical attention if exposure or contamination is suspected.



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		Revised:	N/A
CORPORATE SAFETY, HEALTH & ENVIRONMENTAL MANUAL		Revision:	01
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Slips, Trips, Falls, and other Hazards.

Always be aware of your surroundings when performing work in or near these structures.



Trip, fall and other hazards

Open manholes and other access openings create risks of trips and falls. Be aware of such locations and do not step in or over them. Ensure that manhole cover and other covers are in place when job is completed. Failing to follow these precautions may cause serious injury or death.

Be aware of traffic and pedestrians on the job site. Use extreme caution while moving around the vehicle to avoid contact with moving vehicles. When moving the boom or vehicle make sure pedestrians are clear of the area. Use orange safety cones to mark the work area.



VACUUM TRUCK DECONTAMINATION

- All vacuum trucks which are used for the removal of hazardous material (per 49 CFR 172.101) shall remove all product from their truck by steam cleaning or must satisfy DOT 407, DOT 412, and DOT HM183.
- The decontamination procedure shall ensure no material, sludge, or residue remains in the cargo tank and the material in the liquid seal drained.
- Decontamination shall include changing out the liquid in the liquid ring pump reservoir.
- Hoses shall be inspected to ensure there is no excessive product buildup inside of the hoses.

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Biological Hazards

- Units used around or for sewer work present some special handling issues due to biological hazards. This also includes the unit's exterior that may have come in contact with waste material. The unit's water tanks, debris body, pumps, filters, and plumbing can all become contaminated in use. Recycling units will require additional cleaning before servicing.
- Thoroughly flushing with fresh water is the first step to cleaning a unit. Cleaning the holding tanks may sometimes be necessary. Please consult the owner's manual for your specific make and model for more information.
- When cleaning the vehicle of these biological hazards you are required to wear the proper PPE. Upon completion proper disposal of this PPE is required.
- **NOTE Vaccinations are required if the chance of contact is possible in specific types of materials or atmospheres.*



WARNING

Biological hazards



Germ and other biological hazards are common in sewers. All operators must wear safety apparel: hard hat, visor and / or goggles, ear protection, rain suit, safety-toe shoes or boots with non skid soles and water proof gloves are recommended to avoid injury and contamination. Additional equipment may be required as determined by an on site safety assessment.

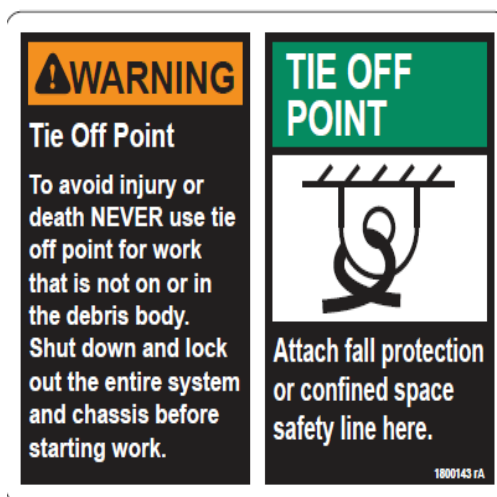
Immediately treat all abrasions, cuts and nicks for contamination. Get medical attention for injuries associated with cleaning sewers, drains and catch basins if biological contamination is suspected. Serious illness may result if this procedure is not followed.

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FALL PROTECTION

Please refer to Appendix A & B in this document and or the Brieser Construction SH&E Manual Section 22 for further direction or information.

All units are equipped with a tie off point for any time maintenance of truck is needed above 6 feet and when entering the debris body is needed. These, units are equipped with additional designated tie off points. Only use these specific tie off points for fall protection. If no tie off point is marked as shown, then an independent tie off system must be used.



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LOCKOUT / TAGOUT

Please refer to Appendix 1 & 2 in this document and or the Brieser Construction SH&E Manual Section 12 for further direction or information.

TRAINING REQUIREMENTS

Each supervisor and operator shall complete a training course before their first hydro excavation work on site. Training documentation for each supervisor and operator shall include the course outline/ description and a letter of certification of course completion. The training course shall include, but not be limited to the following:

- Full training from Local Union Hall with passing score / test.
- Brieser driving test.
- On the job training with skilled worker or foreman.
- Passing score of Brieser Vac Truck operations test.
- The cutting action of the high-pressure water or air stream and its potential hazard to the operator shall be demonstrated. The demonstration shall show the effect of the stream on some suitable material.
- The need for and, limitations of personal protective equipment (PPE) shall be explained.
- Instructions shall be given as to when and how specific clothing and protective devices must be worn.
- Operation of the high-pressure system, vacuum system, and auxiliaries shall be explained.
- Training shall include start-up and shut down procedures, potential equipment problems, and appropriate corrective actions.
- Operation and purpose of all safety devices shall be explained. The importance of not tampering with any safety device, as well as the importance of keeping them functional, shall be stressed.
- The proper method of connecting hoses, including laying-out without kinks, protection from excessive wear and using proper tools for hookups.
- The trainee shall demonstrate their ability to safely operate the equipment as detailed during the training courses.
- The trainee shall demonstrate understanding of the training course by satisfactory completion of a written examination.
- Aware of relevant government and facility safety procedures and emergency response requirements.

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TRAINING REQUIREMENTS continued

- SDS of the substances being vacuumed or transferred.
- Appropriate PPE.
- The requirement that all personnel shall leave the vacuum truck cab during loading and off- loading.
- The requirement that when transferring flammable liquids or hazardous materials, vacuum truck operators shall remain positioned between the vacuum truck and the source or receiving tank, vessel, or container and within 25' of the vacuum truck throughout the duration.
- The requirement that vacuum truck operators shall monitor the transfer operation and be ready to quickly close the product valve and stop the pump in the event of a blocked line or release of material through a broken hose or connection.
- The knowledge that smoking, or any other source of ignition, shall not be permitted within at least 100' (depending on local procedures and atmospheric conditions) of the truck, the discharge of the vacuum pump, or any other vapor source.
- The requirement that vacuum trucks shall not enter into a tank dike area until such areas have been checked / monitored and rendered safe.
- Vacuum trucks cargo tanks shall be depressurized.
- The effect of speeds, turns and the changing center of gravity.
- Maintaining proper distances when operating vacuum trucks inside facilities with restricted clearances.
- Vacuum truck operators will be trained and properly licensed in accordance with applicable regulations and only qualified operators will be allowed to operate the vehicle.
- Only qualified operators shall be allowed to operate the vehicle.
- Use of a spotter is required when the view to the rear of the vacuum excavation equipment is obstructed or when positioning/repositioning equipment in highly congested areas.

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APPENDIX A

Vac Truck Lock-Out Tag-out for Fall Protection Anchorage

Steps:

1. Complete Brieser Fall Protection Permit, Rescue Plan, and LOTO forms.
2. Start Vehicle
3. Place Vehicle in Park
4. Pull out Air Brake Knob
5. Place Lock on Air Brake Knob.
6. Remove key from lock and place in your pocket. If more than yourself is affected by the LOTO, the key must be kept in a lockbox with each affected person having a lock on the lockbox.
7. Place LOTO tag on lock.
8. Place Wheel Chocks
9. Perform Daily Visual inspection of all fall protection equipment.
10. Don Fall Protection Harness and adjust as needed.
11. Install cross arm strap by wrapping the strap around the rear bumper, frame, or front pull ring. Strap must be installed between cross members, vertical supports, or other means to prevent horizontal movement.
12. Once work is complete, perform steps in reverse.

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APPENDIX B

Separate Equipment Lock-Out Tag-out for Fall Protection Anchorage

Steps: When using a separate piece of equipment follow this process.

1. Complete Brieser Fall Protection Permit, Rescue Plan, and LOTO forms.
2. STOP Vehicle.
3. Place Vehicle in Park and remove key.
4. Set emergency brake (if applicable)
5. Set wheel chocks.
6. Remove key from lock and place in your pocket. If more than yourself is affected by the LOTO, the key must be kept in a lockbox with each affected person having a lock on the lockbox.
7. Place LOTO tag on lock.
8. Place Wheel Chocks
9. Remove master key from vehicle (if applicable)
10. Place all keys in your pocket. If more than yourself is affected by the LOTO, the key must be kept in a lockbox with each affected person having a lock on the lockbox.
11. Place LOTO tag on lock.
12. Perform Daily Visual inspection of all fall protection equipment.
13. Don Fall Protection Harness and adjust as needed.
14. Install cross arm strap by wrapping the strap around the rear bumper, frame, or front pull ring. Strap must be installed between cross members, vertical supports, or other means to prevent horizontal movement.
15. Once work is complete, perform steps in reverse.

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Vac-Truck Learning Exercise

Score: _____ %

Employees Name: _____ Company: _____ Trade: _____	Date: _____ Instructor: _____ Job Title: _____

Answer each of the following questions "True" or "False" by circling the appropriate letter.

1.	T	F	Each employee assigned to Vac-Truck operations must participate in the Brieser Hearing Conservation Program?
2.	T	F	When working below aerial electrical line(s) the employee on the vac nozzle has the option to wear dielectric gloves?
3.	T	F	To use the truck or another piece of equipment as an anchor for fall protection, you must complete the Brieser lock out tag out form?
4.	T	F	Brieser Construction does not knowingly remove any material containing hydrocarbons?
5.	T	F	When dumping a load of material, it never important to follow the request of the client?
6.	T	F	Some sites require that the vac-trucks be bonded or grounded by a qualified electrical worker?
7.	T	F	Some of the required permits to be filled out, signed, and understood by all workers are: TSTI, Excavation Permit, Lock Out / Tag Out Permit, Fall Protection Permit, and Confined Space Entry Permit if required.
8.	T	F	The use of fall protection is only when the safety department is on site.
9.	T	F	The use of an H2S or 4-Gas monitor maybe implemented by the company foreman, superintendent, or site manager?
10.	T	F	Double hearing protection is only required when conditions warrant?
11.	T	F	Bio-Waste: You may need additional PPE when jetting or working with raw sewage (Rubber Gloves, goggles, Tyvek suit etc.) depending on an onsite safety assessment.
12.	T	F	An inline vacuum relief valve must be in place for all remote digging from a flexible hose.
13.	T	F	A TSTI must be completed daily for operations.
14.	T	F	Hepatitis or other vaccinations may be required when working with raw sewage or other materials that contain biological hazards.
15.	T	F	Specific Procedures for LOTO and Fall Protection while conducting vac truck work are part of section 51 vac truck operations?

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Vac-Truck Learning Exercise Answer Sheet

1. True
2. False
3. True
4. True
5. False
6. True
7. True
8. False
9. True
10. False
11. True
12. True
13. True
14. True
15. True