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Hendrick Construction, Inc.
5601 77 Center Drive ♦ Suite 250 ♦ Charlotte, NC 28217
(p)704.887.0280

Company Safety Mission

HENDRICK CONSTRUCTION, INC. is dedicated to providing a safe work environment for all employees. We consider safety to be an intricate part of our company and proactively seek to maintain an ongoing safety program. The safety and well-being of all employees is our first priority throughout all phases of work.

Company Safety Policy

Safety for, HENDRICK CONSTRUCTION, INC. is not just a corporate goal*, it is a requirement!* We strongly adhere to the principle that accident prevention is just as important to this organization as quality and production. We insist on safe methods and practices at all times. At no time will we sacrifice safety. To this end, we have formulated a written policy to govern all operations.

In addition, we will:

1. Adhere to all federal, state and local laws and regulations pertaining to safety and health in the construction industry.
2. Conduct all operations with good sense and safe practices, adapt with the varied conditions, locations and circumstances of our jobs.
3. Exercise good judgment in applying this policy.
4. As a condition of employment, all employees must adhere to company safety policies and rules.

All visitors to any HENDRICK CONSTRUCTION, INC. operation including, but not limited to suppliers, owner representatives, agents of the architect or engineer, regulatory authorities and insurance company representatives shall be required to follow all safety rules and regulations in effect during their visit.

Furthermore, all subcontractors and service contracts will adopt the requirements of our safety policy, rules and procedures.

Employees and subcontractors have management's full empowerment to carry out the provisions of our safety policy, and are expected to do so.

Roger Hendrick
President

DELEGATION OF RESPONSIBILITIES

To ensure that the company's safety policy is carried out, the following assignments of responsibility are made. **Please note that these individuals have the full support of management to perform their duties.**

Management:

1. Establish rules and programs designed to promote safety and make them known to all employees.
2. Make available the necessary training for employees to perform their jobs safely.
3. Provide protective equipment as applicable.
4. Record all instances of violations and abate violations if found.
5. Document improvements and assertive prevention measures.
6. Discipline any employee who willfully disregards these safety rules.
7. Reward conscientious employees that place safety as a precedence.

Safety Representative:

1. Responsible for overall company safety and health performance.
2. Make available safety materials for safety meetings, posters as required by Federal, State and Local agencies and first aid equipment.
3. Make available safety training for any level of management and workers, including competent person training
4. Conduct safety inspections of all job sites, maintain records and continually monitor all aspects of the safety program for effectiveness.
5. Review and investigate all accidents with the appropriate personnel and take appropriate measures to prevent further occurrences.
6. Monitor safety activities of other contractors regarding overall safety performance of the project.
7. Be present, if possible, for all safety and health inspections, surveys and consultations performed by State and local authorities.

Field Personnel:

1. Carry out safety program for all field operations
2. Work safely to ensure your own safety as well as that of coworkers.
3. Be aware of all safety requirements and safe working practices.
4. Plan work activities with safety in mind.
5. Make sure that protective equipment is available and that employees know how to use it properly.
6. Use and maintain all safety equipment provided.
7. Promptly report all injuries and accidents.

All Personnel:

1. Be aware of all safety requirements and safe working practices.
2. Report to work physically and mentally prepared to safely carry out assigned duties.
3. Plan work activities with adherence to safe working practices in mind.
4. Instruct new employees and existing employees performing new tasks in safe working practices and provide continuing instruction on safety requirements.
5. Install and maintain devices to protect the public from company operations.
6. Secure prompt medical attention for any injured employee.
7. Report all injuries and safety violations.

8. Ensure all violations are corrected.

Subcontractors/Suppliers:

1. Abide by all of the safety rules and procedures of Hendrick Construction, Inc. safety program.
2. Check in with job site supervisor before entering job site.
3. Notify other contractors when actions or activities undertaken could affect the health or safety of others.
4. Inform Hendrick Construction, Inc., of all injuries to workers.
5. Report to Hendrick Construction, Inc., of any unsafe conditions that come to their attention.
6. Supply Hendrick Construction, Inc., with certificates of insurance prior to mobilizing job.

Competent Person: **(you may have several competent persons on the job site. One may be designated for one task and another for a different task)**

1. Must provide frequent and regular inspections of jobsites, materials and equipment. *29 CFR 1926.20 (b)(2*)
2. Various activities involving radioactive materials or x-rays require a competent person. *29 CFR 1926. 53*
3. A lead compliance program must provide for frequent and regular inspections of jobsites, materials, and equipment by a competent person. *29 CFR 1926.62*
4. Ear protective devices must be fitted and determined individually by a competent person. 29 CFR 1926.101
5. Shall provide training on safe respirator use. *29 CFR 1926.103*
6. Shall inspect rigging equipment before use for damage or defects. *29 CFR 1926.251*
7. Shall test preservative coatings whose flammability is not known before welding, cutting, or heating. *29 CFR 1926.354*
8. Shall implement assured equipment grounding programs. *29 CFR 1926.404*
9. Shall direct the erection, installation, movement, and dismantling of scaffolds. *29 CFR 1926.451*
10. Shall monitor the implementation of the fall protection plan. *29 CFR 1926.502*
11. Shall train employees on fall protection. *29 CFR 1926.503*
12. Shall conduct daily inspections on cranes and derricks before use and also as required in the standard. *29 CFR 1926.550*
13. Shall inspect and test material hoists, personnel hoists, and elevators before they are put into use and periodically thereafter. *29 CFR 1926.552*
14. Shall conduct daily and for cause inspections on excavations more than 5 feet in depth for cave in potential and also as required by the standard. *29 CFR 1926.652*
15. Shall attend to manual leveling controls while slab lifting is in progress. *29 CFR 1926. 705*
16. Shall supervise removal of plumbing-up guys in steel erection and also as required by the standard. *29 CFR 1926.752*
17. In underground construction, a competent person shall attend to various air monitoring, ventilation, and inspection requirements. *29 CFR 1926.800*
18. In underground construction, a competent person shall be responsible for compliance with compressed air requirements. *29 CFR 1926.803*
19. In demolition, a competent person must survey they structure before demolition begins to determine the possibility of unplanned collapse. *29 CFR 1926.850*
20. In demolition, a competent person shall make continuing inspections as the work progresses. *29 CFR 1926.859*
21. In blasting, a competent person shall direct and supervise the loading and firing. *29 CFR 1926. 900*
22. Shall periodically inspect ladders for defects. *29 CFR 1926.1053*
23. Shall train employees on ladder safety. *29 CFR 1926*
24. In asbestos work, a competent person shall variously supervise the work, make assessments and inspections, and train workers. *29 CFR 1926.1101*
25. A competent person is generally responsible for compliance when the cadmium standard applies. *29 CFR 1926.1127*

SAFETY RULES

Safety rules have been developed to establish guidelines for safe working practices. Safety rules are to be obeyed by all employees without prejudice to position within the company. All employees are responsible for administering and enforcing the safety policy set forth in this manual.

Procedures for Reporting Hazardous Conditions **Rev 5/2017**

It is the responsibility of every employee to be aware of and make every reasonable effort to keep unsafe practices from developing. When an unsafe condition exists and can not be immediately corrected, it should be reported to a supervisor or manager who can see that the situation is remedied.

Potentially hazardous conditions should be reviewed in advance in attempt to "engineer" the hazard out. A safety conscious employee that mentions a possible upcoming risk in a meeting of his peers (ie. toolbox talks, progress meetings, etc.) develops safety awareness among others. Record any reported problems, whether potential or existing, in the section: "Additional Safety Issues" of the Safety Meeting Minutes.

Include actions or protective measures taken to lessen or resolve the hazard. This record is to be forwarded to the office for continuing review and documentation for company improvement.

Jobsite Safety Checklist (incorporated into this manual for use- see TOC) is an additional procedure put in place for reporting hazardous conditions.

Rule Enforcement (incorporated into this manual for use- see TOC)

Site Specific Safety Plan (posted on each jobsite and is job specific)

Site Orientation video (utilized on all projects)

Project Expectations (pre-award, pre-install and posted at jobsites)

ACCIDENT REPORTING AND INVESTIGATION

REV5/2017

1. PURPOSE

1.1.This policy is established to provide guidelines for reporting and investigating workplace mishaps, to include: accidents that result in injuries to employees and/or damage to equipment, occupational illnesses, and "near-miss" incidents.

2. SCOPE

Hendrick Construction, Inc. will provide a safe workplace for our employees as well as the employees of our subcontractors. This Safety and Health Program is designed to prevent occupational injuries and illnesses but in the event of a workplace injury/illness occurring to one of our employees, the Company will provide medical treatment under the provisions of Workers' Compensation. An investigation to discover the cause of any injuries/illnesses will be promptly conducted. Corrective action will be initiated to prevent similar occurrences.

If a workplace injury/illness occurs to one of our subcontractor's employees, the foreman is to notify the jobsite superintendent immediately.

DEFINITIONS

Accident – an unplanned event or occurrence that results in injuries to employees or damage to equipment.

First Aid – any one-time treatment of minor scratches, cuts, burns, splinters, etc., which do not ordinarily require medical care from a physician. As defined in 29 CFR 1904 1904.7(b)(5)(ii)

Incident – a "near-miss" or "close call" where actual employee injury or property damage is narrowly avoided.

Medical Treatment – includes treatment of injuries administered by physicians or registered professional personnel.

Occupational Illness – any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or diseases which may be caused by inhalation, absorption, ingestion, or direct contact. Examples include: occupational skin diseases or disorders, respiratory conditions due to toxic agents, poisoning (by metals, carbon monoxide, organic solvents, formaldehyde, etc.)

2.1.Occupational Injury – any injury such as a cut, fracture, sprain, amputation, etc., which results from a work accident or from a single instantaneous exposure in the work environment.

3. RESPONSIBILITIES

3.1.The **Superintendent or Supervisor** is responsible to:

3.1.1. Inform new employees of these procedures.

3.1.2. Initiate prompt action to ensure that appropriate first aid or medical treatment is obtained for an injured employee.

Immediately notify Operations, Management team, and HR (rev 5/2017) of occupational injuries/illnesses and equipment/property damage.

The **Human Resource Representative** (5/2017) is responsible to:

Notify the appropriate insurance or workers' compensation carrier and complete the required documentation. Ensure that the carrier does not fill out the OSHA portion of the NC form 19, determination if the injury is an OSHA recordable will be the responsibility of the safety Administrator.

Follow up on treatment of injuries and illnesses.

Safety Officer and Administration (Rev 5/2017) will maintain the OSHA 300 and 300A Log of Occupational Injuries and Illnesses and any accompanying records for the current year, plus the past 5 previous years.

3.1.3. Complete and post the Annual Summary of Occupational Injuries and Illnesses February 1 through April 30 each year.

Notify the appropriate State or Federal OSHA office within 8 hours in the event of a fatality or Report all work-related in-patient hospitalizations, amputations and loss of an eye within 24 hours to OSHA.

The **injured employee** must report an injury, no matter how slight, to the Superintendent or Supervisor or their foreman, or in their absence, to the Safety Administrator.

EMERGENCY FIRST AID OR MEDICAL TREATMENT

3.2.Emergency care for an employee is the sole responsibility of the employer.

3.3.First Aid trained employees shall be available at job sites where serious accidents such as those involving falls, suffocation, electrocution, or amputation are possible, or other injuries requiring immediate attention and emergency medical services are not available within 3-4 minutes. (*OSHInterp 03/23/07*)

3.4.The superintendent shall ensure that each subcontractor has their own First Aid Trained provider on site at all times their employees are present, including first aid kits

In the event an employee is injured on the job, first aid kits shall be available for them to treat their own injuries. A sign out sheet for all medications will be utilized in case of further emergency. First Aid kits shall be inspected weekly.

On construction sites, the superintendent shall know the location of the nearest emergency medical facility and the address with directions shall be posted in the jobsite trailer.

In the event that an employee suffers a serious or life-threatening injury, immediately alert the appropriate rescue/medical authorities. Call **"911"** or the comparable emergency phone number to summon assistance. Provide information as to the type of injury and location of injured person(s). See included "Emergency" decision matrix

In less serious cases, the injured person should be taken to the medical facility for medical attention. A phone call should be made to alert the facility of the arrival of the patient.

The decision to transport an injured worker shall be made by the employer. See included "Non- Emergency" decision matrix

BLOODBORNE PATHOGENS POLICY

No employee is required to treat another's wounds. The Company does not assume any obligations or liability for actual treatment of accidents or injuries, and any employee who does so should be properly trained and does so as an individual and not in the scope of his/her employment.

3.5.Employees trained to provide first aid shall be trained on the Bloodborne Pathogen standard requirements.

3.6.Trained First Aid providers shall be offered the Hepatitis B Vaccination at no cost

However, in the event "Good Samaritan" assistance is given and an employee is exposed to blood or other potentially infectious materials that exposed employee will be medically evaluated for exposure to bloodborne pathogens within 24 hours. The exposed employee will then be educated in the requirements of OSHA's Bloodborne Pathogens standard, 29CFR1910.1030. The State's Good Samaritan Policy shall be posted on all job sites.

Fully stocked first aid kits are available at every job site. Included in the first aid kits will be disposable gloves to ensure universal precautions against bloodborne pathogens (e.g. hepatitis B virus and HIV) are taken. The superintendent or supervisor is responsible for ensuring that the first aid kit is restocked as needed.

ACCIDENT REPORTING AND RECORDING

When an employee is injured on the job, he/she must immediately report it to the supervisor. The Superintendent will complete the "Accident/Illness Report" along with the "Incident Investigation Report".

Office Administrator will record work-related injuries and illnesses on the OSHA 300 Log of Occupational Injuries and Illnesses.

3.7.The Safety Officer must notify the appropriate State or Federal OSHA office within 8 hours in the event of a fatality or Report all work-related in-patient hospitalizations, amputations and loss of an eye within 24 hours to OSHA Accident Investigation

The Superintendent or Supervisor will conduct an accident investigation as soon as possible following the accident. This will be accomplished for all accidents resulting in injury, property damage, or occupational illness or incidents where serious injury or property damage could have occurred.

REFERENCE DOCUMENT

29CFR1904 OSHA's Recordkeeping Guidelines for Occupational Injuries and Illnesses

Accident Reporting & Treatment
Part 1: Supervisor's Report Of Injury

Employee's Name _____ Marital Status _____ Date of Birth _____
Home Address _____ Home Phone _____
Emergency Contact # _____ Job Title _____
Work Location _____ Reporting Supervisor _____
Injury Date _____ Time _____ AM/PM Date Reported _____ Last Day Worked _____
Describe what employee was doing when injured and how the injury occurred:

_____
_____
_____
_____
_____

When and to whom did the employee first report the incident: _____
Witnesses: _____
Supervisor Signature: _____ Date: _____

INFORM
ATION RELEASE

Any information related to this injury will be used for the purpose of evaluating and handling my claim for injury as a result of an incident occurring on or about the above noted date of injury and for no other purpose now or in the future.

I hereby authorize (Employer) or any of its representatives to be furnished any information and facts regarding this injury including reports and records, results of diagnosis, treatment prognosis, estimates of disability and recommendations for further treatment.

Employee's Signature: _____ Date: _____

Name of Medical Provider: _____ Arrival Time: _____

Nature of Injury: ☐ New Injury ☐ No injury/illness found ☐ Recurrence/aggravation of existing condition
☐ Work-related ☐ Non work-related ☐ Not known

A. Personal Injuries:

☐ Amputation
☐ Burn
☐ Bruise
☐ Concussion
☐ Cut (Puncture or Open)
☐ Rash
☐ Electric Shock
☐ Inhalation Shock
☐ Freezing/Frostbite

☐ Hearing Impairment
☐ Heat Exhaustion, Sunstroke
☐ Hernia
☐ Scratches, Abrasions
☐ Strains/Sprains
☐ Fracture
☐ Insect Bites
☐ Other

Parts of Body Affected:

☐ Head/Face
☐ Eyes
☐ Arm (s)
☐ Hand (s)
☐ Finger (s)
☐ Abdomen
☐ Back
☐ Chest

☐ Hips & Pelvis
☐ Shoulder
☐ Wrist
☐ Ankle
☐ Leg
☐ Feet/Toe (s)
☐ Knee
☐ Other
_____

Source of Injury:

☐ Animals
☐ Insects
☐ Slip
☐ Trip
☐ Chemicals
Type: _____
☐ Petroleum Products
☐ Gases

☐ Asphalts
☐ Extreme Temperature
☐ Motors
☐ Electrical Devices
☐ Starter/Batteries
☐ Fall
☐ Sunburn
☐ Fire/Smoke

Source of Injury (Con't.)

☐ Pipe
☐ Hand Tools
Type: _____
☐ Power Tools
Type: _____
☐ Other: _____

Severity of Injury:

☐ Possible Fatality
☐ Severe Total Disability (Hospital Admit)
☐ Serious Partial Disability (ER)
☐ Urgent Care (POV)
☐ First Aid Case/ Treat/ Release on Site

B. Equipment Involving Personal Injuries

Machines/Equipment:

- ☐ Crushing, Pulverizing, Mixing
- ☐ Backhoe
- ☐ Tamp/ Jumping Jack
- ☐ Fork Lift
- ☐ Scissor Lift
- ☐ Site Work Equipment
  Type: _____
- ☐ Skid Steer
- ☐ Passenger Vehicle
- ☐ Trailer
- ☐ Vehicle Tailgates
- ☐ Handtrucks/ Dollies
- ☐ Hoisting Apparatus
  Type: _____
- ☐ Other: _____

Accident Type:

Striking Against Object

- ☐ Objects being handled
- ☐ Moving & stationary object
- ☐ Two moving objects
- ☐ Collapsing material
- ☐ Machine or machine parts
- ☐ Other

Caught In, Under or Between

- ☐ Object being handled
- ☐ Moving & stationary object
- ☐ Two moving objects
- ☐ Collapsing material
- ☐ Machine or machine parts
- ☐ Other

- ☐ Fall on same elevation
- ☐ Fall from elevation
- ☐ To walkway of working surface
- ☐ Onto or against object
- ☐ Other: _____

Struck by Object

- ☐ Tool or machine in use
- ☐ Falling or flying object
- ☐ Tipping, slipping, or rolling object
- ☐ Object being handled by another person
- ☐ Other

Miscellaneous

- ☐ Foreign Matter in eyes
- ☐ Contact with Electrical current
- ☐ Motor Vehicle Accident
- ☐ Other

Treatment: _____

Treatment Plan/ Discharge Info.: _____

Follow-up appointment on _____ with _____

Patient: ☐ Return to supervisor; no restrictions ☐ Return to supervisor; send home

Disposition: ☐ Return to supervisor; with restrictions for ____ days. Employee can return to work on _____ (date.)

Accident Reporting & Treatment
Part 2: Accident Investigation
(To be completed within 24 hours)

Supervisor

RETURN-TO-WORK

The above mentioned restrictions (if applicable) have been reviewed and the employee:

☐ Returned to full duty, no restrictions ☐ Has been placed in an appropriate restricted duty position

☐ Was sent home per medical instructions ☐ Other _____

Supervisor Signature: _____ Date: _____

Employee Signature: _____ Date: _____

Note: To facilitate the best care for your employee, it is the Supervisor's responsibility to adhere to the above modifications.

(To be completed by the Supervisor / Investigating Supervisor) Describe in detail the task the employee was doing at the time of injury (include vehicle, equipment or tools used):

Interview witnesses or co-workers for additional insights. ☐ Attach sheet for additional Info/comments.

Was this the employee's regular work assignment? ☐Yes ☐ No If no, was person trained for assignment? ☐Yes ☐ No

	CAUSAL FACTORS	YES	NO	COMMENTS	CORRECTIVE ACTION
	Environment				
1.1	Did the work area design contribute to the injury?	☐	☐		
1.2	Was the area cluttered?	☐	☐		
1.3	Did the employee have to be in this area to complete the job?	☐	☐		
1.4	Were other conditions (noise, air contaminants, extreme temperatures, etc.) a contributing factor?	☐	☐		
1.5	Other	☐	☐		
	Equipment/Tools				
2.1	Was the correct equipment being used?	☐	☐		
2.2	Was the correct equipment readily available?	☐	☐		
2.3	Did any defects or change in equipment/material contribute to hazardous conditions?	☐	☐		
2.4	Is regular maintenance done on machinery/equipment?	☐	☐		
2.5	Are there any maintenance logs?	☐	☐		
2.6	Was the employee using PPE (Hard Hat, Safety Glasses, Gloves)?	☐	☐		
	Method				
3.1	Was the employee performing according to SOP?	☐	☐		
3.2	Was there a different method to perform task?	☐	☐		
	Employee				
4.1	Was safety equipment specified for this job? (List all)	☐	☐		
4.2	Was this equipment being used?	☐	☐		
4.3	Have safety procedures been established for this task?	☐	☐		
4.4	Were safety procedures being followed? If no, why?	☐	☐		
4.5	Was the employee trained on necessary equipment?	☐	☐		
4.6	Was the employee authorized to operate the equipment?	☐	☐		
4.7	Was the employee using a controlled substance/alcohol?	☐	☐		
	Management				
5.1	Were the behaviors that caused the injury/illness observed before?	☐	☐		
5.2	If so, What was done?				
5.3	Does management require safe work practices related to this task? If yes, explain. How?	☐	☐		

5.4	Does management follow/support safety procedures?	☐	☐	
5.5	Have safety related changes been made/suggested in this area?	☐	☐	

To Correct Unsafe Acts	**To Correct Unsafe Conditions**	**CORRECTIVE ACTIONS**
☐ Review /change procedures	☐ Eliminate condition	**Action** **Assigned To** **Date**
☐ Instruct injured person	☐ Install safety guard	1.
☐ Instruct others	☐ Warn others of hazards	2.
☐ Process improvement	☐ Implement inspections	3.
Explain: _____	☐ Request repairs	4.
_____	Responsible Party:_____	5.
☐ Other_____	☐ Other _____	Corrective Actions completed ☐ Yes ☐ No
☐ Discipline injured person		
☐ Oral ☐ Written		

Employee: _____ Date: _____

Supervisor: _____ Date: _____

Investigating Supervisor: _____ Date: _____

SKETCH OF INCIDENT LOCATION: (ATTACH DIGITAL PHOTOS)

Accident Reporting & Treatment
Part 3: Employee Statement

My name is: _____

Date of injury: _____ Time of injury: _____

This is what happened (include what, when, where, how and why):

Do you recall anything unusual or unexpected that happened?

Are there work conditions that contributed to this injury?

How would you explain why you were injured?

Did the supervisor ask you to perform an unsafe act?

How would you prevent this injury from occurring again?

When did you first notice the injury or illness?

When did you tell your supervisor?

When did you first notice the pain?

Did pain develop suddenly or gradually?

Have you ever had this pain before? **Y/N** If yes, when & how often?

Employee Signature Date

What To Do When An Incident Is An Emergency

EMERGENCIES

"Emergency" is defined as any situation that results in the need to call for third-party assistance (fire, ambulance, rescue, etc.). The following is a general outline of the course of action to be taken and the reporting actions to follow when a situation is an Emergency.

Project Superintendent calls ambulance & Hendrick General Superintendent

▼

Project site team takes care of injured – if subcontractor, coordinate with subcontractor's supervisor

▼

Project Superintendent secures the scene / controls and accounts for all personnel (head count) - no one leaves the site – determine whether stand down is needed or make plan for continued work

▼

Project Superintendent engages "First Hour Crisis Management Plan" utilizing pre-determined structure in Job Site Safety Manual

▼

Project Superintendent and General Superintendent complete the Accident Investigation Form (Part 1 only) and submit to President for review and approval.

▼

If project stand down or shut down occurred, Project Team makes a plan for remobilization of project.

General Superintendent contacts Hendrick President and Hendrick Human Resources Department

▼

General Superintendent to scene and assume Team Leader Role and complete Accident Investigation Form (Part II only)

▼

Hendrick President and HR Leader go to scene

▼

Hendrick President contacts project owner and maintains contact throughout incident

▼

General Superintendent, Project Superintendent, HR Department and Hendrick President develop media plan within one hour of incident.

▼

Upon approval from President, General Superintendent reports the injury to Selective at 1.866.455.9969

▼

General Superintendent or Human Resources Department maintains communication with injured party and their family

▼

General Superintendent completed Accident Investigation Form (Part III only)

What To Do When An Incident Is Non- Emergency

NON-EMERGENCIES

"Non-Emergency" is defined as a situation that does *not* require immediate third-party assistance at the project site (fire, ambulance, rescue, etc.). These will typically be medical cases where the employee is taken (or takes themselves) for medical treatment. The following is a general outline of the course of action to take and the reporting actions to be followed when incidents are *non*-emergencies.

Injury reported to Project Superintendent

↓

Project Superintendent initiates Accident Investigation Form (Part I only)

↓

Supervisor informs General Superintendent

↓

Project Superintendent or designated driver escorts injured to designated medical provider

General Superintendent completes Accident Investigation Form (Part II only)

↓

Employee is treated

↓

Employee returns to the project site to meet with Project Superintendent (if injured is subcontractor employee, subcontractor supervisor to participate)

Employee returns to full duty

Project Superintendent and General Superintendent evaluate restrictions (if any) and offer transitional duties (if needed)

Employee cannot return to work

↓

Project Superintendent and General Superintendent write accident report and submit to President.

↓

Upon President approval, General Superintendent transmits accident report to Selective at (866-455-9969) or via the web at www.selective.com

↓

Project Superintendent and injured complete accident analysis

↓

Project Superintendent initiates corrective action

Project Superintendent and injured complete Accident Investigation Form (Part III only)

↓

Project Superintendent initiates corrective action

Project Superintendent and injured complete accident analysis

↓

Project Superintendent reviews completed accident analysis with General Superintendent

↓

Project Superintendent initiates corrective action

HENDRICK CONSTRUCTION, INC.
CRISIS MANAGEMENT

FIRST-HOUR RESPONSE CHECKLIST

The following is designed to guide the Hendrick team through the first hour of any crisis that occurs on a project site. Please customize this checklist to your specific project site needs.

SENIOR HENDRICK EMPLOYEE ON SITE (typically the Project's Lead Superintendent / Project Manager)

	Contact emergency services (911).
	Contact Hendrick General Superintendent.
	Initiate site control and determine whether project stand down / shut down is appropriate.
	Account for all employees, both Hendrick and subcontractor/vendor employees.
	Instruct that no one is to leave the site.
	Do not move anything that might be classified as evidence.
	Ensure telephone coverage at the project site.
	Inform all site personnel that ALL requests from outside groups are to be directed to you.
	Post workers to restrict entry to site to Hendrick management and emergency personnel ONLY.
	Establish a command center – internal if possible.
	Select a temporary spokesperson with the assistance of the Team Leader.
	Designate individual who will remain with any injured party at the hospital until family can get to the hospital.
	Document the incident immediately. Film / photo if available.

HENDRICK TEAM LEADER (typically Hendrick General Superintendent)

	Determine what happened, when / where it happened and who is involved.
	Verify the current status of the site (stand down / shut down?)
	Determine whether you and / or the spokesperson are needed on site.
	Advise Company HR Department as to handling of incident calls.
	Identify potential spin-off crises.
	With President approval, General Superintendent Notifies Travelers (800-832-7839) using the Accident Investigation Form (Part I)
	If incident involves injury / fatality, appoint family contact person. A fatality should require a personal visit.
	If the incident involves injury to a subcontractor's employee, notify the subcontractor supervisor that we will defer family contact to the subcontracting company.
	If incident results in injury / fatality to a non-employee, allow the authorities to make notification to the family.
	Inform any surrounding areas / homes / businesses, etc. that may be affected by the incident.
	Instruct all on site to contact their families to let them know they are OK. Instruct that they give no account of the incident to anyone outside the site until the situation is stabilized.
	Notify the owner / developer of the project.
	Debrief workers who may have been involved in, or witnessed, the incident.
	Contact OSHA within eight hours of a fatality and / or three or more workers requiring hospitalization.
	Identify internal investigation team members who will work with authorities.
	Review documentation prepared by the Senior Hendrick Employee On Site above.

HENDRICK SPOKESPERSON (typically HR leader and/or Roger Hendrick)

	Review documentation prepared by the Senior Hendrick Employee On Site above and reviewed by Team Leader.
	Prepare statements and releases.
	Gain approval from Roger Hendrick of all statements and releases in advance.
	Designate someone to screen your calls from the news media.
	Complete a media log control sheet so you don't lose track of promises of additional information and so you can track coverage.
	Anticipate media questions. If possible, role play a media interview with a colleague.
	Assemble necessary background information and literature.
	If you plan to give a media tour, ensure the site is safe and require a hold-harmless agreement be signed.
	Instruct media on site safety procedures and provide safety gear. Report that if violations occur to the established plan, they will be escorted off the site.
	Advise reporters of a time and place for future updates.
	Follow up on additional media inquiries.
	Identify the audience that needs to be contacted for updates.
	Gather details on past negative issues which the media may refer to.
	Establish an emergency message mailbox for employees to access if office operations have been impacted.
	Track media coverage via a monitoring service and/or the internet.
	Secure and offer critical incident stress counseling for employees who witnessed the accident (if necessary).

HENDRICK CONSTRUCTION, INC.
CRISIS MANAGEMENT

Post Injury Speech

If during the first hour of an incident you are approached by the media or any other interested party for a statement or response, show the media that you are in control of the situation. Do not avoid contact – that will only make matters worse. However, do not attempt to confirm or deny any speculations or initial reports that may have leaked regarding the incident.

The following statement should be utilized in some form. Under no circumstances should you say "No Comment"! You should be standing – do not wear sunglasses or anything that might show disinterest, disrespect or that you are hiding – give this statement and the media your undivided attention. Be as professional as you can. Do not appear rattled.

"My name is _____ and I am the on-site Superintendent with Hendrick Construction, Inc.

This incident has just happened, and we want to make sure we have accurate facts before they are delivered to you. Therefore, I am not prepared to answer any questions at this time.

Please stay in this safety area so we can do our job and take care of the situation.

I know you are doing your job and I want to provide you the information you need, but I want it to be right. To do that, I need to return to the site, but either our Company Spokesperson or I will be back within one hour to give you an update.

Thank you."

RULE ENFORCEMENT

Disciplinary Actions for Failure to Comply with Safety Rules and Company Policy

There are certain standards of behavior and conduct that must be maintained to ensure a safe work environment. Any employee who engages in improper conduct will be subject to disciplinary actions up to and including discharge. Disregarding rules and repeated violations, regardless of intention, may be grounds for discharge. The following rules and disciplinary actions are not intended to be all-inclusive; the company reserves the right to discipline employees and subcontractors for engaging in other misconduct not addressed by the following rules:

1. Horseplay practical jokes
2. Attire that does not include shirt with sleeves, long pants, boots with good sole
3. Non-compliance of hard hat utilization
4. Cat-calling, continued interaction with client or client's employees
5. Non-compliance with specific conditions of job
6. Non-compliance of housekeeping issues
7. Work practice that endangers oneself or others

Disciplinary Actions:

Employees	**Subcontractor**
FIRST OFFENSE: Documented corrective interview.	**FIRST OFFENSE:** Safety Violation Notice to sub-employee, notify PM.
SECOND OFFENSE: Written warning, remainder of day suspension.	**SECOND OFFENSE:** Contact app. PM, advise removal from job for day.
THIRD OFFENSE: Three days suspension without pay.	**THIRD OFFENSE:** PM contacted, sub-employee replaced.
FOURTH OFFENSE: Final written warning and discharge.	

It is not necessary that the violations be of the same rule. Violations of three different rules may result in discharge, just as three violations of the same rule also may result in discharge. Major violations may result in immediate discharge.

Important Notice!!!

TO:_____
Subcontractor's Company Name

Your employee,_____, was
Subcontractor's employee name

_____

_____

_____

_____
Description of unsafe act observed

on_____ at_____
Date unsafe act observed **Job site location**

This action is contrary to the contract agreement that you and your employees will work in a safe manner and in compliance with OSHA at all times.

As the general contractor on this site, we cannot be responsible for the safe actions of your employees at all times on this job. We expect you to train and supervise your own employees as to the work they do and insure it is done in a safe manner.

Your immediate attention to this will be greatly appreciated.

Sincerely,
Roger Hendrick
Hendrick Construction, Inc.

Please note: Any unsafe conditions caused by you or your employees that we chose to correct will be billed to your company at a minimum of $200/hour plus the cost of materials. Any OSHA citations issued to us as a consequence of unsafe acts by you or your employees will be considered "subcontractor misconduct" and any fines levied against us because of your unsafe acts will be deducted from future payments to you. We expect your employees to receive adequate safety training from you and we do not assume any responsibility/liability for their unsafe acts, whether observed or not observed by us or our employees.

JOB SITE SAFETY CHECKLIST

The purpose of this checklist is to assist the Construction Supervisor in identifying the most common conditions that are hazardous. *It is not designed to identify every possible condition that could be a potential hazard.*

The attached checklist is intended for Superintendents to use for compliance issues. You may use this form if you wish or you can note these issues in your Daily Construction Report Forms "located on Sharepoint" as your "Daily Log" and fax it into the office daily.

The Four Most Common Causes of Construction Fatalities are:

Falls (6 feet or more)

Electrocution (overhead lines and cranes as well as underground lines)

Struck-by (mobile equipment/vehicles more than objects falling from above)

Crushed-by (trenching cave-ins)

Please pay particular attention to these areas when walking around the site. These are the safety hazards that are killing construction workers each year.

Job Site Safety Checklist

Job Location: _____ **Job#** _____

Supervisor: _____ **Date**: _____

Inspector: _____

General:

	Y	N
a) Hard Hats	☐	☐
b) Proper footwear	☐	☐
d) Ear Protection	☐	☐
e) Eye Protection	☐	☐
f) Potable water	☐	☐
g) Unusual exposures identified and controlled	☐	☐

Additional for this inspection: _____

Housekeeping:

	Y	N
a) General neat appearance of all work areas	☐	☐
b) Passageways and walkways clear	☐	☐
c) No projecting nails and screws	☐	☐
d) Regular site cleanup and trash disposal	☐	☐
e) Materials stored/stacked in orderly and safe manner	☐	☐

Employee/Subcontractor/Additional: _____

Fire Prevention:

	Y	N
a) Proper number of Fire Extinguishers provide and charged	☐	☐
b)"No Smoking" posted and enforced (no cigarette butts in posted areas)	☐	☐
c) Combustibles >10' from building	☐	☐
d) Approved safety cans for gasoline	☐	☐

Employee/Subcontractor/Additional: _____

Fall Protection:

	Y	N
a) Floor openings	☐	☐
b) Guardrails in place/replaced after each load received	☐	☐
c) Safety harnesses provided and used	☐	☐
d) Double-locking snap hooks on all Personal Fall Protection	☐	☐
e) Floor holes protected/secured/marked	☐	☐
f) Wall openings guarded	☐	☐

Employees/Subcontractors/Additional:_____

_____

_____

_____

_____

Scaffolding:

	Y	N
a) Properly erected and supervised by competent person	☐	☐
b) Scaffolding tied to structure	☐	☐
c) Scaffolding plumb, with cross bracing in place	☐	☐
d) Fully planked with toe boards in place	☐	☐
e) Base plates used (no cinder blocks)	☐	☐
f) Ladder access provided	☐	☐
g) Employees tied-off while working on elevated motorized scaffolding	☐	☐
h) No riding on rolling scaffolding	☐	☐

Employee/Subcontractor/Additional:_____

_____

_____

_____

_____

E**lectrical:**

	Y	N
a) Terminal boxes equipped with required covers	☐	☐
b) GFCI's in place	☐	☐
c) All extension cords are 3-wire with ground pin in place and in good condition	☐	☐
d) All electric tools and machinery have ground pin in place on power cable	☐	☐
e) Exposed light bulbs equipped with protective cage	☐	☐
f) Competent person if assured equipment grounding program used in lieu of GFCI	☐	☐

Employee/Subcontractor/Additional:_____

_____

_____

_____

_____

Stairways and Ladders:

	Y	N
a) Inspected and in good condition	☐	☐
b) Properly secured	☐	☐
c) Ladder extends 36" above top of landing	☐	☐

d) Ladder available for access to scaffolding	☐	☐
e) Guardrails provided for stairway landings	☐	☐
f) Handrails provided for stairways with four or more risers	☐	☐
g) Competent person periodically inspect ladders	☐	☐
h) Competent person conduct ladder safety training	☐	☐

Employee/Subcontractor/Additional:_____

_____

_____

_____

_____

Excavations:

	Y	N
a) Shoring adequate for soil and depth	☐	☐
b) Support system in place for adjacent structures	☐	☐
c) Spoil bank and equipment sufficient distance from excavation	☐	☐
d) Ladders provided	☐	☐
e) Competent person on site	☐	☐
f) Underground utilities located prior to excavation	☐	☐
g) Air samples taken prior to entry in underground tunnels/openings	☐	☐

Employees/Subcontractors/Additional:_____

_____

_____

_____

_____

Concrete and Masonry:

	Y	N
a) Proper scaffolding	☐	☐
b) Safe hoisting equipment	☐	☐
c) Masonry walls over 8 ft. braced	☐	☐
d) Limited Access Zone established	☐	☐
e) Fall protection used	☐	☐
f) Guard rails on all open floors	☐	☐
g) All protruded rebar guarded	☐	☐
h) Hard hats and safety shoes	☐	☐

Employees/Subcontractors/Additional:_____

_____

_____

_____

_____

Hoists, Cranes and Derricks:

	Y	N
a) Inspections of cables, slings, chains, hooks, eyes by Competent Person	☐	☐
b) Inspection logs maintained	☐	☐
c) Power lines deactivated, removed, protected or safe distance	☐	☐
d) Swing radius protected (360 degrees)	☐	☐
e) Load capacity chart on machine	☐	☐
f) Proper hand signals used	☐	☐

Employees/Subcontractors/Additional:_____

Welding and Cutting:

	Y	N
a) Personnel qualified	☐	☐
b) Screens, shields, goggles, gloves	☐	☐
c) Gas cylinder secured in upright position	☐	☐
d) Fire Extinguisher	☐	☐
e) Electrical equipment grounded	☐	☐
f) Valve protection caps in place when gas not in use	☐	☐
g) Fire watch provided 30 min. subsequent to welding near flammable/combustibles	☐	☐

Employees/Subcontractors/Additional:

Highway/Work Zone:

	Y	N
a) Competent Flagmen reflective garments, instructed, posted	☐	☐
b) Adequate warning signs and markers	☐	☐
c) Traffic control through construction area	☐	☐
d) Dust control	☐	☐
e) Work Zone of Heavy Equipment protected from pedestrians and other traffic	☐	☐
f) Equipment inspected daily	☐	☐
g) Back up alarms and horns operational	☐	☐
h) Proper lighting	☐	☐

Employees/Subcontractors/Additional:

Power Tool/Equipment Checklist

Tools, Hand and Power:	**Y**	**N**
a) GFCI or grounded	☐	☐
b) All guards in place	☐	☐
c) Tools and cords in good condition	☐	☐
d) Inspected and maintained	☐	☐

Employee/Subcontractor/Additional:_____

_____

_____

_____

Motor Vehicles & Heavy Equipment:

	Y	**N**
a) Service brakes and trailer brake connections inspected	☐	☐
b) Parking brake and service brake operable	☐	☐
c) Tires, horn, backup alarms, seat belts inspected	☐	☐
d) Lights, windshield wipers, defroster	☐	☐
e) Fire Extinguisher in place and fully charged	☐	☐
f) Weights and loads controlled	☐	☐
g) Personnel carried safely - seat belts provided	☐	☐

Employees/Subcontractors/Additional:_____

_____

_____

_____

Preconstruction Checklist

Administration:	**Y**	**N**
a) Pre-construction meeting with subcontractors re: safe work practices	☐	☐
b) OSHA poster and other warning signs posted	☐	☐
c) Emergency phone numbers posted	☐	☐
d) Written Safety Program on site including site specific Safety Program	☐	☐
e) Weekly safety meetings integrated	☐	☐
f) MSDS from all subcontractors	☐	☐
g) Hazardous chemical list updated for job	☐	☐
h) Competent Person assigned for site and each trade	☐	☐
i) Hazard Communication plan posted	☐	☐
j) Posted 200/300 Forms	☐	☐

Employee/Subcontractor/Additional:_____
_____
_____
_____
_____

Fire Prevention:	**Y**	**N**
a) Proper number of Fire Extinguishers provided and charged	☐	☐
b)"No Smoking" posted and enforced (no cigarette butts in posted areas)	☐	☐
c) Combustibles >10' from building	☐	☐
d) Approved safety cans for gasoline	☐	☐

Employee/Subcontractor/Additional:_____
_____
_____
_____
_____

First Aid and Emergency:	**Y**	**N**
a) First aid kit fully stocked; employees aware of location	☐	☐
b) Employees aware of personnel trained in first aid	☐	☐
c) Employees aware of emergency procedures	☐	☐
d) Aware of Emergency Contact Postings	☐	☐

Employee/Subcontractor/Additional:_____
_____
_____
_____
_____

JOB SITE OSHA INSPECTION CHECKLIST

I. PREPARATION PRIOR TO INSPECTION:

A. Job Site Representative or Superintendent:

- Appoint a company representative and an alternate to handle OSHA problems and inspections for each project. They must read and understand this checklist and have a copy for their own use.
- Instruct other management personnel not to talk to the inspector, other than to remain courteous.
- Have a working camera, video camera, tape recorder, and note book available on the job site for inspections.
- Advise Inspector you would like for the safety manager/representative to be present.

B. Records:

- Is there a hazard communication plan (HazCom) available for all employees and the inspector immediately upon request at the job site at all times?
- Are Material Safety Data Sheets (MSDS) and/or Safety Data Sheets (SDS) available for all employees and the inspector immediately upon request at the job site?
- Is an OSHA poster displayed on the job site?
- Is the OSHA Form 300A summary from the prior year signed and posted on the job site each February?
- Are OSHA 300 and 300A forms for prior years signed and available for review on the job site or at the home office? (They must be maintained for the previous five years.)
- Keep notes of all records furnished to the inspector and any comments by the inspector.

C. Job site Entry Options:

- *Allow the inspection to proceed* and permit the designated company representative to take part in the inspection.
- *Ask the compliance officer to wait* until someone from upper management arrives on the job site. This request should be written and signed as company policy, and not a denial of entry. Your foreman should have copy of this letter, signed by an officer of the company, on site at all times.
- Hendrick Construction, Inc. should have a policy on whether administrative *warrants* are required in the event of an OSHA inspection. If the inspection is a result of a fatality, multi-injury, imminent danger situation, or a complaint, the company may choose to allow the inspection, but to limit its scope to the matter concerned; otherwise the company may require an administrative warrant. The inspector can and will issue citations on anything she/he sees or learns during the inspection process. The goal of the company is to limit the scope of the inspection. If the inspection is general in nature, the inspector will want to inspect the entire project. If you believe you have no safety violations or only minor violations, you should consider allowing the inspection to proceed.

Make it policy in writing to contact upper management before permission is granted for an inspection.

II. INSPECTION:

A. Opening Conference:

- Immediately notify the company safety officer or main office, as required, upon learning of an OSHA inspection or the presence of an OSHA inspector.
- Greet the OSHA inspector, being courteous at all times, and record the information regarding his/her credentials in a notebook.
- Ask inspector for the purpose of the inspection:
    a) Scheduled
    b) Employee complaint
    c) Death/Catastrophe
    d) Observed hazard while driving by
- Ask the inspector to identify the type or scope of the inspection to be conducted, general/focused. Record, in detail, all questions and responses.
- Do not volunteer any information.
- Provide the inspector with all required safety equipment. Advise the inspector that he will be required to wear safety equipment in the appropriate areas.
- Ask the OSHA inspector to show you the regulation or standard requiring the production of records and record his response.

B. Walking the Job Site:

- Briefly answer the questions in a courteous manner. Provide only the information requested.
- Allow the inspector to visit only those areas of the site which were allowed for inspection by agreement or by warrant.
- Carefully choose the path of travel. The inspector can issue citations for anything he sees or hears.
- Photograph or videotape everything the inspector photographs or videotapes in the same manner and if possible stand in his footsteps. The company should have its own photo documentation of what the inspector is photographing.
- If the inspector makes a mistake, do not correct him/her.
- Do not argue with the inspector; simply inform him of the facts.

C. Interview:

- Have company representatives present at any interviews by the inspector with supervisors.
- OSHA inspectors are allowed to privately interview employees in a reasonable manner. Advise the employee that they have the right to request that the company representative be present during an interview.
- Write down the name of any employee interviewed. *Make sure the employees. prior to an OSHA visit are familiar with who the **competent person** is on each job site and each procedure that requires a competent person.*

D. Closing Conference:

- The company representative should obtain as much information as possible from the inspector without making comments that could hurt the company.
- Record the inspector's statements about alleged violations. Make notes of the inspector's comments.

FIRE PROTECTION AND PREVENTION PROGRAM

Purpose:
The purpose of this plan is to prevent potential injuries and deaths to Hendrick Construction, Inc. employees and subcontractors. It is designed to protect company property from damage or loss due to fire. This plan includes fire prevention, building exits, fire extinguishing, emergency evacuation, and employee training. This plan complies with or supersedes fire protection and prevention standards in 29CFR 1926.24 subpart F, 29CFR 1926.150, and 1926.151 of OSHA guidelines. (Rev 5/2017)

This plan will be reviewed with all new employees when they begin their job and with all employees when the plan is changed.

Fire Prevention:
Our first line of defense against fire is to prevent it in the first place. It is the responsibility of all Hendrick Construction, Inc. employees to prevent fires. All employees will be made aware of potential fire hazards in their work area and will be trained in safe work procedures and practices. Employees and subcontractors are expected to follow proper procedures to prevent fires and to notify their supervisor or other management personnel if they observe any condition that could lead to the ignition of a fire or could increase the spread of a fire.

The following are some general fire prevention practices and procedures that should be followed:

- All ignition sources (i.e., open flames, cutting torches, spark producing equipment, electric motors, heating equipment, etc.) should be controlled and contact with combustible and flammable materials must be avoided. Keep all combustible materials at least five feet from such ignition sources and all flammable liquids at least twenty feet away.

- Any damaged or frayed electrical wiring, equipment cords, extension cords, etc. should be removed from service immediately and replaced or repaired.

- Any use of flammable liquids must be done in a manner that prevents spills and prevents the flammable liquid or its vapor or spray from coming in contact with any ignition source. All flammable liquids must be stored in proper flammable liquid storage containers and kept in the proper storage cabinets.

- Housekeeping and storage practices are critical to preventing fires. Any combustible materials must be stored in neat stacks with adequate aisle space provided to prevent easy spread of fire and to allow for access to extinguish any fire that may start. Trash, scrap, and other unnecessary combustibles must be cleaned up immediately and placed in proper disposal containers.

- Smoking will be allowed only in designated areas.

Fire Exits:
- Each area of the building has at least two means of escape remote from each other that are to be used in a fire emergency. The location of exits and the path of egress is shown on maps posted throughout the building.

- Fire exit doors must not be blocked or locked to prevent emergency use when employees are within the building.

- Exit routes from our building must be clear and free of obstructions. All exits are marked with signs designating exits from the building.

Fire Extinguishers:

- A fire extinguisher, rated not less that 2A, will be provided for each 3,000 square feet of the protected building area, or major fraction thereof. Travel distance from any point of the protected area to the nearest fire extinguisher will not exceed 100 feet.

- One of more fire extinguishers, rated not less than 2A, will be provided on each floor. In multi-story buildings, at least one fire extinguisher will be located adjacent to stairways.

- Our fire extinguishers will be inspected annually by a fire protection equipment company and tagged with the date of inspection. If a fire extinguisher is used or discharged for any reason, it must be removed from service and replaced with another properly charged extinguisher while it is being recharged.

- All employees will be instructed on the hazards of fighting fires, how to properly operate the fire extinguishers available, and what procedures to follow in alerting others to the fire emergency. Employees will attempt to extinguish only small incipient fires. If a fire cannot be immediately and easily extinguished with a fire extinguisher, the employees will evacuate the building and/or area rather than try to fight the fire.

Fire Extinguisher Requirements:

- One 2A Extinguisher (10 lb ABC Dry Chemical):
  - Per every 3,000 Sq.Ft. of Building
  - Within 100 ft. of each storage area for combustible material
- One 10B Extinguisher (5 lb ABC Dry Chemical) must be within 50 ft. of wherever more than 5 gallons of flammable or combustible liquids or 5 lbs of flammable gas are being used on the jobsite.
- One 20B Extinguisher must be:
  - From 24-75 feet of an outside flammable or combustible liquid storage area
  - Each vehicle hauling or dispensing flammable or combustible liquids
- Fire Extinguishers must be inspected:
  - At least once a year
  - A written record of the inspection must be maintained showing the date of each inspection

Temporary Heaters:

- If using temporary heaters inside, make certain that adequate ventilation is available to avoid asphyxiation.
- Install circulating heaters with a minimum of a 12-inch clearance on all sides
- Radiant-type heaters must have a minimum of a 36-inch clearance
- Salamanders:
  - -No salamander-type heaters are permitted on scaffolds or near floor openings
  - -Hot salamanders may not be refueled or relit under any circumstances
  - -Gasoline or kerosene may not be used unless heater is designed for such fuel
  - -Always secure salamanders in a manner that will prevent their tipping over due to impact, collision or wind

Signs:

- A “NO SMOKING” sign will be posted in the vicinity of combustibles/flammables ‘
- Fire Extinguishers will be mounted throughout the job site and their locations clearly marked

Cylinders:

- Storage of LPG within buildings is prohibited!
- Compressed Gas Cylinders shall be secured in an upright position at all times ‘Oxygen Cylinders shall be stored 20 ft. away from gas and LPG cylinders
- Cylinders shall be stored in areas where they will not be knocked over or damaged by passing or falling objects
- Cylinders shall be kept far enough away from welding or cutting operations so that sparks, hot slag or flame cannot reach them
- During welding or cutting, a suitable fire extinguisher shall be located immediately in the vicinity of the operation
- When work is finished, cylinders are empty or cylinders are moved, the cylinder valve shall be closed and capped
- A fire watch should be maintained for at least 30 minutes after welding or cutting operations in the vicinity of combustibles or flammables.

Fire Prevention Requirements:

- Proper Housekeeping will be maintained throughout the job
- All electrical equipment and wiring will be maintained in compliance with the Electrical Standard - Subpart K
- All employees will be trained on fire hazards and fire prevention. All employees will be trained in the use of fire extinguishers. This is to be documented in employee training records. Company policy is to escape and exit. (Rev 5/2017)

NO OPEN FIRES ARE PERMITTED ANYWHERE ON A CONSTRUCTION SITE!!

Emergency Evacuation:

- An alarm system, e.g., telephone system, siren, etc., will be established by the company whereby employees on the site and the local fire department can be alerted for an emergency. Site specific emergency plans will be generated prior to work commencement.

- Alarm code and reporting instructions will be conspicuously posted at job site.

- If any employee discovers a fire or smoke, the employee will immediately pull the nearest fire alarm box. If alarm system is non functional When the fire alarm sounds or a fire is otherwise announced, all employees (except those designated and trained to use fire extinguishers) are expected to immediately exit the building by proceeding to the nearest exit in an orderly fashion. If the nearest exit is blocked by fire or smoke, the employees should proceed to an alternate exit. There should be no running, shouting, pushing, etc. A calm orderly evacuation is the safest for all concerned.

- Upon exiting the building, all employees are to proceed to the designated meeting area(s) so that they can be accounted for. The designated meeting area(s) will be determined in the site specific emergency plan. Supervisors and subcontractors will account for all of their employees to ensure that no one is still in the building.

FIRE SAFETY CHECKLIST

(Should be completed periodically throughout each Job)

Fire Extinguishers:	
Fire Extinguishers Provided & Marked throughout the project	YES/NO
Employees instructed to notify management of any discharged extinguishers	YES/NO
Fire Extinguishers provided at all stairways and landings	YES/NO
General Fire Protection:	
Employees instructed for emergency fire procedures	YES/NO
All exits unobstructed and clearly marked	YES/NO
All gasoline in approved cans	YES/NO
Good Housekeeping Practices throughout project	YES/NO
Sufficient clearance maintained between temporary heaters and combustibles	YES/NO
Smoking prohibited in areas containing combustibles	YES/NO
Combustible scrap and trash regularly removed from site	YES/NO
Welding & Cutting:	
Fire Watch provided during and 30 minutes after welding/cutting operations	YES/NO
Fire Extinguisher provided for welding/cutting operations	YES/NO
Tanks secured, upright on firm foundation	YES/NO
Valve protection caps in place	YES/NO
Hoses inspected each shift	YES/NO
Electrical:	
All electrical wiring and equipment meets OSHA's requirements	YES/NO
All drop cords in good condition and meet OSHA requirements	YES/NO
Overcurrent protection devices (fuses, circuit breakers) in good condition	YES/NO
Ground Fault Circuit Interrupters (GFCI) or an approved grounding program	YES/NO
Employee Training:	
Emergency procedures explained to all employees	YES/NO
Alarm systems available and in working order (radios, phones, etc)	YES/NO
Emergency phone numbers posted	YES/NO
Employees trained in use of fire extinguishers	YES/NO
Documentation:	
Employee Training Documentation Maintained	YES/NO
Fire Safety Inspection Documentation Maintained at Site	YES/NO

SUMMARY OF OSHA STANDARDS REQUIRING FIRE EXTINGUISER CONSTRUCTION

LOCATION	TYPE	DISTANCE (feet)	STANDARD
Building area	2A	100	150 (c) (1) (i)
Each floor	2A	----------	150 (c) (1) (iv)
Multistory building	2A	Adjacent to stairway	150 (c) (1) (iv)
5 gallons of flammable/combustible or 5 pounds of flammable gas	10B	50	150 (c) (1) (vi)
Open yard storage	2A	100	151 (c) (6)
Flammable liquid storage room	20B	10, Outside	152 (d) (1)
Outside Flammable liquid storage area	20B	25- 75	152 (d) (2)
Vehicles used for dispensing or transporting flammable or combustible liquids	20B:C	On vehicle	152 (d) (4)
Service or fuel area	20B:C	75	152 (g) (11)
LPG storage area	20B:C	--------	153 (1)
Welding, cutting, or heating areas	Suitable	--------	352 (d)
Crane cabs	5B:C	---------	550 (a) (14) (i)
Tunnel machinery not using fire-resistant hydraulic fluid	4A:40B:C	---------	800 (m) (8)
Tunnel underground belt conveyors at head and tail pulley	4A:40B:C	---------	800 (m) (11)
Vehicles used for transportation of explosives	10A:B:C	---------	902 (i)

HAZARD COMMUNICATION PROGRAM

1. PURPOSE

1.1. The purpose of this policy is intended to ensure compliance with Occupational Health and Safety Administration (OSHA) requirements for the adoption of the UN Globally Harmonized System (Hazcom 2012 / GHS) and to provide a safe work environment and to protect our employees as well as the public from injuries or illnesses that may result from exposure to hazardous chemicals or substances within our workplace.

1.2. A transition is happening between now and 2016 to fully change over to the GHS system.

2. Definitions for SDS'S

2.1. Chemical — any element, chemical compound or mixture of elements and/or compounds.

2.2. Exposure or Exposed — an employee is subjected in the course of employment to a chemical that is a physical or health hazard, and includes potential (e.g. accidental or possible) exposure. "Subjected" in terms of health hazards includes any route of entry (e.g. inhalation, ingestion, skin contact, or absorption).

2.3. **Hazardous** Chemical — any chemical which is a physical hazard or a health hazard.

2.4. **Hazard Warning** — means any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning which convey the specific physical and health hazard(s), including target organ effects, of the chemical(s) in the container(s).

2.5. Health Hazard - includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which damage the lungs, skin, eyes, or mucous membranes.

2.6. Identity — means any chemical or common name which is indicated on the SDS'S for the chemical. The identity used shall permit cross-references to be made among the Hazardous Chemical Inventory List, the label, and the SDS'S .

2.7. Label — means any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.

2.8. **Safety Data Sheet** (SDS) — means written or printed material concerning a hazardous chemical which is prepared in accordance with OSHA rules.

2.9. **Physical** Hazard — means a chemical which is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive.

3. RESPONSIBILITIES

3.1. The **Safety Administrator** will be the Hazard Communication GHS Administrator, and as such, is responsible to:

3.1.1. Develop a Hazardous Chemicals Inventory List and ensure that a copy of a Safety Data Sheet (SDS) for each chemical listed is maintained in a notebook in the office and by each superintendent.

3.1.2. Ensure that an adequate supply of hazard warning labels are available.

3.1.3. Keep a master copy of this program and all SDS'S on file.

3.1.4. Ensure that our contractor policy is carried out.

3.1.5. Ensure that initial general training on hazard communication is provided to all new employees.

3.1.6. Maintain a current list of employees who have completed the training on routine chemicals used within our facilities and jobsites.

3.2. Each Superintendent, Supervisor, or Foreman is responsible to:

3.2.1. Ensure that materials are properly labeled within their work areas.

3.3. Ensure that SDS's are obtained with any new materials received.

3.3.1. Ensure that each employee is trained on any non-routine chemicals that may be used in their work areas.

3.4. All Employees are responsible to learn and follow the requirements developed under this program.

4. HAZARD DETERMINATION

4.1. The initial hazard determination of chemicals is performed by manufacturers or importers and information is on the SDS's

4.2. The Superintendent, Supervisor, or foreman will inventory the chemicals that are available for use on our site(s). And ensure they are on the table of contents of the program and SDS's are available.

5. LABELING

5.1. No hazardous chemicals will be accepted for use at our job site(s), or shipped to any outside location, unless labeled with at least the following information:

5.1.1. Identity of the hazardous chemical(s).

5.1.2. Appropriate hazard warnings (physical and/or health hazards).

5.1.3. See Appendix C

5.2. All containers of hazardous chemicals will be labeled with at least the following information:

5.2.1. Identity of the hazardous chemical(s) (trade & common name).

5.2.2. Appropriate hazard warnings (physical and/or health hazards).

5.3. No label is to be defaced or removed when a material is received or in use. If a label becomes unreadable or material is poured into a non-original container, the person using the material is responsible for labeling the container, using an in-house warning label. If the warning labels are not available in the work area, they may be obtained by calling the **Superintendent, Supervisor or Foreman.**

6. SAFETY DATA SHEETS (SDS's)

6.1. An SDS containing the information required by the Hazard Communication Standard will be kept for each substance found in the facility or on the jobsite. The SDS's will be the most current one supplied by the chemical manufacturer, importer, or distributor.

6.2. Terms that are often referred to on MSDS/SDS's may be found on Appendix A.

6.3. The Superintendent or Supervisor is responsible for obtaining an SDS for any new chemical that is brought onto the jobsite and/or for which we do not have an SDS. You may use the sample letter attached as Appendix B.

6.4. The master file of all SDS's may be found in the Safety Administrator's Office and will be readily accessible to employees.

7. NON-ROUTINE WORK

7.1. Occasionally employees will be asked to perform non-routine work, which can be defined as work not normally performed by an employee during the normal course of job duties. Examples of non-routine work could be, but are not limited to:

7.1.1. Confined space entry work.

7.1.2. Using chemical substances in a manner different from normal and customary usage.

7.2. The following procedures will be used when employees perform non-routine work:

7.2.1. The Supervisor will determine the need for non-routine work and the hazard associated with the work.

7.2.2. Prior to performing a hazardous non-routine task, a special training session will be conducted, usually between the Superintendent or Supervisor, Foreman and the employee. In addition to the general employee information and training provided, the training will include thoroughly reading the MSDS/SDS's, reviewing any necessary personal protective equipment, and emphasizing any other precautions that may be needed to reduce or avoid exposure. Special work permits may be required for some non-routine work, such as confined space entry.

7.3. Employees share in the responsibility by ensuring their Supervisor knows that non-routine work will be performed. Employees should contact their Supervisor or Foreman with questions concerning non-routine work.

8. CONTRACTOR POLICY

8.1. Any hazardous substance brought to our property by a subcontractor must be coordinated with the Superintendent or Supervisor. The subcontractor and our Superintendent or Supervisor shall supply one another with a list of the hazardous chemicals and the corresponding MSDS/SDS's for the materials to which all employees will be potentially exposed in the course of their work. A copy of the subcontractors MSDS/SDS's file must be kept in the jobsite office during the course of their work.

8.2. Outside contractors must be provided with all necessary information concerning the potential hazards of the substances to which they may be exposed and appropriate protective measures required to minimize their exposure.

9. EMPLOYEE INFORMATION AND TRAINING POLICY

9.1. Prior to initial task assignment, all employees, including temporary employees, working with or potentially exposed to hazardous chemicals, will be appropriately informed and trained concerning the potential hazards to which they may be exposed.

9.2. All employees will be informed of the details of the Hazard Communication Program, including an explanation of the labeling system and the SDS's, and how employees can use the appropriate hazard.

9.3. Employees will be provided with training when new hazardous chemicals are introduced and added to the chemical inventory, and before non-routine tasks are to be performed that could involve exposure to hazardous chemicals.

9.4. Reinforcement of training will be conducted through topics at safety meetings, as appropriate.

9.5. The extent of information transmitted to employees during training sessions will be dictated by the degree of hazard presented by the chemicals. The basic elements of the training program will include:

9.5.1. Type and location of hazardous chemicals used at our job site(s).

9.5.2. Methods of detecting the presence or release of hazardous chemicals.

9.5.3. Personal protective equipment and methods of protecting against chemical exposure.

9.5.4. An explanation of an SDS.

9.5.5. The text of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

9.5.6. This written Program, including our Hazardous Chemicals Inventory List *(aka Table of Contents),* procedures for chemical labeling, handling non-routine tasks, and our contractor policy.

9.6. Training will be recorded on the appropriate safety training record and those training records will be maintained by the Safety Administrator.

10. ACCESS To THE WRITTEN PROGRAM

10.1. All or any part of this written Hazard Communication Program is available to employees, their designated representatives, the Assistant Secretary of Labor for Occupational Safety

and Health (OSHA), and the Director of the National Institute for Occupational Safety and Health (NIOSH).

10.2. A copy will be maintained by the Safety Administrator for review and copying.

11. **REFERENCE** DOCUMENTS

11.1. 29CFR1910.1200, OSHA's Hazard Communication Standard

12. APPENDICES

12.1. Appendix A — SDS'S Terms

12.2. Appendix B — Sample SDS'S Request

12.3. Appendix C- SDS Specific

Some SDS Terms

Acute Hazard — symptoms develop immediately or within days after exposure. Sometimes associated with brief and/or high concentrations of exposure.

Asphyxiant — a vapor or gas that can cause unconsciousness or death by suffocation (lack of oxygen). Simple asphyxiants act by displacing the oxygen available in the air so the body cannot take in enough oxygen (i.e. carbon dioxide, nitrogen, helium). Chemical asphyxiants act by interfering with the body's use of oxygen even though adequate oxygen is present (carbon monoxide, cyanide).

Boiling Point (BP) — temperature at which a liquid changes to a gas. Solvents with low boiling points will volatilize readily. Examples include benzene, methyl alcohol, mercury, and toluene.

Carcinogen — a substance that causes cancer or is suspected of causing cancer in humans.

Chronic Hazard — symptoms or effects develop slowly over a long period of time and with repeated contact.

Combustible — ability of a solid, liquid, or gas to ignite and burn. Chemicals with a flash point 100^0 F or above are considered combustible.

Corrosive — a chemical that attacks and destroys whatever it comes in contact with and can cause permanent damage or destroy living tissue. Vapors from corrosives can damage nose, mouth, and throat. Chlorine and calcium hypochlorite are examples of corrosive chemicals.

Evaporation Rate — how long a liquid takes to change into a vapor (evaporate). Butyl acetate has a relative evaporation rate of 1. A chemical with a higher number evaporates faster; one with a lower number evaporates slower.

Flammability — ability of a solid, liquid, or gas to ignite and produce a flame. If a chemical has a flash point below 100^0 F, it is considered a flammable.

Flammable Limits — Upper Flammable Limit (UFL) and Lower Flammable Limit (LFL) are the highest and lowest concentrations (% of substance in air) that will produce a flash of fire when an ignition source (heat, arc, or flame) is present. Between the UFL and LFL, the substance is likely to ignite. Above the UFL, the mixture is too “rich” to burn. Below the LFL, the mixture is too “lean” to burn. The UEL & LEL (upper and lower explosive limits) provide the minimum and maximum concentration of the chemical’s vapor in the air required for an explosion to occur.

Flash Point — lowest temperature at which a chemical’s vapors are concentrated enough to ignite. The lower the flash point, the more dangerous the material.
Examples: gasoline’s flash point is -45OF. Diesel fuel #2 has a flash point of +125OF.

Irritant — a chemical that causes temporary inflammation (redness, swelling, irritation).

Melting Point — temperature at which a solid changes to a liquid.

pH — means used to express the degree of acidity or alkalinity of a solution. A pH of 7 is neutral. Numbers increasing from 8 to 14 indicate greater alkalinity (bases/alkalis). Numbers decreasing 6 to 0 indicate greater acidity (acids).

Sensitizer — a material that causes little or no reaction at first, but which can cause an "allergic" reaction on repeated exposure. Skin sensitization is the most common form, but respiratory sensitization is also known to occur from isocyanates and epoxy resins.

Specific Gravity — density (or heaviness) of a chemical compared to water, which has a relative value of 1. Insoluble materials with specific gravity of less than 1.0 will float in (or on) water. Insoluble materials with specific gravity greater than 1.0 will sink in water. Most (but no all) flammable liquids have specific gravity less than 1.0 and, if not soluble, will float on water - an important consideration for fire suppression.

Vapor Density — density (or heaviness) of a vapor compared to air, which has the density of 1. If the chemical's vapor density is higher than 1, the vapor is heavier than air and will concentrate in low places -- along or under floors, in sumps, sewers, manholes, in trenches and ditches -- examples include propane, hydrogen sulfide, ethane, butane, chlorine, sulfur dioxide. If the chemical's vapor density is less than 1, the vapor will rise in the air and dissipate (unless confined) -- examples include acetylene, methane, and hydrogen.

Vapor Pressure — measures the volatility (how quickly a substance forms a vapor at ordinary temperatures) of a liquid -- that is, how easily a liquid evaporates. The higher the number, the faster the liquid evaporates.

APPENDIX B

Sample Letter Requesting An SDS
(1ST REQUEST)

QATE

Chemical Supplier's Name:
Address:
City, State Zip Code:

Re: Product Material

To Whom It May Concern:

In accordance with the Federal Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200), we are requesting that you provide a Safety Data Sheet on the following chemical(s) we purchase from your firm.

List of chemicals:

This request has been documented per OSHA requirements and your response should be within 30 days of receipt.

Please address your response to:

Your assistance is appreciated.

Sincerely,

OR **BETTER YET.....**

GO **TO THE PRODUCT WEB SITE AND DOWNLOAD THE** SDS

Distributors

All employers

APPENDIX C

SDS information.

12.4. Labels on containers shipped to you

AS OF JUNE 1, 2015, THE HCS REQUIRES CHEMICAL MANUFACTURERS AND IMPORTERS TO ENSURE THAT EACH HAZARDOUS CHEMICAL PRODUCT SHIPPED TO YOU HAS A GHS- ALIGNED LABEL THAT INCLUDES:

- A product identifier
- A signal word
- A hazard statement
- A pictogram
- Precautionary statements
- The supplier's name, address, and t number

THE LABEL ELEMENTS CHOSEN BY THE CHEMICAL PRODUCER ARE BASED ON THE HAZARD CLASSIFICATION PERFORMED FOR THAT CHEMICAL PRODUCT. APPENDIX C TO 1910.1200 PROVIDES SPECIFIC, MANDATORY GUIDELINES FOR THE ALLOCATION OF THESE LABEL ELEMENTS.

EFFECTIVE DEC. 1, 2015, DISTRIBUTORS MAY NOT SHIP CONTAINERS UNLESS THEY HAVE A GHS-ALIGNED LABEL. IF YOU ARE NOT SURE THAT A HAZARDOUS CHEMICAL CONTAINER IS PROPERLY LABELED, CONTACT THE SUPPLIER.

12.5. Secondary, workplace containers

WITH ONLY TWO PERMISSIBLE ALTERNATIVE METHODS, THE EMPLOYER MUST MAKE SURE THAT EACH CONTAINER OF HAZARDOUS CHEMICALS IN THE WORKPLACE IS LABELED, TAGGED, OR MARKED WITH EITHER OF THE FOLLOWING:

- All the information specified for the labels on shipped containers
- The product identifier and words, pictures, symbols, or a combination that provide at least general information about the hazards of the chemicals.

12.6. Health Hazard

- **Carcinogens** – A chemical substance or mixture that can cause cancer.
- **Respiratory Sensitizer** – A chemical that if inhaled may lead to an allergic-type reaction of the lungs (respiratory system) if inhaled again.
- **Reproductive Toxicity** – Harmful effects to sexual function and fertility in adult males and females, or on development of the offspring.
- **Target Organ Toxicity (Single exposure)** – The significant health effects that can impair the function of a specific target organ (for example, the eyes or the kidneys) caused by a single exposure to a chemical. Toxic effects may be reversible or irreversible, immediate or delayed.
- **Target Organ Toxicity (Repeated exposure)** – The significant health effects that can impair function of a specific target organ (for example, the eyes or the kidneys) caused by repeated exposure to a substance or mixture. Toxic effects may be reversible or irreversible, immediate or delayed.
- **Mutagenicity** – Chemical exposure causing permanent changes in the amount or structure of the genetic material in a cell.
- **Aspiration Toxicity** – The harmful effect of a liquid or solid chemical when it enters the oral or nasal cavity directly by being breathed in or indirectly entering the respiratory system as a result of vomiting.

12.7. Flame

- **Flammable Gases –** A gas that forms a flammable mixture with air at ambient temperature and pressure.
- **Flammable Aerosols –** A chemical in a non-refillable container with a gas compressed, liquefied, or dissolved under pressure and fitted with a release device allowing the contents to be ejected as particles in suspension in a gas, or in another form; and meeting flammability test criteria.
- **Self-Reactives –** Thermally unstable liquid or solid chemicals likely to undergo decomposition – even without interaction with air. These chemicals that are likely to undergo a stronger exothermic decomposition are classified under explosives.
- **Pyrophoric Liquids –** A liquid chemical that, even in small quantities, is likely to ignite within five minutes after coming into contact with air.
- **Pyrophoric Solids –** A solid chemical that even in small quantities is likely to ignite within five minutes after coming into contact with air.
- **Self-Heating –** A solid or liquid chemical (other than a pyrophoric liquid or solid) that, without energy supply, is likely to react with air and generate heat. Differs from a pyrophoric liquid or solid because it will ignite only when in large amounts and after long periods of time (hours or days).
- **Emits Flammable Gas –** Solid or liquid chemicals that, when in contact with water, emit flammable gases or that, by interaction with water, are likely to ignite spontaneously or to give off flammable gases in dangerous quantities.
- **Organic Peroxides –** A carbon-containing compound having two oxygen atoms joined together (-O-O-) called a "peroxy" group. Organic peroxides can be severe fire and explosion hazards.

12.8. Exclamation Mark

- **Irritant (Skin or Eyes) –** Reversible damage to the skin or eyes following exposure to a chemical substance.
- **Dermal Sensitizer –** An allergic-type reaction of skin tissue after repeated exposure to a chemical substance.
- **Acute Toxicity (Harmful) –** Harmful, health effects that occur soon after a single oral or dermal exposure to a chemical substance; or multiple doses given within 24 hours; or an inhalation exposure of four hours.
- **Narcotic Effects –** Depression of the central nervous system, exhibited as sleepiness, reduced alertness, loss of reflexes, lack of coordination, and dizziness caused by chemical exposure. Can also be shown as severe headache or nausea and can lead to irritability, fatigue, and worsen memory, perception, and reaction time.
- **Respiratory Tract Irritants –** Chemical exposure effects, characterized by localized redness, swelling, and fluid build-up that weakens respiratory function with symptoms such as cough, pain, choking, and difficulty breathing.

12.9. Gas Cylinder

- **Gas Under Pressure –** Gases in a container at a pressure of 29 psi (gauge) or more, are liquefied, or are liquefied and refrigerated.

12.10. Corrosion

- **Corrosive (destructive) to skin or eyes –** Irreversible damage to the skin or eyes, including visible, localized death (necrosis) of skin tissue, burns, or serious eye damage following exposure to a chemical substance.
- **Corrosives –** A chemical that will by chemical action materially damage or destroy metals.

12.11. Exploding Bomb

- **Explosives –** A solid or liquid chemical that is capable by chemical reaction of producing gas at such a temperature and pressure
and at such a speed as to cause damage to the surroundings. Pyrotechnic chemicals are included even when they do not evolve gases.
- **Self Reactives –** Thermally unstable liquid or solid chemicals likely to undergo a strongly exothermic decomposition even without participation of oxygen (air). This definition excludes chemicals classified under this section as explosives, organic peroxides, oxidizing liquids, or oxidizing solids.
- **Organic Peroxides –** Any organic (carbon-containing) compound having two oxygen atoms joined together (-O-O-) called a "peroxy" group, where one or both of the hydrogen atoms have been replaced by organic radicals (with an unpaired electron). Organic peroxides are thermally unstable chemicals, which may undergo exothermic self-accelerating decomposition. In addition, they are likely to have one or more of the following properties:
  - ✓ **Likely to explode**
  - ✓ **Burn intensely**
  - ✓ **Be sensitive to impact or friction**
  - ✓ **React dangerously with other substances**

12.12. Flame Over Circle

- **Oxidizer –** A substance that readily yields oxygen to cause or intensify the combustion of organic material. Includes gases, liquids, and solids.

12.13. Skull and Crossbones

- **Acute Toxicity (Severe or Fatal) –** Severe, harmful health effects (that may include death) occurring soon after a single oral, dermal, or inhalation exposure to a chemical substance, or multiple exposures within a 24-hour period.

HCS and the GHS

In 2012, OSHA revised the HCS to be consistent with the United Nations' Globally Harmonized System (GHS) of classification and labeling of chemicals. The GHS is an international approach to hazard communication that provides specific criteria for classification of chemical hazards and a standardized approach to label elements and safety data sheets.

Since the United States is both a major importer and exporter of chemicals, American workers often see labels and safety data sheets required by other countries. As countries around the world adopt the GHS, chemicals will have consistent information, helping to ensure appropriate handling and safe use of workplace chemicals.

Phase-in dates for the HCS requirements:

Effective Completion Date	Requirements	Who
Dec. 1, 2013	Train employees on the new label elements and safety data sheet (SDS) format.	Employers
Feb. 1, 2015		Agricultural employers
June 1, 2015	Compliance with all modified provisions of this final rule, except distributors have an additional six months to ship product, without GHS labels.	Chemical manufacturers, importers, distributors, and employers
Dec. 1, 2015	Must not ship containers without a GHS label.	Distributors
June 1, 2016	Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified physical or health hazards.	All employers

SAFETY INSPECTIONS

1. PURPOSE

1.1. The main reason for safety inspections is to identify hazards and to take corrective action to prevent mishaps and/or injuries and illnesses in the workplace. We will make every effort to comply with all safety and health regulations and prudent practices to protect our employees.

2. CONSTRUCTION SITE SAFETY INSPECTIONS

2.1. The Superintendent has the overall responsibility to assure that daily safety inspections are conducted of the site (including our subcontractor activities) and to maintain a log of such. Superintendents are to utilize the "Daily Safety Checklist" form.

2.2. Any safety deficiencies or hazards shall be immediately corrected.

3. OVERSIGHT SAFETY INSPECTIONS

3.1. The Field Safety Managers and/or our safety consultant will conduct oversight safety inspections of the jobsites, not less than once a month, noting potential hazards and making recommendations for corrective action.

3.2. The Safety Administrator will retain the safety inspection forms submitted by our safety consultant. Distribution of these reports must be retained within top-management and confidential.

3.3. Any safety deficiencies or hazards shall be immediately corrected.

4. OSHA COMPLIANCE INSPECTIONS

4.1. The **first** individual that meets the OSHA Inspector must tell the inspector"

4.1.1. "Sir/Ma'am Please wait right here, I must get the site supervisor to come here and meet with you and hold the "opening Conference" with you." Do not take the inspector anywhere.

4.1.2. Send someone to get the supervisor.

4.1.3. Stay with the inspector.

4.1.4. Do Not enter into any conversation with the inspector, tell the inspector that you are not allowed to speak with him until after he/she holds the opening conference with the site supervisor. "No Talk-nothing" just repeat the underlined words

4.1.4.1. *I.'m sorrv but I nannot sPeak with von* «tion von *hold the p ey(ye Conference with mv su pervisor, rlease wait here.*

4.2. The Occupational Safety and Health Administration enforces the Occupational Safety and Health rules and regulations and has the right to show up at our workplaces, unannounced, to conduct a compliance inspection. If this happens, be cooperative, honest, and courteous at all times. The inspection does not start until there is a formal opening conference between OSHA and the person in charge of the job site.

4.3. Identification And Notification. The OSHA inspector is required to identify him/herself to our management representative (normally the Superintendent at our construction sites), before proceeding with the inspection. In all cases, the Main Office will be advised of the inspection as soon as possible. A Field Safety Manager or the Safety Administrator will make every effort to immediately get to the site of the OSHA inspection.

4.3.1. Opening Conference. An opening conference will be held with the OSHA Compliance Officer and our management representative. Depending upon the nature of the inspection, other representatives may be asked to attend. During the opening conference, the OSHA Compliance Officer will identify the purpose, scope, and location of the inspection.

4.4. Conduct Of Inspection. The scope of the inspection shall be limited to that which is legally permissible.

4.4.1. Walk around Inspection. The Superintendent or designated management representative will accompany the Compliance Officer during the walkaround inspection, except while he/she is interviewing employees. Write down everything that the Compliance Officer takes pictures/videos of or writes down. If you are unsure of what the Compliance Officer is evaluating, ask. Where possible, immediately correct anything that the Compliance Officer points out as a hazard. Do not point out violations or hazards yourself.

4.4.2. Records Request. Certain records must be made available to the OSHA Compliance Officer at his/her request. The OSHA Act requires companies to maintain injury and illness records, inspection records of certain equipment, written safety programs and procedures, and any industrial hygiene monitoring records, etc. These records are kept at the Main Office and shall be made available to the Compliance Officer. Employee medical records may be provided only upon consent of the employee whose records are requested.

4.4.3. Photographv And Videotaping. If possible, take parallel photographs of those items that the OSHA Compliance Officer takes.

4.4.4. Employee Interviews. The OSHA Compliance Officer will normally talk to a representative number of employees during the course of the inspection. These interviews are conducted privately normally with the employee at his/her work station for a reasonable amount of time so as not to disrupt the operation. Give the employees a tablet with a pen to take down their own notes of all the questions and the answers they give. Make sure that they do not sign any documents.

4.4.5. Workplace Monitoring. During an inspection, the OSHA Compliance Officer may ask to conduct personal sampling for hazardous substances or noise exposure. This involves placing a sampling device on an employee.

4.5. Closing Conference

4.5.1. Normally, the closing conference will be held with the same persons included in the opening conference. Other individuals may be asked to provide representation.

4.5.2. The OSHA Compliance Officer will go over each of the potential hazards and violations for which he/she may be recommending citations. The designated management representative must take notes during this time, because the Compliance Officer is not allowed to leave copies of their notes. The Compliance Officer should be asked to clarify any point that has not been made clear.

4.5.3. North Carolina has a form 59 used at closing, you can sign this form, and he/she must inform you of any alleged violations, make sure you write them down.

4.6. Citations

4.6.1. OSHA will issue any alleged citations following the closing conference. It will be several days or weeks before you actually get them by register mail. Request that the OSHA inspection report be mailed directly to the Main Office.

4.6.2. A copy of each citation must be posted in a prominent place at or near the location of the alleged violation, for three days or until abatement is completed, whichever is longer. If the construction site is no longer active, then the report will be posted on the employee bulletin board.

4.6.3. The final responsibility for the decision as to whether or not the company agrees to the citation and penalty, or arranges for an informal conference, and/or files a notice of contest, rests with Senior Management.

4.7. After the inspection, use the OSHA findings as a "lessons-learned" during your safety meeting.

5. HEARD CORRECTION

5.1, Once a hazard has been identified, no matter by whom, the Superintendent or Supervisor must follow-up to ensure that the hazard has been corrected.

HAZCOM

List of Hazardous Chemicals
Project Superintendents will compile and maintain a list of all hazardous chemicals that will be used on the jobsite by reviewing container labels and Material Safety Data Sheets. The list will be updated as necessary. It will be kept in the Superintendent's jobsite office.

Labeling
It is the policy of Hendrick Construction, Inc. to ensure that each container of hazardous chemicals on a jobsite is properly labeled. The labeled will list:

1. the contents of the container
2. appropriate hazard warnings

To further ensure that employees are aware of the chemical hazards of materials used in their work areas, it is our policy to label all secondary containers. Secondary containers will be labeled with either an extra copy of the manufacturer's label, or with a sign or generic label that lists the container's contents and appropriate hazard warnings. This responsibility has been assigned to the Project Superintendent.

Material Safety Data Sheets
Copies of material safety data sheets for all hazardous chemicals to which employees may be exposed are kept in the Project Superintendent's jobsite office, at the home office and are readily accessible to employees in the work areas during each work shift. The Superintendent is responsible for obtaining and maintaining the file of Material Safety Data Sheets. The Superintendent is responsible for sending all new or updated MSDS's to all jobsites for filing. Superintendents must also be aware of new or unusual chemicals entering their jobsites and update their MSDS files accordingly. All purchase orders will include a request for all Material Safety Data Sheets for all applicable hazardous chemicals. All MSDS's received should be given to the home office for distribution and filing.

Non- Routine Tasks
Periodically, employees are required to perform non-routine tasks. Prior to starting work on such projects, each affected employee will be informed by the supervisor about hazards to which they may be exposed and appropriate protective and safety measures.

Informing Other Employees
To ensure that the employees of other contractors have access to information on the hazardous chemicals at a jobsite, it is the responsibility of the Project Manager to provide the other contractors with the following information:

1. Where the MSDSs are available.
2. The name and location of the hazardous chemicals to which their employees may be exposed and any appropriate protective measures required to minimize their exposure.
3. An explanation of the labeling system used at the jobsite.

This information will be requested from all other employers on jobsites. All requests for and transmittals of information must be documented and filed with the Project Manager.

GENERAL HOUSEKEEPING

Purpose:
Hendrick Construction, Inc. is dedicated to providing a clean and organized worksite for our employees. To ensure this, we have developed the following written procedures for basic/general housekeeping. All of these rules are to be housekeeping standards of practice at Hendrick Construction, Inc. job sites.

Storage Areas:
1. Securely store materials by piling or arranging in an orderly manner according to the designated storage system. Physically or mechanically load and move materials in a safe manner in a pan, car, cart, truck, or other approved conveyance.

2. Hendrick Construction, Inc. will provide Chemical Hazard training for employees who in the course of housekeeping duties will be exposed to hazardous chemicals such as bleach, ammonia, or any other types of cleaning products that may pose a chemical hazard. If you work with a chemical you suspect of posing a hazard and you have not been trained in its safe use, contact your supervisor immediately.

Trenching/Excavating Housekeeping:
1. All dirt and materials not to be used as back fill in the course of a trenching or excavating job will be removed from the work area to an acceptable dump location.

2. Pathways to ladders used in trenches or excavations should be free of obstruction to allow for easy access and egress.

3. Shoring and/or shielding equipment shall be stored in designated areas while not in use.

4. All tools and equipment shall be removed from trenches and excavations at the end of each work day.

Drywall/Painting Housekeeping:
1. Keep all ladders, scaffolds and man lifts safely clear of aisles and passageways to allow for other workers to pass by and exit in case of an emergency.

2. All spills of substances associated with drywall or painting shall be immediately cleaned up using appropriate measures stated on required MSDS sheets.

3. At the end of each work day, close/cap all containers, clean all brushes, rollers and other equipment. Store in ventilated areas.

Tools and Movable Equipment:
All tools and movable equipment shall be stored properly in secure assigned location when not in use.

Aisles and Passageways:
Clear access shall be maintained to all work areas, exits, fire extinguishers, fire blankets, electrical disconnects, safety showers, and other emergency aids.

Loading & Unloading Areas:
1. Loading and unloading areas shall be free of unnecessary materials accumulation.

2. Have emergency spill kits and other spill clean-up equipment and materials available in the loading/unloading area and clean up spills as soon as they occur.

Working surfaces (Floors, grounds, scaffold platforms, etc.)

1. Make sure working surfaces are clean, dry, and free of waste, unnecessary material, oil and grease.

2. Have an adequate number of waste receptacles provided at accessible locations throughout all work areas to collect debris and trash.

3. Provide designated walkways through grounds, kept clear of snow, ice, materials, or any other physical hazards.

Site office areas:

1. Keep desks clean and tidy.

2. Keep aisles and walkways clear.

3. Keep entrance stairs and landing clear of mud, snow, ice, materials, or any other physical hazards.

4. Keep information filed in an logical system

Lumber:

1. Lumber should be stacked on solid, level sills.

2. Cross-strips or cross-piling should be used when a pile is unstable due to its height.

3. Keep the top of each pile as level as possible when removing lumber.
4. Remove all nails from used lumber before it is piled.

5. At least two persons should carry long boards. Care should be exercised at corners and crosswalks.

Sacked Materials:

1. Sacked materials, such as cement and lime, should be carefully piled when placed in storage and should be moved carefully to keep piles stable.

2. Piles should not be more than ten sacks high, unless stepped back. Materials should not be piled on a floor or scaffold unless it is capable of supporting the weight.

3. The first four end bags should be cross-piled in two separate tiers up to the fifth bag, where a stepback of one bag in every five should be made. Beginning with the fifth bag, only one cross tier is necessary. The back tier should be stepped back one bag in every five, the same as the end tiers. Cement in outer tiers should be piled with the mouth of each bag facing the center of the pile.

4. Keep the pile as even as possible when removing sacks.

5. When lime is exposed to dampness or water, it forms slaked lime and may cause serious burns. It should be stored in a dry place, preferably above ground. Check storage spaces for nails and sharp edges.

6. Workers handling sacked cement and lime should wear goggles, durable, snug fitting clothing, and protective gloves.

Brick and Tile:

1. When bricks are stored on the job, they should be covered to protect them from rain and freezing.

2. When the brick pile is more than four feet high, it should be stepped back two inches for each foot from the four foot point.

3. Brick and tile on the pallets should be stored on a firm, level surface to avoid tipping or dislodging.

4. Tiles should be stacked in a vertical position. This will allow for ease of drainage and handling.

5. Brick and tile should not be stored on scaffolds or runways.

Miscellaneous Steel Storage:

1. Reinforcing steel should be stored in separate piles according to size, length and placement sequence.

2. Corrugated and sheet steel should be stacked in flat piles.

3. Spacing strips should be placed between each bundle.

Pipe:

1. Pipe should be stored on specially designed sills or racks and should be safely blocked to prevent rolling.

2. When removing pipe, work from the end of the pile as much as possible.

3. At least two persons should carry long lengths of pipe. Care should be used at corners.

4. Stored sewer pipe should be blocked.

Chemicals:

1. Petroleum products stored in drums at the jobsite should be protected to prevent damage to markings, tags, and other means of identification. Unidentifiable petroleum products may result in improper use.

2. Outdoor storage areas should be graded to divert possible spills away from buildings or should be surrounded by a curb or dike. When curbs or dikes are used, a drain should be provided to drain off rain water and spill. Outdoor storage of drums requires measures to avoid contamination. Moisture and dirt in hydraulic, brake and transmission fluid, gasoline, or lubricants may cause failure of equipment. The storage area should be free from accumulations of spilled products, debris, and other hazards. Compressed gasses and petroleum products should be stored in compliance with applicable regulations.

3. Dispensing equipment should be clean and free of contamination. Damage or faulty equipment should be repaired without delay. When not in use, dispensing equipment should be stored in a safe place.

Containers, nozzles, and guns for fixed and mobile dispensing equipment should be properly identified in order to prevent the mixing of products, and possible chemical reactions. Appropriate and adequate fire protection should be provided at storage locations.

4. Indoor storage provides weather protection. Fire resistant construction of indoor storage buildings is advisable. Floors should be made of concrete, cinder, or tamped earth. The floor should be free of spillage at all times. Storage areas should be properly ventilated and lighted, and smoking should be prohibited.

5. No smoking and warning signs should be posted. All drums containing volatile products should be electrically grounded.

6. At least one 20-B fire extinguisher should be located no more than 10 feet from the door of any indoor storage and no less than 25 feet or farther than *75* feet from any outside storage.

FIRST AID PROGRAM

Purpose

Hendrick Construction, Inc. is dedicated to providing a safe worksite for its employees and subcontractors. This written policy addresses the first aid procedures to follow regarding addresses first aid for Hendrick Construction, Inc. jobsites and conditions.

An adequate first aid kit will be supplied at the jobsite or in the Superintendent's vehicle depending on the size of the job. Contents of the kit will be checked and missing items will be replaced. When first aid kit is located onsite, it should be centrally located in the work area. Every worker should be familiar with the first aid supply location.

Treatment

First aid is the immediate care given to the victim of an accident or sudden illness until emergency medical care can be obtained/administered. The level of care that must be obtained wi1l be determined by the urgency and severity of injury and illness. If the injury or illness extends beyond the constraints of the first aid list attached below, utilize the job specific hazard communication contacts to obtain appropriate medical attention.

First Aid Includes:

- Using a non-prescription medication at non-prescription strength.
- Cleaning, flushing, or soaking wounds and covering with bandages, band-aids, gauze pads, steri-strips or butterfly bandages.
- Using hot/cold therapy.
- Use of non-rigid means of support, such as elastic bandages or wraps.
- Temporary immobilization devices while transporting an accident victim (eg. Splints, slings, neck collars, backboards)
- Eye patches
- Removing splinters or other foreign bodies from areas other then the eye by irrigation, tweezers, cotton swab
- Drinking fluids for relief of heat stress

Documentation

All injuries/illnesses that are work related are to be documented on the company injury/illness form. Completion of additional forms included but not limited to workers compensation, and OSHA records may be required. See Tab 5A Accident Reporting (Rev 5/2017)

Recordable injuries and illnesses applicable to OSHA records include but not limited to:

- Death
- Days away from work
- Restricted work
- Transfer to another job post-accident
- Medical treatment beyond first aid
- Loss of consciousness
- A significant injury or illness diagnosed by a physician or other licensed health care professional

SIGNS, SIGNALS, AND BARRICADES SAFETY PROGRAM

Accident prevention signs and tags

General: Signs and symbols required by this subpart shall be visible at all times when work is being performed, and shall be removed or covered promptly when the hazards no longer exist.

Danger Signs: Danger signs shall be used only where an immediate hazard exists. Danger signs shall have red as the predominating color for the upper panel; black outline on the borders; and a white lower panel for additional sign wording.

Caution Signs: Caution signs shall be used only to warn against potential hazards or to caution against unsafe practices. Caution signs shall have yellow as the predominating color; black upper panel and borders; yellow lettering of "caution" on the black panel; and the lower yellow panel for additional sign wording. Black lettering shall be used for additional wording. Standard color of the background shall be yellow; and the panel, black with yellow letters. Any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard *Z53.l* -1967.

Exit Signs: Exit signs, when required, shall be lettered in legible red letters, not less than 6 inches high, on a white field and the principal stroke of the letters shall be at least three-fourths inch in width.

Safety Instruction Signs: Safety instruction signs, when used, shall be white with green upper panel with white letters to convey the principal message. Any additional wording on the sign shall be black letters on the white background.

Directional Signs: Directional signs, other than automotive traffic signs specified below, shall be white with a black panel and a white directional symbol. Any additional wording on the sign shall be black letters on the white background.

Traffic Signs: Construction areas shall be posted with legible traffic signs at points of hazard. All traffic control signs or devices used for protection of construction workmen shall confirm to the latest Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways.

Accident Prevention Tags: Accident prevention tags shall be used as a temporary means of warning employees of an existing hazard, such as defective tools, equipment, etc. They shall not be used in place of, or as a substitute for, accident prevention signs.

Signaling

Flagmen: When operations are such that signs, signals, and barricades do not provide the necessary protection on or adjacent to a highway or street, flagmen or other appropriate traffic controls shall be provided. Signaling directions by flagmen shall conform to the latest Manual on Uniform Traffic Control

Devices (MUTCD) for Streets and Highways. Hand signaling by flagmen shall be by use of red flags at least 18 inches square or sign paddles, and in periods of darkness, red lights. Flagmen shall be provided with and shall wear a yellow/green or orange warning garment while flagging. Warning garments worn at night shall be of reflectorized material. You may want to reference the latest MUTCD or ANSI standard 107-1999.

Crane and hoist signals: Regulations for crane and hoist signaling will be found in applicable American National Standards Institute standards and jobsites.

Barricades

Barricades for protection of employees shall conform to the portions of the latest Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways, relating to barricades.

Definitions applicable to this subpart

Barricade means an obstruction to deter the passage of persons or vehicles.

Signs are the warnings of hazard, temporarily or permanently affixed or placed, at locations where hazards exist.

Signals are moving signs, provided by workers, such as flagmen, or by devices, such as flashing lights, to warn of possible or existing hazards.

Tags are temporary signs, usually attached to a piece of equipment or part of a structure, to warn of existing or immediate hazards.

HAND & POWER TOOL SAFETY PROGRAM

Purpose:

The purpose of this program is to raise the awareness of Hendrick Construction, Inc. employees on the hazards associated with the use of hand and power tools. Tools are part of our everyday personal lives and in the construction industry. It is important to use tools as they were intended to be used. Know the hazards associated with hand & power tools, and know the best control for those hazards.

This program will briefly discuss many of the most commonly used tools, their hazards and the proper control for those hazards. This list will not be inclusive of all tools and all hazards, so it is important to discuss with your supervisor, the use of any tool your are unfamiliar with, read the manufacturer's manuals and follow the their guidelines.

Hendrick Construction, Inc. will properly and adequately train employees on the safe operations of all tools used.

Personal Protective Equipment (PPE) shall be worn when using tools (i.e. safety eye wear, gloves, and hard hats). Refer to PPE Program.

Hand Tools:

Hand tools are non-powered. They include anything from axes to wrenches. The greatest hazards posed by hand tools result from misuse and misappropriate tool selection.

- Using a chisel as a screwdriver may cause the tip of the chisel to break and fly, hitting the user or other employees.
- If a wooden handle on a tool such as a hammer or an ax is loose, splintered, or cracked, the head of the tool may fly off and strike the user or another worker.
- A wrench must not be used if its jaws are sprung, because it might slip.
- Impact tools such as chisels, wedges, or drift pins are unsafe if they have mushroomed heads. The heads might shatter on impact, sending sharp fragments flying.

Employers should caution employees that saw blades, knives, or other tools be directed away from aisle areas and other employees working in close proximity.

Knives and scissors must be sharp. Dull tools can be more hazardous than sharp ones.

Power Tool Precautions:

Power tools can be hazardous when improperly used. There are several types of power tools, based on the power source they use: electric, pneumatic, liquid fuel, hydraulic, and powder-actuated.

The following general precautions should be observed by power tool users:

- Never carry a tool by the cord or hose.
- Never pull the cord or the hose to disconnect it from the receptacle.
- Keep cords and hoses away from heat, oil, and sharp edges.
- Disconnect tools when not in use, before servicing, and when changing accessories such as blades, bits and cutters.

- All observers should be kept at a safe distance away from the work area.
- Secure work with clamps or a vise, freeing both hands to operate the tool.
- Avoid accidental starting. The worker should not hold a finger on the switch button while carrying a plugged-in tool.
- Tools should be maintained with care. They should be kept sharp and clean for the best performance. Follow instructions in the user's manual for lubricating and changing accessories.
- Be sure to keep good footing and maintain good balance.
- The proper apparel should be worn. Loose clothing, ties, or jewelry can become caught in moving parts.
- All portable electric tools that are damaged shall be removed from use and tagged "Do Not Use."

Guards

Hazardous moving parts of a power tool need to be safeguarded. For example, belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating, or moving parts of equipment must be guarded if such parts are exposed to contact by employees.

Guards, as necessary, should be provided to protect the operator and others from the following:

- point of operation,
- in-running nip points,
- rotating parts, and
- flying chips and sparks.

Safety guards must never be removed when a tool is being used. For example, portable circular saws must be equipped with guards. An upper guard must cover the entire blade of the saw. A retractable lower guard must cover the teeth of the saw, except when it makes contact with the work material. The lower guard must automatically return to the covering position when the tool is withdrawn from the work.

Safety Switches

The following hand-held powered tools must be equipped with a momentary contact "on-off" control switch: drills, tappers, fastener drivers, horizontal, vertical and angle grinders with wheels larger than 2 inches in diameter, disc and belt sanders, reciprocating saws, saber saws, and other similar tools. These tools also may be equipped with a lock-on control provided that turnoff can be accomplished by a single motion of the same finger or fingers that turn it on.

The following hand-held powered tools may be equipped with only a positive "on-off" control switch: platen sanders, disc sanders with discs 2 inches or less in diameter; grinders with wheels 2 inches or less in diameter; routers, planers, laminate trimmers, nibblers, shears, scroll saws and jigsaws with blade shanks 1 *I* 4-inch wide or less.

Other hand-held powered tools such as circular saws having a blade diameter greater than 2 inches, chain saws, and percussion tools without positive accessory holding means must be equipped with a constant pressure switch that will shut off the power when the pressure is released.

Electrical Tools

Employees using electric tools must be aware of several dangers; the most serious is the possibility of electrocution.

Among the chief hazards of electric-powered tools are burns and slight shocks which can lead to injuries or even heart failure. Under certain conditions, even a small amount of current can result in fibrillation of the heart and eventual death. A shock also can cause the user to fall off a ladder or other elevated work surface.

All tools will have a three-wire cord with ground and/or be double insulated. Anytime an adapter is used to accommodate a two-hole receptacle, the adapter wire must be attached to a known ground. The third prong should never be removed from the plug.

These general practices should be followed when using electric tools:

- Electric tools should be operated within their design limitations.
- Gloves and safety footwear are recommended during use of electric tools.
- When not in use, tools should be stored in a dry place.
- Electric tools should not be used in damp or wet locations.
- Work areas should be well lighted.

Powered Abrasive Wheel Tools

Powered abrasive grinding, cutting, polishing, and wire buffing wheels create special safety problems because they may throw off flying fragments.

Before an abrasive wheel is mounted, it should be inspected closely and sound- or ring-tested to be sure that it is free from cracks or defects. To test, wheels should be tapped gently with a light non-metallic instrument. If they sound cracked or dead, they could fly apart in operation and so must not be used. A sound and undamaged wheel will give a clear metallic tone or "ring."

To prevent the wheel from cracking, the user should be sure it fits freely on the spindle. The spindle nut must be tightened enough to hold the wheel in place, without distorting the flange. Follow the manufacturer's recommendations.
Care must be taken to assure that the spindle wheel will not exceed the abrasive wheel specifications.

Due to the possibility of a wheel disintegrating (exploding) during start-up, the employee should never stand directly in front of the wheel as it accelerates to full operating speed.

Portable grinding tools need to be equipped with safety guards to protect workers not only from the moving wheel surface, but also from flying fragments in case of breakage.

In addition, when using a powered grinder:

- Always use eye protection.
- Turn off the power when not in use.
- Never clamp a hand-held grinder in a vise.

Pneumatic Tools

Pneumatic tools are powered by compressed air and include chippers, drills, hammers, and sanders.

There are several dangers encountered in the use of pneumatic tools. The main one is the danger of getting hit by one of the tool's attachments or by some kind of fastener while the worker is using with the tool.

Pneumatic tools that shoot nails, rivets, or staples, and operate at pressures more than 100 pounds per square inch, must be equipped with a special device to keep fasteners from being ejected unless the muzzle is pressed against the work surface.

Eye protection is required and face protection is recommended for employees working with pneumatic tools. Noise is another hazard. Working with noisy tools such as jackhammers requires proper, effective use of ear protection.

When using pneumatic tools, employees must check to see that they are fastened securely to the hose to prevent them from becoming disconnected. A short wire or positive locking device attaching the air hose to the tool will serve as an added safeguard.

Airless spray guns that atomize paints and fluids at high pressures (1,000 pounds or more per square inch) must be equipped with automatic or visual manual safety devices that will prevent pulling the trigger until the safety device is manually released.

If an air hose is more than one-half inch in diameter, a safety excess flow valve must be installed at the source of the air supply to shut off the air automatically in case the hose breaks.

In general, the same precautions should be taken with an air hose that are recommended for electric cords, since the hose is subject to the same kind of damage or accidental striking and presents tripping hazards.

A safety clip or retainer must be installed to prevent attachments, such as chisels on a chipping hammer, from being unintentionally shot from the barrel.

Screens must be set up to protect nearby workers from being struck by flying fragments around chippers, riveting guns, staplers, or air drills.

Compressed air guns should never be pointed toward anyone. The user should never "dead-end" it against him or herself or anyone else.

Heavy jackhammers can cause fatigue and strains; heavy rubber grips reduce these effects by providing a secure handhold.

Workers operating a jackhammer must wear safety glasses and safety shoes, which protect against injury if the hammer slips or falls. A face shield should also be used.

Liquid-Fuels Tools

A third type of tool is fuel-powered, usually by gasoline. The most serious hazard with fuel-powered tools comes from fuel vapors that can burn or explode and give off dangerous exhaust fumes.

The worker must be careful to handle, transport, and store the gas or fuel only in approved flammable liquid containers, according to proper procedures for flammable liquids.

Before the tank for a fuel-powered tool is refilled, the user must shut down the engine and allow it to cool to prevent accidental ignition of hazardous vapors.

If a fuel-powered tool is used inside a closed area, effective ventilation and *I* or personal protective equipment is necessary to avoid breathing carbon monoxide. Fire extinguishers must be available in the area.

Powder -Actuated Tools

Powder-actuated tools operate like a loaded gun and should be treated with the same respect and precautions. In fact, they are so dangerous that they must be **operated only by specially trained employees.**

- These tools should not be used in an explosive or flammable atmosphere.
- Before using the tool, the worker should inspect it to determine that it is clean, that all moving parts operate freely, and that the barrel is free from obstructions.
- The tool should never be pointed at anybody.
- The tool should not be loaded unless it is to be used immediately. A loaded tool should not be left unattended, especially where it would be available to unauthorized persons.
- Hands should be kept clear of the barrel end. To prevent the tool from firing accidentally, two separate motions are required for firing: one to bring the tool into position, and another to pull the trigger. The tools must not be able to operate until they are pressed against the work surface with a force of at least 5 pounds greater than the total weight of the tool.

If a powder-actuated tool misfires, the employee should wait at least 30 seconds, then try firing it again. If it still will not fire, the user should wait another 30 seconds so that the faulty cartridge is less likely to explode, then carefully remove the load. The bad cartridge should be put in water.

Suitable eye and face protection are essential when using a powder-actuated tool.

The muzzle end of the tool must have a protective shield or guard centered perpendicularly on the barrel to confine any flying fragments or particles that might otherwise create a hazard when the tool is fired. The tool must be designed so that it will not fire unless it has this kind of safety device.

If the tool develops a defect during use it should be tagged and taken out of service immediately until it is properly repaired.

Fasteners

When using powder-actuated tools to apply fasteners, there are some precautions to consider. Fasteners must not be fired into material that would let them pass through to the other side. The fastener must not be driven into materials like brick or concrete any closer than 3 inches to an edge or corner. In steel the fastener must not come any closer than one-half inch from a corner or edge. Fasteners must not be driven into very hard or brittle materials which might chip or splatter, or make the fastener ricochet.

Hydraulic Power Tools

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 manufacturer’s recommended safe operating pressure for hoses, valves, pipes, filters, and other fittings must not be exceeded.

Jacks

All jacks-lever and ratchet jacks, screw jacks, and hydraulic jacks - must have a device that stops them from jacking up too high. Also, the manufacturer's load limit must be permanently marked in a prominent place on the jack and should 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.

Use wooden blocking under the base if necessary to make the jack level and secure. If the lift surface is metal, place a 1 inch-thick hardwood block or equivalent between it and the metal jack head to reduce the danger of slippage.

To set up a jack, make certain of the following:

- the base rests on a firm level surface,
- the jack is correctly centered,
- the jack head bears against a level surface, and
- the lift force is applied evenly.

Proper maintenance of jacks is essential for safety. All jacks must be inspected before each use and lubricated regularly. If a jack is subjected to an abnormal load or shock, it should be thoroughly examined to make sure it has not been damaged.

Hydraulic jacks exposed to freezing temperatures must be filled with adequate antifreeze liquid.

Employees who use hand and power tools and who are exposed to the hazards of falling, flying, abrasive and splashing objects, or exposed to harmful dusts, fumes, mists, vapors, or gases must be provided with the particular personal equipment necessary to protect them from the hazard.

All hazards involved in the use of power tools can be prevented by following five basic safety rules:

- Keep all tools in good condition with regular maintenance.
- Use the right tool for the job.
- Examine each tool for damage before use.
- Operate according to the manufacturer's instructions.
- Provide and use the right protective equipment.

Employees and employers have a responsibility to work together to establish safe working procedures. If a hazardous situation is encountered, it should be brought to the attention of the proper individual immediately.

WELDING AND CUTTING PROGRAM

Purpose
It is Hendrick Construction, Inc. purpose in issuing this plan to further ensure a safe workplace based on written procedures for welding and cutting. Hot work permits are required and a sample permit is incorporated into this manual at the end of this section (Rev 5/2017)

Procedures
Compressed Gas Cylinders

A. Handling, storage and use of compressed gases around the jobsite represents a number of hazards. Questions should be resolved through supervisors.

B.Approved practices include:

1. Keep valve protection cap in place at all times when a cylinder is not in use.
2. When cylinders are hoisted, secure them on a cradle, slingboard or pallet.
3. Move cylinders by tilting and rolling on their bottom edges. Care in handling is required.
4. Secure cylinders in an upright position at all times, especially when moving them by machine.
5. Use carriers or carts provided for the purpose when cylinders are in use.
6. When in use, isolate cylinders from welding or cutting or suitably shielding. Care will be taken to prevent them from becoming part of an electrical circuit.
7. Maintain a distance of at least 20 feet or provide a non-combustible barrier at least five feet high in separating fuel gas cylinders from oxygen cylinders. This applies to indoor and outdoor storage.
8. The site supervisor will designate:
    - Well-ventilated storage areas for cylinders inside buildings. Care will be taken to keep storage areas out of traffic areas or other situations where they could be knocked over, damaged or be tampered with.
    - Locations for fuel gas and oxygen manifolds in well-ventilated areas.

C. Prohibited Practices include:

1. Use of valve protection caps for lifting cylinders.
2. Use of damaged or defective cylinders. The site supervisor will provide appropriate tags and designate an appropriate storage area for these cylinders.
3. Mixing of gases.
4. Use of a magnet or choker sling when hoisting cylinders.
5. Use of a bar to pry cylinders from frozen ground. Warm, not boiling, water is used to thaw cylinders.
6. Taking oxygen, acetylene or other fuel gas or manifolds with these gases into confined spaces.

Gas Welding and Cutting

A. Safe practices in using compressed gases and torches include:

1. “Cracking” cylinders and attaching regulators according to industry practice.
2. Putting caps on header hose connections and manifolds when not in use.
3. Keeping all hose, regulator, cylinders, valve protection caps, couplings, apparatus and torch connections free of grease and oil, especially those involving oxygen.
4. Using fuel gas hose and oxygen hose of different colors.

5. Check Valves and Flashback arrestors are safety devices for protecting workers using oxyfuel cutting and welding equipment. (Rev 5/2017)
6. Inspections:
    - all hose before every shift;
    - all torches. Only devices designed for the purpose will be used to clean torch tips.
7. Use only friction lighters to ignite torches.
8. Removal of torches and hoses and positive shut-off of gas sources from confined spaces when leaving a confined space project for any substantial period of time.

B. Prohibited practices include:
1. Interchange of hoses, including use of adapters, between fuel gas and oxygen sources.
2. Placement of anything on or near a manifold or cylinder top that may interfere with the prompt shut-off in case of an emergency.
3. Taping more than four inches out of every 12 inches in joining fuel gas and oxygen hoses.
4. Using defective hose or torches.
5. Use of oxygen for personal cooling, cleaning off of surfaces, ventilation or blowing dust from clothing.

Arc Welding and Cutting

A. Safe practices in using arc welders include:
1. Use of holders, cable and other apparatus specifically designed for the purpose, matched to the job and other components and in good repair.
2. Following Department Of Transportation standards for welding on natural gas pipelines.
3. When leaving electrode holders unattended, electrodes are removed and holders placed so that accident electrical contact is not made.
4. Turning off the arc welding or cutting machine when it is to be left unattended for a substantial period of time or when it is being moved.
5. Immediate reporting of any defective equipment to the site supervisor.
6. Use of non-combustible or flame-proof screens to protect employees and passersby from arc rays wherever practicable.
7. Keeping chlorinated solvents at least 200 feet from an inert-gas metal-arc welder or providing adequate shielding. Surfaces prepared with chlorinated solvents will be thoroughly before welding.

B. Prohibited practices include:
1. Using cables with repairs or splices within 10 feet of the holder that are not equivalent in insulating valued to the original cable.
2. Use of pipelines with flammable gases or liquids or conduits with electrical circuits as ground return.
3. Dipping hot electrode holders into water.

Fire Prevention

The site supervisor will use this guide to assess fire hazards at a jobsite.

WHEN	AND	THEN
the object to be welded, cut or heated can be moved	a fire-resistant, safe workspace is available	the welding, cutting, brazing or heating must be done in that space.
the object to be welded, cut or heated can be moved	all fire hazards can be moved to a safe distance	the welding, cutting, brazing or heating can be done.
the object to be welded, cut or heated cannot be moved	all the fire hazards cannot be re-moved	guards shall be used to confine the heat, sparks, and slag, and to protect the immovable fire hazards.

there is a welding, cutting or heating task	concentrations of flammable paints, dusts, or other flammable compounds are present	welding, cutting, brazing or heating is not allowed.

Hendrick Construction, Inc. will provide suitable fire extinguishing equipment based on the site supervisor's assessment of hazards. The site supervisor will ensure the equipment is maintained for immediate use. Sub-Contractors performing hot work are required to obtain a hot work permit. These can be obtained from the Site Supervisor and sample is included in this manual at the end of this section. (Rev 5/2017)

Fire Watchers

When normal fire prevention measures are not sufficient, the company, based on the site supervisor's assessment will assign fire watchers. Fire watchers will provide additional safeguards against fire during and after operations. Hendrick Construction, Inc. will provide training for fire watchers on the specific fire hazards and equipment available.

Ventilation

The site supervisor will determine the number, location and capacity of ventilation devices. Where ventilation is not sufficient to provide clean, respirable air, respirators will be specified according to the provisions in the next section. Ventilation will be sufficient to protect passersby as well as the welder. Due to Respiratory Hazards, See Respirator Program in this manual (Rev 5/2017)

Personal Protective Equipment (PPE)

A. Air line respirators will be provided for confined space jobs when sufficient ventilation cannot be provided without blocking the exit.

B. When known or unknown toxic materials are present in a job, respirators will be provided that match the hazard for all employees. The hazards include zinc or zinc-bearing base or filler metals, lead base metals, cadmium-bearing filler metals, chromium-bearing or chromium-coated metals, mercury, nitrogen dioxide and beryllium. Due to beryllium's extreme danger, both ventilation and air line respirators will be used. Due to Respiratory Hazards, See Respirator Program in this manual (Rev 5/2017)

C. Where screens are not sufficient to protect welders and passersby from arc radiation, the company will provide eye protection with appropriate helmets, filter lens goggles or hand shields. The helmets and shields will be maintained in good repair.

D. When a toxic preservative is detected on a surface in a confined space, air line respirators will be provided (or the toxic coating will be stripped from at least four inches around the heated area).

Confined Spaces (See Confined Space Program incorporated in this manual)

Welding or Cutting Involving Flammable, Toxic or Hazardous Materials

A. The working sub contractor will test unknown coatings.

B. When a coating is found to be highly flammable, it will be stripped from the area to prevent fire.

Hot Work Permit

Before initiating hot work, can this job be avoided? Is there a safer way?

This Hot Work permit is required for any temporary operation involving open flames or producing heat and/or sparks. This includes, but is not limited to: Brazing, Grinding, Soldering, Thawing Pipe, Torch Applied Roofing and Welding.

Instructions:

1. Verify precautions listed below or do not proceed with work.
2. Complete this permit and issue to person(s) performing the work.
3. Retain this copy in the project file.

Permit #:	Date:	Shift:	Work Order #:
Location of Work:			
Equipment Number:			
Purpose of work:			
Name of person(s) doing the work:			
Name of fire watch person:			

I verify the above location has been examined, the precautions checked on the Precautions Checklist below to minimize the chance of fire.
Supervisor's Name: Signature:
Duration (Hrs): Start Time: Stop Time:

Hot Work Permits may not be authorized for more than one shift!

Yes	No	N/A	Item
			Are water hoses or fire extinguishers available and in good repair?
			Is hot work equipment in good repair?
			Have flammable liquids, dust, lint and oily deposits within 35 ft. been removed?
			Have explosive atmosphere been eliminated? Test results:
			Has the work surface area been cleaned of grease, paint, etc.?
			Have combustible floors been wet down, covered with damp sand or covered with fire resistant sheets?
			Have surface areas below work area been protected?
			Have access ways below work area been barricaded?
			Are UV shields in place?
			Has enclosed equipment been cleansed of all combustibles?
			Have all containers been purged of flammable liquids and vapors?
			Will fire watch be provided during and for 60 minutes after work, including coffee and/or lunch breaks?
			Has fire watch been provided with suitable fire extinguishing devices?
			Has the fire watch person been trained in use of fire extinguishing devices and in sounding alarm(s) or other emergency communications?
			Has additional fire watch been assigned to adjoining areas, above and below?
			Hot work area will be monitored for 4 hours after completion of work?
			Other:
			Other:

ELECTRICAL SAFETY PROGRAM

Purpose
The purpose of this program is to establish and implement a ground fault circuit interrupter policy for all Hendrick Construction, Inc. jobsites. This program will reduce or eliminate electrical fault current which might be generated in any electrical system or tool during use. A Ground Fault Circuit Interrupter (GFCI) continuously monitors the amount of current returning along the "grounded neutral." If the variance between the two is more than five milliamps, the GFCI will trip the circuit in about 1/40 of a second.

Requirements

All equipment (saws, drills, extension cords, etc.) that are capable of being plugged into a 110-volt receptacle shall have a GFCI device attached before the tool and/or extension cord. This is done to comply with OSHA standard 1926.400 (h) and to eliminate the possibility of death or injury to the user. GFCI protection also must be provided at any location having receptacles capable of being used for plug-in equipment.

An Assured Equipment Grounding Program must be implemented for all other single-phase devices requiring more than 120 volts and/or 15-20 amps. (Exceptions: Portable or vehicle-mounted generators having receptacles for 2-wire single-phase power need not be GFCI-protected as long as the generator is rated at no more than *5* kW and the circuit conductors at the generator are insulated from the generator frame and all other grounded surfaces.)

Testing
A competent person on a quarterly basis will test all GFCIs by introducing a ground fault into the circuit using a commercially available GFCI tester. (Test buttons for the circuit may trip the device but may not provide the protection intended if the breaker is faulty or incorrectly wired.)

A record of testing shall be kept, identifying the following: serial number of unit, date of purchase, brand, and model number. Also shown will the date of initial testing by GFCI tester before being placed into service and date of quarterly inspection initialed.

Nuisance Tripping of GFCI Devices
The following items usually will cause tripping of GFCIs:

1. Water leaking into cord connection. (Note: This can usually be remedied by using a twist lock cord and cap. Raising connections out of wet locations will also correct this problem.)
2. Faulty or defective equipment plugged into a GFCI circuit. (Note: By Plugging a tool into an entirely different spider or receptacle, you can determine if that tool is defective. The tool must be tagged "out of service" and sent for repairs when tripping occurs again.)
3. Very long runs of conductor cords will create a voltage drop, which may trip the GFCI.

Electrical Equipment Inspections

Purpose
This procedure is intended to establish a program to assure a thorough inspection of all small portable electric hand tools, light plants, electrically powered shop equipment, extension cords, and all other

temporary electrical circuits. This procedure is also intended to comply with OSHA regulation 1926.400(h).

Procedure

A. One or more competent individuals will be designated as inspectors to test equipment. Inspectors will identify existing and predictable hazards in tools, cords, and other pieces of electrical equipment. They will also have the authority to take prompt, corrective measures to eliminate problems found. Any problem equipment which cannot be repaired immediately must be removed from service and tagged "Defective — Do Not Use" until repairs are made.

   Inspectors shall conduct these tests quarterly. The names of designated inspectors should be documented and publicized to all workers so that no one else can attempt to perform the inspection.

B. Each employee using a piece of electrical equipment must perform a visual inspection of the cord set, attachment cap, plug, and receptacles which are fixed in place and not exposed to damage. Workers should check for deformed or missing conductor and ground pins, insulation damage, and indications of possible internal damage. Damaged equipment will be tagged and removed from service.

C. The designated inspector shall perform the following on all cord sets, receptacles which are not a part of the permanent wiring of the building or structure, and cord and/or plug-connected equipment required to be grounded:
   a. Test all equipment-grounding conductors for continuity; all conductors shall be electrically continuous.
   b. Test each receptacle and attachment cap and attachment cap or plug for correct attachment of the equipment-grounding conductor. The equipment-grounding conductor shall be connected to its proper terminal.
   c. Inspect all double-insulated tools and equipment for physical damage.

D. All required tests shall be performed:
   a. Before first use.
   b. Before equipment is returned to service following any repairs.
   c. Before equipment is used after any incident which can be reasonably suspected to have caused danger (when a cord set is run over, for example).
   d. At intervals not to exceed three months.

E. Hendrick Construction, Inc. shall neither make available nor permit any employee to use any equipment, which has not met the requirements of this procedure.

F. The subject of employee responsibility for daily inspection will be included in new employee safety orientations and mentioned at the toolbox safety meetings.

ELECTRICAL SAFETY

Purpose
The purpose of this program is to establish and implement assured equipment grounding conductor program on all of Hendrick Construction, Inc. construction sites. It will address all cord sets and receptacles used by employees.

A written description of the program, including the specific procedures adopted by Hendrick Construction, Inc., is available at all job sites for inspection.

Each cord set, attachment cap, plug and receptacle of cord sets, and any equipment connected by cord and plug, except cord sets and receptacles which are fixed and not exposed to damage, are visually inspected. Visual inspection includes, but is not limited to external defects (deformed or missing pins), insulation damage, and for indications of possible internal damage. It is Hendrick Construction, Inc. policy to assure that equipment found damaged or defective is not to be used until repaired, and will be removed from service immediately by the person finding it.

Cord Set/Plug and Receptacle of Cord Set are inspected:

- 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); and
- At intervals not to exceed 3 months, except that cord sets and receptacles which are fixed and not exposed to damage shall be tested at intervals not exceeding 6 months.

Hendrick Construction, Inc. does not make available or permit the use by employees of any equipment which has not met the requirements of this program.

Tests performed as required in this program are recorded. The test records identify each receptacle, cord set, and cord- and plug-connected equipment that passed the test and indicates the last date it was tested or the interval for which it was tested. This record is kept by means of logs and is maintained until replaced by a more current record. The record is made available on the job site for inspection by OSHA and any affected employee.

HAZARDOUS ENERGY CONTROL - LOCK OUT/TAG OUT PROGRAM

PURPOSE

The purpose of this Hazardous Energy Control Program (Lock Out/Tag Out) is to protect employees from injuries while servicing and maintaining machinery and equipment that may contain a hazardous energy such as but not limited to electrical equipment. It establishes the minimum requirements to ensure that machines and equipment are isolated from all potentially hazardous energy sources whenever servicing or maintenance or construction activities are in progress.

1. SCOPE

1.1.This program applies to adjusting, inspecting, modifying, installing, setting up, constructing, and maintaining and/or servicing machines or equipment. Most of our work will be performed on cord and plug connected equipment, but this comprehensive program is developed for those occasions when work may be performed on equipment other than cord and plug connected. The procedures were written for the General Industry and since OSHA has not yet written Lockout / Tagout (LOTO) procedures to cover all aspects of the construction industry, we have chosen to do the judicious practice of adopting these safe work practices

1.1.1. In construction the written lockout procedures will be created and documented utilizing the form in Appendix A and a copy will be provided to the General Contractor Superintendent on site.

1.1.2. If electrical equipment is involved, Arc Flash requirements will be noted and proper PPE shall be available and used.

2. DEFINITIONS

2.1. Affected Employee – An employee whose job requires operation or use of a machine or equipment on which energy control may be performed, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

2.2. Authorized Employee – An employee who has been trained and equipped to perform energy control.

2.3. Energy Control – The locking out, blocking, disconnecting, or isolation of electrical, mechanical, or material (particulate, fluid, or gas) systems to completely protect against inadvertent release of energy, movement, or flow. Energy control applies to both kinetic energy (motion, including electrical flow) and potential (stored) energy.

2.4. Hazardous Chemical – Any substance which presents a physical or health hazard as defined by the OSHA Hazard Communication Standard (29CFR1910.1200).

2.5. Lockout – The use of a padlock and other necessary accompanying energy isolating device(s) (e.g. hasp, chain, valve cover, etc.) to lock a control in the OFF position.

2.6. Normal Production Operation – This is the use of a machine or equipment to perform its intended production function.

2.7. Servicing or Maintenance – Workplace activities such as adjusting, inspecting, modifying, installing, setting up, constructing, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energizing or startup of the equipment or release of hazardous energy. Excluded from coverage are servicing activities, which take place during normal production operations, if they are routine, repetitive and integral to the use of equipment for production, provided that the work is performed without the removal or bypassing of machine guards.

2.8. Setting up – This is any work performed to prepare a machine or equipment to perform its normal production operation.

2.9. Tagout – The use of a DANGER tag to securely fasten to each lockout device.

2.10. Zero Energy State – The machine or equipment is in a state where the possibility of an unexpected energizing, startup, or mechanical movement is reduced to a minimum.

3. RESPONSIBILITIES

3.1.The applicable **Superintendent, Supervisor or Foreman** is responsible to:

3.1.1. Implement and enforce this program.

3.1.2. Coordinate with contractors performing Lock Out/Tag Out operations.

3.1.3. Ensure that the energy control procedures are inspected periodically (at least annually) for compliance with these requirements.

3.1.4. Construction procedure will have to be documented as the locks are installed at all points.

3.1.5. Lock Box will be utilized to control and protect all workers exposed to the hazards.

4. PROCEDURES

4.1.Lock Out/Tag Out Preparation

4.1.1. In General Industry:

4.1.1.1. request from the host employer their written lockout procedures and follow them

4.1.2. In Construction:

4.1.2.1. Conduct a hazard assessment of the energy sources and utilize the blank LOTO form to document the specific step used to lockout the energy source(s).

4.1.2.2. The authorized employee will use his/her own assigned locks for only locking out device and not for any other purpose. (Rev5/2017)

4.1.3. The authorized employee will notify the Superintendent or Supervisor and affected employees that a Lock Out/Tag Out system is going to be implemented in their work area and the reason why. The authorized employee shall know the type and magnitude of energy that the machine or equipment uses and will understand the hazards that are present.

4.1.4. If the machine or equipment is operating, the authorized employee shall have the user/operator shut it down using the normal shutdown procedure.

4.1.5. The authorized employee shall operate the disconnect switch, valve, or other energy isolating device(s) as necessary to isolate the equipment from ALL its energy sources. Stored energy such as that in springs, unrestrained machine parts, hydraulic systems, air, gas, steam, water pressure, etc., must be relieved, dissipated, or restrained by methods such as repositioning, blocking, bleeding down, discharging, etc., as appropriate.

4.1.6. Plug and cord connected electric equipment must be unplugged. The plug must be under the exclusive control of the authorized employee performing the work. Exclusive control exists when the plug is either:

4.1.6.1. Physically in the possession of the employee, or

4.1.6.2. Within arm's reach and line of sight of the employee, or

4.1.6.3. When the employee has leave the area he shall put a Lock Out/Tag Out device on the plug and have control of the key.

4.1.7. Lock and/or tag the energy isolating device(s) with assigned individual locks, tags, and devices. A DANGER tag must be securely fastened to each lock. If a lock cannot be installed, a DANGER tag and additional safety measures such as the removal of a handwheel or isolating circuit element, opening a disconnect device, inserting blank flanges, etc., must be implemented.

4.1.7.1. Anytime more than one person is performing servicing/maintenance on a piece of equipment at the same time, each shall place his/her own lock on the energy isolating device. When the energy isolating device cannot accept multiple locks/tags, a hasp must be used and each person must place his/her lock and tag on the hasp.

4.1.8. After verifying that no personnel are exposed, and as a check on having disconnected the energy sources, verify that the equipment will not operate by **trying** to operate its controls. When working on electrical circuits, test them with a volt meter to verify electrical power has been isolated. **CAUTION:** Return the operating controls to the OFF or NEUTRAL position after this test. Use Arc Flash PPE if exposed conductor are present.

4.1.9. The equipment is now locked out and/or tagged out.

4.2.Lock/Tag Removal

4.2.1. When the Lock Out/Tag Out is no longer required or the lock/tag needs to be removed to complete the required maintenance/testing, the authorized employee shall perform the following:

4.2.1.1. Obtain authorization from the Superintendent or Supervisor to restore machines/equipment to normal operation.

4.2.1.2. Verify that all safety devices: guards, interlocks, etc. that were removed are reinstalled, secured, and if possible, check to verify that they are functioning properly.

Verify any exposed electrical wires are covered.

Verify all doors and panels are closed.

Verify any open piping has been properly reconnected or blanked off.

Verify all affected employees and tools are clear of the equipment.

Verify all operating controls and switches are at their proper setting or in the OFF or NEUTRAL position.

Remove the lock(s) and tag(s), related devices and hardware, and operate or reposition the energy isolating devices to restore energy to the system or equipment. **NOTE**: Individual locks must remain under the control of the person to whom they are issued. No one is permitted to remove another person's lock.

Notify all affected employees and the Superintendent or Supervisor that the lock/tag has been removed and the system or equipment is operational.

Lock/Tag Removal In Unusual Situations Or Emergencies

The authorized employee who installs a lock is the only person authorized to remove it. However, in unusual situations or emergencies, the Superintendent or Supervisor may remove the lock. The circumstances governing when and how this may be accomplished are as follows:

The Superintendent or Supervisor must verify that the authorized employee who installed the lock/tag is not at work (off shift and off site) and cannot be contacted.

The Superintendent or Supervisor must verify that the affected equipment or system is safe to operate and that all affected employees have been notified prior to removing the lock and reactivating the equipment or system.

Immediately upon return to work of the authorized employee who installed the lock, the Superintendent or Supervisor must notify him/her of the lock removal.

Personnel Changes

If additional maintenance needs to be performed on the system or equipment and another authorized employee will finish the work that someone else started:

All previously installed locks, tags, and devices shall remain in place until the oncoming authorized employee has secured his/her own locks/tags.

Prior to shift turnover, the departing authorized employee will provide a complete turnover of the status of the Lock Out/Tag Out operation and the work in progress to the oncoming authorized employee.

If there will not be another authorized employee coming in to continue or finish the work, the departing authorized employee will maintain possession of and be responsible for the job until his/her work is complete and the lock/tag is removed.

Outside Contractor Personnel

Outside contractor personnel shall notify the Superintendent or Supervisor of their need to Lock Out/Tag Out equipment.

The Superintendent or Supervisor must ensure that each party (Hendrick Construction, Inc. and each contractor) is informed of their respective Lock Out/Tag Out procedures and that all necessary locks/tags are accomplished and issued by an authorized employee in accordance with this Program.

In addition to any Hendrick Construction, Inc. installed locks and tags, outside contractors will provide and install their own individual locks prior to performing maintenance or service activities on equipment. Upon completion of their work or at the end of the day/shift and before leaving the work site, outside contractors will remove their locks.

A lock box will be used on all job sites to ensure that all employees that can be exposed to the locked out energy can protect themselves as is the intent of the rule.

TRAINING

Authorized Employees

Training must include instruction in the recognition of hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for performing energy control.

Initial Training on energy control procedures must be provided for each authorized employee prior to using these procedures. This includes temporary personnel supervised by Hendrick Construction, Inc.

Retraining must be done whenever there is a change in machines, equipment, or processes which present a new hazard; a change in energy control procedures; and whenever there are deviations or inadequacies in the employee's use or knowledge of the energy control procedures (as identified by audits).

Affected Employees

Training will include the purpose and use of the energy control procedures, emphasizing the importance of complying with lockouts.

Initial Training must be provided to all affected employees subject to energy control.

INSPECTIONS

Annual Inspection (General Industry) – An annual inspection of compliance with the energy control procedures will be performed by an authorized employee who is not involved with the energy control procedure being inspected. The Superintendent or Supervisor must ensure that the inspection is conducted. The inspection shall include a review,

between the inspector and each authorized employee, of that employee's responsibilities under the procedure being inspected.

Routine Inspections Construction) – Evaluation of compliance with energy control procedures will be done during routine inspections at the job sites conducted by the Superintendent or Supervisor.

Non – Compliance Any observed non-compliance with the energy control procedures will result in immediate work stoppage until corrective measures are taken. The responsible individual or subcontractor shall receive a written discipline notice.

SPECIFIC EQUIPMENT/MACHINERY LOCKOUT PROCEDURES

All equipment that has the potential for inadvertent start-up or release of stored energy during maintenance, servicing, construction or cleaning shall have written individual procedures indicating the specific equipment, types & locations of energy sources, and appropriate energy isolating means to be used.

RECORDKEEPING

Training must be recorded in employee safety training records.

4.3.The Safety Officer will retain the training records for five years and the most recent Energy Control Inspection Reports for one year.

5. REFERENCE DOCUMENTS

OSHA Control of Hazardous Energy Standard 29CFR1910.147

Energy Source **(ie. Elec 480vac, Hyd, air, coolant)**	**Source Location** **(i.e. Panel 32 R/H, corner Rm 212, or CB 15-Panel12)**	**Energy Control and Power Lockout Procedure** **(ie.Place disconnect in off position, attach multiple lockout device, lock and Tag, Warning primary lead remain energized)**	**Verification Procedure** **(ie. Attempt to restart system- must not restart, Confirm zero voltage at disconnect – Pressure dial is zero)**	**NFPA 70E Y=Yes - N=No N/A** **(All voltage testing with meters requires Arc Flash PPE)**
Log #:			**Approved by:**	
Date: **Signature:**		**Department:**		

SCAFFOLD SAFETY PROGRAM

Purpose

Hendrick Construction, Inc. is dedicated to the protection of its employees and subcontractors from on the job injuries as a result of being exposed to potential hazards associated with scaffolds. This written procedure applies to all employees, sub-contractors, and all sites where this company conducts business.

Contractors using scaffolds must have a designated competent person. See Competent Person Section of this Manual (Rev 5/2017)

General

- Scaffold and scaffold components shall be capable of supporting without failure. 4 times the maximum intended load
- Scaffolds shall be designed by a qualified person and shall be constructed and loaded in accordance with that design
- Cross braces on scaffolds shall not be used as a means of access or egress.
- Scaffold labels must be legible and manuals (when applicable) present with equipment while on site. (Rev 5/2017)

Scaffold Platform Construction

- Each platform on all working levels shall be fully planked with no gaps in decking greater than 1" between adjacent planking.
- When planking around uprights at turns gap may not exceed 9 ½" at any point.
- Platforms shall not be more than 14" away from the working face unless guardrails and/or personal fall protection is in place. (with outriggers 3" max from work face.)
- Maximum distance for plastering/lathing operation from the platform to the work face is 18".

Planking Specifics

- Platform planks shall not extend over the center line of its support at least 6" unless cleated or restrained.
- Where platforms are abutted, abutted ends shall be on separate supports unless use of "T" sections is in place.
- Where platforms are overlapped, the overlap shall not be less than 12" unless the platforms are nailed or restrained from movement.
- Wood platforms shall not be painted with exception to ends for identification. Planks may be coated periodically with wood preservatives, fire retardant finishes and slip resistant as long as the finishes do not obscure the top and bottom wood surfaces.
- Scaffold components from different manufacturers will not be inter-mixed unless components fit together without force and the scaffolds structural integrity is not compromised.

Supported Scaffolds

- With height/base ratio greater than 4:1 shall be restrained from tipping by guying, tying, and/or bracing
- Restraint from tipping to be repeated vertically at location of horizontal members every 20 ft.
- Supported scaffold poles, legs, posts, frames and uprights shall bear on base plates and mud sills
- Footing for support scaffold shall be level sound and capable of supporting load without settling or displacement.

- Unstable objects such as blocks or bricks shall not be used.
- Supported scaffold poles, legs, post, frames shall be plumb and braced to prevent swaying and displacement.

Access

- When scaffold platforms exceed 2ft. above point of access portable ladders, hook on ladders, stairs, ramps or similar shall be provided for access.
- Hook on and attachable ladders shall be specifically designed for use with the type of scaffold used with rungs width at least 11 ½" and equally spaced vertically no greater than 2'-0" with rest platforms every 12 foot with minimum step width of 16". Stairway type must consist of a top rail and mid rail.
- Ramps and walkways 6'-0" or greater above a lower level shall have guardrail system, if greater than 8'-0", cleats shall be installed not more than 14" apart the length of the ramp. Ramp shall not be inclined more than (1) one vertical to (3) three horizontal.
- Integral prefabricated scaffold access frames shall be specifically designed and constructed for use as ladder rungs. Rung length at least 11 ½" with maximum spacing between rungs of 16 ¾".

General Use

- Scaffolds and scaffold components shall not be loaded in excess of their maximum intended loads or rated capacities.
- Use of shore or lean-to scaffold is prohibited
- Scaffolds and components shall be inspected for visible defects by a competent person before each work shift and complete scaffold checklist.
- Any part damaged or weakened shall be repaired, replaced, braced or removed from service. Scaffold shall be tagged out if not fully operational.
- Scaffolds shall not be moved with employees on them unless designed by professional engineer specifically for than purpose.
- Scaffold clearance from power lines shall be a minimum of 20ft. If scaffold must be erected between the 20ft. (company clear) and the 10ft. (OSHA clear) requirements, a written approval plan and work means and methods for that area will be constructed prior to work commencement.
- Scaffolds shall be erected, moved, dismantled, or altered only under supervision and direction of a competent person.
- Employees shall be prohibited from work on scaffolds covered with snow, ice or other slippery materials except as necessary for removal.
- Where swinging loads are being hoisted onto or near scaffolds, tag lines shall be attached
- Debris shall not be allowed to accumulate on platforms.
- Ladders shall not be used on scaffolds to increase the working height of employees.

Fall Protection

- All employees and subcontractors on a scaffold more than 6' above a lower level shall be protected from falling to lower level. (Rev 5/2017)
- For all scaffolds each person shall be protected by the use of personal fall arrest systems or guardrail systems.
    1. Guardrail shall be installed along all open sides and ends of platforms. Guardrail system shall be installed before the scaffold is released for use. Top rail shall be installed between 38" and 45" above the platform surface. Each top rail shall be capable of withstanding without failure downward and horizontal force of at least 200 lbs.

2. Lifelines may be used in place of, on in conjunction with guardrail systems. Vertical lifelines shall be fastened to a safe anchorage point independent of the scaffold. Horizontal lifelines shall be connected to two (2) or more structured members of the scaffold.

Falling Object Protection

- In addition to wearing hardhats each employee or subcontractor on a scaffold shall provide additional protection from falling hand tools, debris, and other small objects through toeboards, screens, debris nets, catch platforms or canopy structure. Barricaded areas below scaffold are allowed as long as persons are not permitted to enter the hazard area.

Mobile Scaffolds

- Scaffolds shall be braced by cross, horizontal, or diagonal braces or combination to prevent rocking or collapsing.
- Scaffold casters and wheels shall be locked to prevent movement of the scaffold while the scaffold is used in s stationary manner.
- Height to base ration during movement is 2 to 1 unless designed and constructed to exceed this recognized stability.
- Platforms shall not extend out beyond the base supports of the scaffold unless outriggers are used.
- Caster wheels shall be pinned or otherwise secured in scaffold legs or adjustment screws.

Aerial Lifts

- Types of vehicle mounted aerial devices to elevate personnel to job sites above ground include extensible boom platforms, aerial ladders, articulatiry boom platforms, and vertical towers.
- Lift controls shall be tested each day prior to use to determine that such controls are in safe working condition.
- Always stand firmly on the floor of the basket, no sitting or climbing on the edge of the basket.
- Use of planks, ladders or other devices to increase working height is prohibited.
- Fall arrest harnesses or fall restraint harnesses must be work in aerial lifts unless excluded by manufacturers recommendation.
- Aerial platforms shall not be moved while in a working position except for equipment which is specifically designed for this type of operation.
- Boom and basket loads shall not be exceeded.

STAIRWAYS AND LADDERS SAFETY PROGRAM

General

The purpose of this written policy is to ensure the safe and proper use of stairways and ladders. Stairways and ladders can be a major source of injuries in the construction industry.

There will be a competent person at each jobsite responsible for stairway safety. The person may be the superintendent, foreman or lead subcontractor depending on the size of job.

Contractors using ladders must have a designated competent person. See Competent Person Section of this Manual (Rev 5/2017)

General Safety Measures for Stairways

Stairways that will not be a permanent part of the structure should have landings at least 30 inches deep and 22 inches wide at every 12 feet or less of vertical rise.

Stairways should be installed at least 30 degrees, and no more than 50 degrees, from horizontal.

Variations in riser height or stair tread depth should not exceed 1/4 inch in any stairway.

Where doors or gates open directly onto a stairway, a platform should be provided that extends at least 20 inches beyond the swing of the door.

Metal pan landings and metal pan treads should be secured in place before filling. Metal pan stairs will not be used unless filled with concrete or wood.

All stairway parts should be free of dangerous projections such as protruding nails.

Slippery conditions on stairways should be corrected before the stairs are used.

General Safety Measures for Stair Rails and Handrails

Stairways having four or more risers, or rising more than 30 inches should have at least one handrail. A stair rail should also be installed along each unprotected side or edge. When the top edge of a stair rail system also serves as a handrail, the height of the top edge should not be more than 37 inches, or less than 36 inches from the upper surface of the stair rail to the surface of the tread.

Stair rails should not be less than 36 inches in height.

Midrails, screens, mesh, intermediate structural members, or equivalent intermediate structural members shall be placed between the top rail and stairway steps.

- Midrails should be located midway between the top of the stair rail and the stairway steps.
- Screens or mesh, when used, should extend from the top rail to the stairway step, and along the opening between top rail supports.

Handrails and top rails should be capable of withstanding at least 200 pounds of weight applied within 2 inches of the top edge in any downward or outward direction.

The height of handrails should not be more than 37 inches or less than 30 inches from the upper surface of the handrail to the surface of the tread.

Stair rail systems and handrails should be surfaced to prevent injuries.

Handrails should provide an adequate handhold.

The ends of stairwell systems and handrails should be constructed to prevent dangerous projections, such as rails, protruding beyond the end posts of the system.

Temporary handrails should have a minimum clearance of 3 inches between the handrail and walls, and other objects.

Unprotected sides and edges of stairway landings should be protected with standard 42-inch guardrails.

Ladders

The improper use of ladders can lead to serious accidents. A study of ladder accidents showed that the four principle causes of such accidents are (1) ascending or descending improperly, (2) failure to secure the ladder at the top and bottom, (3) structural failure of the ladder itself, and (4) carrying objects in hands while ascending or descending. Great care should be used in choosing the appropriate ladder for the job and in properly maintaining all ladders used on the jobsite.

Ladder Construction

Fiberglass - Inspect for split rails, bent or broken braces, and steps damaged in any way.

Wood - Inspect wood ladders periodically for damage and deterioration. Close visual inspection is suggested. Do not “load test” the ladder by jumping on it since doing so can weaken or damage it.

Metal - Periodic inspection of metal ladders is suggested. Check all parts for wear, corrosion, and structural failure.

Carefully inspect ladders of all types if accidentally dropped or otherwise subjected to possible damage. Repair or destroy defective ladders.

Maintenance

Fiberglass - Do not drop ladders or drop heavy, sharp objects onto them.

Wood - Periodically treat wood ladders with a clear preservative such as varnish or shellac. Do not paint ladders. Paint covers structural defects. Carefully check all metal fittings on wood ladders.

Metal - Clean rungs to prevent accumulation of materials that might cause slips. Carefully check metal fittings.

When not in use, store all types of ladders under suitable cover to protect them from the weather. Support ladders stored horizontally at both ends and at intermediate points to prevent the middle section from sagging. Sagging can loosen the rungs and warp the rails.

A double-cleated ladder or two or more ladders should be provided for 25 or more workers, or when a ladder serves simultaneous two-way traffic.

Ladder rungs, cleats, and steps should be parallel, level, and uniformly spaced when the ladder is in position for use.

Rungs, cleats, and steps of portable and fixed ladders (except as provided below) should not be spaced less that 10 inches apart, or more than 14 inches apart.

Rungs, cleats, and steps of step stools should not be less than 8 inches apart, or more than 12 inches measured from center.

Rungs, cleats, and steps at the base section of extension trestle ladders should not be less than 8 inches or more than 18 inches apart measures from center. The rung spacing on the extension section should no be less than 6 inches or more than 12 inches.

Ladders should not be tied or fastened together to create longer sections unless they are designed for such use.

A metal spreader or locking device should be provided on each stepladder to hold the front and back sections in an open position.

When splicing side rails, the resulting side rail should be equivalent in strength to a one-piece side rail made of the same material.

Two or more separate ladders used to reach an elevated work area should be offset with a platform or landing between the ladders, except when portable ladders are used to gain access to fixed ladders.

Ladder components should be smooth surfaced to prevent injury.

Wood ladders should not be coated with any opaque covering, except for identification or warning labels which may be placed only on one face of a side rail.

Job Built Ladders

All wood parts should be seasoned, smoothly machined, and dressed on all sides. Fasteners should be driven their full length and countersunk not more than 1/8 of an inch.

Lumber for side rails should be of the appropriate strength, species, group, and grade.

Cleat board material should be free of as many knots as possible.

Fasteners for constructing job built ladders can include nails, staples, or screws. The fasteners should be of the appropriate strength for the load.

Job built ladders should be tailored for their intended use.

Single-cleat and double-cleat ladders should not exceed 24 feet in working length.

Ladder width of single-cleat ladders should be between 16 and 20 inches.

The width of double-cleat ladders should be between 18 and 22 inches.

Cleats should be continuous and extend the full width of double-cleat ladders. Cleats should be level and parallel when positioned for use. The cleats should be spaced evenly between 8 inches and 12 inches from the tops of the cleats.

For more specific information on constructing job built ladders refer to the American National Standards Institute's (ANSI) A 14.4 Safety Requirements For Job-Made Ladders standard.

General Safety Measures for Use of All Ladders, Including Job Built Ladders

When portable ladders are used, the side rails should extend at least 3 feet above the upper landing surface. The ladder should be secured at top and bottom.

Ladders should be maintained free of oil, grease, and other slipping hazards.

Ladders should not be loaded beyond the maximum intended load.

Ladders should be used only for the purpose for which they are designed.

Non-self-supporting ladders should be pitched 1 foot out from the support structure for every 4 feet of ladder height.

Fixed ladders should be attached at 90 degrees perpendicular to the floor or surface.

Ladders should not be used on slippery surfaces unless secured or provided with slip-resistant feet.

Ladders that can be displaced by jobsite activities or traffic should be secured to prevent accidental movement, or a barricade should be used to keep traffic or activities away from the ladder.

The area around the top and bottom of the ladders should be kept clear.

Ladders should not be moved, shifted, or extended while in use.

Ladders should have nonconductive side rails where exposed to energized electrical sources.

The top or top step of a stepladder should not be used as a step. Cross bracing on the rear section of stepladders should not be used for climbing.

Ladders should be inspected by a competent person for visible defects on a periodic basis and after any incident that could affect its safe use.

Single rail ladders should not be used.

When ascending or descending a ladder, the worker should face the ladder.

Each worker should use at least one hand to grasp the ladder when moving up or down the ladder.

Ladders should not be placed in front of doors which open toward the ladder unless the door is safely locked or otherwise guarded.

FALL PROTECTION PROGRAM

Purpose:
Hendrick Construction, Inc. is dedicated to the protection of its employees and subcontractors from on-the-job injuries as a result of being exposed to potential fall hazards on site. The purpose of this plan is to:

- Provide specific safety guidelines designed to prevent exposure to fall hazards.
- Ensure that each employee and subcontractor is trained and made aware of the safety provisions that have been implemented by this plan prior to the start of construction operations.

This written plan is designed to enable our employees and subcontractors to recognize specific jobsite fall hazards. The plan establishes procedures that are to be followed to prevent falls to lower levels or through holes and openings in walking/working surfaces. Each one of Hendrick Construction, Inc. employees (on site) has been trained in these procedures and strictly adheres to them except when doing so would expose the employee to a greater hazard. If this is the case, the employee shall immediately notify the jobsite foreman of his concern(s) and corrective action(s) will be addressed before proceeding.

Safety policy and procedure on any one project cannot be administered, implemented, monitored, and enforced by any one person. Our objective is to maintain a safe, accident-free work environment, which can only be accomplished by each individual committing to a safe jobsite. Our employees and subcontractors understand:

1. Their value to this company
2. The costs of accidents (monetary, physical, and emotional)
3. The objectives of our safety program, policies and procedures
4. The safety rules that apply to this jobsite and our company
5. Their individual role in providing and maintaining a safe work place through commitment to safety and compliance with company rules and regulations

This plan provides Hendrick Construction, Inc. with a more personal approach to compliance through planning, training, understanding and cooperative effort, rather than by strict enforcement. If, for any reason, an unsafe act persists, strict enforcement will be implemented immediately.

It is the responsibility of all employees and subcontractors to ensure the implementation of this Fall Protection Plan. The Superintendent is also responsible for inspecting this jobsite periodically and observing work site operations to ensure that safety policies and procedures are being followed. He/She is responsible for correcting any unsafe acts or conditions immediately. It is the responsibility of the employee to understand and adhere to the procedures of this plan. It is everyone's responsibility to bring to management's attention any unsafe or hazardous conditions or acts that may cause injury to either themselves or any other employees.

Sub-Contractors are required to inspect personal fall arrest systems (PFAS). Inspections should include specifics including lanyard length, inspection requirements, and intervals in which inspections are required to be done. (Rev 5/2017)

Sub-Contractors are required to have site specific fall protection plans when conventional fall protection is infeasible or creates a greater hazard. The fall protection plan cannot be generic in nature, but is required to address and identify specific hazards at the specific site. (Rev 5/2017)

Workplace Assessment and Fall Protection System Selection

Each jobsite supervisor/manager must assess the workplace to determine if the walking/working surfaces on which employees are to work have the strength and structural integrity to safely support workers. Once the person in charge has determined that the surface is safe for employees to work on, then he or she must select the appropriate fall protection to eliminate or control exposure to potential fall hazards. The jobsite superintendent/foreman must anticipate these potential hazards that employees may be exposed to during the course of their work. This assessment includes:

- Inspecting the area to determine what fall hazards exist during construction operations on the site. Anticipate the need to work at heights and plan work activities accordingly. Careful planning and preparation lay the necessary groundwork for an accident-free workplace.
- Identifying hazards correctly and selecting appropriate protection measures and equipment.

Anchorage points for personal fall arrest systems should be fabricated or designed into structural members and perimeter lines installed before those members are lifted into position, when possible.

- Give specific and appropriate instructions to prevent exposure to unsafe conditions.
- Ensure employees follow procedures given and understand the training that has been provided.
- Identify safety procedures and equipment that has been selected by subcontractors on site. Provide corresponding information and training to subcontractors where applicable.

Due to the diverse situations arising on the jobsite for fall protection, a sample chart has been incorporated into this program for reference. This by no means addresses all conditions that will be encountered and all protective measures will be referenced with OSHA guidelines.

Ramps, runways, and other walkways➔	• Guardrails
Excavations➔	• Guardrail system where leading edges are not readily seen
Hoist areas➔	• Guardrail system • Personal fall arrest system
Holes➔	• Secure cover must be provided
Formwork and reinforcing steel➔	• Personal fall arrest system • Safety net system • Positioning device system
Leading edge work➔	• Guardrail system • Safety net system • Personal fall arrest system
Unprotected sides and edges➔	• Guardrail systems • Safety net systems • Personal fall arrest systems
Overhand bricklaying and related work➔	• Guardrail systems • Safety net systems • Personal fall arrest systems • Controlled access zone (CAZ)
Roofing work – steep slope (> 4 in 12)➔	• Guardrail system with toeboards • Safety net systems • Personal fall arrest systems
Precast concrete erection➔	• Guardrail systems • Safety net systems • Personal fall arrest systems
Wall openings➔	• Guardrail systems • Safety net systems • Personal fall arrest systems

Residential construction➔	• Guardrail systems • Safety net systems • Personal fall arrest systems
Roofing work – low slope➔	• Guardrail systems • Safety net systems • Personal fall arrest systems • Warning line/guardrail • Warning line/safety net • Warning/personal fall arrest system (PFAS System) • Combo warning line/safety monitoring *Note*: On roofs with 50 ft. in width or less, safety-monitoring systems alone may be used.
Other walking and working surfaces➔	
Dangerous equipment➔	• See specific standard
Protection from falling objects➔	• Guardrail systems • Safety net systems • Personal fall arrest systems • Hard hat plus • Toeboards, screens, or guardrails to prevent objects from falling from higher levels; or • Canopy structure to keep objects far from edge of higher level so they would not accidentally fall; or • Barricade area where objects could fall and prohibit employees from entering barricaded area.

*** For workers who use a personal fall arrest system as fall protection, prompt rescue services must be available or they must be able to rescue themselves should a fall occur.**

If construction operations include leading edge work, precast concrete erection work, or residential construction, and conventional fall protection (guardrail systems, safety net systems, personal fall arrest systems, etc.) is infeasible or creates a greater hazard, this Fall Protection Plan will demonstrate why conventional means are not feasible and document measures that have been developed and implemented to protect our employees from exposure to potential fall hazards.

Work Standards

1. If any one of the conditions described in the Workplace Assessment is not met for the area or piece of equipment posing a potential fall hazard, then do not perform that work until the condition is met. If

you cannot remedy the condition immediately, notify a supervisor of the problem and utilize a different piece of equipment or work in a different area, according to the situation.

2. If the situation calls for use of fall protection devices such as a full-body harness and lanyard/lifelines because the fall hazard cannot be reduced to a safe level, then the employee must don such protective equipment before beginning the work and use it as intended throughout the duration of the work.

3. All walking/working surfaces must be kept in a clean and, so far as possible, dry condition. Where wet processes are used, drainage shall be maintained and false floors, platforms, mats, or other dry standing places should be provided where practicable.

Enforcement and Accident Investigation sections removed. See specific sections of each in this manual. Rev 5/2017

STEEL ERECTION PROGRAM

Purpose:
Hendrick Construction, Inc. is dedicated to the protection of its employees from on-the-job injuries as a result of being exposed to potential hazards associated to steel erection activities on site. The purpose of this plan is to:

- Provide specific safety guidelines designed to prevent exposure associated with steel erection activities.
- Ensure that each Hendrick Construction, Inc. employee and subcontractor is trained and made aware of the safety provisions that have been implemented by this plan prior to the start of construction operations.

This plan is based on OSHA's Steel Erection standard found in 29 CFR, Part 1926, Subpart R and 13 NCAC 07f.0205. **[See a copy of this standard for specific Safety requirements.]** (rev 5/2017)

This written plan will specifically address fall hazards, lifting rigging procedures and overhead work.

A Safety policy and procedures on any one project cannot be administered, implemented, monitored, and enforced by any one person. Our objective is to maintain a safe, accident-free work environment, which can only be accomplished by each individual committing to a safe jobsite. Our employees and subcontractors understand:

1. Their value to this company
2. The costs of accidents (monetary, physical, and emotional)
3. The objectives of our safety program, policies and procedures
4. The safety rules that apply to this jobsite and our company
5. Their individual role in providing and maintaining a safe work place through commitment to safety and compliance with company rules and regulations

This plan provides Hendrick Construction, Inc. with a more personal approach to compliance through planning, training, understanding and cooperative effort, rather than by strict enforcement. If, for any reason, an unsafe act persists, strict enforcement will be implemented immediately.

It is the responsibility of all employees and subcontractors to assist in the implementation of this Steel Erection safety program. The Superintendent is also responsible for inspecting this jobsite periodically and observing work site operations and to ensure that safety policies and procedures are being followed. He/She is responsible for correcting any unsafe acts or conditions immediately. It is the responsibility of the employee and subcontractor to understand and adhere to the procedures of this plan. It is the responsibility of the employee and subcontractor to bring any unsafe conditions or acts to management's attention.

Site layout:
Hendrick Construction, Inc. will inspect and assure that:

- Adequate access roads into and through the site for all equipment and vehicles.
- Proper soil compaction will be certified by material testing company.
- Proper drainage and level grade for crane setup area
- Accessible, adequate space for material storage and safe operation of erector's equipment
- Safe means and methods for construction traffic within the jobsite.

Site-Specific Erection Plan:

A Site-Specific Erection Plan is required on Hendrick Construction, Inc. jobsites. This erection plan is to be provided by the steel erection company.

A Site-Specific Erection Plan will include:

- Safety latches on hooks.
- Joists (which span more than 60 feet) at or near columns are not being set in tandem with all bridging installed.
- Bundles of decking are being placed on steel joists before all bridging has been installed and anchored and all hoist bearing ends attached. (See 1926.757(e)(4))

*Methods for providing alternative worker protection from the above three conditions must be specified. *The only part of the plan that must be in writing involves operations related to bundles of decking placed on un-bridged joists.*

Guidelines for a site specific plan can be found in 1926 Subpart R Appendix A.

Approvals to begin steel erection:

Tentative steel erection to begin on (Date)_____.

- Extra concrete cylinders are to be used to break on the third (3^{rd}) day to test for 75% of the intended minimum compressive design strength. Responsible party, Material Testing Company.
- Written notification is to be issued by Hendrick Construction, Inc. to Steel Erection Company stating that masonry footings, piers and walls has passed 75% strength tests and that any repairs, replacements and modifications to the anchor bolts have been approved by the structural engineer of records. (*See attachment A-"Notification to Commence Steel Erection"*) (In the event that the concrete strength test is not achieved on the third day after concrete samples have been obtained, testing will resume on the seventh day.)
- Commencement of steel erection to begin after proper documentation has been issued.

Hoisting and Rigging:

Hoisting operations during steel erection will be preplanned and submitted to Hendrick Construction, Inc. by Steel Erection Company. (*See attachment B-"Lift Plan"*).

- A Competent Person and A Qualified Rigger representing the Steel Erection Company will conduct a preshift visual inspection of the crane and rigging equipment, ground conditions around the crane area for proper support, leveling, and any ground water accumulation. (*See Attachment B-"Lift Plan"*).
- A certification that this preshift visual inspection was done shall be available at the jobsite.
- Routes of access for all other trades and employees will be coordinated between Hendrick Construction, Inc. and the Steel Erection Company to eliminate working and traversing under suspended loads.
- The Crane Operator will be responsible for operations under their control and have the authority to stop and refuse to handle loads until safety has been assured. The operator must calculate the heaviest anticipated load before starting work.
- No bundle packaging and strapping will be utilized for lifting of material unless marked by the manufacturer with approval.
- Hoisting of personnel will only be allowed provided that all provisions of 1926.550 are met except for 1926.550(g)(2).
- Multiple-lift rigging (Christmas Treeing) is permitted as long as the requirements under 1926.753(e) are followed. Maximum of 5 like pieces of steel is allowable rigged 7 feet apart.

Structural Steel Assembly:

- At no time will there be more than eight stories between the erection floor and the upper-most permanent floor.
- At no time will there be more than four floors or 48 feet, whichever less of unfinished bolting or welding above the foundation or uppermost permanent floor.

Erecting Solid Web Members:

- All columns will be anchored by a minimum of 4 anchor bolts.
- Ladders are to be used on columns.
- Solid web beams will not be released from hoisting line until the members are secured with at least 2 bolts per connections (2 on each end) and drawn up wrench tight.
- Solid web members used as diagonal bracing will be secured with at least 1 bolt per connection (1 on each end) and drawn up wrench tight.
- Double connections will be performed using a "clipped end connections" or "staggered connection plate system" that maintains at least 1-bolt and nut wrench tight at common connection points. A "seat" system is also allowable provided it is bolted or welded to both the supporting member and the first member before the nuts on the shared bolts are removed to make the connection
- Perimeter columns will extend 48 inches above the finish floor and have holes pre-pressed at 42 inches and 21 inches above the finished floor to permit the installation of perimeter safety cables. If constructability does not allow this method an alternative method for fall protection or attachment of perimeter cables will be utilized.

Erecting Open Web Steel Joists:

The Steel Erection Company will be familiar with the *Steel Joist Institute* and *OSHA* requirements for the safe installation of steel joists and provide erection drawings and explain the joist pattern if requested to do so. The Steel Erection Company will assure the following requirements are met:

- All Open Web Steel Joists that cross a column that is not framed in at least two directions with solid web members will be field-bolted at the column using a vertical stabilizer plate which meets the specifications found in 1926.757(a)(1).
- Hoisting cables will not be released until the seat at each end of the steel joist is field-bolted and the joist stabilized.
- All steel joists at or near columns that span more than 60 feet shall be set in tandem with all bridging installed or equivalent method identified by the Steel Erection Company's Competent Person for stability.
- Steel joists and joist girders will not be utilized as anchorage points for a fall arrest system.
- A terminus point shall be established and each type identified before bridging is installed. (See Appendix C of Subpart R-Steel Erection).

Attachment of steel joists and steel joist girders:

- Ends of all "K" series steel joists and girders will be attached to the support structure using a two 1/8 -inch fillet welds 1-inch long or with two ½ inch bolts.
- Ends of all 'LH" and "DLH" series steel joists and girders will be attached to support structures using two ¼ inch fillet welds 2-inches long or two 3/4 -inch bolts.
- Except for placing of panels, each steel joist will be attached at least at one end on both sides of a seat, *immediately* upon placement in the final erection position and before additional joists are placed.

Erection of steel joists:

- Erectors will follow specifications for 1926.757(c) and related standard tables A & B for bridging requirements.

- All steel joists that do not require erection bridging under Tables A & B, only one employee is allowed on the joist until all bridging has been installed and anchored.
- Employees will not be allowed on steel joists where the span of the joist is equal or greater than the span shown in Tables A & B.
- Any joist specified in Tables A & B that is a bottom chord-bearing joist; a row of bolted diagonal bridging will be installed and anchored before the hoisting cables are released.

Joists with a span equal to or greater than the spans in tables A & B:
- A row of bolted diagonal erection bridging will be installed near the midspan of the joists.
- Hoisting cables will not be released until the bolting is installed and anchored.
- Only one employee will be on these spans until all other bridging is installed and anchored.

Joist spans between 60-100 feet:
- All rows of bridging will be bolted diagonal bridging
- Two rows of bolted diagonal erection bridging will be installed near the third points of the joists.
- Hosting cables will not be released until bridging is installed and anchored.
- No more than two employees will be allowed on these spans until all bridging is installed and anchored.

Joist spans between 100-144 feet:
- All rows of bridging will be bolted diagonal bridging
- Hosting cables will not be released until bridging is installed and anchored.
- No more than two employees will be allowed on these spans until all bridging is installed and anchored.

Joist spans greater than 144 feet:
- Erection should be in accordance with specifications found in 1926.756.

Bolted Diagonal Erection Bridging (When required by 1926.757(d)):
- All bridging will be indicated on the erection drawing
- The drawing will determine the proper placement of the bridging
- Shop-installed bridging clips, or equivalents will be used where bridging bolts to the joists
- Proper double connection methods will be utilized when needed
- Bridging attachments will not protrude above the top chord of the joist.

Landing and Placing Decking:
- No loads will be allowed on the steel joists until all bridging is installed and anchored and all joist-bearing ends are attached.
- Decking must be secured against displacement immediately unless a “Controlled Decking Zone” is established, in which at no time will there be more than 3000 sq. ft. laid out unsecured.

Falling Object Protection:
- During any steel erection, the Steel Erection company will assure the immediate area below the work will be limited to connectors and riggers and provide site perimeter protection on the ground to warn of overhead activities in progress.
- During metal decking installation the Steel Erection company will establish a roped-off barrier on the lower level to deter workers from entering.
- The Steel Erection company will assure all materials, equipment and tools, which are not in use, while aloft, will be secured against accidental displacement.

Fall Protection:
The Steel Erection company will provide an updated list of employees that are designated and trained as "Connectors" and "Deckers" to Hendrick Construction, Inc. This list will be kept at the jobsite.

- Trained connectors and workers working in a CDZ must use a fall protection system above 6'. (Rev 5/2017) Workers other than connectors and CDZ workers must have fall protection with unprotected sides or edge more than 15' and access to CDZ will be limited to those performing leading edge work and trained in leading edge work. (This is above OSHA minimums).

As controlling contractor gone beyond the minimum OSHA standards to implement the"6-foot rule" for steel erection operations. (Rev 5/2017)

- Static lines will be placed from column-to-column to provide a tie-off point.
- Perimeter cables will be installed *immediately* after metal decking is in place.
- All boundaries of the CDZ will be clearly marked and limited to 90 feet wide and 90 feet deep.
- Unsecured decking will not exceed 3,000 square feet.
- Only safety deck attachments will be made in CDZ. Final deck attachments and installation of shear connectors will not be performed in CDZ. These operations will be performed after the perimeter cables are secured.
- Perimeter safety cables will be installed on all levels by the Steel Erection company and meet the criteria for guardrail systems found in 1926.502.
- The Steel Erection company will flag the decks "safe" before other trades gain access.
- Perimeter cable will remain in the area where steel erection activity has been completed, to be used by other trades only when:
    - Hendrick Construction, Inc. has inspected and accepted control and responsibility of the system prior to authorizing other trades to work in the area.

Walking/Working Surfaces:

- Shear connectors will not be laid out and installed until after the decking has been installed using the deck as a work platform.
- Roof and floor opening will be covered, secured and labeled "Hole" during the decking process.
- Protection must be made around columns to protect against falls and workers below.
- All extension cords are to be hung overhead where feasible.

Walking/Working Surfaces for Bridge Work:
Shop-installed shear connectors can be utilized on bridge girders as opposed to field installed shear connectors if an employer requires that all workers, including those engaged in connecting and in decking (as well as deckers in a CDZ), be protected from falls by conventional fall protection, then the failure to meet the requirements of §1926.754(c)(1) would be considered de minimis and no citation would be issued.

Systems-engineered metal buildings: Requirements per 29 CFR 1926.758 (Rev 5/2017)
When constructing a systems-engineered metal building, the on-site steel erection company will assure to conform to the following requirements:

- Shear connectors will not be laid out and installed until after the decking has been installed using the deck as a work platform.
- All of the requirements of this subpart apply to the erection of systems-engineered metal buildings except §§1926.755 (column anchorage) and 1926.757 (open web steel joists).
- Rigid frames shall have 50 percent of their bolts or the number of bolts specified by the manufacturer (whichever is greater) installed and tightened on both sides of the web adjacent to each flange before the hoisting equipment is released.

- In girt and eave strut-to-frame connections, when girts or eave struts share common connection holes, at least one bolt with its wrench-tight nut shall remain connected to the first member unless a manufacturer-supplied, field-attached seat or similar connection device is present to secure the first member so that the girt or eave strut is always secured against displacement.
- Purlins and girts shall not be used as an anchorage point for a fall arrest system unless written approval is obtained from a qualified person.
- Purlins may only be used as a walking/working surface when installing safety systems, after all permanent bridging has been installed and fall protection is provided.
- Construction loads may be placed only within a zone that is within 8 feet of the center-line of the primary support member.

Training:

- Hendrick Construction, Inc. will assure all on-site steel erection company's employees have been trained on all associated hazards. HCI will collect all documentation of training before steel erection work is performed. (*See attachment C-"Documentation of Employee Training and Designated Responsibilities"*)
- The steel erection company will conduct required training of employees for steel erection operations.
- Proof of training will consist of the following as it relates to fall protection:
  - Training in the recognition and identification of fall hazards in the work area.
  - Use and operation of guardrail systems (and perimeter cable), personal fall arrest systems, positioning device systems, fall restraint systems, safety net systems, and any other means of fall protection including aerial lift training.
  - Correct procedures for erecting, maintaining, disassembling and inspecting the fall protection systems.
  - Procedures to be followed related to floor openings and holes.
- Training related to specific tasks:
  - Multiple lift rigging procedures and hazards associated with such lifts.
  - Connector procedures that identifies proper techniques and the associated hazards with such work.
  - Controlled Decking Zone Procedures (CDZ) proper installation techniques, work practices and the hazards associated with such work.

Attachment A
Notification to Commence Steel Erection

Project: _____

Location: _____

Controlling Contractor: _____

Steel Erection Contractor: _____

Testing Subcontractor: _____

This is to confirm that the Steel Erection Contractor has received written notification from the Controlling Contractor for the following:

> The concrete in the footings, piers and walls and the mortar in the masonry piers and walls has attained, on the basis of an appropriate ASTM standard test method of field-cured samples, either 75 percent of the intended minimum compressive design strength or sufficient strength to support the loads imposed during steel erection. (The test results may be provided by the subcontractor hired to perform the tests – see attached.)
>
> Any repairs, replacements and modifications to the anchor bolts were conducted in accordance with OSHA § 1926.755(b).

If you are in agreement, please sign the enclosed copy of this letter.

NO STEEL ERECTION will be permitted until this transmittal has been signed by both parties. This is for the protection of ALL parties.

Controlling Contractor/Date	Steel Erector Contractor/Date

Attachment B
"Lift Plan"

- A lift plan is required for each and every crane setup. This plan must be submitted at least 48 hours prior to mobilization.
- The plan should be based on "worst case" combination of load weight and lift radius for a specific crane configuration in a specific location
- The Lift Plan may be valid for more than one day, as long as the configuration, location, maximum expected load and maximum expected radius do *not* change

Date:	
Contractor/ Rigging Company:	
Responsible Person/Contact:	
Crane Company:	
Responsible Person/Contact:	
Project	**Lift Location**

1. Crane Information							
Make		Model		S/N			
Size (Capacity In Tons)							
Type	☐ Hydraulic	☐ Friction	☐ Lattice	☐ Truck	☐ Rough Terrain	☐ All Terrain	☐ Crawler
Boom Length		Jib Used?	☐ Yes ☐ No	Length	Offset, if Used		
Load Line # of Parts:		Lift Block Capacity:					
Will outriggers be fully extended? If not, please explain:							
Will Lift Plan be based on 360° chart? If not, please explain:							
Will this plan require more than one crane, either for a dual-lift or for material handling? Please explain:							
Will crane(s) need to "walk" with loads? If so, please explain:							
For a dual-lift, an engineered composite Lift Plan (all figures, calculations, and drawings for both cranes on the same Lift Plan) must be completed. For multiple cranes to be used on the same project, please complete a separate lift plan for each crane, to be submitted together.							

2. Load Characteristics
Will this plan cover more than one pick?
Description of Load(s)
Dimensions of Max Load. Provide information on both the HEAVIEST and the LARGEST volume load:
Weight of Max Load How was this determined? Please insert or attach calculations.

Location of load Center of Gravity: How was this determined?		
Maximum Boom Length Required	Minimum Boom Angle Required	Maximum Radius Required
Will any load be upended? If so, please explain WHY and HOW (multi-drum, dual crane, lift/block/lift, etc.):		

3. Rigging Information:	
List Rigging Components Please be specific – number, type, size, length, capacity, differing pick configurations.	
Minimum Capacity Component (describe, and show capacity):	
Worst Case Weight of All Rigging:	
Will a Lifting Beam or other similar component be used? Please provide capacity, PE certification, and drawing.	
Other Weights to be Considered to Determine Gross Load:	
Max Load:	
Rigging:	
Jib:	
Jib Hook:	
Hook Block:	
Load Line:	
Other:	
Maximum Gross Load:	

4. Crane Location/Clearances
a. Provide a to-scale plot plan showing crane location, adjacent buildings, piperacks, and other significant obstructions within load swing radius. Indicate direction and span of swing.
b. Provide a to-scale elevation depicting crane, adjacent structures, and load
c. What is the horizontal distance from the crane center pin to the nearest structure?
d. What is the minimum clearance from boom to highest point of structure during a pick?
e. What is the minimum clearance from load to highest point of structure during a pick?
f. What is the minimum distance from boom to load during a pick?
g. Will the load or any part of the crane be over any active piping, tanks, or equipment during a pick? Please explain:
h. Have underground site utilities been identified and located?
i. Will outriggers be located over underground utilities? If so, please explain protective measures to be taken:
j. Describe signaling procedure – who will be responsible for signaling? Will hand or radio signals be used?

5. Summary "Worst Case Lift Scenario"				
Max Radius	Min Boom Angle	Max Gross Load	Max Chart Capacity	% of Capacity Max Gross Load/Max Capacity

6. Attachments Provided (All must be checked):				
☐ Plot Plan w/Crane Location	☐ Elevation Plan	☐ Load Calculations	☐ Rigging Lists	☐ Crane Charts

Be sure you have considered the following:

The Following Items are in the Crane Cab:				
☐ Hand Signal Chart	☐ Fire Extinguisher	☐ Complete Load Capacity Charts with Notes	☐ 3rd Party Inspection Report	☐ Completed Daily Inspection Sheet, last three Monthly Inspection Reports
☐ Operators Manual	☐ State Crane Registration	☐ All other required paperwork, equipment	☐	☐
Check the Following:				
☐ Anti-two Block Operational	☐ Overhaul Ball Capacity Marked	☐ Wedge Socket/Becket Properly Installed	☐ Backup alarm working	☐ All warning placards in place
☐ Boom Angle Indicator Functioning Properly	☐ Boom High Limit Functioning Properly (lattice boom)	☐ No broken or fogged glass	☐ Boom light/beacon if boom is higher than 200'	☐
☐ Slings and Rigging Inspected	☐ All wire rope inspected	☐ Chains and chain slings have capacity tags	☐ All hooks inspected for wear and deformation	☐ Safety Latches in Place
☐ Dunnage/Blocking Available to Secure Loads	☐ Demolition Plan Submitted and Reviewed (if applicable)	☐ Bracing/ Temporary Supports Available for Use (will loads need to be secured during demolition?)	☐	☐

Be prepared to confirm the following additional items:				
☐ Crane Configuration in Compliance with Lift Plan	☐ Maximum Radius Confirmed (MEASURED) Without Load	☐ Maximum Load Confirmed Prior to Achieving Maximum Radius	☐ All Pick Points Vertically Above Load Center of Gravity (NO SIDE LOADS)	☐ Taglines to be Used
☐ Outrigger Floats & Dunnage Installed (Minimum 3'X3'x4") Size:	☐ Outriggers Fully Extended Position: Computer Set at:	☐ Lift Area and Equipment Inspected	☐ Counterweight Swing Radius Barricaded	☐ Load Swing Radius Barricaded
☐ Copy of the Demolition Plan in the Cab of Crane (if applicable)	☐ Lift Plan and Crane Permit in Cab of Crane	☐ Lift Plan and Crane Permit Reviewed with Erection or Demolition Crew	☐	☐

- In addition to this plan, a Daily Crane Use Permit will be required EVERY DAY, prior to any pick. A new Daily Crane Use Permit will be required after every setup required by this Lift Plan.

- A copy of the Daily Crane Use Permit is attached for your reference.
- Non-compliance with any part of this plan or the Daily Crane Use Permit will be grounds for immediate cessation of work and possible permanent removal from the site.

ALL sections MUST be filled out before ANY crane may be brought to its work location. **Contractor/Rigger and Operator are Responsible for the Accuracy of all Calculations and Inspections.** CM Review is to Ensure Completion of Form ONLY. Use Attachments for Continuations/Explanations. Please Reference Section Number.			
Signatures			
Crane Company Responsible Person	Name: Signature:	Contractor/Rigger Responsible Person	Name: Signature:
Phone #		Phone #	
CM Project Rep		Signature	
CM Safety Rep		Signature	

Submit this Completed form to your CM Representative 48 hours prior to any crane delivery.

Thank you for your cooperation.

Attachment C
Documentation of Employee Training and Designated Responsibilities

The following people have been trained in associated hazards and safety procedures as it relates to the work they perform during Steel Erecting:

Qualified Rigger _____

Competent Person _____

Crane Operator _____

List of employees and training dates:

*Reminder – All employees must be trained in the associated hazards of steel erection activities, which includes various fall protection systems.

Connectors, *Deckers working in CDZ* and *Multi-Lift Riggers* must have received special training before engaging in such activities.

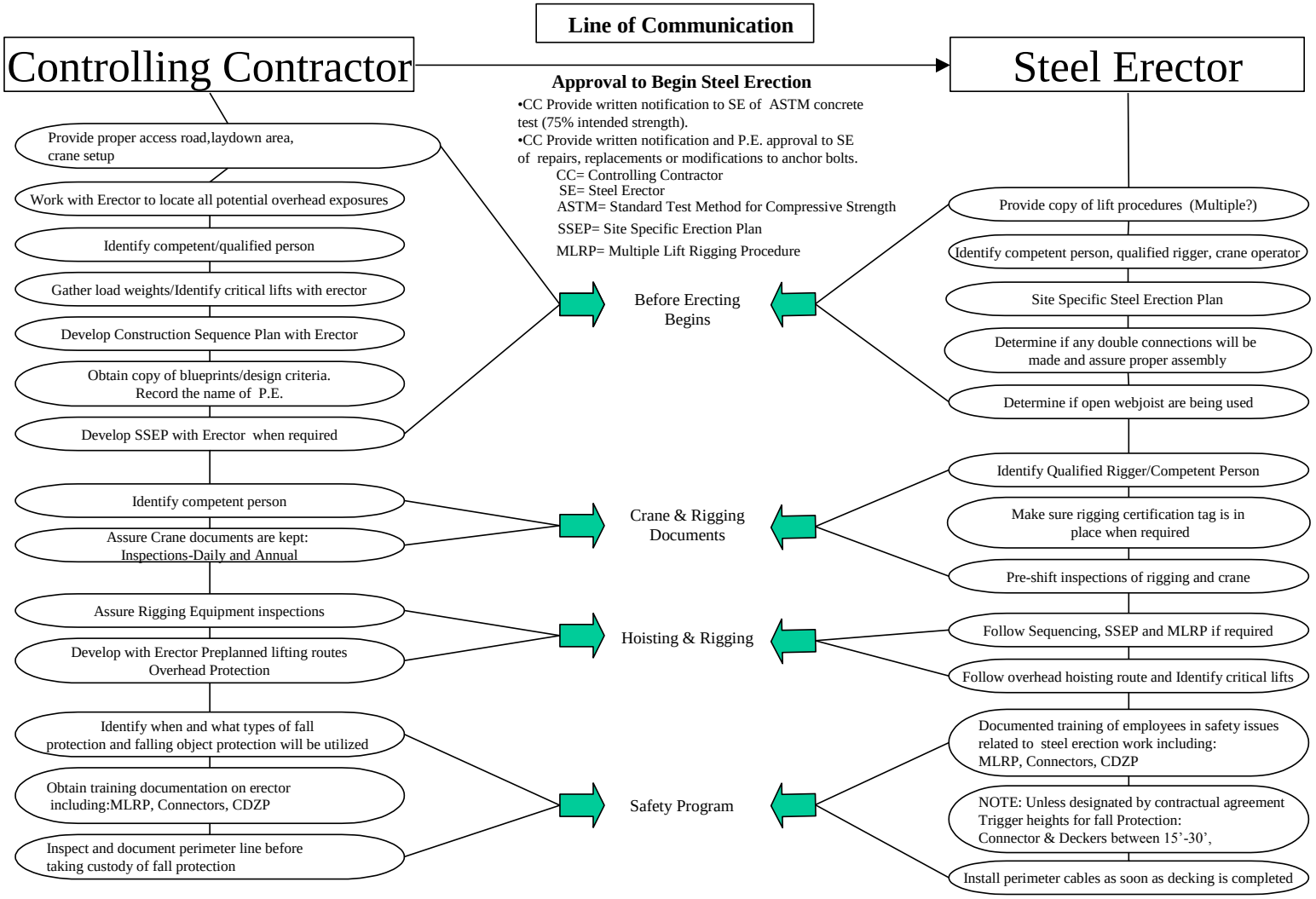
Employee's Name	**Job title (Connector, Decker, Rigger, etc.)**	**Date Trained**

Name of Individual that performed the Training: _____

Steel Erection Company Representative: _____

Signature **Date**

Steel Erection Responsibilities



CONCRETE CONSTRUCTION SAFETY PROGRAM

General - Materials

Hendrick Construction, Inc. is dedicated to the protection of its employees and subcontractors from on the job injuries as a result of being exposed to potential hazards associated with concrete construction.

Potential for respiratory hazards. See Respiratory Program in this manual. (Rev 5/2017)

Preventive measures are to be utilized to eliminate or reduce hazards such as wet-sawing and cutting along with the required PPE. (Rev 5/2017).

Forms

Form lumber and supports should be selected after careful consideration of loading factors, including spans, setting temperature, rate of pour, and working loads that will be supported. Good housekeeping is important in preventing injuries caused by falling objects, nails, and splinters. Stripped form material should be cleaned and neatly stacked after removing nails.

Workers constructing forms or placing reinforcing steel where there is a fall hazard should be protected by appropriate fall protection methods.

Shoring

Shoring equipment should be inspected prior to erection to ensure that the equipment meets the requirements specified in the formwork drawings.

Shoring equipment found to be damaged should not be used.

Erected shoring equipment should be inspected immediately prior to, during, and immediately after concrete placement.

Shoring equipment that is found to be damaged or weakened after erection should be reinforced immediately.

Removal of Forms and Shoring

Forms should not be removed prematurely. Concrete should be properly set. Tests on job cured test cylinders will ensure that concrete is strong enough to carry the load. Job specifications and local building codes should be observed before removing forms.

Only workers actually engaged in form stripping should be allowed in the area during these operations. Hard hats, gloves, and heavy soled safety shoes should be worn.

When cutting tie wires under tension, care should be taken to prevent backlash. Eye and face protection should be used.

Spouting

Where towers and chutes are used, they should be carefully installed by well trained and experienced workers. Such installations should be inspected regularly and kept in good repair.

The main cable supporting concrete chutes should not be fastened to the tower.

Spouts should be guyed to prevent swaying in the wind.

Areas below spouts should be barricaded to keep people out of the areas where they could be injured by falling concrete.

Cranes and Buckets

Concrete buckets positioned by crane or overhead cableway should be suspended from deep-throated hooks, equipped with a swivel and safety latch. Buckets swung from cranes are often out of sight of the crane operator. A signaler should be posted in clear view of the receiving area and the crane operator.

Runways

Runways should be of sturdy construction, evenly supported, and should have a smooth running surface wide enough to accommodate concrete buggies.

Centering directly under runways should have extra supports. Where necessary, runways should have railings high enough on the open sides to protect workers.

Runways should be kept free of ice, snow, grease, mud, and other slipping hazards.

MIXERS AND PAVERS

All gears, chains, and rollers of mixers should be guarded. If the mixer has a charging skip, operators should ensure that workers are out of danger before the skip is lowered. Skips should be guarded by pipe railings on the side to prevent workers from walking under it while it is being lowered. These guards should never be removed while the paver is in use and should always be kept in good condition.

Pavers should be equipped with a loud warning bell, which should be used when the paver is moved ahead or when the bucket is run out among the workers.

The paver skip worker should be active and alert. A signaler should be assigned to warn workers on the subgrade when a truck is backing into the skip, and should signal the truck driver when all workers are clear. The signaler should be stationed on the driver's side and to the rear of the vehicle. Truck drivers should be instructed to back their trucks only when signaled to do so. Backing lanes should be carefully planned and kept free of equipment, material, and debris. When cleaning inside the drums, use appropriate lockout/tagout procedures.

Ready Mix Trucks

Backing operations should be controlled by a signaler positioned behind the truck and clearly visible to the truck driver. A smooth surface should be provided and movement of workers and job equipment should be routed to avoid crossing the truck lane. Provide adequate pathway for truck maneuvering.

Concrete Buggies

Buggies should be kept clean and material should not be allowed to collect on the inside. Stop cleats should be used at all places where buggies are dumping materials.

Handles of buggies should not extend beyond wheels on either side. Where possible, knuckle guards on buggy handles should be used.

If trucks are unloading into concrete buggies, buggies should be routed in a continuous loop to minimize the danger of collision. If a single runway is used, turnouts should be provided.

Lift Slab

Lift slab operations should be designed and planned by a registered professional engineer. Plans and designs should be implemented by the employer and should include detailed instructions and sketches indicating the prescribed method of erection. These plans and designs should also include provisions for ensuring lateral stability of the building or structure during construction.

Jacks/lifting units should be marked to indicate their rated capacity as established by the manufacturer.

Jacks/lifting units should not be loaded beyond their rated capacity.

Jacking equipment should be capable of supporting at least 2 1/2 times the load being lifted during jacking operations and the equipment should not be overloaded.

Jacks/lifting units should be designed and installed so that they will neither lift nor continue to lift when they are loaded in excess of their rated capacity.

Jacks/lifting units should have a safety device installed that will cause the jacks/lifting units to support the load in any position in the event any jack/lifting unit malfunctions.

Jack operations should be synchronized to ensure even and uniform lifting of the slab. During lifting, all points at which the slab is supported should be kept within 1/2 inch of that needed to maintain the slab in a level position.

If leveling is automatically controlled, a device should be installed that will stop the operation when 1/2 inch tolerance is exceeded or where there is a malfunction in the jacking lifting system.

If leveling is maintained by manual controls, the controls should be located in a central location and attended by a competent person while lifting is in progress. The competent person should be experienced in the lifting operation and with the lifting equipment being used.

The maximum number of manually controlled jacks/lifting units on one slab should be limited to a number that will permit the operator to maintain the slab level within 1/2 inch, but in no case should that number exceed 14.

Workers not essential to the jacking operation, should not be permitted in the building or structure while any jacking operation is taking place unless the building or structure has been reinforced.

Workers not essential to the jacking operation should not be permitted beneath a slab while it is being lifted.

When making temporary connections to support slabs, wedges should be secured. Lifting rods should not be released until the wedges at that column have been secured.

All welding on temporary and permanent connections should be performed by a certified welder familiar with the welding requirements.

Load transfer from jacks/lifting units to building columns should not be executed until the welds on the column shear plates (weld blocks) are cooled to air temperature.

Jacks/lifting units should be secured to building columns.

Equipment should be designed and installed so that the lifting rods cannot slip out of position.

Precast Concrete

Precast concrete wall units, structural framing, and tilt-up wall panes should be adequately supported.

Lifting inserts which are embedded or otherwise attached to tilt-up precast concrete members should be capable of supporting at least 2 times the maximum intended load applied or transmitted to them.

Lifting inserts which are embedded or otherwise attached to precast concrete members other than the tilt-up members should be capable of supporting at least 4 times the maximum intended load applied or transmitted to them.

Lifting hardware should be capable of supporting at least *5* times the maximum intended load applied or transmitted to the lifting hardware.

Workers should not be permitted under precast concrete members being lifted or tilted into position except those workers required for the erection of those members.

Slip Forms

Hydraulic, pneumatic, and mechanical lifting devices should be uniformly spaced and securely anchored. Lifting devised should be provided with automatic holding devices to protect against hazardous situations due to failure of the power supply or lifting mechanism.

Forms should not be moved until the concrete is cured. The need for quick production should not prompt premature removal of forms.

Lifting should proceed steadily and uniformly to avoid overloading at any given lift point. Forms should be locked in position by some mechanical link or stop and not by the lifting device itself.

Workers placing reinforcing materials should be provided with adequate fall protection.

Prestressed Concrete

Prestressed concrete operations should be designed by qualified engineers. This is a specialized type of construction which requires special training for workers. In addition to the precautionary measures necessary on any job site, remember that a prestressed concrete steel strand under tension contains a tremendous amount of energy.

Generally, the strands and bars are made of high-carbon steel which makes them very susceptible to mechanical damage. A nick or kink can cause failure when tensioned. When moving the reels, the strands should be protected as much as possible. Lifting and handling equipment should be attached to the flanges or through the center hole of the reel.

Cutting of strands should be done with a portable strand cutter designed for the purpose. Sharp edges, welding operations, and exposure to environmental elements can waken strands. Use appropriate precautions to prevent strand damage.

When curing by steam, hot water, or hot oil, bum hazards are always present. All piping should be maintained in good condition. Where possible, piping should be totally enclosed. If piping is exposed to the work area, it should be well insulated. Workers should not be permitted to step or climb on any pipe.

A common method of stressing is by means of hydraulic jacking. The operator should strictly adhere to the manufacturer's recommendations on the use of jacks.

All hose, hose connections, and valves should be checked daily for defects. Extreme care should be taken to prevent damage to strands when they are pulled into the bed with a tugger hoist or similar equipment. The wedge type temporary anchor or grip used for holding strands under load should be handled in accordance with the instructions issued by the manufacturer. Grips and strands should be perfectly clean. A nonflammable solvent should be used for cleaning the grips.

Strands and bars should not be stressed beyond manufacturer's recommendations.

Reinforcing steel is normally placed in the bed after stressing. To minimize the exposure to workers inside the bed as much steel an possible should be fabricated into mats outside the bed and set into place with hoisting equipment.

Electric vibrators should be moisture proof and properly guarded. Detensioning of the strands in a member should be done gradually and smoothly.

Stripping forms and handling the finished members should be done with the appropriate equipment.

Material hoists should be carefully inspected.

Heaters used for cold weather concrete mixing operations should be checked regularly.

Masonry Construction

A limited access zone should be established when a masonry wall is being constructed.

The limited access zone should be established prior to the start of construction of the wall.

The limited access zone should be equal to the height of the wall to be constructed plus 4 feet, and should run the entire length of the wall.

The limited access zone should be established on the side of the wall without scaffolding.

The limited access zone should be restricted to entry by workers actively engaged in constructing the wall. No other workers should be permitted to enter the zone.

The limited access zone should remain in place until the wall is adequately supported.

All masonry walls over 8 feet in height should be adequately braced unless the wall is supported by other means. The bracing should remain in place until permanent supporting elements of the structure are in place.

CRANE OPERATIONS
AND MATERIAL LIFTING PROGRAM

PURPOSE:
This policy establishes consistent requirements for all crane operations on Hendrick Construction, Inc. jobsites. This policy includes pre-construction lift procedures, pre-lift and critical lift requirements for all loads and the required documentation.

See Steel Erection Section and associated exhibits contained in this manual (Rev 5/2017)

DEFINITIONS ANSI B30.5. 1989 - American National Standards Institute: Standard for Mobile and Crane Locomotive Cranes.

Critical Lift - A lift in which the gross load exceeds *75%* of the cranes rated capacity at the desired working radius according to the manufacturers load chart. Also included will be lifts of any size around energized power lines.

Critical Lift Checklist - A detailed description of all aspects of a critical lift. This form is to be completed prior to all lifts defined as critical, signed by the appropriate persons and filed with the Safety Department upon completion of the lift. This form is to be completed each time a critical lift is made, daily or more often as necessary.

Dynamic Loading - Loads introduced to the crane or it's components due to accelerating and decelerating forces.

Gross Load Weight - The total weight of the object and all rigging being lifted.

Pre-Lift Requirement - The required elements to prepare and plan for any lift by any crane on. any jobsite. These requirements include:

1. All crane inspections conducted and up-to-date (daily, monthly, yearly)
2. Proper rigging
3. Load information
4. Trained and qualified signal person.

Signal Person (Flagman) - An individual knowledgeable in crane operations, located placement and use of the required hand signals to communicate with crane operator.

RESPONSIBILITY:
The Project Manager shall be responsible for scheduling and conducting the pre-construction lift analysis meeting with all necessary parties: Crane Superintendent, Rental Company (if applicable), Project Superintendent, Foreman and any other required parties.

Pre-Construction lift Analysis - The meeting shall be conducted by the Project Manager to determine if a crane is needed on the project. If a need is foreseen, a determination shall be made concerning the maximum weight of the loads to be lifted and the approximate radius the crane will operate in. In addition, any other operations foreseen involving cranes (pile driving, excavation, auguring holes, general hookwork, handling personnel, pile removal, etc.) shall be listed. This information will be used to determine what size and type crane will be needed on the jobsite.

The above analysis will also be used to determine if any "Critical Lifts" may be made on the site. If a critical lift is foreseen, preliminary plans will be laid out at preconstruction meeting by HCI and in conjunction with the crane company.

Hendrick Construction, Inc. policy has established that critical lifts include those loads that will exceed *75%* of the cranes rated capacity at the estimated working radius. It is our goal to keep critical lifts to a minimum by over sizing the crane assigned to a jobsite. This shall be done whenever feasible and practical.

All necessary permit requirements insurance verification and liability issues shall be included in the discussion.

The Project Superintendent and/or site foreman shall be responsible for pre-lift requirements, critical lift analysis and completion of the critical lift requirements.

Superintendent Responsibilities

PRE-LIFT REQUIREMENTS - Prior to lifting any load with any crane, the operator (Or Rental Company) shall first ensure the following criteria has been met:

1. All crane inspections shall be conducted and up-to-date per OSHA regulations. The operator is responsible for conducting the daily and monthly inspections. The inspection shall also be up-to-date with any deficiencies noted

2. Only qualified operators shall be allowed to operate any crane.

3. The operator shall ensure that all loads are rigged properly. If there is any doubt to the way any load is rigged, the operator shall not make any lifts till he/she deems it a safe lift.

4. The operator shall govern and verify the weight of all loads. This weight called, the "Net Load" is the weight of the object being lifted. It must be determined based on reliable information or engineering data. or actually weighing the object in question.

With the "Net Weight" thus having been determined, the "Gross Load" may be totaled. The "Gross Load" is the sum of the weights of the net load, attachments, rigging, ropes, beams or spreader bars, etc. Based on this information the operator can determine what the maximum radius may be and ensure that this is within the cranes rated capacity. If the estimated load at its maximum intended radius exceeds *75%* of the manufacturers load chart then a critical lift checklist must be used.

Prior to making a lift, the operator shall ensure that the signal person is knowledgeable and competent on crane signals. If the hand signals are used, they shall be those prescribed by ANSI *B30.5* (a copy of signals is included in this policy). Whenever radios are used, try to use a dedicated channel or limit conversation not pertaining to the lift.

CRANE LIFT RESTRICTIONS

This policy limits and will not permit any lift to be made out of the scope and realm of the lifting restrictions. Lifts shall not be made when:

1. Known lifts exceed 90% of the cranes rated capacity at the intended working radius.
2. When rubber tired cranes are used, exceeding *75%* of the load chart.

***Note… If a Crane rental company is used, their lift~planning and limits may differ from the above limits. They were hired for their expertise however, remember that they are working for you and you can be held liable for their noncompliance with any OSHA regulations. These issues need to be discussed in the pre-construction lift meeting.*

CRITICAL LIFTS

A lift is considered a critical lift when the "Gross Load exceeds *75%* of the cranes rated capacity. Additionally, any lift made in close proximity to energized power lines.

The following are the explanations for the Critical Lift Checklist included in this procedure.

1. Hoisting Equipment: All self explanatory

2. Lift Information:

   A. Net Load Weight is the weight of the object being lifted. It must be confirmed prior to any lift. This information can be obtained from the supplier, manufacturer, shipper or by actually weighing at the jobsite. However, do not depend solely on the shippers weight as it can be light.

   B. Rigging Weight. Determine the actual weight of the rigging used. This shall include slings, hooks, shackles, rings, etc.

   C. Ball/Block Weight. The weight can be obtained from the Crane Operators Manual of from the manufacturer. If the actual weight cannot be obtained, these items must be weighed.

   D. Lifting Beam Weight. If this cannot be weighed, its weight can be obtain by determining the beam size and referring to the AISC handbook and calculated.

   E. Attachment Weight. Consult the Operators Manual for the weights of these attachments. Example of these items are taglines, jibs, etc. This manual explains what the manufacturer has already taken into account and what must be added on.

   F. Extra Cable Weight. Normally the manufacturers load chart accounts for cable weight for the recommended number of parts of line from the boom point to the cranes elevations.

   G. Gross Load Weight (Sum of A-F). This is the sum of the weights of the Net Load, rigging , block or ball, extra cable, attachments to the boom, and lifting beams or spreader bars. This is the total weight to be used when looking at the manufacturers load chart located in the crane.
   H. Load Chart. The only "official" chart of the cranes capacity is the chart located inside each and every crane. The manufacturers literature is a good guide only. The load chart In each crane must be used to determine that cranes actual rated capacity.

   I. Use of Load Chart. All crane operators, foremen, superintendent. general superintendents, and project manager involved in the planning or execution of a lift must understand the proper way to read and used the load chart.

2. Crane Set-up

   A. Is crane level to within one (1) degree? The crane level condition shall be checked side to side and front to rear on the crane using either the manufacturer's level indicators or a regular level. Adjustments to the ground, mats or cribbing are to be made as necessary.

   B. What is the soil condition? Conditions of the ground where the crane will be sitting must be checked. Look for loose objects, unstable or wet soil or any other condition that may cause the crane to become out of level once the load is lifted. Underground utilities and pipes must also be considered. If a concrete or asphalt pad is used, it's design must be approved by a registered professional engineer.

   C. Are Mats required? If a stable footing cannot be assured or determined, mats shall be used.

   D. Are outriggers being used? For all mobile cranes equipped with outriggers they must be fully extended and firmly set with proper dunnage or cribbing beneath the pads.

   E. Are tracks fully extended? On all critical lifts with track cranes, the tracks shall be fully extended. This shall be done whether or not the crane will be swing over the side or corners. Tracks should also be blocked or "scotched" for each lift.

   F. Does operator have unobstructed view of flagman and load? Prior to the lift, the flagman and operator shall ensure they can maintain visual contact with each other throughout the entire lift. If not, refer to item G.

   G. Is radio communication between operator and flagman necessary? If radio communication is required, the supervisor shall ensure each has an operable radio. During the lift, there shall be no other radio communication on the frequency being used. Always have a back up plan in case radio failure occurs.

3. Crane Inspections.

   A. Daily inspections. Prior to any lift, the operator shall conduct a daily inspection. This inspection should be documented and records kept either on the crane or on the project. Any notations that show deficiencies should be corrected.

   B. Monthly inspections. Prior to any lift, the operator shall make sure that the monthly inspection is current to within thirty (30) days. A record of the inspection shall be kept either in the crane or on the project. If the crane is rented, you should check with the rental company and obtain such information.

   C. Crane operation condition checked. Prior to any lift, the operator shall warm up the crane and run it through all its functions. This includes booming, swinging, raising and lowering the ball or block and a test of all brakes and clutches. Extra time for warm-up may be needed in cases when moisture may have an effect on brakes and clutches (i.e.: rain and dew). Whenever possible, again test all functions after just picking the load free.

4. Site Conditions:

   A. Weather. Never attempt a lift if bad or severe weather is imminent. Wind must always be considered. OSHA requires that all crane operations be suspended if the wind velocity exceeds 30 MPH. A critical lift shall be postponed if the wind velocity exceeds 20 MPH. Wind can cause a

dynamic loading on the crane. Moisture from dew or rain must be dried from brakes prior to crane operations each day.

B. Area clear of Personnel. No personnel shall be allowed in the area during a lift unless they have a specific responsibility. Never allow a load to pass over personnel if at all possible.

C. Location of adjacent structures/objects considered. The pre-lift meeting shall include a survey of the area to ensure everything possible is being done to avoid obstructions. Never shall the crane, boom or load come any closer than 10 feet from a power line rated 50 KV or less. For lines greater than 50 KV, a distance of one half inch per 1 KV shall be added to the distance. HCI policy of lifts within 50 feet of power lines is deemed critical lift and appropriate critical lift checklist completed.

D. Underground installations/utilities. Always consider what may be buried underground such as pipes, lines, vaults, etc. This includes the area where the crane is sitting and where the load will be placed.

5. Hoisting.

A. Lift radius. Prior to the lift, determine the radius necessary to place the load properly. If the load is to be lowered into an excavation, the boom angle should be set for the proper radius prior to swinging the load over the excavation.

B. Minimum allowable angle for this load. Once the required radius is determined, the boom angle shall be noted. With this information, the operator will know what angle he/she cannot exceed to avoid exceeding the required radius.

C. Maximum allowable radius for this load. Based on the calculated ~‘Gross Load” from Section 2G, the maximum allowable radius can be obtained from the load chart. This radius is never to be exceeded with this load.

D. Load centered properly. The load shall be positioned directly below the boom tip before the load is lifted. This may be checked by freely hanging the hook directly above the center of gravity of the load. Remember the boom will tend to lower slightly as the load is lifted so this must be corrected for, as the load is being picked free.

E. Choosing radius. The exact radius at which you must work may not appear on the crane lift chart. In this case, use the next higher radius on the chart and the corresponding capacity at that radius is the maximum allowable for your lift.

EXCAVATION/TRENCHING PROGRAM

Scope and Application:

This policy sets forth the official practices by Hendrick Construction, Inc. employees and subcontractors regarding excavations.

Definitions:

Aluminum hydraulic shoring means an engineered shoring system comprised of aluminum hydraulic cylinders (crossbraces), used in conjunction with vertical rails (uprights) or horizontal rails (walers). Such a system is designed specifically to support the sidewalls of an excavation and prevent cave-ins.

Barricade means any device or object that can be used to prevent or limit access to a given area. A barricade can be any temporary or permanent object such as, but not limited to, sawhorses, earthen mound, concrete retaining walls, fencing, tape, cones, barricades, etc.

Benching means a method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels.

Cave-in means the separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by falling or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.

Competent person means one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. A competent person should have and be able to demonstrate the following:

- Training, experience, and knowledge of:
  - soil analysis,
  - use of protective systems, and
  - requirements of 29 CFR 1926 Subpart P.
- Ability to detect:
  - conditions that could result in cave-ins,
  - failures in protective systems,
  - hazardous atmospheres, and
  - 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.

Excavation means any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal.

Registered professional engineer means a person who is registered as a professional engineer.

Shield (shield system) means a structure that is able to withstand the forces imposed on it by a cave-in and thereby protect employees with the structure. Shields can be permanent structure or can be designed to be portable and moved along as work progresses. Also known as trench box or trench shield.

Shoring (shoring system) means a structure such as a metal hydraulic, mechanical or timber shoring system that supports the sides of an excavation and which is designed to prevent cave-ins.

Sloping (sloping system) means a method of protecting employees from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation so as to prevent cave-ins. The angle of incline varies with differences in such factors as the soil type, environmental conditions of exposure, and application of surcharge loads.

Trench (trench excavation) means a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench is not greater than 15 feet. If forms or other structures are installed or constructed in an excavation as to reduce the dimension measured from the forms or structure to the side of the excavation to 15 feet or less, the excavation is also considered to be a trench.

General Requirements:

All excavations shall be made in accordance with the rules, regulations, requirements, and guidelines set forth in 29 CFR *1926.650, .65* 1, and *.652;* the Occupational Safety and Health Administration's standard on Excavations, except where otherwise noted below.

Procedures

A **competent person** shall be placed in charge of all excavations. Underground utilities must be located and marked before excavation begins.

Inspections

The **competent person** shall conduct inspections:

- Daily and before the start of each shift.
- As dictated by the work being done in the trench.
- After every rain storm.
- After other events that could increase hazards, such as snowstorm, windstorm, thaw, earthquake, dramatic change in weather, 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.
- When there is any indication of change or movement in adjacent structures.

Soil Types

Type A - Most stable: clay, silty clay, and hardpan (resists penetration). No soil is Type A if it is fissured, is subject to vibration of any type, has previously been disturbed, or has seeping water.

Type B - Medium stability: silt, sandy loam, medium clay and unstable dry rock; previously disturbed soils unless otherwise classified as Type C; soils that meet the requirements of Type A soil but are fissured or subject to vibration.

Type C - Least stable: gravel, loamy sand, soft clay, submerged soil or dense, heavy unstable rock, and soil from which water is freely seeping.

The **competent person (see definition)** in charge of the excavation shall be responsible for determining whether the soil is Solid Rock, Type A, B or C. The competent person shall use a visual test coupled with one or more manual tests.

Layered geological strata -- (where soils are configured in layers) - 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.

If excavations are conducted in order to repair/replace existing pipelines or equipment (i.e. the soil has been previously disturbed), **excavations shall be made to meet the requirements for Type B or Type C soils only, as appropriate**.

Spoil

Spoil piles shall be placed no closer than 2 feet 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.

Surface Crossing of Trenches

Surface crossing of trenches should not be made unless absolutely necessary.

- **Vehicle crossings must** be designed by and installed under the supervision of a registered professional engineer.
- **Walkways or bridges should**:
  - have a minimum clear width of 20 inches,
  - be fitted with standard guardrails, and
  - extend a minimum of 24 inches past the surface edge of the trench.
  - secured at each end

Ingress and Egress

Trenches 4 feet or more in depth shall 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 feet laterally to the nearest means of egress.

Ladders must be secured and extend a minimum of 36 inches above the landing.

Metal ladders should be used with caution, and should not be used when electric utilities are present.

Exposure to Vehicles

Employees exposed to vehicular traffic shall be provided with and required to wear reflective vests or other suitable garments marked with or made of reflectorized or high-visibility materials.

Trained flag persons, signs, signals, and barricades shall be used when necessary.

Exposure to Falling Loads

All employees on an excavation site must wear hard hats.

Employees are not allowed to work under raised loads.

Employees are not allowed to work under loads being lifted or moved by heavy equipment used for digging or lifting.

Employees are required to stand away from equipment that is being loaded or unloaded to avoid being struck by falling materials or spillage.

Equipment operators or truck drivers may not remain in their equipment during loading and unloading.

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 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.
- **Trenches left open overnight** should be barricaded.

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% oxygen,
- a combustible gas concentration greater than 20% of the lower flammable limit, and,
- concentrations of hazardous substance that exceed those specified in the Threshold Limit Values for airborne contaminants established by the ACGIH.

All operations involving such atmospheres must be conducted in accordance with OSHA requirements for occupational health and environmental controls for personal protective equipment and for lifesaving equipment. Engineering controls (such as ventilation) and respiratory equipment may be required. See Confined Space Program.

Testing for Atmospheric Contaminants

If there is any possibility that the trench or excavation could contain a hazardous atmosphere, atmospheric testing must be conducted prior to entry. Conditions that might warrant atmospheric testing would be if the excavation was made in a landfill area or if the excavation was crossed by, was adjacent to, or contained pipelines containing a hazardous material (for example, natural gas lines).

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 Hendrick Construction, Inc. Confined Space Program is also required.

Standing Water and Water Accumulation

- Methods for controlling standing water and water accumulation must be provided if employees must work in the excavation. The precautions necessary to protect employees adequately vary with each situation and could consist of the following:
    - ⇒ Use of special support or shield systems.
    - ⇒ Water removal equipment, such as well pointing, shall be monitored by a competent person.
    - ⇒ Safety harnesses and lifelines.

- Employees should be removed from the trench during rainstorms

- Trenches should be carefully inspected by a competent person after each rain and before employees are permitted to re-enter the trench.

Benching, Sloping, Shoring, and Shielding Requirements

All excavations or trenches 4 feet or greater in depth shall be appropriately benched, shored, or sloped according to the procedures and requirements set forth in OSHA's Excavation standard, 29 CFR 1926.650, .651, and .652.

Excavations or trenches 20 feet deep or greater must have a protective system designed by a registered professional engineer.

Excavations under the base of footing of a foundation or wall require a support system designed by a registered professional engineer.

Sidewalks and pavement shall not be undermined unless a support system or another method of protection is provided to protect employees from their possible collapse.

Sloping

Maximum allowable slopes for excavations less than 20' based on soil type and angle to the horizontal are as follows:

Soil Type	**Depth/Width Ratio Horizontal to Vertical**	**Slope Angle**
Type B	1 to 1	45 Degrees
Type C	1 ½ to 1	34 Degrees

A 10-foot-deep trench in Type B soil would have to be sloped to a 45-degree angle, or sloped 10 feet back in both directions. Total distance across a 10-foot-deep trench would be 20 feet, plus the width of the bottom of the trench itself. In Type C soil, the trench would be sloped at a 34-degree angle, or 15 feet back in both directions for at least 30 feet across, plus the width of the bottom of the trench itself.

Benching

There are two basic types of benching, single and multiple, which can be used in conjunction with sloping.

In Type B soil, the vertical height of the benches must not exceed 4 feet. Benches must be below the maximum allowable slope for that soil type. In other words, a 10-foot deep trench in Type B soil must be benched back 10 feet in each direction, with the maximum of a 45-degree angle.

Benching is not allowed in Type C soil.

Shoring

Shoring is a method used when the location or depth of the cut makes sloping back to the maximum allowable slope impractical. There are two basic types of shoring; timber and aluminum hydraulic.

Hydraulic shoring provides a critical safety advantage over timber shoring because workers do not have to enter the trench to install them. They are also light enough to be installed by one worker; they are gauge-regulated to ensure even distribution of pressure along the trench line; and they can be adapted easily to various trench depths and widths. However, if timber shoring is used, it must meet the requirements of 29 CFR 1926.650, *.65* 1, and *.652*. All shoring shall be installed from the top down and removed from the bottom up. Hydraulic shoring shall 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.

The top cylinder of hydraulic shoring shall be no more than 18 inches below the top of the excavation. The bottom of the cylinder shall be no higher than four feet from the bottom of the excavation. (Two feet of trench wall may be exposed beneath the bottom of the rail or plywood sheeting, if used.)

Three vertical shores, evenly spaced, must be used to form a system.

Wales are installed no more than two feet from the top, no more than four feet from the bottom, and no more than four feet apart, vertically.

Here are some typical installations of aluminum hydraulic shoring:

- Vertical aluminum hydraulic shoring (spot bracing)
- Vertical aluminum hydraulic shoring (with plywood)
- Vertical aluminum hydraulic shoring (stacked)
- Aluminum hydraulic shoring waler system (typical)

Shielding

Shielding (trench boxes) is an additional method used when the location or depth of cut makes a sloping back to maximum allowable slope impractical. Shielding differs 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 box and the excavation side must be backfilled to prevent lateral movement of the box.** Shields may not be subjected to loads exceeding those which the system was designed to withstand.

The box must extend at least 18 inches above the surrounding area if there is sloping toward the excavation. This can be accomplished by providing a benched area adjacent to the box.

Any modifications to the shields must be approved by the manufacturer.

Shields may ride two feet above the bottom of an excavation, provided they are calculated to support the full depth of the excavation and there is no caving under or behind the shield.

Workers must enter and leave the shield in a protected manner, such as by a ladder or ramp.

Workers may not remain in the shield while it is being moved vertically.

CONFINED SPACE ENTRY PROGRAM

Scope:
This procedure applies to the entrance of employees into both permit required and non-permit required confined spaces. The requirements contained herein apply to operations conducted by or under Hendrick Construction, Inc. that fall under the OSHA Construction Industry Standards. (29 CFR 1926.1201-1926.1213) (Rev 5/2017)
Removed the general industry reference (Rev 5/2017)

Purpose:
Hendrick Construction, Inc. is dedicated to the protection of its employees and subcontractors from on the job injuries as a result of being exposed to potential hazards associated with confined space. This program provides guidance on recognition and identification of permit required confined spaces, personnel requirements for entry, appropriate personal protective equipment, monitoring equipment, entry permits and rescue requirements.

Responsibility:
Superintendent shall ensure the full compliance by HCI employees and/or subcontractors regarding the requirements of this confined space procedure. This shall include but not be limited to:

1. Identification and posting of all permit required confined spaces
2. Issuance of completed confined space entry permits
3. Determination and evaluation of potential confined space hazards
4. Maintenance and issuance of required confined space entrance equipment as necessary, i.e. monitors, winches, harnesses, etc.
5. Training of all employees affected by this procedure

On site supervisors are responsible for knowing the requirements and restrictions of this procedure. They shall ensure the maintenance of “Permit Required Confined Space” placards on their respective work sites and that no employee be allowed to enter such a space without authority per this procedure. Once work has begun in a permit required confined space on their site, they shall become the “Entry Supervisor” as defined in this procedure.

IDENTIFY THE SPACE

A confined space is any working area in which:

1. Ventilation is insufficient to remove dangerous air contamination or to eliminate an oxygen deficiency.
2. Access and egress are difficult due to the location or size of the opening.

Confined spaces include such areas as storage vessels, furnaces, railroad tank cards, manholes, concrete vaults and pits.

DETERMINE THE DANGER

The atmosphere in a confined space shall be tested prior to entering the space. To test the area, lower the monitor into the confined space but never allow your head to enter or go below the space entrance until testing is complete.

There must be at least 19.5% oxygen in the atmosphere to provide safe breathing. Verify or eliminate the possibility of a flammable or toxic atmosphere.

STEP ONE: When the Area is Safe -

Once conditions in the confined space are tested and determined to be safe, the Foreman or person in charge must fill out the Confined Space Entry Permit included in this procedure. This permit should be filled out daily or as necessary, depending on the space and the permits requirements.

THE DAILY COMPLETION OF THE CONFINED SPACE ENTRY PERMIT IS VITALLY IMPORTANT!!

The reading obtained from the test equipment must be legible. For the safety of the crew, the instrument itself must be calibrated at frequent intervals to ensure accurate readings. A wrong reading can cause death and serious injury. Only qualified persons may calibrate the instruments using the required calibration gases. The log will be checked by Project Superintendent to insure that it is completely and accurately filled out for every entry into a confined space.

While entering and working in a confined space, always have the test monitor with you. When you exit, take the monitor out with you and retest before reentering the space. Never enter a space if the monitor alarms! Even if the monitor reading at a previous entry indicated it was safe. Conditions change! In addition, leave the space immediately if the monitor alarms while you are in the space.

Unfortunately, there is no universal tester that will instantly identify every toxic substance that might be found in a confined space. You should be aware of what substances may be found under certain conditions.

It is very important for crew members to understand how vital their test instruments are to their safety. These instruments are not as durable as tools. They must be handled with care.

TOSSING TESTING INSTRUMENTS INTO THE BACK OF A TRUCK CAN DAMAGE THEM AND CAUSE ERRONEOUS READINGS. HANDLE WITH CARE!

STEP TWO: VENTILATE THE SPACE

If the initial test is not within acceptable limits, the confined space should be vented to improve the atmosphere.

1. SIZE: The size of the confined space will dictate how long it shall be ventilated before entry. If possible, ventilation shall continue while personnel are working in the space.

2. HOSE PLACEMENT: The hose must be positioned against a wall so the air circulation bounces from wall to wall. If the hose is just hung in the middle, air pockets containing toxic gases may linger in the corners even though the blower has been operated for the specified time.

3. BLOWER LOCATION: Since the blower is taking in air from the surrounding atmosphere, it is important to position the blower so that it does not suck in the very air that it is blowing out of the space. Also, make sure that the blower is placed away from the processes that generate harmful gases such as chemical fumes of vehicle exhaust. You want to pull breathable air into the space.

You should also consider ignition possibilities when finding a spot for the blower. The blower, itself, can be a source of ignition so you will want to place it away from flammable objects and gases.

4. ENTRY BLOCKADE: While the confined space is being ventilated, make sure entry is not possible. We require that one crew member stay at the opening. He/She may have to step a few feet away to get something from the truck and in those few seconds, someone could enter the space unless a barrier is in place. So, in addition to a guard, a barricade is required.

STEP THREE: RETEST

After ventilating an area, test the atmosphere again.

1. When the Readings Still Indicate Problems:
If the readings still indicate a problem after ventilating the space, the employees must notify their supervisor.

No persons are permitted to wear respirators until they are trained and in compliance with Company's Respiratory Protection Program!

STEP FOUR: FOLLOW ENTRY AND EMERGENCY PROCEDURES

1. CHOOSING AN ATTENDANT: When someone enters the space, someone else always stands by outside to help in an emergency, This person is trained to:

* recognize the effects of hazardous substances on entrant
* communicate with the entrant
* perform rescue duties
* summon rescue and emergency services
* perform CPR

2. WEARING RESPIRATORY PROTECTION: If the work crew knows that the space may have been contaminated with something dangerous or that the oxygen level is low, they must wear respiratory protective equipment. This also applies to the ATTENDANT remaining outside the entrance. We do not want to leave anything to chance!

MANY DEATHS OCCUR EACH YEAR WHEN THE RESCUER IS OVERCOME BY A TOXIC ATMOSPHERE BECAUSE THEY ENTER THE SPACE WITHOUT PROPER BREATHING APPARATUS. IN AN EMERGENCY, WHEN YOU NEED TO RESCUE YOUR "ATTENDANT", IT IS DIFFICULT TO REMEMBER TO FIRST PUT ON YOUR OWN RESPIRATORY PROTECTION. THEREFORE, IT IS MANDATORY THAT THE "ATTENDANT" REMAINING OUTSIDE ALWAYS WEAR RESPIRATORY PROTECTION.

3. ESTABLISHING COMMUNICATION: The ATTENDANT and entrant must be able to communicate. However, limited visibility sometimes makes hand communication impossible. Other spaces are so large that voice communication is not practical. To keep communication open, even with these obstacles, some entrants and buddies may be equipped with two-way

radios.

For further safety, the ATTENDANT must also have communication with another outside worker. As an extra precaution against the unexpected, one other individual is required to remain within shouting or signaling distance to assist in a rescue effort.

4. STRAPPING ON THE HARNESS: The person entering wears a harness so that he or she can be removed quickly if overcome by fumes. DON'T USE A BELT! If a person wearing a belt becomes unconscious, he/she will bend at the waist while being pulled out and perhaps become stuck in a narrow passage.

5. CHECKING THE SPACE: Always note the physical obstructions before entering a space. Something as routine as making sure a ladder is correctly placed can make the difference between a safe entry and a dangerous fall.

6. BRINGING THE TEST EQUIPMENT INTO THE SPACE: Even when good readings are taken, the crew should always take their test equipment into the confined space with them. It has an audible alarm that will alert them if toxic gasses begin to accumulate.

Even if the alarm doesn't sound, it is good safety sense to teach your workers to recheck their equipment frequently. You can't depend on your nose to tell you something is wrong

Many toxic substances do not have an odor and some actually deaden the sense of smell.

Management and all employees must be aware of the possible hazards associated with confined space work. With the use and implementation of this procedure's requirements, we can all be assured of a safe working environment.

Applicable Definitions:

Acceptable entry conditions: The conditions that must exist in permit space to allow entry and to ensure that employees involved with a permit required confined space entry can safely enter into and work within the space. Condition that meets a minimum of 19.5% oxygen and absence of other hazardous gases.

Attendant: An individual stationed outside one or more permit spaces who monitor authorized entrants and who perform all attendants' duties assigned in the employer's permit space program.

Authorized entrant: An employee who is authorized by the employer to enter a permit space.

Confined Space: A space that:

1. is large enough and so configured that an employee can bodily enter and perform assigned work, and
2. has limited or restricted entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults and pits are spaces that may have limited means of egress), and
3. is not designed for continuous employee occupancy.

Engulfment: The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be breathed in and can cause death by filling or plugging the respiratory system; or that can exert enough force on the body to cause death by strangulation, constriction or crushing.

Entry: The action by which a person passes through an opening into a permit-required space. Entry includes ensuring work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

Entry Permit: The written or printed document that is provided by the employer to allow and control entry into the permit space and contains the information of the permit-required confined space program.

Entry Supervisor: The person (such as the employer, foreman, crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned; for authorizing entry and overseeing entry operations and for terminating entry as required by the section.

> NOTE: An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this section for each role he/she fills. Also, the duties of the entry supervisor may be passed from one individual to another during the course of an entry operation.

Hazardous Atmosphere: An atmosphere that may expose employees to the risk of death, incapacitation, and impairment of the ability to self-rescue (that is, escape unaided from a permit space), injury or illness from one or more of the following causes:

1. Flammable gas, vapor or mist in excess of 10% (percent) of its lower explosive limit (LEL)

2. Airborne combustible dust at a concentration that meets or exceeds its LEL

   > NOTE: Some of this concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1 .52m) or less

3. Atmosphere oxygen concentration below 19.5% or above 23.5%

4. Atmosphere concentration of any substance for which a dose or a permissible exposure limit Is published in Subpart G: Occupational Health and Environmental Control; in Subpart A Toxic and Hazardous Substances; of this part and which could result in employee exposure in excess of its dose or permissible exposure limit

   > NOTE: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury or acute illness due to its health effect is not covered by this provision

5. Any other atmospheric condition that is immediately dangerous to life of health (IDLH)

   > NOTE: For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Material Safety Data Sheets that comply with the Hazard Communication Standard, 29CFR 1910.1200 of this part, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

Hot Work Permit: The employer's written authorization to perform operations (for example: riveting, welding, cutting, burning and heating) capable of providing a source of ignition.

Immediately Dangerous to Life or Health (IDLH): Any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

NOTE: Some materials - hydrogen fluoride gas and cadmium vapor, for example, may produce immediate transient effects that ,even if severe may pass without medical attention, but are followed by sudden, possibly fatal collapse 12-72 hours after exposure. The victim "feels normal" from recovery from transient effects until collapse. Such materials' hazardous qualities are considered to be "immediately dangerous to life or health".

Inerting: The displacement of the atmosphere in a permit space by a non-combustible gas (such as nitrogen) to such an extent that the resulting atmosphere is non-combustible.

NOTE: This procedure produces an IDLH oxygen deficient atmosphere.

Isolation: The process by which a permit space is removed from service and completely protected against the release of energy and material into or blinding, misaligning or removing section of lines, pipes or ducts; a double block and bleed system; lock-out or tag-out of all sources of energy; or block-mg or disconnecting all mechanical linkages.

Non-permit Confined Space: A confined space that does not contain or, with respect to atmospheric hazards, does not have the potential to contain any hazard capable of causing death or serious physical harm.

Oxygen Deficient Atmosphere: An atmosphere containing less than 19.5 % oxygen by volume

Oxygen Enriched Atmosphere: An atmosphere containing more than 23.5 % oxygen by volume

Permit-required Confined Space (Permit Space): A confined space that has one or more of the following:

1. Contains or has a potential to contain a hazardous atmosphere
2. Contains a material that has the potential for engulfing an entrant
3. 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
4. Contains any other recognized serious safety or health hazard

Permit-required Confined Space Program (Permit Space Program): The employer's overall program for controlling and, where appropriate, for protecting employees from permit space hazards or for regulating employee entry into permit spaces.

Permit System: The employer's written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

Prohibited Condition: Any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

Rescue Service: The personnel designated to rescue employees from permit spaces.

Retrieval System: The equipment (including a retrieval line, chest or full body harness, wristlets, if appropriate and lifting device or anchor) used for non-entry rescue of persons from permit spaces.

Testing: The process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

NOTE: Testing enables the employer to both devise and implement adequate control measures

for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to and during entry.

PERMIT REQUIRED CONFINED SPACES

Project Superintendent shall inspect each work site covered by this procedure.

During the inspection, every potential confined space into which employees might enter shall be evaluated. This evaluation shall include:

1. Possible air contaminates or oxygen deficient or enriched atmospheres
2. Engulfment hazards
3. Confined space entrance and exit and accessibility of each portal

When the evaluation is completed, all confined spaces shall be placard either by "Permit Required Confined Space" or "Non-Permit Required Confined Space". All employees at each site shall be trained on the meaning of the placards and actions to be taken prior to entering or working in such spaces.

Confined Space Entry Permit

Master Card No. _____

1. **Work Description**
Area _____ Equipment Location _____
Work to be done:

2. **Gas Test**	☐ Instrument Check	Results	Recheck	Recheck
Required	☐			
☐ Yes	☐ Oxygen % 20.8 min.			
☐ No	☐ Combustible % LFL			
		Date/Time/Sig.	Date/Time/Sig.	Date/Time/Sig.

3. **Special Instructions:** ☐ Check with issuer before beginning work ☐ None

4. **Hazardous Materials:** ☐ None What did the line/equipment last contain?

5. **Special Protection Required:** ☐ None ☐ Forced Air Ventilation

☐ Avoid Skin Contact ☐ Gloves _____ ☐ Suit _____

☐ Goggles or Face Shield ☐ Respirator _____ ☐ Safety Harness

☐ Self Contained Breathing Equipment ☐ Hoseline Breathing Equipment

☐ Other, specify: _____ ☐ Standby - Name: _____

6. **Fire Protection Required:** ☐ None ☐ Portable Fire Extinguisher ☐ Fire & Nozzle ☐ Fire Watch ☐ Other, specify:

7. **Condition of Area and Equipment**

Required Yes	Required No	THESE KEY POINTS MUST BE CHECKED
		a. Lines disconnected & blinded or where disconnecting is not possible, blinds installed? (Includes drains, vents and instrument leads) and appropriate valves locked out?
		b. Equipment cleaned, washed, purged, ventilated?
		c. Low voltage or GFI protected electrical equipment provided?
		d. Explosion proof electrical equipment provided?
		e. Life line required to be attached to safety harnesses?

Comments:

8. **Approval**

	Permit Authorization			Permit Acceptance		
	Date	Time	Area Supervisor	Maint./Contractor Supv./Engineer	Date	Time
Issued by						
Endorsed by						
Endorsed by						
Endorsed by						

9. **Individual Review**

I have been instructed on proper Safety Procedures and proper Confined Space Entry Procedures. I have signed in on the appropriate Master Card and have affixed personal locks on energy isolation devices as appropriate.

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

Signature of all personnel covered by this permit.

Forward to Production Superintendent 7 days after completion of work.

Sample Permit Required Confined Spaces Form

Date _____

Supervisor's Signature _____

The following is a list of the Permit Required confined spaces and the associated hazards.

(If none, state none)

Location (No.)	Resulting Danger*
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

*Can be listed as asphyxiation, toxic, engulfment, mechanical, etc.

Sample Confined Space-Entry Permit

Date and Time Issued: _____ Date and Time Expired _____
Job Site/Space I.D.: _____ Job Supervisor: _____
Equipment to be worked on: _____ Work to be performed: _____
Stand-by Personnel: _____

1. Atmospheric Checks: Time_____ Oxygen_____%
   Explosive_____%L.F.L. Toxic_____PPM

	N/A	Yes	No
2. Tester's Signature:			
3. Source isolation (No Entry)			
Pumps or lines blinded, disconnected, blocked	( )	( )	( )
4. Ventilation Modification:			
Mechanical	( )	( )	( )
Natural Ventilation Only	( )	( )	( )

5. Atmospheric check after isolation and ventilation:
   Oxygen _____%>19.5%
   Explosive_____%L.F.L.<10.0%
   Toxic_____PPM <10 PPM H_2S
   Time _____

6. Communication Procedures:_____

7. Rescue Procedures:_____

8. Entry, standby and back-up persons:	N/A	Yes	No
Successfully completed required training?	( )	( )	( )
Is it current?	( )	( )	( )

9. Equipment:			
Direct reading gas monitor-tested	( )	( )	( )
Safety harnesses and lifelines for entry and standby persons	( )	( )	( )
Hoisting equipment	( )	( )	( )
Powered communications	( )	( )	( )
SCBA's for entry	( )	( )	( )
Protective clothing	( )	( )	( )
All electric equipment listed Class 1, Division 1, Group D and non-sparking tools	( )	( )	( )

10. Periodic Atmospheric Tests:

Oxygen _____% Time _____	Oxygen _____% Time _____
Oxygen _____% Time _____	Oxygen _____% Time _____
Explosive _____% Time _____	Explosive_____% Time _____
Explosive _____% Time _____	Explosive_____% Time _____
Toxic _____% Time_____	Oxygen _____% Time _____
Oxygen _____% Time_____	Oxygen _____% Time _____

We have reviewed the work authorized by this permit and the information contained herein. Written instructions and safety procedures have been received and are understood. Entry cannot be approved if any squares are marked in the "No" column. This permit is not valid unless all appropriate items are completed.

Permit and Check List Prepared By: (Supervisor)_____
Approved By: (Unit Supervisor)_____
Reviewed By: (Confined Space Operations Personnel) (Printed Name & Signature

_____ _____

This permit to be kept at job site. Return job site copy to Safety Office following job completion

PERMIT REQUIRED CONFINED SPACE ENTRY

Entry into any permit required confined space shall be conducted based upon the requirements of the "Confined Space Entry Permit". The permit included in this procedure shall be completed and all applicable items noted shall be in place before work in the space begins.

CONTRACTORS

No contractor shall be permitted to enter or work in a permit required confined space on any Hendrick Construction, Inc. site until company Superintendent has been advised of their presence and intended work. At that time, training shall be conducted to include:

1. Information about permit spaces including hazards identified and experience in the particular space
2. Apprise the contractor of precautions and procedures for work in or around permit spaces
3. Coordinate entry operations
4. Permit required confined space entry procedures as outlined in this program or their own permit required space entry procedure

Once the contractor has concluded their entry operations and required work in the space, the contractor shall be debriefed regarding the permit space program and any hazards confronted or created in permit spaces during entry operations.

TRAINING

Prior to any work in permit required spaces, the following training shall be conducted to include:

1. Entry Supervisor:
    a. All items to be listed on Entry Permit
    b. Authorizing entry
    c. Overseeing entry
    d. Terminating entry
2. Entrants:
    a. Use of any and all needed equipment
    b. Communication with attendants
    c. Alert attendant when a warning symptom or other hazardous condition exists
    d. Symptoms of exposure or warning of an impending hazard
    e. Exit as quickly as possible when warned by attendant

3. Attendant:
    a. Check permits of authorized entrants
    b. Prevent entry by those without a permit
    c. Maintain a continuous count of those in confined space
    d. Monitor activity in the confined space

    e. Remain outside the confined space until relieved If necessary, attendant will:
        1. Order everyone to exit the confined space
        2. Contact rescuers
        3. Perform non-entry rescue

* Attendants shall not perform any other duty that will interfere with the duties above*

RESCUE SERVICES

On work sites where the owner maintains an on-site rescue squad, this team will be used first. If an outside service is to be used, this service shall be notified by the Entry Supervisors prior to work beginning in the space. The outside rescue service will be given the opportunity to examine the confined space in order to establish a rescue plan prior to work beginning. This service will be informed of the work hours when employees will be in the space and the fastest way they can be contacted if needed.

If the space permits, all work done in IDLH atmospheres and/or where air supplied respirators are worn, all entrants shall wear full body harnesses with life lines attached. Any space deeper than five (5) feet requires the use of a mechanical lifeline for rescue purposes.

TRAFFIC CONTROL

GENERAL

Road construction poses safety problems not often encountered in other types of construction. Contractors should take the appropriate safety measures necessary to protect motorists, pedestrians, workers, equipment, materials, and public utilities.

TRAFFIC VOLUME

In order to plan for job site safety, contractors should know the approximate volume and composition of the traffic. Advance notice to the public about the construction project may also help reduce traffic volume.

Traffic approaching a work zone may have to slow or stop intermittently. It is important to know the traffic work zone speeds that will be encountered. The conditions which could be encountered should be determined by a job site visit. Limitation on sight distance, complicated intersections, and distracting or confusing roadside conditions should all be factors in planning for safety. Local law enforcement agencies frequently assist contractors with traffic control.

TRAFFIC CONTROL

Traffic control requirements vary from state to state. Traffic control design frequently requires the expertise of traffic control engineers. Contact the contracting agency in order to determine which regulations are appropriate for the work zone as well as reviewing the latest Manual on Uniform Traffic Control Devices (MUTCD).

Traffic control regulations will provide the specific requirements regarding:

- warning devices
- directional devices
- traffic signs
- lighting and marking devices
- barricades and fences
- flagging and signaling
- other pertinent requirements

The operation of construction equipment may be distracting to motorists. The travel paths for construction equipment should be separated from the travel paths for traffic where possible. Construction equipment should never travel adjacent to traffic traveling in the opposite direction unless there is a physical barrier.

Advance warning signs and/or a flagger should be established at any point where construction equipment crosses a traffic path. The flagger should have the authority to direct the actions of the construction vehicles as well as the motorists.

URBAN CONSTRUCTION

In urban areas, keep interference with traffic at a minimum. The following may be considered.
Store materials and equipment off-site at temporary storage yards or on adjacent minor streets.
Promptly remove spoil material.

Increase night and off-peak work activity on road ways opened to traffic during the morning and evening rush hours.

Adequate lighting should be provided on urban construction projects. Where feasible, conventional electric lights should be used. Barricades and obstructions in the vehicle path should be clearly visible.

TRAFFIC CONTROL DEVICE REMOVAL

Dismantling of road construction work zones should be performed in accordance with the contracting agency's requirements.

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!!Refer to the latest Manual of Uniform Traffic Control Devices and State Flagging Programs!!

PUBLIC PROTECTION
A SUMMARY OF ANZI Al 0.34

Program
This written policy addresses the Public Hazard Control Plan practices of Hendrick Construction, Inc. employees and subcontractors. The Public Hazard Control Plan shall be reviewed and updated as new Hazards are identified or created in site specific format.

Responsibilities
It shall be the responsibility of the Superintendent to develop a Public Hazard Control Plan to address the Hazards that may affect the Public. The Public Hazard Control Plan shall be developed from these core components.

Site Policy or Program - A statement/program which obligates all parties involved in the Project to protect the Public.

Responsibilities - The Contractors shall coordinate their efforts and actions to protect the Public.

It shall be the responsibility of HCI's Project Manager and Superintendent to ensure that the Contractors take appropriate actions to protect the Public.

It shall be the responsibility of the Project Constructor to ensure that each Contractor takes actions to communicate and train its employees with regards to the Contractor's responsibilities.

The Public Hazard Control Plan shall address the need for monitoring and inspection.

Accident Investigations - A qualified person or their designee shall conduct and coordinate accident investigations at the jobsite.

Timeliness - The Project Manager and Superintendent has an obligation to evaluate each Contractor'(s) planned activity for its impact on the Public. This evaluation shall be undertaken at the time construction is being planned, when contracts are being finalized and as necessary during construction project.

When a Hazard is identified, appropriate actions to abate the hazard shall be devised and implemented.

Community Relations Designee(s) - It shall be the responsibility of the Project Manager and/or Superintendent to respond to Public inquiries or complaints related to the construction depending on level of sensitivity. The name of the designated individual(s) shall be noted in the Public Hazard Control Plan.

Coordination with Authorities - Public Hazard Control Plans shall be communicated with appropriate Authorities.

The Public Hazard Control Plan shall consider the following Hazards:

Noise - Construction activities that produce noise levels above the local jurisdiction permissible levels shall be identified and appropriate action taken to minimize Public exposure.

Sudden or loud impact noises may startle or present a hazard, appropriate actions to notify the Public shall be taken.

When sudden or continuous noise may interfere with other warnings, such as back-up alarms or horns, or where traffic control or emergency vehicle response is affected, appropriate actions shall be taken to notify the Public. These appropriate actions may include visual signals, warning signs, barricades and/or flagpersons, and shall be deployed in addition to the audible warnings.

Dust, Fumes, Mists, Smoke, Vapors - Operations which produce airborne contaminants that may present a hazard to the Public shall be controlled. Plan for how they will be controlled or removed.

Traffic Hazards - Construction operations interacting with the Public or taking place above or adjacent to vehicular, pedestrian, maritime, rail or air traffic (traffic) areas shall be addressed. Specifically durations, peak times, and abatement of hazards regarding traffic.

When roadways or walkways are disturbed by the Construction, and/or temporary covers or bridges are used to allow traffic to flow or be rerouted, such covers or bridges shall be of sufficient size to support the loads that may be imposed and shall be secured to prevent shifting or movement. Supporting structures or ground under and around temporary covers or bridges shall be evaluated for ability to withstand the imposed loading by a Qualified person. Shoring and/or reinforcement shall be put in place prior to opening the area for Public access, whenever shoring, reinforcement or other support is indicated. The condition of the temporary structures shall be maintained to prevent Hazards.

Additional care is required in high-speed or high congestion traffic areas including but not limited to additional and/or larger notices or warnings, signage, barricades, marker buoys, etc., use of flagpersons, movement of warnings further from the area involved to give enough advanced warning, or other means to give adequate notice of the Hazard.

Consideration shall be given to access by emergency vehicles both to the jobsite and along the Public access areas where Construction may impact vehicle access. Prior notification and planning shall be undertaken with all affected emergency agencies to advise them of access to the jobsite.

Jobsites arrangements shall be made for prompt clean-up of any debris on public ways.

Pedestrian Hazards - At all times during the construction, those areas designated for pedestrian traffic shall be clearly delineated. They shall be maintained so that Hazards that may cause slipping, tripping or falling are minimized. Non-level surfaces, especially when not clearly observable, shall be marked with high visibility signs or notices. Stairs or ramps shall have hand-rails on both sides. Elevated areas shall have standard guardrails or equivalent.

Where pedestrian areas are closed, notice shall be given and access provided to suitable and safe alternative areas. Where necessary, clear markings showing the expected path the Public shall take shall be installed.

Contractors shall monitor means of ingress and egress to be used by the Public to make certain operations do not block stairways, doors, entrances, exits, paths, hallways, etc.

Specific consideration shall be given to emergency evacuation of buildings, structures, and jobsites and the effect that the Construction project may have on such evacuation.

Lighting - Lighting on the jobsite that may illuminate or project to areas off the jobsite shall be directed so to not create a hazard or nuisance.

Walking surfaces and other public areas affected by the construction project shall be adequately illuminated.

Machinery and Vehicles - Contractors utilizing cranes, vehicles, machinery, ships, vessels, barges, boats, aircraft or other mobile equipment or devices shall conduct an initial and periodic inspection on the equipment. Adequate barricades, shields, guards, alarms, signs, markings and safety systems shall be provided and or installed on all equipment.

When machinery, ships, vessels, barges, boats, aircraft and vehicles require special licenses or permits or operator training before being used, the Contractor shall secure or provide these prior to working with that equipment at the jobsite.

Areas accessible to the Public that have any mobile equipment that is accessible to the Public shall be properly barricaded or guarded prior to and during the operation of such machinery or equipment. Appropriate warning signs, fencing, barricading or personnel shall be placed a sufficient distance from such area and in a timely fashion to ensure that the Public cannot inadvertently enter the area.

Where loads are hoisted or where other overhead Hazards exist a clear area below sufficient to prevent Hazards to the Public shall be barricaded to prevent inadvertent access by the Public.

Where ambient noise or noise from construction operation makes it difficult to hear warnings or signals given by mobile equipment, ships, vessels, boats and aircraft such warnings or signals shall be increased in decibels so they can be heard over other sounds. If this is inappropriate or impractical, visual signals shall be established to protect the Public from such operation. Visual or radio contact shall be maintained between the mobile equipment operators and the designated persons providing protection or signals. Spotters for equipment operators, trucking, etc. can be used as alternative to ensure safety of workers and public.

Falling Objects/Windblown Objects - Barriers, catch platforms, enclosures, perimeter debris netting, vertical debris netting or other administrative or engineering controls must be employed to prevent any construction object or debris from reaching or creating a Hazard to the Public.

Public areas adjacent to jobsite shall be protected by sheds, overhangs, platforms, scaffolding or similar structures with sufficient structural strength to reduce Hazards to pedestrians from falling objects or debris.

Effort should be made to prevent construction material, tools, debris, waste, equipment or other items propelled or entering Public areas (such as by wind, water or contact with other operations) by ensuring that they are contained, secured, tied-off, removed, braced, enclosed, restrained, etc. in such a way as to prevent such objects from falling or being picked up by the wind.

Security - Measures to prevent the public from access to the jobsite shall be established.

Where control of access is not practicable, locking, barricading or removal of equipment, supplies, material, access ways or other items that pose a Hazard shall be undertaken.

The need for security systems or personnel during or after work hours to ensure that the Public cannot gain access to the jobsite shall be considered.

A list of personnel with authorization to access the jobsite during non-work hours shall be provided to applicable Authorities and security personnel.

All security plans shall be communicated to local enforcement Authorities including the list of personnel responsible to respond to assist such Authorities. Such list shall be periodically updated or affirmed.

Pollution - Construction operations that generate waste, debris, byproducts, or other contaminants that can be carried to adjacent areas which could result in pollution, degradation, or contamination shall be evaluated and such activity/operation shall be controlled to eliminate the problem.

Project waste shall only be moved to such facilities that are licensed, certified, or otherwise qualified to accept waste and process it in an approved manner.

Water-borne run-off or contaminants which can be carried to any municipal storm sewer system shall be evaluated. Where run-off may pose a pollution Hazard, actions to control the contaminants shall be taken.

On site sanitation facilities shall be provided for Non-sewered Waste-disposal Systems-Minimum Requirements.

Utilities - The location of all utilities including but not limited to water, gas, electric, steam, hydraulic, sewer, fuel oil, air, hydraulics shall be established as soon as possible prior to the starting of construction by a Qualified person. This information shall be communicated in the project documents to all effected Contractors. Markings and other identifiers shall be placed wherever possible as a visual warning to all who may inadvertently come into contact with such utilities.

The location of utilities shall be marked on drawings at start of project. New utilities placed or old utilities deactivated shall be updated on a continuing basis during the course of the project.

In all cases the Public shall be protected from contact with or exposure to any hazard presented by utilities.

Hazardous Materials and Substances - Materials which are considered hazardous which are stored at a Project shall be stored away from public in approved, properly labeled containers. Storage buildings or facilities shall be constructed and located away from the Public. Storage areas shall be posted with warning signs. Emergency response personnel shall be furnished with information regarding the location, quantity, and type of materials or substances which are stored at the Project and provided with material safety data sheets (MSDS) and/or safety data sheets (SDS) as requested. (Rev 5/2017)

Injuries/Damage - Any injury or damage to the Public observed or brought to the attention of any member of the workforce shall immediately be assessed for severity and secure medical help. Appropriate action shall be taken to minimize further injury or damage as needed.

The area where the injury or damage occurred shall be secured to prevent intrusion or disruption by any member of the workforce until proper investigation, and documentation has taken place.

Vibrations and Subsidence - Construction operations that produce ground or air vibration or could result in subsidence of adjacent land, trenches, or structures shall be analyzed and means taken to prevent damage or injury. Operations such as pile driving, dewatering, vibrating, blasting, drilling, hammering, trenching, excavating, pounding, wrecking/collapsing, placement or extraction of sheeting, heavy equipment traffic, rail traffic, compressed air or steam releases are examples. Before the start of any construction activity in the proximity of building structures or land that could be affected by such operations, a pre-operations survey of the surrounding area, structures, and appurtenances shall be

completed. At a minimum, visual survey with recorded findings shall be completed of the outside of all structures and the inside where possible, with photographs taken whenever possible. Apparent weaknesses or deterioration in structures, facility, or land shall be conveyed prior to the start of construction.

When warranted, structural and geological investigation shall be made to ensure that operations will not cause subsidence to adjacent structures. Excavation shall be shored or otherwise protected to assure protection to adjacent Public property.

Periodic monitoring of adjacent roadways, waterways, airways, sidewalks, buildings and utilities shall be undertaken during construction operations.

Periodic monitoring visual inspection during construction operations shall be performed to ensure that any changes, subsidence or damage as a result from construction operations are detected.

In public areas all excavations, cuts, and trenches shall be backfilled with approved material and properly tamped and compacted as soon as possible.

Emergency Action Plan - An emergency action plan(s) shall be incorporated as part of the *Public Hazard Control Plan* to delineate actions to be taken and responsibilities in the event of an emergency such as flood, chemical spill or leak, fire, electrical outage, collapse, fatality or a multiple injury accident, fatality, serious inclement weather, or catastrophe.

Personnel on the jobsite shall be instructed as to the emergency procedures that are to be undertaken in the event an emergency arises involving or affecting the Public.

Public Contempt or Protest - A plan for dealing with a member of the Public who purposely places themselves or others at risk by failing to observe or heed warnings shall be established. This may require notification to agencies with authority to control Public activity (such as police, Coast Guard, F.A.A.) and cessation of any work that may cause a hazard.

MOTOR VEHICLE SAFETY

Introduction
Hendrick Construction, Inc. is dedicated to the protection of its employees from on the job injuries as a result of potential hazards associated with all modes of motor vehicle operation.

General Motor Vehicle Safety Rules
Do not take chances. To arrive safely is more important than to arrive on time.

Drivers should be mentally and physically rested.

Consuming alcoholic beverages while driving, or driving while under the influence of alcohol or restricted drugs, is prohibited. Infraction is grounds for immediate dismissal.

Drivers must have a valid driver's license for the type of vehicle operated, and have license(s) in their possession at all times while driving.

All drivers should be familiar with the traffic laws in the states in which they will operate.

Speed shall never be faster than a rate consistent with existing speed laws and road, traffic and weather conditions. Posted speed limits must be obeyed.

Slow down and watch for children in school zones.

Seat belts should be worn by drivers and passengers at all times.

Check your vehicle daily before each trip, and check the vehicle visually each time before driving. Check lights, tires, brakes, and steering particularly. An unsafe vehicle should not be operated until repairs are made.

Drivers must report all arrests and traffic convictions to their company. Repeated traffic convictions or failure to report traffic accidents or convictions may result in disciplinary action.

Drivers should make regular inspections of their vehicles. Inspections should include steering, brakes, mirrors, lights, horn, tires, and windshield wipers. Any special safety items, such as back-up alarms, should also be checked. Drivers should report all defects to their supervisor. Repairs should be made immediately.

Loading
No person should be permitted to remain in or on a truck being loaded by excavating equipment or cranes.

Material being loaded should be within the safe weight limits for the truck being used.

Loads projected over the end of the truck should be marked with a red flag and lighted at night.

Loose materials should be secured and covered to prevent them from flying out of the vehicle while moving. (Rev 5/2017)

Operating

Trucks operated on public highways should conform to the weight and clearance limitations of bridges, power lines, overhead structures, and other restrictions.

All operators shall be required to stay within posted speed limits at all times.

Off-highway operation may require extra precautions to prevent shifting of the load while crossing rough terrain.

A truck should be backed under the direction of a signal-person if the operator cannot clearly see the area to the rear of the vehicle. If a truck is not equipped with an automatic backup alarm then signal person shall be utilized.

Windshields and mirrors should not have obstructed views. Windshield mirrors and lights should be kept clean.

Roads

Construction roads shall be maintained in safe operating condition at all times. Construction roads should be wide and should not have sharp curves and changes in grade. Truck traffic should be routed to avoid cross-traffic and pedestrian crossings whenever possible.

Transporting Personnel

No workers are permitted to get on or off a moving truck at any time.

Workers are required to ride within the space provided. They shall never ride on running boards, fenders, bumpers, or on top of cabs.

DRUG AND ALCOHOL ABUSE POLICY

POLICY

Hendrick Construction, Inc. has a vital interest in maintaining a safe, healthy, and efficient working environment. Being under the influence of a drug or alcohol on the job poses serious safety and health risks to the user and to all those who work with the user. The use, sale, purchase, transfer, or possession of an illegal drug or alcohol in the workplace is strictly prohibited.

HCI recognizes its obligations for the provision of services that are free of the influence of illegal drugs and alcohol.

HCI has the right and obligation to maintain a safe, healthy, and efficient workplace for all of its employees, and to protect the organization's property, information, equipment, operations and reputation.

HCI further expresses its intent through this policy to comply with federal and state rules and regulations that relate drug and alcohol free workplace.

As a condition of employment, all employees are required to abide by the terms of this policy and to notify HCI management of any infraction in the workplace.

PURPOSE

This policy outlines the goals and objectives of the Hendrick Construction, Inc. drug and alcohol testing program and provides guidance to supervisors and employees concerning their responsibilities for carrying out the program.

SCOPE

This policy applies to all departments, all employees and all job applicants. The term employee includes contracted employees.

DEFINITIONS

Alcohol: Any beverage that contains ethyl alcohol (ethanol), including but not limited to beer, wine and distilled spirits.

Company premises or company facilities: All property of HCI including, but not limited to, the offices, facilities and surrounding areas on Hendrick-owned or -leased property, parking lots, storage areas, and jobsites. The term also includes Hendrick-owned or -leased vehicles and equipment wherever located.

Contraband: Illegal drugs and alcoholic beverages, drug paraphernalia, lethal weapons, firearms, explosives, incendiaries, stolen property, counterfeit money, untaxed whiskey, and pornographic materials.

Drug Testing: The scientific analysis of urine, blood, breath, saliva, hair, tissue, and other specimens of the human body for the purpose of detecting a drug or alcohol.

Illegal Drug: Any drug which is not legally obtainable; any prescribed drug not legally obtained; any prescribed drug not being used for the prescribed purpose; any over-the-counter drug being used at a dosage level other than recommended by the manufacturer or being used for a purpose other than

intended by the manufacturer; and any drug being used for a purpose not in accordance with bona fide medical therapy. Examples of illegal drugs are cannabis substances, such as marijuana and hashish, cocaine, heroin, methamphetamine, phencyclidine (PCP), and so-called designer drugs and look-alike drugs.

Legal Drug: Any prescribed medication or over-the-counter medication that has been legally obtained and is being used for the purpose for which prescribed or manufactured.

Reasonable belief: A belief based on objective facts sufficient to lead a prudent person to conclude that a particular employee is unable to satisfactorily perform his or her job duties due to drug or alcohol impairment. Such inability to perform may include, but not be limited to, decreases in the quality or quantity of the employee's productivity, judgment, reasoning, concentration and psychomotor control, and marked changes in behavior. Accidents, deviations from safe working practices and erratic conduct indicative of impairment are examples of "reasonable belief" situations.

Under the Influence: A condition in which a person is affected by a drug or by alcohol in any detectable manner. The symptoms of influence are not confined to those consistent with misbehavior, or to obvious impairment of physical or mental ability, such as slurred speech or difficulty in maintaining balance. A determination of being under the influence can be established by a professional opinion, a scientifically valid test, such as urinalysis or blood analysis and in some cases by the opinion of a layperson.

EDUCATION

Supervisors and other management personnel are to be trained in:

a. Detecting the signs and behavior of employees whom may be using drugs or alcohol in violation of this policy;
b. Intervening in situations that may involve violations of this policy;
c. Recognizing the above activities as a direct job responsibility.

Employees are to be informed of:

a. The health and safety dangers associated with drug and alcohol use;
b. The provisions of this policy.

PROHIBITED ACTIVITIES

Legal Drugs

A. The *undisclosed* use of any legal drug by any employee while performing work for or on the premises of HCI is prohibited. However, an employee may continue to work even though using a legal drug if such use does not pose a threat to safety and the employee's job performance is not significantly affected. Otherwise, the employee may be required to take leave of absence or comply with other appropriate action as determined by HCI management.

B. An employee whose medical therapy requires the use of a legal drug must report such use to his or her supervisor prior to the performance of HCI business.

C. Hendrick Construction, Inc. at all times reserves the right to judge the effect that a legal drug may have on job performance and to restrict the using employee's work activity or presence at the workplace accordingly.

Illegal Drugs and Alcohol

The use, sale, purchase, transfer, or possession of an illegal drug or of alcohol by any employee while on HCI premises or while performing HCI business is prohibited.

DISCIPLINE

Any employee who possesses, distributes, sells, attempts to sell, or transfers illegal drugs on HCI premises or while on HCI business will be subject to discharge.

Any employee who is found to be in possession of or under the influence of alcohol in violation of this policy will be subject to discharge.

Any employee who is found to be in possession of contraband in violation of this policy will be subject to discipline up to and including discharge.

Any employee who is found through drug or alcohol testing to have in his or her body a detectable amount of an illegal drug or of alcohol will be subject to discipline up to and including discharge. Depending on the circumstances of the case, the employee may be offered a one-time opportunity to enter and successfully complete a rehabilitation program. During rehabilitation, the employee will be subject to unannounced drug or alcohol testing. Upon return to work from rehabilitation, the employee will be subject to unannounced drug or alcohol testing for a period of 60 months. Any test that is confirmed as positive during or following rehabilitation will result in discharge.

DRUG AND ALCOHOL TESTING OF JOB APPLICANTS

All applicants for employment, including applicants for part-time and seasonal positions and applicants who are former employees are subject to drug and alcohol testing.

An applicant must pass the drug test to be considered for employment. An applicant will be notified of HCI drug and alcohol testing policy prior to being tested. An applicant will be informed in writing of his or her right to refuse such testing; and will be informed that the consequence of refusal is termination of the pre-employment process.

An applicant will be provided written notice of this policy and by signature will acknowledge receipt and understanding of the policy.

If evidence of the use of illegal drugs or alcohol by an applicant is discovered, either through testing or other means, the pre-employment process will be terminated.

DRUG AND ALCOHOL TESTING OF EMPLOYEES

Hendrick Construction, Inc. will notify employees of this policy by:

a. Providing to each employee a copy of the policy, and obtaining a written acknowledgment from each employee that the policy has been received and read.
b. Announcing the policy in various written communications and making presentations at employee meetings.

Hendrick Construction, Inc. may perform drug or alcohol testing:

a. Of any employee who manifests “reasonable belief” behavior.
b. Of any employee who is involved in an accident that results or could result in the filing of a Workers’ Compensation claim.
c. On a random basis of any employee.

d. Of any employee who is subject to drug or alcohol testing pursuant to federal or state rules, regulations or laws.

An employee's consent to submit to drug or alcohol testing is required as a condition of employment and the employee's refusal to consent may result in disciplinary action, including discharge.

An employee who is tested in a "reasonable belief" situation may be suspended pending receipt of written test results and whatever inquiries may be required.

APPEAL OF A DRUG OR ALCOHOL TEST RESULT

An applicant or employee whose drug or alcohol test reported positive will be offered the opportunity of a meeting to offer an explanation. The purpose of the meeting will be to determine if there is any reason that a positive finding could have resulted from some cause other than drug or alcohol use.

An employee whose drug or alcohol test is reported positive will be offered the opportunity to:

a. Obtain and independently test, at the employee's expense, the remaining portion of the urine specimen that yielded the positive result;
b. Obtain the written test result and submit it to an independent medical review at the employee's expense.

The employee may use Hendrick Construction, Inc. medical benefits, to the extent that coverage may apply, for meeting the costs of the above.

During the period of an appeal and any resulting inquiries, the pre-employment selection process for an applicant will be placed on hold, and the employment status of an employee may be suspended. An employee who is suspended pending appeal will be permitted to use any available annual leave in order to remain in an active pay status. If the employee has no annual leave or chooses not to use it, the suspension will be without pay.

REHABILITATION AND EMPLOYEE ASSISTANCE

Rehabilitation assistance in lieu of discharge may be offered:

a. To any employee, who has requested rehabilitation assistance, provided that the request is unrelated to an identification of the employee as a violator of this policy.
b. To any employee who has violated this policy, provided that the violation does not involve selling or transferring illegal drugs, or serious misconduct.

An employee who is in rehabilitation will be suspended, except that--when indicated by the circumstances of the case and the written recommendation of a licensed physician or recognized rehabilitation professional--an employee may be permitted to work while undergoing rehabilitation on an outside-of-work basis. The written recommendation must include a statement to the effect that the employee's presence in the workplace will not constitute a safety hazard to the employee, co-workers or others.

An employee whose rehabilitative therapy involves drug maintenance, hospitalization or detoxification will not be considered for the exception from suspension described above.

An employee who is in rehabilitation or who has completed rehabilitation will be allowed to return to work upon presentation of a written release signed by a licensed physician or recognized rehabilitation professional. The release must include a statement to the effect that the employee's presence in the workplace will not constitute a safety hazard to the employee, co-worker or others.

Rehabilitation assistance given by Hendrick Construction, Inc. will be:

a. Limited to those medical benefits that may be available in the employee's medical benefits plan.
b. Obtained by the employee during times that will not conflict with the employee's work time. The employee may use any available sick leave or annual leave to be absent from the job with pay during rehabilitation.
c.

HCI will provide to any employee, upon request and at no cost to the employee, information concerning local resources that are available for the treatment of drug and alcohol related problems.

INSPECTIONS AND SEARCHES

Hendrick Construction, Inc. may conduct unannounced general inspections and searches for drugs or alcohol on HCI premises, HCI vehicles and equipment wherever located. Employees are expected to cooperate.

Search of an employee and his or her personal property may be made when there is reasonable belief to conclude that the employee is in violation of this policy.

An employee's consent to a search is required as a condition of employment, and the employee's refusal to consent may result in disciplinary action, including discharge, even for a first refusal.

Illegal drugs, drugs believed to be illegal, and drug paraphernalia found on HCI property will be turned over to the appropriate law enforcement agency and the full cooperation given to any subsequent investigation. Substances that cannot be identified as an illegal drug by a layman's examination will be turned over to a forensic laboratory for scientific analysis.

Other forms of contraband, such as firearms, explosives, and lethal weapons, will be subject to seizure during an inspection or search. An employee who is found to possess contraband on HCI property or while on HCI business will be subject to discipline up to and including discharge.

If an employee is the subject of a drug-related investigation by HCI or by a law enforcement agency, the employee may be suspended pending completion of the investigation.

CONFIDENTIALITY

All information relating to drug or alcohol testing or the identification of persons as users of drugs and alcohol will be protected by HCI as confidential unless otherwise required by law, overriding public health and safety concerns, or authorized in writing by the persons in question.

SUPERVISOR'S CHECKLIST FOR MAKING REASONABLE CAUSE DETERMINATION

Employee's name_____
Department_____
Date(s)_____

KNOWING THE SIGNS

The indicators listed below are "warning signs" of drug and/or alcohol abuse and may be observed by supervisors:

Moods:
Depressed
Anxious
Irritable
Suspicious
Complains about others
Emotional unsteadiness (e.g., outbursts of crying)
Mood changes after lunch or break

Actions:
Withdrawn or improperly talkative
Spends excessive amount of time on the telephone
Argumentative
Has exaggerated sense of self-importance
Displays violent behavior
Avoids talking with supervisor regarding work issues

Absenteeism:
Acceleration of absenteeism and tardiness, especially Mondays, Friday, before and after holidays
Frequent unreported absences, later explained as "emergencies"
Unusually high incidence of colds, flu, upset stomach, headaches
Frequent use of unscheduled vacation time
Leaving work area more than necessary (e.g., frequent trips to water fountain and bathroom)
Unexplained disappearances from the job with difficulty in locating employee
Requesting to leave work early for various reasons

Accidents:
Taking of needless risks
Disregard for safety of others
Higher than average accident rate on and off the job

Work Patterns:
Inconsistency in quality of work
High and low periods of productivity
Poor judgment/more mistakes than usual and general carelessness
Lapses in concentration
Difficulty in recalling instructions
Difficulty in remembering own mistakes
Using more time to complete work/missing deadlines
Increased difficulty in handling complex situations

Relationship to Others on the Job:

Overreaction to real or imagined criticism (paranoid)
Avoiding and withdrawing from peers
Complaints from co-workers
Borrowing money from fellow employees
Persistent job transfer requests
Complaints of problems at home such as separation, divorce and child discipline problems

OBSERVING AND DOCUMENTING CURRENT INDICATORS

Patterns of any of the above conduct or combinations of conduct may occur but must be accompanied by indicators of impairment in order to establish "reasonable cause." Please check all indicators listed below that are **currently** present:

____ Constricted pupils
____ Dilated pupils
____ Scratching
____ Red or watering eyes
____ Involuntary eye movements
____ Sniffles
____ Excessively active
____ Nausea or vomiting
____ Flushed skin
____ Sweating
____ Yawning
____ Twitching
____ Violent behavior
____ Drowsiness
____ Odor of alcohol
____ Nasal secretion
____ Dizziness
____ Muscular incoordination
____ Unconsciousness
____ Inability to verbalize
____ Irritable
____ Argumentative
____ Difficulty concentrating
____ Slurred speech
____ Bizarre behavior
____ Needle marks

____ Possession of paraphernalia (such as syringe, bent spoon, metal bottle cap, medicine dropper, glassine bag, paint can, glue tube, nitrite bulb, or aerosol can)

____ Possession of substance that appears to possibly be a drug or alcohol

____ Other _____
_____
_____

DETERMINING REASONABLE CAUSE

If you are able to document one or more of the indicators above, ask yourself these questions to establish reasonable cause:

Y N

[ ] [ ] Has some form of impairment been shown in the employee's appearance, actions or work performance?

[ ] [ ] Does the impairment result from the possible use of drugs or alcohol?

[ ] [ ] Are the facts reliable? Did you witness the situation personally, or are you sure that the witness(es) are reliable and have provided firsthand information?

Y N
[ ] [ ] Are the facts capable of explanation?

[ ] [ ] Are the facts capable of documentation?

[ ] [ ] Is the impairment current, today, now?

Do NOT proceed with reasonable cause testing unless all of the above questions are answered with a YES.

TAKING ACTION

____ Reasonable cause established

____ Reasonable cause NOT established

Prepared by:

Supervisor's/Manager's Signature:_____

APPLICANT'S CONSENT TO DRUG/ALCOHOL TESTING

I understand it is the policy of Hendrick Construction, Inc. (HCI) to conduct drug and/or alcohol tests of job applicants for the purpose of detecting drug and/or alcohol abuse. For consideration of employment with HCI it is a requirement to satisfactorily pass the drug and/or alcohol test(s).

For the purpose of being further considered for employment, I hereby agree to submit to a drug and/or alcohol test.

I understand that favorable test results will not necessarily guarantee that I will be employed by Hendrick Construction, Inc.

If I am accepted for employment, I agree to take drug and/or alcohol tests whenever requested by HCI, and I understand that the taking of such tests is a condition of my continued employment.
I also give consent to the testing agency to release to HCI and other officially interested parties the results of my tests.

At this time I consent to a drug and/or alcohol test.

_____

Signature of Applicant Date signed

_____

Printed name of Applicant Signature of witness

EMPLOYEE NOTICE AND ACKNOWLEDGEMENT OF HENDRICK CONSTRUCTION, INC. TESTING REQUIREMENTS

PART 1: NOTICE

This is to inform you that Hendrick Construction, Inc. (HCI) conducts testing to identify job applicants and current employees who may be abusing drugs and/or alcohol.

A copy of HCI's policy on this matter is attached to this notice.

You have the right to refuse testing. However, the consequences of refusal to undergo testing will result in the termination of the pre-employment selection process. Employees who refuse to undergo testing will result in disciplinary action up to and including discharge.

An applicant who fails a test will not be hired, and an employee who fails a test will be subject to disciplinary action up to and including discharge.

Remaining drug-and/or alcohol-free and participation in HCI’s drug and/or alcohol testing program is a condition of continued employment.

PART II: ACKNOWLEDGEMENT

I acknowledge receipt and understanding of the above written notice and agree to abide by the terms of Hendrick Construction, Inc.'s policy pertaining to drugs and alcohol.

_____

Signature Date signed

_____

Printed name Signature of witness

EMPLOYEE NOTICE AND ACKNOWLEDGEMENT FOR TESTING AFTER REHABILITATION

PART 1: NOTICE

Hendrick Construction, Inc. is pleased to learn that you are returning to duty after successfully completing an approved program of drug and/or alcohol rehabilitation.

In accordance with Hendrick Construction, Inc.'s drug-and alcohol-free workplace program, you will be subject to follow-up drug and/or alcohol testing without prior notice for not more than 60 months after return to duty.

This program of follow-up testing will be in addition to the other testing requirements imposed on all employees, such as reasonable cause testing, post-accident testing and random testing.

PART II: ACKNOWLEDGEMENT

I acknowledge receipt, understanding and acceptance of the above written notice.

_____

Signature Date signed

_____

Printed name Signature of witness

Respiratory Protection (Rev 5/2017)

General

In the Respiratory Protection program, hazard assessment and selection of proper respiratory PPE are 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)

NOTE: since the respirator standard 29 CFR 1910.134 was adopted in its entirety from the general industry standard into the construction industry standard much of its language refers to the typical manufacturing or plant operations found in general industry. Therefore, Hendrick Construction Inc. will assess the respiratory requirements by reviewing the contract construction building plans, materials, chemical products, and processes that potentially could become the respiratory hazard. Appropriate measures will then be taken to inform all subcontractors of their requirements to protect their employees from those hazards that could be present in the construction site. It shall be the responsibility of the subcontractor to also have their own respirator program for the protection of their employees.

Responsibilities

All Employees shall follow the requirements of the Respiratory Protection Program.

Management

- implement the requirements of this program;
- provide a selection of respirators as required;
- enforce all provisions of this program; and
- Safety Officer assisted by PinPoint Safety LLC, as the individual to administer the respiratory protection program.
- review sanitation/storage procedures;
- ensure respirators are properly stored, inspected and maintained;
- monitor compliance for this program;
- provide training for affected Employees;
- review compliance and ensure monthly inspection of all respirators; and
- provide respirator fit testing.

Designated Occupational Health Care Provider

- Respirator exams by 3M.

Program Administration

Company Safety Officer, assisted by PinPoint Safety LLC, will be designated as the program administrator who is qualified by appropriate training or experience that is commensurate with the complexity of the program to administer or oversee the respiratory protection program and conduct the required evaluations of program effectiveness.

Voluntary Use of Respirators

OSHA requires that the voluntary use of respirators (i.e., when respirators are not required by the company), be controlled as strictly as if their use were required. So, any employee wearing a respirator voluntarily shall fall under this respiratory protection program, be issued a copy of Appendix D of 1910.134, and fill out a medical questionnaire (Appendix C) and have it evaluated by an appropriate individual. Training will be conducted on the proper storage, cleaning, and maintenance of the respirator. All steps will be taken to ensure that the respirator does not pose a health risk to the person donning it. Exception: Employees whose only use of respirators involves the voluntary use of filtering (non-sealing) face pieces (dust masks, with one OR two straps) do not fall under this program.

Program Evaluation

Evaluations of the workplace are necessary to ensure that the written respiratory protection program is being properly implemented. This 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 and that it continues to be effective.

Program evaluation will include discussions with employees required to use respirators to assess the employees' views on program 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.

Record Keeping

Hendrick Construction, Inc. will retain written information regarding medical evaluations, fit testing, and the respirator program. This information will facilitate employee involvement in the respirator program, assist the Company in auditing the adequacy of the program, and provide a record for compliance determinations by OSHA.

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, or 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; and
- 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; and
- other situation arises in which retraining appears necessary to ensure safe respirator use.

Training will be conducted by instructors who have adequate knowledge of OSHA training requirements. Training is divided into the following sections:

Classroom Instruction

1. Overview of the Company Respiratory Protection Program & OSHA Standard;
2. Respiratory Protection Safety Procedures;

3. Respirator Selection;
4. Respirator Operation and Use;
5. Why the respirator is necessary;
6. How improper fit, usage, or maintenance can compromise the protective effect;
7. Limitations and capabilities of the respirator;
8. How to use the respirator effectively in emergency situations, including respirator malfunctions;
9. How to inspect, put on and remove, use, and check the seals of the respirator;
10. What the procedures are for maintenance and storage of the respirator;
11. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and
12. Change out schedule and procedure for air purifying respirators (APR).

Fit Testing

- For each type and model of respirator used.

Hands-on respirator Training

1. Respirator Inspection;
2. Respirator cleaning and sanitizing;
3. Record Keeping;
4. Respirator Storage;
5. Respirator Fit Check; and
6. Emergencies.

Basic Respiratory Protection Safety Procedures

1. 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.
2. 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 Employees health or physical characteristics will be reported to the program administrator and will be evaluated by a qualified physician.
3. Only the proper prescribed respirator or SCBA may be used for the job or work environment. Air-purifying respirators may be worn in work environments when oxygen levels are 19.5 percent to 23.5 percent and when the appropriate cartridge, (as determined by the manufacturer and approved by NIOSH), 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).
4. Employees working in environments where a sudden release of a hazardous substance is likely will wear an appropriate respirator for that hazardous substance (example: Employees

working in an ammonia compressor room will have an ammonia APR respirator on their person).

5. Only SCBAs will be used in oxygen deficient environments, environments with an unknown hazardous substance or unknown quantity of a known hazardous substance, or any environment that is determined "Immediately Dangerous to Life or Health" (IDLH).
6. Employees with respirators loaned on "permanent check out" will be responsible for the sanitation, proper storage and security. Respirators damaged by normal wear will be repaired or replaced by the Company when returned.
7. The last Employee using a respirator and/or SCBA that is available for general use will be responsible for proper storage and sanitation. Monthly and after each use, all respirators will be inspected with documentation to assure its availability for use.
8. All respirators will be located in a clean, convenient and sanitary location.
9. In the event that Employees must enter a confined space; work in environments with hazardous substances that would be dangerous to life or health should an RPE (Respiratory Protection Equipment) fail (a SCBA is required in this environment); and/or conduct a HAZMAT entry, a "buddy system" detail will be used with a Safety Watchman with constant voice, visual or signal line communication. Employees will follow the established Emergency Response Program and/or Confined Space Entry Program when applicable.
10. Management will establish and maintain surveillance of jobs and work place conditions and degree of Employee exposure or stress to maintain the proper procedures and to provide the necessary RPE.
11. Management will establish and maintain safe operation procedures for the safe use of RPE with strict enforcement and disciplinary action for failure to follow all general and specific safety rules. Standard Operation Procedures for General RPE use will be maintained as an attachment to the Respiratory Protection Program and Standard Operation Procedures for RPE use under emergency response situations will be maintained as an attachment to the Emergency Response Program.

Selection of Respirators

The Company has evaluated the respiratory hazard(s) in each workplace, identified relevant workplace and user factors and has based respirator selection on these factors. Also included are estimates of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form. This selection has included appropriate protective respirators for use in IDLH (Immediate danger to life and health) atmospheres, and has limited the selection and use of air-purifying respirators. All selected respirators are NIOSH certified.

List company air contaminants, estimates of exposure and respirators to be used with those contaminants in this section.

Each individual job site will be evaluated but for silica exposure is the most common respiratory hazard.

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. (Immediate Danger to Life and Health)

The following respirators will 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 user shall ensure that the label is not removed and remains legible. A change out schedule for filters and cartridge has been developed to ensure these elements of the respirators remain effective.

Respirator Filter & Canister Replacement

An important part of the Respiratory Protection Program includes identifying the useful life of cartridges and filters used on air-purifying respirators. Each filter and cartridge 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 the conditions, a change schedule for canisters and cartridges based on objective information or data that will ensure that canisters and cartridges are changed before the end of their service life shall be implemented.

Filter & Cartridge Change Schedule

Stock of spare filers and cartridges shall be maintained to allow immediate change when required or desired by the employee.

Cartridges shall be changed based on the most limiting factor below:

- Prior to expiration date;
- Manufactures recommendations for the specific use and environment;
- After each use;
- When requested by employee;
- When contaminant odor is detected; and
- When restriction to air flow has occurred as evidenced by increase effort by user to breathe normally.

Cartridges shall remain in their original sealed packages until needed for immediate use.

Filters shall be changed on the most limiting factor below:

- Prior to expiration date;
- Manufactures recommendations for the specific use and environment;
- When requested by employee;
- When contaminant odor is detected;
- When restriction to air flow has occurred as evidenced by increase effort by user to breathe normally; and
- When discoloring of the filter media is evident.

Filters shall remain in their original sealed package until needed for immediate use.

Respiratory Protection Schedule by Job and Working Condition

The Company maintains a Respiratory Protection Schedule by Job and Working Condition. This schedule is provided to each authorized and trained Employee. The Schedule provides the following information:

- Job/Working Conditions;
- Work Location;
- Hazards Present;
- Type of Respirator Required;
- Type of Filter/Canister Required;
- Location of Respirator and
- Filter/Cartridge change out schedule.

The schedule will be reviewed and updated at least annually and whenever any changes are made in the work environments, machinery, equipment, or processes or if respirator different respirator models are introduced or existing models are removed.

Permanent respirator schedule assignments are:

Each person who engages in welding will have their own company (subcontractor)provided dust-mist-fume filter APR. This respirator will be worn during all welding operations.

(List others, as appropriate)

Physical and Medical Qualifications

Records of medical evaluations must be retained and made available in accordance with 29 CFR 1910.1020.

Medical evaluation required

Using a respirator may place a physiological burden on employees that varies with the type of respirator worn, the job and workplace conditions in which the respirator is used, and the medical status of the employee. The company provides a medical evaluation to determine the employee's ability to use a respirator, before the employee is fit tested or required to use the respirator in the workplace.

Medical evaluation procedures

The employee will be provided a medical questionnaire by the designated Occupational Health Care Provider or 3M Respirator Exam Service

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.

Administration of the medical questionnaire and examinations

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 Physician.

Supplemental information for the Physician

The following information must be provided to the Physician before the Physician 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; and
- 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 has provided the Physician with a copy of the written respiratory protection program and a copy of the OSHA Standard 29 CFR1910.134.

Medical determination

In determining the employee's ability to use a respirator, the Company shall obtain a written recommendation regarding the employee's ability to use the respirator from the Physician. The 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; and
- 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 an 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 an APR

Additional Medical Evaluations

At a minimum, the Company shall 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, supervisor, or the respirator program administrator 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; and
- A change occurs in workplace conditions (physical work effort, protective clothing, temperature, etc.) 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. The Company shall 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; and
- The pass/fail results for QLFTs or the fit factor and strip chart recording or other recording of the test results for QNFTs.

Additional fit tests will be conducted whenever the employee reports, or the Company, Physician, supervisor, or program administrator makes 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 QLFT or QNFT, the employee notifies the Company, program administrator, supervisor, or Physician 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 retested.

Types of Fit Tests

The fit test shall be administered using an OSHA-accepted QLFT or QNFT protocol. The OSHA-accepted QLFT and QNFT protocols and procedures are contained in Appendix A of OSHA Standard 29 CFR 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.
- **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.
- 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

Respirators will only be used following the respiratory protection safety procedures established in this program. The Operations and Use Manuals for each type of respirator will be maintained by the Program Administrator and be available to all qualified users.

Surveillance by the direct supervisor shall be maintained of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, the Company shall 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; and
- Store respirator such that the face piece is protected.

Face piece seal protection

The Company does not permit respirators with tight-fitting face pieces to be worn by employees who have:

- Facial hair that comes between the sealing surface of the face piece and the face or that interferes with valve function
- Any condition that interferes with the face-to-face piece seal or valve function.

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 the respirator use area:

- 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; and
- To replace the respirator or the filter, cartridge, or canister elements.

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

Procedures for IDLH atmospheres

For all IDLH atmospheres, the Company shall ensure that:

- 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 Company or designee is notified before the employee(s) located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue; and
- The Company or designee authorized to do so by the Company, 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.

Cleaning and Disinfecting

The Company shall provide each respirator user with a respirator that is clean, sanitary, and in good working order. The Company shall ensure that respirators are cleaned and disinfected using the Standard Operating Procedure (SOP): Cleaning and Disinfecting.

The 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; and
- Respirators used in fit testing and training shall be cleaned and disinfected after each use.

Cleaning and Storage of respirators assigned to specific employees is the responsibility of that Employee.

Respirator Inspection

All respirators both available for "General Use" and those on "Permanent Check-out", 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 repaired or replaced. The inspection of respirators loaned on "Permanent Check-out" is the responsibility of that trained Employee.

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; and
- Emergency escape-only respirators shall be inspected before being carried into the workplace for use.

Respirator inspections include the following:

- A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the face piece, head straps, valves, connecting tube, and cartridges, canisters or filters;
- Check of elastomeric parts for pliability and signs of deterioration; and
- Self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be maintained in a fully charged state and shall be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level. The Company shall determine that the regulator and warning devices function properly

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

The Company shall 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;
- 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.
- 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 deg.F (-45.6 deg.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; and
    - Breathing gas containers shall be marked in accordance with the NIOSH respirator certification standard, 42 CFR part 84.