Safety Policy & Procedures



SAFETY POLICY AND PROCEDURES

Table of Contents

Purpose and Scope	6
General	6
Management Responsibilities	6
Management Structure Top Management Personnel Safety Responsibilities General Foreman Ironworkers/Welders Crane Operators	
Drug Testing Policy	
Acknowledgement of Drug Testing Policy and Test Release Authorization	11
Training	
Scope	
Post Employment Training	
Specific Training	
Discipline	14
Scope	14
Discipline Report Form	<u>15</u>
Accident Investigation	16 <u>6</u>
Accidents to be Reported Immediately	16
Procedures for Reporting Accidents	16
Accident Investigation Procedure	17
Report Forms	17
Fall Protection Safety Plan	
Scope	20
Connection Safety	20
Guardrail Systems	21
Temporary Safety Post	21

Anchorage Points Beamers Retractable Lanyards (Yo-yo's) Tie-Off Choker	
Safety Net Systems	
Enforcement	
Control and Protection of Openings Plan	
Scope	
Hole Protection	
Installation of Metal Decking	
Covering of Roof and Floor Openings	
Decking Gaps Around Columns	
Personal Protective Equipment Program	
General	
Personal Protective Equipment (PPE)	
Head Protection	
Hearing Protection Eye and Face Protection	
Respiratory Protection	
Clothing	
Gloves	
Boots Full Body Harnesses	
Shock Absorbing Lanyard	
Beamers	
Sanitation	
Documentation	
Power & Hand Tool Safety	
Power Tools	
Extension Cords/Welding Lead	
Hand Tool Safety	
Confined Space Program	
Scope	
General Information	
Hazard Identification	
Characteristics of a confined space	
Permit Required Confined Spaces	
The Written Confined Space Program	
Lockout/Tag out Program	
General	

Scope	
Responsibility	37
Energy Control Procedures	
Periodic Equipment Inspection	
Scope	
Responsibilities	
General Rules of Equipment Inspection	
Crane Inspection Requirement Documentation	
Equipment Inspections Initial Inspection Daily Inspections Weekly Inspections Monthly Inspections	40 40 41
Preventative Maintenance	42
Motor Vehicles	
Scissor Lift and Boom Lift Safety	
Scissor Lift	43
Boom Lift	43
Rules that Apply to Both Scissor Lifts and Boom lifts	44
Forklift Safety	
General	45
Forklift Operations	45
Job Preparation	
Layout	445
Unloading and Shaking Out	46
Ladders Extension Ladders Step Ladders	47
Scaffolding	
Platforms	49
Lifts	49
Hazardous Areas Potential danger hazards Working at high levels	49
Erection	
Structural Steel Assembly	51
General Contractor Notice to Proceed	51

Plumbing-Up	
Decking	
Anchor Bolts	
Critical Lifts	53
Beams and Columns	53
Open Web Steel Joists Attachment of Joists and Girders	
Erection of Steel Joists	54
Landing and Placing Loads	54
Anchorage Points Beamers	
Retractable Lanyards (Yo-yo's) Tie-Off Choker	
Welding Safety	
Oxygen/Acetylene Torch Safety	
Cranes	57
Rigging	
General	60
Multiple Lifts	60
Inspections	61
Hazard Communication Program	61
Container Labeling	61
Safety Data Sheets (SDS)	
Employee Training and Information	
Hazardous Non-Routine Task	
Informing Contractors	
Jacking Procedures	
Dust, Fumes and Smoke Procedures	
General	
Dust	
Fumes	
Smoke	
Lead Exposure and Abatement Procedure	
General	
Health Hazards of Lead Exposure	
Scope	
~~~r	

Sraining6	6
Exposure to Lead6	57

# **Purpose and Scope**

To ensure the safest and most practical working conditions possible for all employees of Milestone Industrial Welding Services. we are committed to OSHA regulation 1926.20; "A safety program must be implemented and maintained" and OSHA regulation 1926.21 (b)(2) which states: "The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury."

Specialized training programs will be included in the safety program that will meet or exceed OSHA requirements. This program is part of the total commitment by Milestone Industrial Welding Services. management to create a safe and positive work environment for each employee. Individual employee input into the safety program will be actively sought.

# General

#### **Management Responsibilities**

- 1. In order for this safety program to be both effective and efficient within the most positive atmosphere possible, the responsibility for safety must be shared equally by all members of the workforce. The novice employee spending their first day on the job will be just as responsible for jobsite safety as will employees of top management status.
- 2. We will be looking to the individual employee for input and feedback regarding this program's performance. No one knows better than the worker in the field how easy or difficult these rules are to follow. This program is not the final word by any means and will be subject to constant review and change. Any and all practical and constructive ideas regarding improvements in working conditions, employee comfort and safety will be welcomed. All input and criticisms will be reviewed by the owner and will be regarded as confidential information.

#### **Management Structure**

#### **Top Management Personnel**

1. Top management personnel is the Owners and General Foreman.

- 2. Those holding these positions are responsible to initiate programs to protect employees from injury and illness in the workplace.
- 3. They must plan for budgetary considerations regarding funding of the safety program.
- 4. They must require that adequate time and resources are devoted to projects to allow for the proper execution of the safety program.
- 5. They must ensure that adequate funds are allocated for proper equipment and maintenance of equipment for safe operation.
- 6. They are responsible and accountable for the proper execution of these programs, OSHA, workers compensation companies and all employees.
- 7. It is the Owners responsibility for implementing Milestone Industrial Welding Services.'s Safety Policy & Procedures.
- 8. It is the Owners responsibility to stay current with the latest developments in rules and regulations concerning safe work practices. The Owner will also constantly update information on new safety techniques and equipment as technology advances. The Owner will choose weekly safety meeting tool box talks and have them distributed to the foreman each week.
- 9. Regular inspections of all jobsites will be directed mainly at enforcement of existing rules, retraining as necessary, soliciting individual comments, and input to improve the understanding of the safety guidelines.
- 10. During accident/injury investigations the Owner will assemble a safety committee. The injured employee should be present if possible. The committee will investigate the accident scene and discuss possible ways to prevent recurrences.
- 11. Equipment and tools involved in the accident will be inspected to determine their role, if any, in the accident. Defective equipment will be removed and replaced with the proper tools for the job. Any witness to the accident will also be interviewed. The committee's purpose is to uncover facts that will lead to the cause of the accident.
- 12. These facts can be discussed in a positive manner regarding what can be done in the future by management and employees a like to prevent recurrence.
- 13. It is believed that better employee understanding of the need for certain rules and regulations will be brought about through participation in these investigations. The Owner will determine what disciplinary action, if any, will be taken at the end of the investigation.
- 14. Personal contact with individual employees will remain as the single-most important factor in this program's success. It is unlawful for any employee to place themselves or anyone else in a dangerous situation. If an employee ever feels that they are

being asked to expose themselves to an unsafe situation, they have the right to refuse to do so without fear of reprisal and discuss the situation with the foreman and explore alternatives for safer ways to perform the work. If cooperation is not received, contact the Owner and/or the office immediately.

- 15. The Owner will ensure that proper safety measures are planned out prior to start-up of the job.
- 16. Fall protection needs will differ from job to job depending upon the type of structure.
- 17. Hazardous chemical exposure may be unique to certain jobs in which case the Owner will coordinate employees so that training can take place prior to job startup.
- 18. They will also make sure that the foremen are familiar with safety procedures and enforcement regulations.

#### Safety Responsibilities

- 1. Most jobsites will have a 3rd Party Safety Personnel preform Safety Audits. On smaller projects the general foreman will have the duties to maintain a safe work environment.
- 2. The duties of the 3rd party safety manager will be the same as those of the Owner & General Foreman. Jobsite safety and enforcement of polices will be their responsibility.
- 3. Proper record keeping of all actions pertaining to safety on the job site will be included in their report to the owner.
- 4. Responsibility for safety on the site will take precedence over any other duties that Management individual may have on the site.

#### **General Foreman**

- 1. The general foreman will hold weekly safety meetings before work on Monday mornings, and in cases where there will be several foremen on the job, they may consolidate to form one large meeting.
- 2. The general foreman will make sure that their work environment remains as safe as possible at all times. A cleanup crew will be appointed as often as deemed necessary to ensure a clean and uncluttered work area.
- 3. The general foreman will check out the members in his crew each morning to see that they have the proper equipment needed to perform their job safely. If a member does not have the proper equipment, and cannot obtain it on the site, they must leave the site until they can prepare themselves to work safely.
- 4. It will remain the general foreman's duty to see that the members of his crew work safely. Any unsafe act observed must be corrected immediately before work progresses. Discuss the unsafe act with the individual(s) until they understand why it is unsafe. Document this discussion on the proper disciplinary forms as a first verbal warning. For more information, see the section on discipline.

- 5. All accident/injuries must be reported to the Owner.
- 6. Drug screening will be required as soon as possible.
- 7. It is the project manager's responsibility to see that weekly safety meetings are held.
- 8. The project manager will make sure that all accident/injuries are reported immediately to the office so that a prompt investigation can be made.

#### **Ironworkers/Welders**

- 1. The majority of the safety program is aimed at the individual working in the field. It is up to the crewmembers to work safely and share their knowledge of safe work practices with one another. Team spirit is essential as it is with any other group activity. When individual knowledge is shared, the whole team benefits. When accidents and injuries occur, the whole team suffers. Watch out for unsafe acts and conditions, and keep fellow crewmembers informed about what is going on around them at all times. <u>Good communication is a key factor in accident prevention.</u>
- 2. The more experienced members of the crew should keep an eye on the less experienced members and offer helpful advice whenever possible.
- 3. <u>Prevention, not reaction, is the key to a successful safety program.</u> Even the most experienced ironworker/welder have absented minded periods or days when their mind is not on their work because of personal problems at home, etc. Keep this in mind at all times. If something doesn't look quite right, ASK!
- 4. As New employees on the job with little experience, you must remain alert at all times. Your attention to safety will be watched, as much, if not more closely than your production abilities.
- 5. Ask questions no matter how slight or unimportant they may seem at the time.
- 6. Work at a steady pace but avoid being overly confident. Develop good, safe work habits from the start, and become part of the team committed to safety and quality excellence.
- 7. All new hires will receive new hire orientation training and on the job training in accordance with Milestone Industrial Welding Services.'s training programs.
- 8. As per OSHA, Milestone Industrial Welding Services. will instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury.
- 9. All information obtained in compiling this safety program is available to all employees of the company upon request. Any question concerning safe work practices or the laws governing them should be brought to the attention of the Owner or your foreman.

#### **Crane Operators**

- 1. Crane operators are one of the most important figures in job safety. For this reason, all operators will receive special training in crane safety. All operators must be familiar with their machine capabilities and be able to read and understand load charts completely. The annual certification must be current and in the cab of the crane. Periodic check reports must also be kept in the cab. Crane operators have more responsibility than anyone else on the job concerning safety, and good judgment is essential at all times.
- 2. As far as crane safety is concerned, final decisions regarding rigging of loads, moving cranes around jobsites, weather conditions (including wind) etc., will be left up to the operator. The operator will be responsible for inspection of the rigging. Any rejected rigging will be destroyed immediately. If there is any doubt in the operator's mind concerning safety, he will stop and discuss the situation until all questions are resolved.
- 3. <u>All crane operators employed by Milestone Industrial Welding</u> <u>Services. or included in a rental crane must have a current "CCO"</u> <u>certification and will provide a copy of the certification to Milestone</u> <u>Industrial Welding Services. prior to performing any work.</u>

# **Drug Testing Policy**

The illegal use, sale or possession of drugs and or alcohol while, on the job in company vehicles, or on company property, constitutes grounds for dismissal. Any illegal substances will be turned over to the appropriate law enforcement agency and may result in criminal prosecution.

- 1. Some of the drugs and alcohol which are illegal or controlled under the Federal, State and local laws include but are not limited to, marijuana, heroin, hashish, cocaine, hallucinogens, depressants, anti-depressant, methamphetamines and stimulants not prescribed for current personal treatment by a licensed physician.
- 2. Employees undergoing prescribed medical treatments with a controlled substance must report this treatment to their supervisor or to management, prior to starting work. The unauthorized use of controlled substances is grounds for disciplinary action.
- 3. All new hires will be required to sign the following "Acknowledgement of Drug Testing Policy and Test Release Authorization" form. This release has the following conditions:
  - A. Drug testing will be performed prior to employment.
  - B. The test must be passed to be eligible for employment.
  - C. Drug test will be ordered for Injury/Incidents.
  - D. Drug and /or Alcohol testing at random.

# Acknowledgement of Drug Testing Policy and Test Release Authorization

I understand that as a condition of employment, I will undergo drug testing prior to starting employment. I also understand that I must pass this test to be eligible for employment.

I also understand that Milestone Industrial Welding Services. has the authority to order drug test for cause, including but not limited to, following any accident or any occupational related injury I am involved in or during any treatment for any occupational injury or illness. This also includes damage to company equipment or vehicles.

By signing below, I hereby authorize any medical facility to test my blood, saliva, hair, breath and/or urine whenever warranted or whenever ordered by my employer. I also authorize any medical facility to release to Milestone Industrial Welding Services. the test results for any tests for any drug or alcohol content, including any blood, urine, breath, saliva and/or hair test when any such test is conducted in conjunction with any order for test from Milestone Industrial Welding Services. or any treatment for any occupationally related injury or disease. This authorization cannot be rescinded as long as I am employed by Milestone Industrial Welding Services..

Signature

Date

Printed Name

# Training

## Scope

Training must be given to all employees to ensure the safe performance of their work, and the proper care and operation of tools and equipment. All safety training must be documented.

## **New Hire Orientation**

- 1. All new hires will receive training on health and safety in the workplace as necessary. Immediately after each new employee is hired, a member of management will present the company safety policies. The employee will be encouraged to ask questions regarding policy. The new hire orientation shall include, but not limited to, the following subjects:
  - A. Employer/employee responsibilities.
  - B. Required attendance and participation at regular safety meetings and other training.
  - C. Disciplinary action for non-compliance with safety policy.
  - D. Accident reporting Report immediately to supervisors and in writing, to the employer within 4 days.
  - E. The location of First Aid facilities, telephones, as well as emergency phone numbers
  - F. PPE including eye, head, hearing, foot, respiratory, and fall protection equipment.
  - G. Fall protection during steel erection and general fall protection including scaffold/ladders.
  - H. Housekeeping, warning signs, barricades.
  - I. Fire prevention and protection.
  - J. Material handling, storage, rigging and crane safety.
  - K. Electrical safety including lockout/tag-out procedures.
  - L. Special project requirements or procedures (welding certification, hot work, etc.).
  - M. Emergency evacuation procedures.

# **Post-Employment Training**

- 1. Every jobsite will have weekly safety meeting, performed by the general foreman, to review safety issues and concerns specific for that project and reinforce training on a specific topic.
- 2. These topics are rotated weekly.

- 3. All employees will sign the training sheet at the jobsite confirming by signing the form they fully understand the information presented and all questions have been resolved.
- 4. These topics are contained in Milestone Industrial Welding Services.'s "Tool Box Talks" for the following subjects:
  - 1. Anchorage Points
  - 2. Back Injury Prevention
  - 3. Body Harness and Lanyards
  - 4. Cable Clamps and Safety Cable
  - 5. Come-A-Longs & Chain Hoist Safety
  - 6. Crane / Rigging Safety
  - 7. Employee Responsibility
  - 8. Fall Protection
  - 9. Fire Extinguisher
  - 10. Fire Watch
  - 11. Hand Tool Safety
  - 12. Hazardous Areas
  - 13. Hearing Protection
  - 14. Heat Stress / Cold Weather
  - 15. Horse Play
  - 16. Housekeeping
  - 17. Ladder Safety
  - 18. Material Safety Data Sheet
  - 19. Material Storage Yard (bone yard)
  - 20. OSHA Inspection
  - 21. Oxygen / Acetylene Torch Safety
  - 22. Personal Protective Equipment
  - 23. Power Tools and Electrical Safety
  - 24. Rolling Scaffold
  - 25. Scissor Lift and Boom Lift Safety
  - 26. Temporary Safety Post
  - 27. Welding Safety

# **Specific Training**

- 1. Specific training will be conducted whenever the need for such training is identified by members of management, and whenever requested by employees.
- 2. The need for training will become evident through supervision of employee's work practices, inspections of the workplace, review of accident and near-miss investigation, and as required by OSHA.
- 3. OSHA 1926.21(b)(2) states that "The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury". Training will be provided, to all employees, which will meet or exceeds the requirement of the OSHA standards.

# Discipline

## Scope

Disciplinary actions are strictly enforced on jobsites. Employees who fail to obey Milestone Industrial Welding Services.'s safety rules that could potentially result in life threatening situations including disregarding fall protection and failure to use personal protection equipment will be subject to disciplinary actions including dismissal. When safety violations occur by employees, they will be warned as follows:

#### 1. Serious Violation

Violation of any company rule or regulation without premeditation. For a serious violation, the disciplining authority can use judgment to determine the degree of discipline regarding the number of days off without pay after each of the two violations.

#### 2. Willful Violation

Violation of any company rule or regulation with premeditation or forethought. For a willful violation, the discipline indicated below is the minimum that can be given. However, the degree of discipline may be extended or increased to termination of employment for willful violation. The decision is to be made by the disciplining authority.

The type or degree of discipline is determined be the "type" and number of violations.

#### A. Serious Violation

- a.  $1^{st}$  Up to one day off without pay.
- b.  $2^{nd}$  Up to three days off without pay.
- c. 3rd Termination of employment pending supervisory review.
- B. Willful Violation
  - a. 1st- Minimum of one day off without pay.
  - b. 2nd- Minimum of three days off without pay.
  - c. 3rd- Termination of employment pending supervisory review.

Serious violations and willful violations can be combined in determining the total number of violation of an employee. After twelve months from the date of the occurrence, the violation may no longer be included in the total accumulated by an employee.

Use Disciplinary Action form "Disciplinary Report" for documentation. **BE SURE TO FILL OUT COMPLETELY WITH SIGNATURE AND DATE.** 

DISCH	PLINE REPORT		
Employee Name:		Date:	
TYPE OF VIOLATION		WARNING	
AttendanceCarelessness DisobedienceSafety Tardines	Violati ssWork Quali	ntion Date:AM/PM on Time:AM/PM ty Place Violation Occurred:	[
			-
REASC	ON FOR WARNING		
Company Statement:			
			_
following reasons:		Date:	
DISCIP	LINE DECISION		
Disci	LINE DECISION		
Approved By:	Title:	Date:	
I have read this "warning decision" and	understand it When Warned and I	t Whom	
i nave read tins warning decision and :	understand it. when warned and i	y vitoli.	
Signature	Da	te:	
	-		
f person who prepared	Da	te:	
of person who prepared 's Signature			
Signature	Da Da	te:	
	Da		

# **Accident Investigation**

## Accidents to be Reported Immediately

The following accidents are to be reported to the company Owner immediately:

- 1. Accidents likely to result in permanent disability or death.
- 2. Accidents requiring hospitalization.
- 3. Accidents involving two or more employees.
- 4. Accidents which have or are likely to receive coverage by the news media, so families may be notified by the company before press release, if possible.
- 5. Accidents involving collapse, cave-in, or other failures to structures or equipment.
- 6. Serious accidents involving equipment or vehicles.
- 7. Serious accidents or "near miss" type accidents resulting from violations of safety rules, whether by employees or company supervision.
- 8. Fire, windstorms, hail, or other "Acts of God".
- 9. Criminal acts such as vandalism, malicious mischief, burglaries, etc., or any acts which involve a potential insurance claim or loss to the company.
- 10. Any accident involving the equipment and/or employees of subcontractors or material suppliers/vendors, at or off the jobsite, if the accident occurred while performance of work or the delivery of materials was being furnished for a company project.
- 11. Serious accidents to property or injuries to personnel other than the company's.

# **Procedures for Reporting Accidents**

The procedure for reporting the above referenced accidents shall be as follows:

- 1. The highest-ranking company representative closest to the accident shall initiate a brief preliminary telephone report or cause such a report to be made to one of the company Owner, as soon as possible after assuring the needs of the injured, safety of the public has been adequately provided for.
- 2. This report also will be brought to the attention of the reporting person's supervisor by whatever means available.
- 3. As soon as the extent and effect of the accident can be reasonably estimated and determined, a written report shall be submitted to the company Owner setting forth all particulars with a copy to all necessary parties.

## **Accident Investigation Procedure**

The following accident investigation procedure shall be employed as applicable:

- 1. A soon as practicable, the general foreman or highest-ranking representative of the company at the scene of the accident shall take a statement from all possible witnesses to the accident. The statement shall note the names of the witnesses, their address, their employers, their title or capacity, and a brief summary of their statements and comments concerning the accident.
- 2. The accident scene shall be secured and cordoned off. Only company management personnel, owner representatives of the company's insurance carrier shall be allowed access to the accident scene until company investigations are complete or until the company Owner grants permission for entry.
- 3. Photographs of the accident, the surrounding areas and conditions in the immediate vicinity of the accident should be taken if warranted. Nothing at the accident scene should be moved without permission of the Owner or other company officer.
- 4. A detailed written report concerning the probable cause and effect of the accident shall be prepared on Milestone Industrial Welding Services.'s "Injury/Incident Report" form.
- 5. The company's applicable insurance carrier(s) should be notified, depending upon the type of accident involved, i.e., liability, worker's compensation, builder's risk. The investigation by an insurance adjuster should receive full assistance and cooperation of company personnel.
- 6. The time of the accident, status of the weather, and any other physical conditions existing at the scene of the accident should be observed and reported.

# **Report Forms**

- 1. Prepare and submit to the Owner Milestone Industrial Welding Services.'s "Injury/Incident Report" form.
- 2. Any knowledge by supervisory management personnel of an injury, even several days after the accident, must be reported, if any employee reports the injury as work incurred.
- 3. It is especially important to give detailed information on how the accident occurred and what has been done to prevent similar type accidents. Also, in the description of the accident, if we are not absolutely sure the accident happened the way the employee claims, we should write, "employee alleges," and so forth. Do not state something as a fact if you are not sure of it. It can be used against the company.

4. Owner is to review the "Injury/Incident Report" form to ensure sure it is properly and completely filled out. A copy of this completed form is to be provided to the owners, operations manager and senior project manager.

Date of Report:	Report Comp	pleted By:	
Last Name of Injured Person:	First Name:		Job Title:
Date of Accident:	Time of Accident:		Location of Accident:
Supervisor's Name & Job Title:		Name of Wi	itnesses:
Full Description of Injuries:			
Description of accident/incident the accident:	or employee's accou	int, including	sequence of events preceding
Basic cause and contributory ca other:	uses. Explain fully ur	nsafe act, uns	safe condition, personal factor,
Recommended Corrective Measure	ures:		Action By:
Names of Inspection Team Part			
Management Review By:	Date t	o be Complet	ted By:

# **Fall Protection Safety Plan**

## Scope

- 1. This plan establishes requirements to be met to protect employees from the hazards associated with falls in the erection of steel. Steel erection activities include, but are not limited to rigging, hoisting, laying out, placing, connecting, guying, bracing, dismantling, burning, welding, bolting, grinding and all related activities for steel construction, alteration and/or repair.
- 2. All personnel are responsible for planning safety into each work task and for preventing the occurrence of incidents and/or controlling conditions and actions that could lead to occupational injuries or illness.
- 3. Milestone Industrial Welding Services.'s designated "Competent Person" is a Milestone Industrial Welding Services. employee who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

# **Connection Safety**

Connectors shall adhere to the following procedures:

- 1. Communicate your signals with your partner and everyone in your area.
- 2. A minimum of two bolts in each connection must be used and must be of the same size and strength as those shown on the erection drawing.
- 3. During the final placing of solid web structural members, the load shall not be released from the hoisting line until the members are secured with a minimum of two bolts per connection of the same size and strength as those shown on the erection drawing drawn up wrench-tight or the equivalent as specified by the project structural engineer of record. A competent person shall determine if more than two bolts are necessary to ensure the stability of cantilever members or heavy loads. Additional bolts will be installed as directed.
- 4. Solid web structural members used as diagonal bracing shall be secured by at least 1 bolt per connection and drawn up wrench-tight or the equivalent as specified by the project structural engineer of record.
- 5. When two structural members on opposite sides of a column web or beam web, over a column, are connected sharing common connection holes, at least 1 wrench tight bolt shall remain connected to the first member and prevents the column from being displaced.
- 6. If a seat or equivalent is used, the seat shall be designed to support the load during the double connection process. It shall be adequately bolted or

welded to both a supporting member and the first member before the nuts on the shared bolts are removed to make the double connection.

# **Guardrail Systems**

- 1. A 3/8" cable with 3 3/8" inch cable clamps in each looped end with the looped ends connected to each other or to a 5000 lbs. shackle. This cable will be attached to a beam, which a beamer will not attach, that has angles attached to the flanges. This cable may also be attached to the radial bents or trusses before erection. The cables will be fastened so that they will meet the 5000 lbs. requirements.
- 2. Milestone Industrial Welding Services. will be utilizing 100% fall protection at all times for any height above <u>6 feet</u>. This will take the place of nets and temporary floors.
- 3. Guardrails for openings on the interior of the building will be made from a minimum 2" x 2" x 3/8" steel angle post at 8-foot intervals. The guardrail will be attached at 21" and 42" above the finished floor.
- 4. Guardrail used at the perimeter of the building will be 3/8" steel cable with a permanent grommet at the looped end. The cable will pass through a 13/16" hole located at 21" and 42" above the finished floor. This cable must either be pulled so that it does not deflect more than 3" or be supported by a metal post made from a minimum 2" x 2" x 3/8" steel angle post at 8-foot intervals. Fall protection for the perimeter of the building will be 3/8" steel cable with 3 clamps on each looped end. The cable may pass through a prefabricated hole.
- 5. When Milestone Industrial Welding Services. receives a signed "Floor Turnover" form from the general contractor (see attachment "page 27") perimeter cables will remain in place and be <u>removed and maintained by others</u>.
- 6. Extension ladders shall be used to access elevated work areas. These ladders will be set on a flat level surface with a 4 to 1 pitch and have the ladder extended 3 feet above the working or walking surface. In areas above ground level where a ladder is placed to gain access to an upper elevation there will be a decked surface with guardrails installed after the connectors and bolt up crews are finished.
- 7. In the event of a rescue, Milestone Industrial Welding Services.'s "Competent Person" shall stay with employees until rescued. Milestone Industrial Welding Services.'s "Competent Person" shall delegate responsibilities to qualified employees to notify the controlling manager of the jobsite and find the necessary equipment (aerial lifts, scissors lift, fork lifts, ladders) to reach the employee in need of rescue (See attachments "page 28" & "29").

# **Temporary Safety Post**

1. Each safety post must be inspected prior to installment.

2. Make sure posts are not bent and welds are not cracked.

- 3. Make sure that the plates and the bolts are in good condition.
- 4. Any concerns about the condition of the post must be directed to your foreman.
- 5. If the beam or girder will be unstable after installment, shore as necessary.
- 6. Safety posts are to be installed on the member while on the ground only.
- 7. Plates need to be pushed into the web as far as possible.
- 8. All nuts must be tightened with the impact nut driver.
- 9. All post need to be leaning the same direction.
- 10. The post must be approximately  $2\frac{1}{2}$  feet from the end of the member.
- 11. When removing, the safety post must be lowered with a rope or machinery. <u>Never let the post-free fall to the floor.</u>
- 12. If you start the installment you must finish it.

#### Cable and Clamps:

- 1. Safety cable must be inspected for defects prior to installment.
- 2. The cable must have approximately 6-8" of sag in the middle.
- 3. If you start the installment you must finish it.

# **Anchorage Points**

#### Beamers

- 1. Beamers must be inspected daily before use:
  - A. Arc burns
  - B. Broken Locking latch
  - C. Cracked/deformed ring
  - 2. If any of these defects exist, danger tag the beamer and remove it from service.
  - 3. Do not use beamers to hoist anything.
  - 4. If a beamer has been used in a fall it must be taken out of service and never used again.
  - 5. Avoid dropping the beamer.

## Retractable Lanyards (Yo-yo's)

- 1. Retractable lanyards must be inspected daily before use:
  - A. Extend the cable all the way out and check cable for broken strands, bird caging, etc.
  - B. Test the stopping reaction by gripping the snap hook and pulling it out quickly. It must lock as soon as it is jerked
- 2. If any of these defects exist, danger tag the retractable lanyard and remove it from service.
- 3. Avoid dropping the retractable lanyard.

#### **Tie-Off Choker**

- 1. Tie-off chokers must be inspected daily before use:
  - A. Arc marks
  - B. Broken wires
  - C. Abrasions/kinking on cable or bird caging
  - D. Damaged rings
- 2. If any of these defects exist, danger tag the tie-off choker and remove it from service.

## Safety Net Systems

Safety net systems and their use shall comply with the following provisions:

- 1. Safety nets shall be installed as close as practicable under the walking/working surface on which employees are working, but in no case more than 30 feet (91 m) below such level. When nets are used on bridges, the potential fall area from the walking/working surface to the net shall be unobstructed.
- 2. Safety nets shall extend outward from the outermost projection of the work surface as follows:

Vertical distance from working level to horizontal plane of net	Minimum required horizontal distance of outer edge of net from the edge of the working surface
Up to 5 feet	8 feet
More than 5 feet up to 10 feet	10 feet
More than 10 feet	13 feet

- 3. Safety nets shall be installed with sufficient clearance under them to prevent contact with the surface or structures below when subjected to an impact force equal to the drop test specified in paragraph (4) of section 1926.502.
- 4. Safety nets and their installations shall be capable of absorbing an impact force equal to that produced by the drop test specified in paragraph (c)(4) of section 1926.502.
  - A. Excepts as provided in paragraph (c)(4) of section 1926.502, safety nets and safety net installations shall be drop-tested at the jobsite after initial installation and before being used as a fall protection system, whenever relocated, after major repair, and at 6-month intervals if left in one place. The drop-test shall consist of a 400-pound bag of sand 30+ or -2 inches (76+ or -5cm) in diameter dropped into the net from the highest walking/working surface at which employees are exposed to fall hazards, but not from less than 42 inches above that level.

- B. When the employer can demonstrate that it is unreasonable to perform the drop-test required the employer (or a designated competent person) shall certify that the net and net installation is in compliance with the provisions of paragraphs (c)(3) and (c)(4)(1) of section 1926.502 by preparing a certification record prior to the net being used as a fall protection system. The certification record must include an identification of the net and net installation for which the certification record is being prepared; the date that it was determined that the identified net and net installation were in compliance with paragraph (c)(3) of this section 1926.502 and the signature of the person making the determination and certification. The most recent certification record for each net and net installation shall be available at the jobsite for inspection.
- 5. Defective nets shall not be used. Safety nets shall be inspected at least once a week for wear, damage, and other deterioration. Defective components shall be removed from service. Safety nets shall also be inspected after any occurrence which could affect the integrity of the safety net system.
- 6. Materials, scrap pieces, equipment, and tools which have fallen into the safety net shall be removed as soon as possible from the net and at least before the next work shift.
- 7. The maximum size of each safety net mesh opening shall not exceed 36 square inches nor be longer than 6 inches on any side, and the opening, measured center to center of mesh ropes or webbing, shall not be longer than 6 inches. All mesh crossings shall be secured to prevent enlargement of the mesh opening.
- 8. Each safety net (or section of it) shall have a border rope for webbing with a minimum breaking strength of 5,000 pounds.
- 9. Connections between safety net panels shall be as strong as integral net components and shall be spaced not more than 6 inches apart.

## Enforcement

Disciplinary actions are strictly enforced on jobsites. Employees who fail to obey Milestone Industrial Welding Services.'s safety rules that could potentially result in life threatening situations including disregarding fall protection and failure to use personal protection equipment will be subject to disciplinary actions including dismissal. When safety violations occur by employees, they will be warned as follows:

#### 1. Serious Violation

Violation of any company rule or regulation without premeditation. For a serious violation, the disciplining authority can use judgment to determine the degree of discipline regarding the number of days off without pay after each of the two violations.

#### 2. Willful Violation

Violation of any company rule or regulation with premeditation or forethought. For a willful violation, the discipline indicated below is the minimum that can be given. However, the degree of discipline may be extended or increased to termination of employment for willful violation. The decision is to be made by the disciplining authority.

The type or degree of discipline is determined be the "type" and number of violations.

#### A. Serious Violation

- a.  $1^{st}$  Up to one day off without pay.
- b.  $2^{nd}$  Up to three days off without pay.
- c. 3rd Termination of employment pending supervisory review.

#### B. Willful Violation

- a. 1st- Minimum of one day off without pay.
- b. 2nd- Minimum of three days off without pay.
- c. 3rd- Termination of employment pending supervisory review.

Serious violations and willful violations can be combined in determining the total number of violation of an employee. After twelve months from the date of the occurrence, the violation may no longer be included in the total accumulated by an employee.

Use Disciplinary Action form "Warning Report" for documentation. **BE SURE TO FILL OUT COMPLETELY WITH SIGNATURE AND DATE.** 

# **Notification of Floor Turnover Form**

Date:

Project Name:

Milestone Industrial Welding Services. LLC has completed a guardrail system on the following Level & Gridline that is within OSHA regulations:

Level:

Gridlines:

This perimeter cable has met the OSHA regulations in a downward or outward direction.

Once floor turnover is complete, the perimeter cable is no longer intended for fall protection anchorage for anyone or any trade. <u>Milestone</u> <u>Industrial Welding Services. LLC is relieved of all responsibility,</u> <u>liability and maintenance to the perimeter cable system once the floor is</u> <u>complete and this form is signed by the General Contractor.</u>

Milestone Industrial Welding Services. LLC:

Signature

Print Name

General Contractor:

Signature

Print Name

# **Emergency Action Plans**

Project:
In the event of a jobsite wide emergency, the alert signal shall be a minimum of 5 short horn blast from the crane or company truck. It is also being notification by word of mouth. At that time, all personnel shall be immediately report to the designated assembly area for further instructions. Foreman shall account for all members of their crew.
Designated Assembly Area:
Foreman/Designated Person:
CPR/First Aid Trained Person:
Emergency Phone Number:
Designated Hospital for Site Area:
When calling emergency number, provide the following information. Place person at the jobsite entrance and throughout the jobsite to direct emergency vehicles, if needed.
Jobsite Address (Cross Streets):
Foreman Phone #:
Entrance Location:
Severe Weather:

In the event of severe weather, personnel should quickly secure materials in the immediate work area. If time allows, report to the designated assembly area. Foreman shall account for all members of their crews.

# **Emergency Phone Number:**

# <u>911</u>

# What to tell the 911 operator:

- Where the emergency is, address or cross streets or landmark
- ↔ What happened heart attack, fall, fire, etc.
- ↔ How many people need help.
- **↔**Condition of injured people.
- ♦ What has been done.
- You can ask questions about what you can do to help.

# **Control and Protection of Openings Plan**

## Scope

- 1. This plan establishes requirements to be met to protect employees from the hazards associated with floor holes and openings. These hazards exist on all construction projects and present a safety hazard which can cause tripping or falling through of workers or equipment.
- 2. All personnel are responsible for planning safety into each work task and for preventing the occurrence of incidents and/or controlling conditions and actions that avoid creating the hazard that would arise from the floor holes and openings.

## **Hole Protection**

- 1. Employees on a walking or working surfaces shall be protected from falling through holes (including skylights) that are more than 6 feet above lower levels.
- 2. Employees on a walking or working surface shall be protected from tripping in or stepping into or through holes (including skylights) by covers.
- 3. Employees on a walking or working surface shall be protected from objects falling through holes (including skylights) by covers.

## **Installation of Metal Decking**

Metal decking at roof and floor holes and openings should be installed as follows:

- 1. Framed metal deck openings shall have structural members turned down to allow continuous deck installation except where not allowed by structural design constraints or constructability.
- 2. Roof and floor holes and openings shall be decked over. Where large size, configuration or other structural design does not allow openings to be decked over (such as elevator shafts, stair wells, etc.) with an unprotected side or edge more than 6 feet above a lower level shall be protected from fall hazards by guardrail systems, safety net systems, personal fall arrest systems, positioning device systems or fall restraint systems.

#### **Covering of Roof and Floor Openings**

- 1. Covers for roof and floor openings shall be capable of supporting, without failure, twice the weight of the employees, equipment and materials that may be imposed on the cover at any one time.
- 2. All covers shall be secured when installed to prevent accidental displacement by the wind, equipment or employees.
- 3. All covers shall be painted with high-visibility paint or shall be marked with the word "HOLE" or "COVER" to provide warning of the hazard.
- 4. Smoke dome or skylight fixtures that have been installed, are not considered covers for the purpose of this section unless they meet the strength requirements of this section.

## **Decking Gaps Around Columns**

- 1. Wire mesh, exterior plywood, or equivalent, shall be installed around columns where planks or metal decking do not fit tightly.
- 2. The materials used must be of sufficient strength to provide fall protection for personnel and prevent objects from falling through.

# **Personal Protective Equipment Program**

#### General

All personal protective equipment shall be inspected daily and before each use. Any defective equipment must be removed from service and tagged out or destroyed.

## **Personal Protective Equipment (PPE)**

#### **Head Protection**

- 1. All employees shall be protected by hard hats at all times while on the jobsite.
- 2. Crane operators are not required to wear hardhats while in the crane, but it is recommended.
- 3. Operators on equipment that are not equipped with a cab, such as boom trucks with no overhead protection, must wear a hardhat at all times.

- 4. Hardhats must be replaced every 5 years and inner suspension must be replaced every year.
- 5. Hardhats must be replaced after it has withstood impact or penetration.
- 6. Hardhats are not to be painted.

#### **Hearing Protection**

- 1. Whenever it is not feasible to reduce noise levels ear protective devices shall be provided and used.
- 2. The rule of thumb in regards to hearing protection is if you have to raise your voice to be heard above the surrounding noise level, you need hearing protection
- 3. Employees will also be trained in the proper selection, fit, and care of hearing protective devices.

#### **Eye and Face Protection**

- 1. Employees shall use safety glasses, proved by Milestone Industrial Welding Services., at all times.
- 2. Employees whose vision requires the use of corrective lenses in eyeglasses shall be protected by goggles or eyeglasses of one of the following types:
  - A. Eyeglasses whose protective lenses provide optical correction.
  - B. Goggles that can be worn over corrective eyeglasses without disturbing the adjustment of the eyeglasses.
  - C. Goggles that incorporate corrective lenses mounted behind the protective lenses.
  - D. Safety glasses must be stamped with ANSIZ87.

#### **Respiratory Protection**

- 1. The chemical and physical properties of the contaminant, as well as the toxicity and concentration of the hazardous material, shall be considered in selecting the proper respirators.
- 2. The nature and extent of the hazard, work requirements, and conditions, as well as the limitations and characteristics of the available respirators, shall also be factors considered in making the proper selection.
- 3. If there is any doubt regarding the contents or chemical makeup of material being worked with, consult the "HAZ COM WRITTEN PROGRAM", and accompanying SDS sheets available on the jobsite.
- 4. If respirators are needed they will be provided by Milestone Industrial Welding Services..

#### Clothing

- 1. Tank tops or muscle shirts are not allowed.
- 2. Shirts must have a minimum sleeve of 4" long.
- 3. Shorts are not permitted.
- 4. Clothing must not have holes or frayed material.

#### Gloves

- 1. Gloves shall be worn during all work functions.
- 2. It is understood that certain duties such as putting nuts and bolts together is cumbersome while wearing leather gloves, so the use of cut resistant gloves are required.

#### Boots

- 1. Boots must be leather work boots.
- 2. Tapping or self-repairing of boots is not allowed.

#### **Full Body Harnesses**

- 1. You must inspect your Body harness, daily before use, for defects:
  - A. Damaged stitching
  - B. Missing or damaged eyelets
  - C. Burn holes
  - D. Damaged straps
  - E. Damaged "D" rings
- 2. Never leave pens or any sharp objects in any of your shirt or pant pockets when wearing fall protection.
- 3. Leg straps must be snug but comfortable.
- 4. D-ring in back must always be positioned between your shoulder blades.
- 5. All harness straps must be used at all times, chest, waist and leg straps.
- 6. Always use D-ring on back as body anchorage.
- 7. <u>Only use the D-ring on your back to attach lanyards. Belt/hip D-rings</u> are for positioning only.

#### Shock Absorbing Lanyard

- 1. You must inspect your lanyards daily before use for defects:
  - A. Burn holes
  - B. Ripped/torn stitching
  - C. Defective snap hooks
- 2. Lanyards will be inspected weekly by your general foreman weekly and that inspection will be recorded on the inspection form.
- 3. Never tie a knot in a lanyard to shorten it.
- 4. Never tie off using snap hook to snap hook, or snap hook to lanyard.
- 5. Never use lanyards to hoist or pull anything.
- 6. You must tie off above your head whenever possible.
- 7. Never allow your lanyards to come in contact with sharp edges.

#### Beamers

- 1. Beamers must be inspected daily before use:
  - A. Arc burns
  - B. Broken Locking latch
  - C. Cracked/deformed ring
- 2. Beamers will be inspected weekly by your general foreman weekly and that inspection will be recorded on the inspection form.

- 3. If any of these defects exist, danger tag the beamer and remove it from service.
- 4. Do not use beamers to hoist anything.
- 5. If a beamer has been used in a fall it must be taken out of service and destroyed.
- 6. Avoid dropping the beamer.

#### Sanitation

- 1. Any container used to distribute water shall be clearly marked "Drinking Water" and not used for any other purpose.
- 2. An adequate supply of drinking water shall be provided in all places of employment.
- 3. Portable containers used to dispense drinking water shall be capable of being tightly closed and equipped with a tap.
- 4. Water shall not be dipped from containers.
- 5. Disposable cups are the only cups to be used to drink. The common drinking cup is prohibited.
- 6. Water containers shall be cleaned daily.
- 7. There must be a trashcan for dispose of cups.

#### **Documentation**

- 1. The general foreman for the project shall be required to inspect the body harness, lanyards and beamers weekly and shall record those inspections on the attached "Safety Harness, lanyard and Beamer Inspection Sheet" form.
- 2. This inspection report will be turned into the main office weekly.
- 3. Defective equipment will be removed from service immediately and replaced.

# **Power & Hand Tool Safety**

## **Power Tools**

- 1. Each power tool must be inspected for defects prior to use.
- 2. Large power tools such as the shear wrench, wire feed units and mag drill must be tied off when being used above six feet.
- 3. Do not use the cord on the power tool to handle them.
- 4. Inform your foreman if the tool is defective so that it can be danger tagged and removed from service.
- 5. All power tools must have a ground pin or be grounded approved.
- 6. When using a grinder, you must wear proper personal protective equipment:
  - A. Gloves
  - B. Face shield/welding hood
  - C. Safety glasses
- 7. Do not remove the guard on the grinder. Rotate if needed or use a dye grinder for places the grinder cannot get.
- 8. If the third prong "ground" is missing do not use it. Inform your foreman so that it can be danger tagged and removed from service.
- 9. When refueling the welding machines, clean up any spilled fuel and never allow smoking or welding when refueling. Keep welding machines away from welding and cutting activities.
- 10. Gasoline must be stored in proper gas cans and protected from flames and sparks.
- 11. Lasers
- A. Only qualified and trained employees shall be assigned to install, adjust and operate laser equipment.
- B. When the laser is left unattended it should be turned off.
- C. The laser beam shall not be directed at any employee.

## **Extension Cords/Welding Lead**

- 1. Extension cords and welding lead must be inspected for defects prior to use.
- 2. Extension cords that have been damaged need to be danger tagged and taken out of service. <u>Do not try to repair them.</u>

- 3. Welding lead that has been damaged beyond 10 feet of the electrode holder must be repaired and protected by electrical and friction tape or other equivalent insulation.
- 4. The first 10 feet of lead from the electrode holder must be free of any damage. If damaged, it must be replaced.
- 5. All extension cords must have a grounding pin.
- 6. Do not use the extension cords/welding lead to hoist or pull anything.

#### Hand Tool Safety

#### **Beaters:**

If your beater handle is broken, cracked or loose, it must be replaced. **Sleever Bars:** 

If your sleever bar has grinder or arc marks, it must be replaced. **Spuds:** 

If your spuds are bent or have grinder or arc marks, they must be replaced.

#### Chain Lever hoist (come-along):

- 1. Check for defects prior to use: Hooks, chains, etc.
- 2. Use the proper come-along according to the weight you are working with.
- 3. The come-along must never be attached directly to the piece that you are working with. A choker, picking eye, etc. must be used in between the hook and the piece to ensure proper location of the hook.

#### **Bags:**

- 1. If your bolt bag has bad stitching or is ripped, it needs to be replaced. Do not try to repair it.
- 2. If your rod pouch has bad stitching or holes in it, it needs to replaced.
- 3. If your nose bag has holes in it or the rope is tearing it needs to be replaced.

#### **Bull Pins:**

If the head of your bull pin is turning into a mushroom shape, it needs to be ground back to its original shape.

#### Scabbard (frog):

If holes are stretched and worn out, you must replace it with a new one.

#### It is important to maintain hand tools because they are easily worn or damaged. Personal injury or property damage can result from using broken tools, or from using them for other than their intended purpose.

## **Confined Space Program**

## Scope

- 1. <u>Milestone Industrial Welding Services. does not allow our employees to</u> <u>work in confined spaces and workers are instructed that they are not</u> <u>allowed into confined spaces on any worksite.</u>
- 2. Milestone Industrial Welding Services.'s confined space program is designed to assure that our employees are made aware of what a confined space is, and to avoid working or entering confined spaces.

## **General Information**

- 1. It is essential to understand that for workers on a construction jobsite in confined spaces there are special work rules to follow.
- 2. Precautions that must be taken prior to entry, standby safety procedures in place while an employee is in the space, and extensive training and paperwork involved.

## **Hazard Identification**

#### **Characteristics of a confined space:**

- 1. Contains an actual or potentially hazardous atmosphere (you'll know this because the owner/general contractor have either told you and/or posted a sign; or common sense tells you the area is suspicious and/or measurements using scientific instruments have been taken to check out the site.
- 2. Contains the potential for engulfment by particulate matter (grain, dirt, powder) or by a liquid (oil, water, chemicals).
- 3. Makes ready escape difficult, which means you just can't normally leave in a walking position. (Storage tanks, process vessels, bins, boilers digesters, pulpers, tunnels, pipelines, sewers, manholes, etc.).
- 4. Restricts entry for rescue purposes. If you have to wonder how they are going to get you out then it is a confined space.
- 5. When in doubt **GET OUT**.

## **Permit Required Confined Spaces**

All confined spaces are hazardous to enter unless special precautions are taken. Their characteristics are spelled put in the standards and require that a sign be posted stating: **DANGER, PERMIT REQUIRED CONFINED SPACE, DO NOT ENTER.** 

## The Written Confined Space Program

Milestone Industrial Welding Services. has adopted OSHA "Confined Space Compliance Manual" (1910.46) as the model for our written confined space program. <u>It is not intended to imply that we do confined space work but is only</u> to inform our employees of the characteristics and dangers inherent in <u>confined spaces.</u>

## Lockout/Tag out Program

### General

# The purpose of this program is to assure that once an employee turns off a unit to work on it, only that employee has the authority and capability of turning it back on.

Workers performing service or maintenance on machinery and equipment are exposed to injuries from:

- 1. Unexpected startup of the machinery or equipment.
- 2. Unexpected release of stored energy in the equipment.
- 3. Unexpected energizing.

This safety program requires that before service or maintenance is performed on machines or equipment, they must be turned off and disconnected from the energy source, and the energy-isolating device (an electric plug, and on/off switch, engine key, etc.) must be either locked-out or tagged-off.

### Scope

- 1. The Lockout/tag-out program covers the servicing and maintenance of machines and equipment in which the unexpected startup or the release of stored energy could cause injury to employees.
- 2. Types of machinery and equipment customarily serviced are:
  - A. Mobile equipment, such as cranes, trucks and forklifts.
  - B. Hand held powered tools.
  - C. Jobsite machinery, such as generators.

## Responsibility

- 1. All personnel are charged with the responsibility for planning safety into each work task to avoid the hazards associated with energy sources.
- 2. All persons on the jobsite take particular care when working around machines and equipment.

### **Energy Control Procedures**

- 1. All equipment must be locked-out or tagged-out to protect against accidental or inadvertent operation when the operation could cause injury to personnel.
- 2. Do not attempt to operate any switch, valve, or other energy isolating device where it is locked or tagged-out.
- 3. Employees working on equipment that can be started up with a key must remove the key and place it in their pocket while working on the equipment (in a situation that requires the engine to be turned off). For example, if you were to crawl under a truck or crane to fix a problem, leaving the key in the ignition would constitute a hazard as someone else could get in the unit and start it up, unaware that you were working underneath the vehicle or elsewhere on the unit.
- 4. If there is no key, the power unit must be disabled in another manner. If the power unit is not capable of being disabled, (locked-out), then a level of protection equivalent to the lockout must be provided. This customarily requires tag-out, where a colored tape and obvious sign is placed in a conspicuous spot indicating that the unit's power is not to be turned on.
- 5. When repairing a power tool in the field, the unit must first be unplugged from the extension cord to which it had been plugged. If there is no extension cord, then the unit must be unplugged from the closest outlet. The concern here is that someone unplugs a unit from a receptacle to repair it and another person finds the plug lying on the ground and mistakenly plugs it back in the receptacle.
- 6. The employee using lock-out/tag-out must notify affected employees in the area before lock-out/tag-out devices are applied and after they are removed from the machine or equipment.

## **Periodic Equipment Inspection**

#### Scope

This plan establishes requirements to be met to protect employees from the hazards associated with equipment failures caused by improper maintenance.

## Responsibilities

- 1. Proper equipment maintenance is an important way to control conditions that could result in an unacceptable incident.
- 2. The senior project manager is the person primarily responsible for the condition of heavy equipment to assure equipment safety and performance.
- 3. Equipment on the jobsite is under the jurisdiction of the Project Superintendent (or their authorized representative).

## **General Rules of Equipment Inspection**

1. Personal Protective Equipment

PPE must be inspected prior to each shift by the employee using it, and immediately following an incident, which may possibly damage it.

2. Power Tools

Inspected on a monthly basis.

3. Hand held tools

Should be checked by the employee using them prior to use to assure that they are in proper condition for the use intended.

- 4. Vehicles
- A. Monthly inspections performed by the Owner.
- B. Annual basis as required by State Law.
- 5. Cranes
- A. Visually inspected by the operator prior to each shift and a monthly written inspection form record are maintained in the crane cab.
- B. Annual inspection is required by OSHA and more frequently as work contracts require.
- C. Records of all maintenance are kept in the office as well as manufacturers specs for each crane.
- 6. Other power equipment
  - A. Are to be inspected prior to each shift by the operator.
  - B. It is company policy that as defects are noted in any equipment, while in the field that renders it unsafe, it is to

be immediately reported to the foreman on the jobsite who will take appropriate action necessary they have the equipment repaired or replaced.

7. It is extremely important to remember that any equipment that is in need of repair or can no longer be used safely must be removed from the jobsite immediately. Any material in the back of a company truck or stored away in the storage shack is considered by OSHA as equipment being "available for use" and will be subject to citation.

#### **Crane Inspection Requirement**

- 1. Cranes and associated rigging equipment must be inspected regularly to identify any existing or potentially unsafe conditions.
- 2. Inspection intervals recommended in manufacturer's publications represent minimum intervals for average operating conditions.
- 3. More frequent inspection intervals should be required if used and site conditions are severe and warrant it.
- 4. A thorough inspection program can forecast maintenance needs or potential equipment failures or malfunctions. Inspections can also be used as maintenance checks and as a verification that proper repairs or modifications of equipment have been completed which, if not checked, could affect capacities as well as personal safety.

#### Documentation

Each crane shall have in its cab:

- A. Current crane inspection certificate
- B. Monthly crane inspection report
- C. Manufacturers load chart

### **Equipment Inspections**

#### **Initial Inspection**

You are required to inspect and test your equipment to ensure it is capable of safe and reliable operations when initially set or placed in service at a jobsite or after major repairs or modifications.

#### **Daily Inspections**

A. All employees using company tools and equipment on the jobsite are required to inspect the equipment before each use, and at least on a daily basis. Employee owned tools and equipment fall under these same guidelines. Items including but not limited to cords, torch hose, welding lead, rigging and safety cans shall be included in this list. Items

in need of repair must be removed from service immediately and stored in such a place where it will not be available for use. Any piece of equipment is considered to be available for use as long as it is on the jobsite. The only alternative to this is to properly tag the item in need of repair or render the item inoperable (cut the plug off).

- B. Electrical cords shall be checked to see that there are no cuts or frays. Plugs must be checked to see that the cord is not pulled away from the plug and that the grounding system is intact. All cords must be repaired or removed from the jobsite immediately.
- C. Welding lead must be checked for cuts and worn connectors. Ground clamps must be checked to make sure the lead is not frayed at the point of connection. When repairing lead make sure that it is waterproof and that the insulation is as heavy as the original.
- D. Torch hoses must be checked for cuts and leaky connections. Be sure that all repairs are made with approved manufacturer torch repair kits. While checking hoses, check gauges to see that they are in good working order and the glass is intact on the gauge.
- E. Rigging must be checked daily and sometimes more often depending on its use. Choker straighteners shall be supplied on every job and shall be used daily to insure long life of the rigging. Watch for frayed or kinked rigging. All damaged rigging must be cut in half and removed from the site. The foreman and the crane operator will be responsible for inspecting the rigging.
- F. Safety cans must be checked daily to see that anti-flash screens are properly in place and that the spring on the cap is working properly to prevent spillage. Any cans with excessive dents, that could allow fuel to leak, must be discarded.
- G. Cans shall be emptied at the beginning of the workday and returned to a designated fuel storage area. When cans are left on the site they must be accompanied by a fire extinguisher. This stands true whether or not the can is full or empty.
- H. Flammable storage areas must be clearly marked with placards warning of the flammable material along with no smoking signs.

#### **Weekly Inspections**

- 1. All forklifts, boom lifts, generators and scissor lifts.
- 2. Weekly jobsite inspections must be documented.
- 3. Items in need of repair must be removed from service immediately and the necessary repair actions will be taken.

#### **Monthly Inspections**

- A. All equipment, company owned and employee owned personal protective equipment should be inspected formally on a monthly basis. These inspections shall take place during the first safety meeting of every month and shall be documented on the safety meeting signature sheet.
- B. Articles of personal protective equipment to be checked during inspections shall include but not be limited to the following:
  - a. Belts
    - a. No extra holes punched
    - b. Loose threads
    - c. Pulled rivets
    - d. Cuts, abrasions
    - e. Deterioration from age
  - b. Hammers
    - a. Mushroomed heads
    - b. Cracked handles
  - c. Spud Wrenches
    - a. Sprung
    - b. Cracked
  - d. Bullpins
    - a. Mushroomed heads
    - b. Cracks
  - e. Lanyards:
    - a. Shock absorbing
    - b. Nylon fused together
    - c. Hard, shiny spots
    - d. Hard and brittle to the touch

#### **Preventative Maintenance**

- 1. Preventive maintenance will be performed for all owned equipment.
- 2. Preventive maintenance will be the responsibly of the Owner to document and ensure that the necessary preventive maintenance is being performed and is as per the manufactures recommendations.

## **Motor Vehicles**

1. All motor vehicles must be checked daily, before the start of work, to ensure that they are mechanically sound. All lubricants should be

checked, and fluids added as necessary. Oil spills and leaks should be cleaned up as they occur.

- 2. Jobsite equipment including cranes, forklifts, personnel lifts, etc., must be equipped with a backup alarm audible above surrounding noise levels. All cranes shall have a qualified signalman watching in back of the crane before it is moved.
- 3. Before leaving any machinery, be sure that all parking brakes are set, engine is off and the vehicle is in gear. Crane operators need to be sure that all brakes are set, swig lock is set, the boom dog is engaged, and that the master clutch is disengaged before leaving the machine. **NEVER** leave the machine with a load suspended in the air.
- 4. All drivers and operators must be properly licensed. Federal law requires that seat belts be used by employees in motor vehicles on all roads and highways. All employees in company vehicles must wear them.
- 5. All company vehicles must bear our company logo and carry the necessary insurance. No people are to be transported in the back of the truck without seatbelts.
- 6. Remove keys from vehicles and lock at night. Cracked or broken glass must be replaced upon notice of damage.

## **Scissor Lift and Boom Lift Safety**

#### **Scissor Lift**

- 1. You do not have to use fall protection <u>unless it is required by the</u> <u>General Contractor.</u>
- 2. Make sure to always have the chain latched or door closed on the entrance of the lift.
- 3. Never exceed the weight capacity.
- 4. Do not move the scissor lift while extended in the air.
- 5. Keep the working surface clean of debris.
- 6. Do not run over lead or any other debris on the floor.
- 7. Make sure you are on a level surface before extending upward. Do not use 2 x 4's or anything else to level out the surface.
- 8. Use only all-terrain scissor lifts, not concrete scissor lifts, for any work being done on gravel or dirt.

### **Boom Lift**

Always inspect the boom lift before each use for defects.
 A. Tires

#### B. Hydraulic fluids

2. You must always be tied off when operating a boom lift.

#### **Rules that Apply to Both Scissor Lifts and Boom lifts**

- 1. Do not use the machinery if it is defective in any way.
- 2. When you are done using the machinery give the key to your foreman at the end of the shift.
- 3. Do not use the machinery as a crane.
- 4. Stay 10' away from any electrical source with the machinery.
- 5. Do not stand on any of the rails at any time, including toe boards.
- 6. Make sure the area below you are clear of people.
- 7. You must tie off to the manufacturer's recommended tie off point.

#### MAKE SURE THAT THE MACHINERY YOU ARE OPERATING ALWAYS HAS THE OPERATING MANUAL WITH IT.

## **Forklift Safety**

## General

- 1. Only trained authorized and competent persons may operate forklifts.
- 2. Al operators must be trained and certified in accordance with OSHA standards.
- 3. Certification must include the name of the operator, date of training and the identity of the trainer.
- 4. The operator is responsible for the safe condition and operation of their machine including daily visual inspections.
- 5. Operators must become familiar with the machines capabilities and limits.
- 6. Passengers are not allowed to ride on forklifts.

## **Forklift Operations**

- 1. Grab rails must be used when mounting and dismounting.
- 2. Keep all body parts inside the operator's compartment.
- 3. Wear hardhat at all times.
- 4. When leaving the machine unattended, operators must fully lower the forks, controls must be neutralized and the parking brake set. On hills or inclines the wheels must be blocked.

## **Job Preparation**

## Layout

- 1. Most layout procedures take place when the jobsite is in different stages of backfill or excavation. For this reason, employees should take care to be sure of their footing and watch for open holes and trenches.
- 2. Other hazards present can include concrete formwork taking place. Watch for nails sticking out of the ground.
- 3. Before straightening anchor bolts, check with the general contractors for proper procedures. Some bolts may require heating to straighten while others may be weakened by heat. Check anchor bolts regardless to see that they have not cracked while being straightened.

## **Unloading and Shaking Out**

- 1. During most unloading and shakeouts, a crane or forklift will be used. Only one person should be flagging the crane or forklift at any one time.
- 2. When working with the crane, watch for the hooks coming in overhead. Leave the hooks overhead and signal the operator down only when the load is ready to be hooked up. Watch for chokers hanging up on dunnage and make sure the chokers are not rigged around especially sharp edges that could cut them.
- 3. As the crane clears the load and starts away with it, keep an eye on the rest of the load in case it should decide to shift.
- 4. Keep hands and feet away from pinch points at all times. If the load should shift or settle, serious injury should occur. Stay in communication with fellow workers at all times. Be sure your partner is aware of instructions about to be given to the operator. Make sure the ground crew is aware that a load is being swung in overhead.
- 5. When unloading with a forklift, make sure that the forks are completely under the load before attempting to hoist it. Forklift operators shall make certain that they are on reasonably level ground before hoisting loads to prevent a tipping situation. Be sure that operators receive proper signals when in the blind. Someone must walk beside the forklift when baking up to warn the operators of possible hazards. Cranes moving about the jobsite shall have an assistant present as well.
- 6. All those rigging loads or handling chokers shall have a rigging chart showing safe working load capacities of rigging to be used. It is a good practice to keep these charts in your wallet or taped to the inside of your hard-hat for quick and easy reference.
- 7. Shake out hooks will be used for shaking out individual beams only. All other loads handled with spreaders will be rigged with bell hooks or bell hooks with swivels.
- 8. Loads shall be placed on dunnage, laid flat on the ground and as possible to prevent beams rolling over after shake out. While lowering loads to the ground stand a good distance away from the load. Before cutting the crane loose from the load, make sure that load is completely settled.
- 9. Loads must always be rigged with chokers or nylon straps of adequate size and strength.
- 10. While unloading and shaking out, it is wise to try to place material in clear vision of the operators. Accidents are less likely to happen if the operator can see the material being handled.
- 11. While shaking out iron, be sure to leave adequate space between beams and make sure that they are setting firmly on the dunnage so that they will not roll or fall over when being rigged for erection.
- 12. Get help with heavy loads. No employees shall lift more than 50 pounds of weight without getting help or using alternative material handling equipment.

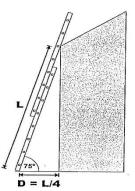
#### Ladders

#### **Extension Ladders**

- 1. All ladders must be inspected prior to use:
  - A. Damaged or missing rungs
    - B. Cracked or damaged rails
    - C. Loose brackets
    - D. Missing feet
    - E. Broken latches
    - F. Make sure manufacturer label is legible. If not legible let your foreman know so that it can be danger tagged and removed from service.
  - 2. Do not try to repair the ladder. If it is no good, danger tag it and remove it from service.
  - 3. When setting up an extension ladder it must pass the landing surface by three feet (3 rungs above). Someone must secure the ladder at the base while it is being tied off at the top by someone else.
  - 4. The ladder must be tied off at the top. In addition, if you can tie the ladder off at the bottom then you must do so.
  - 5. For every 4 feet of building height, the base of the ladder must be set one foot away from the building. *See sketch above*.
  - 6. Always set the ladder on firm, solid ground and make sure that it is secure from slipping or leaning side to side. Use leg extensions whenever necessary.
  - 7. Keep at least one hand on the ladder at all times when climbing up or down.
  - 8. Always face the ladder when climbing in either direction.
  - 9. Keep ladders ten feet away from any electrical sources.
  - 10. If the ladder is over 24' get help to stand it and to take it down.
  - 11. <u>Never split a ladder to reduce its size at any time. If you need a</u> shorter ladder get one.
  - 12. Ladders that are not being used must be stored horizontally and locked up.

#### **Step Ladders**

- 1. Do not lean the step ladders against anything. They were designed to stand straight up and must be opened fully.
- 2. Do not stand higher than the recommended step marked on the step ladder.
- 3. Do not sit on the ladder.
- 4. Keep your body weight centered between the rails of the ladder.
- 5. Do not carry materials up the ladder. Use a rope to hoist the materials after you are tied off.



6. If there is a fall hazard you must tie off before exiting the ladder.

### Scaffolding

- 1. All parts and hardware of scaffold must be inspected for defects prior to assembly.
  - A. Planks
  - B. Wheels
  - C. Framing
  - D. Cross bracing
- 2. No scaffold shall be erected, moved, dismantled, or altered except under the supervision of competent persons.
- 3. The footing or anchorage for scaffolds shall be sound, ridged, and capable of carrying the maximum intended load without setting or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks, shall not be used to support scaffolds or planks.
- 4. Guardrails shall be installed on all open sides and ends of platforms more than 6 feet above the ground or floor, expect needle beam scaffolds and floats. Baker type scaffolds 4 feet to 10 feet in height, having a minimum dimension in either direction of less than 45 inches, shall have standard guardrails installed on all open sides and ends of the platforms.
- 5. Equivalent means of protection may be used instead of guardrails for fall protection while working on scaffolds 10' or higher. Tying off with a harness and lanyard to suitable anchorage is acceptable.
- 6. Scaffolds and their components shall be capable of supporting, without failure, at least 4 times the maximum intended load.
- 7. Any scaffold including accessories such as braces, brackets, trusses, screw legs, ladders, etc. damaged or weakened from any cause shall be immediately repaired or replaced.
- 8. Scaffold planking shall be overlapped a minimum of 12 inches or secured from movement.
- 9. Scaffold planks shall extend over their end supports not less than 6 inches, nor more than 12 inches. Planks shall not be painted.
- 10. Unless the legs are on concrete or similar ridged material, the leg shall rest on a base plate. Where there are conditions of unlevel elevations, this base plate shall be of the adjustable type. All scaffolds being used, as work platform shall be solidly planked.
- 11. Where there is a danger of tools, materials, or equipment falling from a scaffold onto employees below, they must be protected by that area below the scaffold being barricaded so employees are not permitted to enter or toe boards being installed along the edge of platforms more than 10 feet above lower levels.
- 12. Guardrails shall be 2" x 4" material or of complete strength. Crossbracing is not considered to be part of the guardrails.

#### **Platforms**

- 1. THE USE OF ANY PLATFORM OR AERIAL BASKET SUSPENDED BY A CRANE, CHAINFALL, OR ANY OTHER MEANS TO TRANSPORT EMPLOYEES IS STRICTLY FORBIDEN. NON-COMPLIANCE WITH THIS POLICY MAY RESULT IN DISCIPLINARY ACTION UP TO AND INCLUDING TERMINATION.
- 2. Any suspended platform, aerial basket, or other homemade devices used for rigging must be approved by and engineer prior to use. Drawings or plans including the engineer's stamp must accompany these devices at all times.

#### Lifts

- 1. Man lifts, boom lifts, scissors lifts, etc., controls shall be tested each day prior to use to determine that such controls are in safe working condition.
- 2. Only authorized personnel shall operate on a forklift or aerial lift.
- 3. Belting off (tying off) to an adjacent pole, structure, or equipment while working from an aerial lift shall not be permitted
- 4. Employees shall always stand firmly on the floor of the basket and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.
- 5. A harness shall be worn and a lanyard attached to the boom or basket when working from an aerial lift.
- 6. Boom and basket load limits specified by the manufacturer shall not be exceeded.
- 7. Articulating boom and extensible boom platforms, primarily designed for personal carriers, shall have both platform and lower controls. Upper controls shall be in or beside the platform within easy reach of the operator. Lower controls shall provide for the overriding of the upper controls. Controls shall be plainly marked as to their function. Lower level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency. Workers will be properly tied of while in the boom lift.

### **Hazardous** Areas

#### Potential danger hazards

- 1. All structures must be erected in a safe manner and <u>NEVER</u> left in an unstable condition, even during lunch time.
- 2. All lower level ladders must be taken down at the end of the day and locked up.

- 3. If any machinery is left on the jobsite overnight, be sure to give the keys to your foreman.
- 4. Keep potential danger areas like unfinished stairways barricaded.
- 5. You must use flaggers and spotters when offloading material.

#### Working at high levels

- 1. Make sure that all items left at high levels are secured so that they do not fall.
- 2. You must flag off all potential danger zones beneath or around you with danger tape. A danger form must be filled out.
- 3. If a fire watch is needed during an operation the fire watch personnel must watch the area for one half hour after the hot work is finished.
- 4. Remove the danger tape when it is no longer needed.
- 5. Stop operations if an unauthorized person enters the danger zone.

As important as it is to safeguard your co-workers from injury, it is equally important to protect the public from the activities we are performing.

## **Erection**

#### **Structural Steel Assembly**

- 1. The permanent floors shall be installed as the erection of structural member's progresses, and there shall be not more than eight stories between the erection floor and the uppermost permanent floor, except where the structural integrity is maintained as a result of the design.
- 2. At no time shall there be more than four floors or 48 feet of unfinished bolting or welding above the foundation or uppermost permanently secured floor.
- 3. A fully planked or decked floor or nets shall be maintained within 2 stories or 25 feet, whichever is less, below and directly under any erection work which is performed. The intent of this standard is not only to provide structural stability during the erection process, but also to provide fall protection and falling object protection.
- 4. A safety railing of ¹/₂" wire rope or equal shall be installed approximately 42 in. high, around the periphery of all temporaryplanked or temporary metal-decked floors of tiered buildings and other multi-floored structures during structural steel assembly.
- 5. Tag lines appropriate to the situation shall be used on all loads.
- 6. During the final placing of solid web structural members, the load shall not be released from the hoisting line until the members are secured with not less than 2 bolts or the equivalent at each connection and drawn up wrench tight.
- 7. Responsibility for hoisting of materials will be assigned to a Raising Gang Foreman for each project.
- 8. General foreman is the responsible party regarding the stability of the structure and the erection bracing requirements.

## **General Contractor Notice to Proceed**

- 1. As required by CFR 1926.752(a) the general contractor will be notified, by Milestone Industrial Welding Services., that the footings, piers, walls and mortar in the masonry piers and wall, if applicable, has attained on the basis of an appropriate ASTM standard test method of field cured samples, either 75% of the intended minimum compressive design strength or sufficient strength to support the loads during steel erection.
- 2. See attached form "Steel Erection Notification" to be filled out by the general contractor giving Milestone Industrial Welding Services. approval to begin steel erection.

#### 3. <u>In no case will Milestone Industrial Welding Services. proceed</u> without this approval in writing.

## **Plumbing-Up**

- 1. Connections of the equipment used in plumbing shall be properly secured.
- 2. Plumbing-up equipment shall only be removed with the approval a competent person.
- 3. Reference the rigging chart for more information on wire rope clip requirements.
- 4. Temporary bracing cables must be installed as often as necessary to ensure the structures stability during erection.
- 5. A minimum of one bay should be cross braced in every direction as soon as possible after erection begins and as soon as the first bay is framed out unless tied onto a rigid point such as poured in place core walls, existing buildings, etc.

### Decking

- 1. Bundle packaging and strapping shall not be used for hoisting unless specifically designed for that purpose
- 2. If loose items such as dunnage, flashing or other materials are placed on the top of deck bundles they must be properly secured.
- 3. At the end of the shift or when environmental or jobsite conditions require, decking shall be secured against displacement.
- 4. Bundles of decking may not be placed on less than 3 steel joists unless:
  - A. The employer has determined from a qualified person and documented in a site-specific erection plan that the structural portion of the structure is capable of supporting the loads.
  - B. At least one row of bridging is installed and anchored.
  - C. The joist is attached at both ends.
  - D. The total weight of the decking does not exceed 4000 lbs.

#### **Anchor Bolts**

- 1. Unstable columns must be guyed or braced where deem necessary by a competent person.
- 2. Anchor bolts may not be repaired or field modified without the approval of the structural engineer of record.
- 3. If there is any evidence that the anchor bolts have been altered or straightened in any manner, erection may not proceed until the written documentation has been received as stated above.

## **Critical Lifts**

- 1. A critical lift is defined as follows:
  - A. A lift that exceeds 75 percent of the rated capacity of the crane or derrick.
  - B. Or requires the use of more than one crane or derrick.
- 2. Any critical lifts must be designed and planned by a registered engineer who is knowledgeable in critical lifts.
- 3. All critical lift plans must be submitted to the general contractor for approval.

## **Beams and Columns**

- 1. During the initial connection of beams, the hoist line may not be released from the load until each end of the beam is secured with at least two bolts wrench tight.
- 2. Diagonal bracing may be secured by a single bolt per connection wrench tight.
- 3. All columns must be anchored by a minimum of 4 anchor bolts.
- 4. Columns must be set on level finished floors, pre-grouted leveling plates, leveling nuts or shim packs that adequately transfer the construction loads.
- 5. Perimeter columns must not be erected unless:
  - A. They extend a minimum of 48 inches above the finished floor, to permit installation of perimeter safety cables prior to erection of the next story and,
  - B. They have two sets of holes, or other devices that:
    - a. Are 42-45 inches above the finished floor, and also at the midpoint between the finished floor and the top cable and
    - b. Permit installation of perimeter safety cables.

## **Open Web Steel Joists**

- 1. In steel framing, where steel joists or girders are used and columns are not framed in a least two directions with solid web structural steel members (beams), the joist or girder must be bolted at or near columns to provide lateral stability during erection.
- 2. Where joists at or near columns span 60 feet or less, the joist must be designated to support the weight of one erector on a bolted joist to release the hoisting cable without the need for bridging.
- 3. Where joists span more than 60 feet, the joist must be set in tandem with all bridging installed unless an alternative method which provides equivalent stability is designed by a qualified person and is included in the site-specific erection plan.
- 4. Joists may not be placed on structures that have not been stabilized with guy cables or permanent angle braces.
- 5. A bridging terminus point must be established before bridging is installed.
- 6. Joists are not to be modified in any manner with our prior written approval from the engineer of record.

#### **Attachment of Joists and Girders**

- 1. All "K" series joists must be attached to the structure with a minimum of two 1/8" fillet welds one inch long or two  $\frac{1}{2}$ " bolts.
- 2. All "LH" and "DLH" series joists must be attached with two ¹/₄" welds two inches long or two ³/₄" bolts.
- 3. Each joist must be attached on at least one end immediately upon placement in its final erection position and before additional joists are set.
- 4. Panelized joist systems must be attached at each corner before the hoisting cable is released.

## **Erection of Steel Joists**

- 1. One end of all joists must be attached to the structure before allowing the weight of an ironworker on the joist.
- 2. Joists that do not require erection bridging, only one erector shall be allowed on the joist until all bridging is installed and anchored.
- 3. For joists which spans are equal to or exceeding erection stability spans as defined by SJI Specification Section 105, erection bridging located closest to the center of the span must be diagonally bridged and must be bolted into place before releasing the hoist line. A maximum of one erector will be allowed on these spans until all other bridging is installed and anchored.
- 4. Where the span of joist is 60 to 100 feet, the two rows of bridging nearest the third points of the joist must be diagonally bridging and bolted into place before the hoist line is released. A maximum of two erectors is allowed on the span until all other bridging is installed and anchored.
- 5. Joists 100 feet to 144 feet in length must have all rows of bridging installed prior to releasing the hoist line. Only two erectors are allowed in the span until all bridging is installed.
- 6. On all joists that are bottom bearing, diagonal bridging closest to the bearing point of the joist, must be installed prior to releasing the hoisting cables.

## Landing and Placing Loads

- 1. No construction loads are allowed on the steel joists until all bridging is installed and anchored, and all joist bearing ends are attached with the following exceptions:
  - A. A bundle of bridging shall not exceed 1000 pounds.
  - B. A bundle of bridging shall be place on a minimum of three joists which must be secured on one end.
  - C. The edge of the bundle must be placed within one foot of the secured end of the joist.
- 2. A bundle of decking may not be placed on less than three steel joists unless:

- A. The employer has determined from a qualified person and documented in the site-specific erection plan that the structure or portion of the structure is capable of supporting the load.
- B. At least one row of bridging is installed and anchored.
- C. The joist is attached at both ends.
- D. The total weight of the decking does not exceed 4000 pounds.
- E. The edge of the bundle of decking must be placed within one foot of the bearing surface of the joist end.

#### **Anchorage Points**

#### Beamers

- 1. Beamers must be inspected daily before use:
  - A. Arc burns
  - B. Broken Locking latch
  - C. Cracked/deformed ring
- 2. If any of these defects exist, danger tag the beamer and remove it from service.
- 3. Do not use beamers to hoist anything.
- 4. If a beamer has been used in a fall it must be taken out of service and never used again.
- 5. Avoid dropping the beamer.

#### **Retractable Lanyards (Yo-yo's)**

- 1. Retractable lanyards must be inspected daily before use:
  - A. Extend the cable all the way out and check cable for broken strands, bird caging, etc.
  - B. Test the stopping reaction by gripping the snap hook and pulling it out quickly. It must lock as soon as it is jerked
- 2. If any of these defects exist, danger tag the retractable lanyard and remove it from service.
- 3. Avoid dropping the retractable lanyard.

#### **Tie-Off Choker**

- 1. Tie-off chokers must be inspected daily before use:
  - A. Arc marks
  - B. Broken wires
  - C. Abrasions/kinking on cable or bird caging
  - D. Damaged rings
- 2. If any of these defects exist, danger tag the tie-off choker and remove it from service.

### Welding Safety

- 1. When welding your welding hood must attach to your hard hat.
- 2. When welding you must wear either regular leather gloves or welding gloves.
- 3. You must wear safety glasses at all times including when chipping your welds.
- 4. Always inspect and repair the welding lead before welding.
- 5. Do not weld in any conditions that will result in you or anyone else getting electrocuted.
- 6. The area below the welding activities must be inspected prior to welding to ensure that all materials are protected or removed.
- 7. Areas below welding activity must be flagged off with danger tape and a danger form must be filled out.
- 8. You must check with your foreman prior to welding to determine if a fire watch is necessary.
- 9. You must inspect the immediate area to ensure that there are no flammable materials that could be ignited by sparks or welding activity.
- 10. Fire blankets must be used to protect existing structures see your foreman for specific instructions on the use of fire blankets prior to starting.
- 11. Welding hoods must be used at all times when welding including tack welding.
- 12. Inspect the insulators on the electrode and replace when damaged.
- 13. Be aware of welding operations in your area to prevent flash burn to your eyes.
- 14. Do not look at the welding arc without a welding hood.
- 15. Welding machines must have protecting rubber boots at terminal connections.

### **Oxygen/Acetylene Torch Safety**

#### Setting Up

- 1. The torch must be inspected daily before for leaks in the hose, gauges and connections.
- 2. Gauges are working properly with lens caps. When setting up a torch a fire extinguisher must be within <u>ten</u> feet of the torch set up at all times.
- 3. When setting up the oxygen and acetylene bottles, they must be in an upright position and properly secured.
- 4. Always use fire arrestors on both oxygen and acetylene gauges.
- 5. Keep any oils away from the torch.
- 6. If the valve is leaking do not use the bottle, tag it out and remove it from service.
- 7. The bottles must never be used as rollers or supports, whether full or empty.

#### **Traveling/Storage**

- 1. Do not travel with the gauges on the bottles when using machinery to transport them. The caps must be on them when transporting.
- 2. <u>Always get help when carrying an oxygen bottle</u>.

- 3. When storing the bottles, keep the oxygen bottles 25' away from the acetylene bottles, unless separated by an approved fire wall.
- 4. Acetylene storage racks must have a fire extinguisher within 20 feet of them at all times.
- 5. The bottles must have the caps on when they are not in use.

#### Cutting

- 1. Always wear personal protective equipment when working with the torch:
  - A. Gloves
  - B. Cutting goggles
- 2. Do not use a cigarette lighter to start the torch.
- 3. Do not use the torch head to hoist anything.
- 4. Watch the area for fires one half hour after the cutting has been completed.
- 5. Be aware of your surrounding when cutting. Objects that can be damaged by cutting need to be moved or properly protected.
- 6. Do not use the oxygen to clean off your body.
- 7. Do not use the torch head as a hammer.

#### Cranes

- 1. The employer shall comply with the manufactures specifications and limitations applicable to the operation of any and all cranes and derricks.
- 2. Equipment shall be inspected before each use and all deficiencies corrected before further use.
- 3. Accessible areas within the swing radius of the revolving superstructure shall be barricaded.
- 4. Except where electrical distribution and transmission lines have been de-energized and visibly grounded at point of work, or where insulating barriers, not a part of or an attachment to the equipment or machinery, have been erected to prevent physical contact with the lines, no part of a crane or its load shall be operated within 10 feet of line rated 50kV or below; 10 feet + 0.4 inches for each 1 kV over 50 kV; or twice the length of the line insulator, but never less than 10 feet.
- 5. Cranes must be equipped with fire extinguisher, of at least a 10-ABC rating or higher.
- 6. The operator shall have a standard procedure for a morning walk-around. The following items are part of the walk-around:
  - A. Check to see that barricades are in place around the full swing radius.
  - B. Check for loose bolts, nuts, steps, hand grabs, and guards.
  - C. Check all emergency and warning systems.
  - D. Check for loose tracks on crawlers and under-inflated tires.
  - E. Inspect all wire rope.
- 7. Keep operating deck clear of tools, debris, and ironworkers.
- 8. Before hoisting any load at the beginning of the day, hoist and lower the load lines several times applying light pressure to the brake while hoisting in order to dry out all brakes linings and hoist clutches.

- 9. The boom should also be raised and lowered for the same reasons previously stated.
- 10. During cold weather operation, watch for ice that has formed around the inside of the bail sheaves of the boom hoist. This is especially true of Link Belt cranes. For this reason, special care should be taken to boom up before booming down thereby dislodging the ice. Booming down first may cause a situation where line will feed off from the drum and the frozen sheaves will prevent the boom from lowering (temporarily). At any given moment, the ice could break free causing the boom to fall. This sudden shock could cause the line to snap, the boom hoist clutch or brakes to fail, or could under certain circumstances, cause the boom to collapse.
- 11. It is good practice to boom up first, checking to see that the boom hoist is working properly. This way, if anything is wrong, the boom dog will catch more readily than if the boom was running free and the operator tried to engage the boom dog at that point in time.
- 12. All operators shall make it standard practice to read and understand the operator's manual of every machine they operate. Under no circumstances, shall an operator erect or dismantle any crane without first consulting the operator's manual. The manual shall be referred to a frequent interval during any operation when question arises.
- 13. Upon delivering the crane to the jobsite, find the best suitable spot to set up keeping in mind, overhead wires, the terrain that will have to be crossed to get to the work position, and try to anticipate the amount of traffic in the setup area. If conditions are not suitable, get with the foreman on the job or the general contractor. Most times, contractors are more than willing to do whatever excavation is necessary to accommodate safe crane moves on the site. Most contracts include provisions for safe and level access to the site.
- 14. Take the opportunity to speak with the excavator about a good solid pad to work on once the crane gets to the work area. The excavator will most generally know the condition of the ground around the entire jobsite pertaining to backfill areas and the moisture in the ground etc. This information can be of great help when setting up on outriggers to know what size timber will probably be needed to adequate support. At the minimum, use 4"x 4" blocking that is at least four feet long to create a solid base underneath each outrigger pad.
- 15. Never pick any loads without outriggers.
- 16. Track cranes may pick and carry loads when conditions are as close to perfect as possible and even then, there shall be qualified personnel on hand to inform the operator of hazards that may be developing well ahead of time.
- 17. Always use timbers of good quality and not less than 4x4 thicknesses under the outrigger pads when setting up. The wood shall not be less than 4 feet long and used whenever necessary for stability or height, more than one row, cross-cribbed may be needed.
- 18. Always make sure that the outrigger pads are sitting flat on the timbers as close to a 90-degree angle to the cylinder jack as possible.
- 19. It is important that the revolving turntable be dead level more so then the carrier itself. A carrier with any wrap to the frame at all will give an inaccurate sense of being level causing side stress on the boom that could result in boom failure, or at the minimum, false readings of the boom angel indicator.

- 20. Setting the crane up properly will require that all tires on the carrier clear the ground whenever possible. This does not mean that the carrier should be elevated as high as possible, but just enough so that there is no doubt that the total weight of the machine is resting on the outriggers, ensuring maximum stability and hoisting capability.
- 21. Once the crane is set up, check the surrounding area again to make sure there are no overhead wires or other dangers that would require special attention. Check all outriggers again to determine if they have settled.
- 22. Boom the crane down to the furthest working point that will be required during the job. Check the load chart and find out the capacity of the crane at that point. Share this information with the erection foreman so that advance plans can be made regarding the limits of loads to that area.
- 23. Know your flagman, if you have not worked with him before, talk over proper signaling procedures until both parties understand each other. When working in the blind with radios, make sure both parties can be heard clearly.
- 24. If the flagman does not stay in contact with the operator, the operator must stop until communication is resumed.
- 25. A good ground man will keep the operator informed of the weights being hoisted throughout the day. However, it is the operator's responsibility to obtain this information if the ground man neglects to offer it. Never estimate the weight of a load. Always obtain the correct weight.
- 26. Many load charts are based on structural capacity rather than tipping factor. This means that the machine will suffer from structural failure such as boom collapse before it will tip over. Study the charts and know the difference.
- 27. Safe rigging practices are usually followed by most ironworkers, but the ultimate responsibility for any load hoist is the operator. If the operator feels that the load is not rigged correctly or safely, he must not make the pick until all questions are resolved.
- 28. In situations concerning foul weather such as high wind, the operator shall shut the crane down whenever he feels that the conditions would place him or others safety in jeopardy.
- 29. Always work within the charts.

## Rigging

### General

- 1. Lifting equipment and activities shall be inspected daily and not be used for lifting personnel unless an approved personnel carrier or basket is used.
- 2. Riggers shall have a rigging chart available showing the safe working load capacities of the rigging to be use. Rigging charts will be provided by your general foreman.
- 3. Shakeout hooks (pelican hooks) may be used for shaking out individual beams only. All other loads handled with spreaders must be rigged with bell hooks equipped with safety latches.
- 4. Loads must always be rigged with chokers, nylon straps, or hoisting grade chains of adequate size and strength.
- 5. Before rigging a member, you must mark the center of the member with soapstone.
- 6. Nylon straps can only be used for rigging tube steel without sharp attachments.
- 7. Anything that is being hoisted must have a tagline. Tagline must be a minimum of 12 feet long and must be free of knots.
- 8. Any debris must be removed prior to the lift.

## **Multiple Lifts**

- 1. A multiple lift shall only be performed if the following criteria are met:
  - A. A maximum of 5 members are hoisted per lift.
  - B. Capacity of the rigging must have a 5 to 1 factor.
  - C. The members on the multiple lift rigging assembly shall be set from the bottom up.
  - D. Controlled load lowering shall be used whenever the load is over the connectors.
  - E. Beams must be similar and must be stabilized to remain reasonably level.
  - F. The multiple lift rigging assembly shall be rigged with members:
    - a. Attached at their centers of gravity and maintained reasonably level.
    - b. Rigged from the top down.
    - c. Rigged at least 7 feet apart.
  - G. Tied off with tag lines to prevent spinning.
    - a. The tag line used for controlling the load must be attached to the ends of the beams to prevent spinning.
    - b. Tag lines will be attached to the ends of all beams.
  - H. The rigging assembly must be rated for the maximum intended load.
  - I. No crane is permitted to be used for a multiple lift where such is contrary to manufacture's specifications and limitations.
  - J. The total load shall not exceed:

- a. The rated capacity of the hoisting equipment specified in the hoisting equipment load charts.
- b. The rigging capacity specified in the rigging rating chart.
- K. All employees engaged in the multiple lift have been trained in these procedures.

#### Inspections

- 1. All chokers must be inspected before use for:
  - A. Bird caging or excessive twist.
  - B. Excessive kinking, flattening or loss if more than 2 wires of a main strand.
  - C. Evidence of rope deterioration from corrosion.
  - D. Any evidence of heat damage due to welding, arcing or ground connection.
- 2. Shackles must be checked for distortion, wear and damage.
- 3. Damaged rigging and shackles must be taken out of service immediately turned into you foreman to be cut up.

## **Hazard Communication Program**

The following written hazard communication program has been established for Milestone Industrial Welding Services. and will be readily available for review by all our employees. The program can be accessed in our office, as well as our field Foremen and/or the Safety Manager assigned to the project. It will also be made available to the General Contractor for their review and their sub-contractors as well. The Hazard Communication Standard (HCS) is now aligned with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). This update to the Hazard Communication Standard (HCS) will provide a common and coherent approach to classifying chemicals and communicating hazard information on labels and safety data sheets.

#### **Container Labeling**

- 1. Be clearly labeled as to the contents, matching identification on the Safety Data Sheet.
- 2. Have one or more of the OSHA designated pictograms.
- 3. A signal word (Warning or Danger)
- 4. Note the appropriate hazard statement.
- 5. List the name and address of the manufacturer.
- 6. No containers will be released for use until the above data is verified.

## Safety Data Sheets (SDS)

- 1. Copies of SDS for all hazardous chemicals and materials to which employees may be exposed will be maintained in our office and with all field foremen & project safety managers.
- 2. SDS will be available for review by all employees during each work shift. Copies will be available upon request.

### **Employee Training and Information**

- 1. Before starting work, each new employee will attend a safety class and be provided with information on the following:
  - A. Chemicals and materials, and their hazards in their work areas.
  - B. How to lessen or prevent exposure to and prevent injury when using these hazardous chemicals and materials.
  - C. What the company has done to lessen or prevent workers exposure to and prevent injury when using these chemicals and materials.
  - D. Procedures to follow if they are exposed to hazardous chemicals and materials.
- 2. Understand the new label elements and the SDS format of the GHS
  - A. Product identifier: how the hazardous chemical is identified. (Chemical name, code, number or batch number, manufacturer, importer or distributor)
  - B. Signal word: used to indicate the level of severity of the potential hazard. (Danger or Warning)
  - Pictogram: A shape of a square set at a point and includes a black hazard symbol on a white background with a red frame.
     Hazard statement: Describing the nature of the hazard(s) of a chemical.
  - D. Precautionary statement(s): A phrase that describes recommended measures that should be taken to minimize or prevent adverse effects
  - E. Name, address and phone number of the chemical manufacturer, distributor, or importer

3. Before any new hazardous chemicals or materials are introduced into the work place, each employee will be given information in the same manner as during a safety class. Milestone Industrial Welding Services.'s Owner will be responsible for seeing that SDS's on the new chemicals or materials are available.

### Hazardous Non-Routine Task

- 1. If company employees are required to do hazardous non-routine tasks, such as welding in confined spaces, or cleaning of tanks; the employer will provide a competent person to address, how the employees doing the work will be informed about the specific hazards to which they will be exposed.
- 2. What personal protective equipment will be provided, how to correctly use the personal protective equipment and who will be responsible to oversee the operation or operations.

#### **Informing Contractors**

It is the responsibility of the general foreman or the project safety manager to provide contractors and their employees with the following information:

- 1. Hazardous chemicals and materials to which they may be exposed while on the jobsite.
- 2. Measures the employee may take to lessen the possibility of exposure and prevent injury when using the chemicals and materials.
- 3. Steps the company has taken to lessen the risks and prevent injury when using the chemicals and materials.
- 4. Where the SDS sheets are located for chemicals and materials to which they may be exposed.
- 5. Procedures to follow if they are exposed.

#### **Evaluate and Reassess our Program**

1. Lightning Ironwork Weld's Owner will review our hazard communication program periodically to make sure that it is still working and meeting its objectives and to revise it as appropriate to address changed conditions in the workplace (e.g., new chemicals, new hazards, etc.)

## **Jacking Procedures**

In the event that it is necessary to lift (jack) a component in the field the following procedure shall be followed:

- 1. Jacking will be performed with either a porta-power or bottle jack.
- 2. All equipment must be inspected prior to use.
- 3. All jacking, using these devises, must have written approval of this procedure approved by the engineer of record.
- 4. This work must be performed by an individual trained in the proper use of the equipment.
- 5. The jacking devise must be placed on solid substrate.
- 6. The jacks should never be left unattended.
- 7. All work must be completed before the jacking devise is removed.

## **Dust, Fumes and Smoke Procedures**

### General

Workers must be protected from the hazards associated when working conditions create unacceptable levels of dust, fumes or smoke. The following procedures must be followed.

### Dust

- 1. Generally speaking, dust generated at the jobsite is a result of windy conditions. If this dust is being generated because the dirt areas of the jobsite are dry, the general foreman will advise the general contractor of this condition and request watering the site as necessary to eliminate this problem.
- 2. The use of a dust mask is also recommended if it adequately protects the employee.

### Fumes

- 1. Employees must stay aware of their work environment to detect any exposure to fumes from their work or the work of others
- 2. As soon as the presents of fumes are detected the employee should leave the area immediately.
- 3. If the source of the fumes is being generated by others, the general contractor should be notified immediately to take the corrective measures to protect the area from unauthorized entry.
- 4. If the source of the fumes will be generated by work performed by Milestone Industrial Welding Services., the employee must review the SDS sheet for that product with their general foreman and follow the recommended procedures to protect the employee to exposure.

### Smoke

- 1. Smoke exposure is generally a result of welding or cutting operations.
- 2. When smoke is created by welding or cutting, the following preventive measures must be used.
  - A. The operator should stay as far as possible from the smoke source.
  - B. Place yourself upwind of the source.
  - C. Use fans if possible to redirect the smoke.
  - D. In areas where the smoke cannot be properly ventilated, the use of smoke vacuum/filtration devises may be used.
  - E. If none of these measures adequately resolves the situation, stop what you are doing and consult with the general foreman to determine an acceptable procedure.

## **Lead Exposure and Abatement Procedure**

## General

- 1. Hazards involved with employees exposed to lead, are so great, that Milestone Industrial Welding Services. has chosen not to be involved in construction activities that might place our employees at risk of exposure to lead.
- 2. In the event circumstances make it necessary for us to consider such an activity in the future, our firm will employee an independent environmental consultant to administer & monitor a worker protection program, advise us on the procedures necessary to plan such activities and to train our management and employees in the proper and safe methods of dealing with the situation.
- 3. The following model lead exposure/abatement program and information is included to acknowledge our awareness of the hazards of lead exposure and the characteristics of a lead exposure worker protection program.

## Health Hazards of Lead Exposure

- 1. When absorbed into the body in certain doses lead is toxic.
- 2. It can be absorbed into the body by inhalation and ingestion.
- 3. When scattered through the air as a dust, fume or mist, lead can be inhaled and absorbed through the lungs and upper respiratory tract.
- 4. Inhalation of airborne lead is generally the most important source of occupational lead absorption.

- 5. Lead adversely affects numerous body systems and causes forms of health impairment and disease that arise after periods of exposure as short as days (acute exposure) or as long as several years (chronic exposure).
- 6. A short-term dose of lead exposure can lead to a condition that affects the brain that leads quickly into seizures, coma and death from cardio respiratory arrest. Damage to the central nervous system in general and the brain in particular is one of the most severe forms of lead poisoning.

### Scope

- 1. OSHA'S lead in construction standard applies to all construction work where an employee may be occupationally exposed to lead. All work related to construction, alteration, or repair including painting and decorating is included.
- 2. Examples of activities that may involve exposure to lead include:
  - A. Demolition or salvage of structures where lead or materials containing lead are present. Removal of rivets painted with old flaking lead paint is a common source of lead exposure.
  - B. Removal or encapsulation of materials containing lead.
  - C. New construction, alteration, repair or renovation of structures, substrates, or portions containing lead, or materials containing lead.
  - D. Installation of products containing lead.
  - E. Lead contamination from emergency cleanup, (buildings, ships, tunnels, etc.).
  - F. Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location of which construction activities are performed.
  - G. Maintenance operations associated with construction activities.
- 3. Warning signs must be posted in each work area where employee exposure to lead is above the PEL.

#### WARNING LEAD WORK AREA POISON NO SMOKING OR EATING

## Training

- 1. The employer must institute a training program and ensure participation by all employee's subject to exposure to lead or lead compounds at or above the action level on any day. Initial training must be provided prior to initial job assignment.
- 2. Training must be repeated at least annually and must include the following:
  - A. The content of the standard and its appendices.
  - B. The specific nature of operations that could lead to lead exposure above the action level.

- C. The purpose, proper selection, fit, use and limitations of respirators.
- D. The purpose and a description of the medical surveillance program, and the medical removal protection program.
- E. The engineering and work practice controls associated with employees' job assignments.
- F. The contents of the compliance plan in effect.
- G. Instructions to employees that chelating agents must not be used routinely to remove lead from their bodies and when necessary only under medical supervision.
- H. The right to access records under "Access to Employee Exposure and Medical Records", 29 CFR 1910.20.

#### **Exposure to Lead**

- 1. When rivets are removed, regardless of the method of removal, the possibility of fumes from lead paint exists. In these cases, Milestone Industrial Welding Services.'s lead abatement program is to be invoked.
- 2. Hazards involved with employees exposed to lead, are so great, that Milestone Industrial Welding Services. has chosen not to be involved in construction activities that might place our employees at risk of exposure to lead.
- 3. In the event circumstances make it necessary for us to consider such an activity in the future, our firm will employee an independent environmental consultant to administer & monitor a worker protection program, advise us on the procedures necessary to plan such activities and to train our management and employees in the proper and safe methods of dealing with the situation.
- 4. The following model lead exposure/abatement program and information is included to acknowledge our awareness of the hazards of lead exposure and the characteristics of a lead exposure worker protection program.

### **Record Keeping**

- 1. All materials relating to the training program and a copy of the standard must be made readily available to all employees.
- 2. The employer must maintain any employer exposure and medical records to document ongoing employee exposure, medical monitoring and medical removal of workers. This data provides a base to properly evaluate the employee's health.
- 3. Employers must properly record cases on their OSHA Form 300 when the worker:
  - A. Has a blood lead level that exceeds 50mg/di.
  - B. Have symptoms of lead poisoning, such as colic, nerve damage, renal damage, anemia or gum problems.
  - C. Receives medical treatment to lower blood lead levels of lead poisoning.
  - D. In addition, employees or former employees, their designated representatives, and OSHA must be provided access to exposure and medical records in accordance with 29 CFR 1910.20

## Jobsite Safety Inspection Checklist

Project Name:_____ Date: _____ General Contractor:_____Foreman/Safety: _____

		Inspection Criteria	Yes	No	Comments
Α.	General				
	1.	Clean drinking water available?			
	2.	First aid supplies available?			
	3.	First aid supplies adequate for job manpower?			
В.	Personal Protective Equipment				
	1.	Hard hats worn by all personnel in work areas?			
	2.	Eye and face protection worn as required?			
	3.	Hearing protection worn as required?			
	4.	Respiratory protection worn as required?			
	5.	Safety harnesses and lanyards worn for fall protection?			
	6.	Workers dressed properly for the job?			
	7.	Personal protective equipment in good condition?			
	8.	Safety supplies adequate for job manpower?			
C.	Housekeeping				
	1.	Walkways and stairs kept clear of material and debris?			
	2.	Restrooms and eating areas clean?			
	3.	Fabrication and work area clean and orderly?			
	4.	Gang boxes clean and orderly?			
	5.	Trash, scrap, and debris picked up and disposed of?			
D.	Fire Protection				
	1.	Firefighting equipment well marked and accessible?			
	2.	Employees trained to use fire-fighting equipment?			
	3.	Fire extinguishers inspected daily?			

#### **Inspection Criteria**

Comments

- 4. Smoking prohibited where flammables are located?
- 5. Flammables stored and handled in approved containers?

#### E. Material Handling and Lay down area

- 1. Misc. Steel neatly stacked?
- 2. Steel Beams & Joist properly cribbed?
- 3. Loose materials palletized?
- 4. Bolts Properly covered?
- 5. Storage areas kept clear of scrap, debris, and trash?
- 6. Slings and chokers in good condition?
- 7. Chain falls and come-a-longs in good condition?
- 8. Crane & or Forklift operated in a safe manner by operator?
- 9. Workers moved from under suspended loads?
- 10. Workers know and use proper crane & or Forklift signals?
- 11. Crane Radios working properly?
- 12. Workers attach tag lines to loads?
- 13. Hoisting hooks have safety latches?
- 14. Hoisting area and Crane flagged-off?
- 15. Crane and/or Forklift inspected?
- 16. Load limits marked on all hoisting rigs?

#### F. Tools

- 1. Power tools have guards in place?
- 2. Power tools either grounded or double insulated?
- 3. Power tool cords and plugs in good condition?
- 4. All tools & Equipment inspected Daily?
- 5. Broken tools repaired or replaced as needed?
- G. Welding and Cutting
  - 1. Gas cylinders stored upright and secured?

#### **Inspection Criteria**

70

Oxygen cylinders segregated from fuel gas cylinders?

- 3. Fire extinguisher placed near fuel gas?
- 4. Caps secured on all cylinders not in use?
- 5. Welding leads in good condition?
- 6. Welding blankets used to protect materials/equipment and/or fire watches posted as needed?
- 7. Are electrodes stored in rod ovens?
- 8. Proper permits issued (as required)?
- 9. Fire extinguishers kept close to hot work areas?

#### H. Electrical

- 1. Extension cords heavy duty, 3-wire type?
- 2. Extension cords free of cuts or splices?
- 3. Sufficient lighting to work and move safely?

#### I. Ladders

- 1. Straight ladders secured at top landing?
- 2. Straight ladders extend 3 feet above top landing?
- 3. Straight ladders have level feet at bottom?
- 4. Straight ladders set up with a 4 to 1 slope?
- 5. Top step of stepladders not used as a step?
- 6. Climbing the back of stepladders prohibited?
- Workers use the proper height ladder for the job?
- 8. Portable ladders used only by company employees?

#### J. Scaffolds and Man lifts

- 1. All scaffold parts and hardware used as required?
- 2. All scaffold hardware and parts in good condition?
- 3. Scaffolds fully planked?
- 4. All scaffold planks cleaned?
- 5. Scaffolds have guardrails, mid-rails, and toe boards?
- 6. Wheels on rolling scaffolds locked during scaffold use?

#### Yes No

Comments

	Inspection Criteria	Yes	No	Comments				
7.	Workers prohibited from riding rolling scaffolds?							
8.	Man-lifts in good operating condition?							
9.	Only trained employees allowed to operate man-lifts?							
10.	Man-lifts on level ground?							
11.	Workers tied-off while in boom lift?							
12.	Man, lifts inspected daily?							
Handrails and Hole Covers								
1.	Perimeters and drop-offs protected by Guard rails?							
2.	Railings sturdy, continuous, and have mid- rails?							
3.	Temp Safety Guard Rails Signed off by GC?							
4.	Floor holes protected by railings or hole covers?							
5.	Hole covers marked & secured to prevent movement?							
6.	Stair Rails in place or Danger Tape (no access)							

7. Stairs signed off by GC?

Κ.

#### ATTACH ADDITIONAL COMMENTS TO BACK OF FORM

Rev. 03/20/17

Inspection Completed by: _____