Corporate Safety Program

Safety Director:  Rick Waldron (208) 589-7306

Owner:          Ryan Donahue (208) 866-6955
Owner:          Kevin Donahue (208) 339-5602
Owner:          Jack McNamara (208) 720-0977

Donahue-McNamara Steel, llc
PO Box 1250
Sun Valley, ID 83353
## Table of Contents

<table>
<thead>
<tr>
<th>Safety Policy Statement</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Goals and Safety Objectives</td>
<td>6</td>
</tr>
<tr>
<td>Policy Purpose and Scope</td>
<td>7</td>
</tr>
<tr>
<td>Responsibility and Accountability</td>
<td>7</td>
</tr>
<tr>
<td>Subcontractors Responsibility</td>
<td>9</td>
</tr>
<tr>
<td>Employee Safety Orientation Policy</td>
<td>12</td>
</tr>
<tr>
<td>Safety Training and Education Policy</td>
<td>13</td>
</tr>
<tr>
<td>Project Safety Meeting Policy</td>
<td>14</td>
</tr>
<tr>
<td>Safety Committee Policy</td>
<td>14</td>
</tr>
<tr>
<td>Site Inspection Policy</td>
<td>15</td>
</tr>
<tr>
<td>First Aid Policy</td>
<td>15</td>
</tr>
<tr>
<td>Posting Policy</td>
<td>16</td>
</tr>
<tr>
<td>Emergency Procedure Policy</td>
<td>16</td>
</tr>
<tr>
<td>Accident Investigation Policy</td>
<td>17</td>
</tr>
<tr>
<td>Record Keeping Policy</td>
<td>19</td>
</tr>
<tr>
<td>Modified Work Program</td>
<td>19</td>
</tr>
<tr>
<td>Alcohol and Drug Policy</td>
<td>20</td>
</tr>
<tr>
<td>Safety Violation Instructions</td>
<td>23</td>
</tr>
<tr>
<td>OSHA Inspection Policy</td>
<td>24</td>
</tr>
<tr>
<td>Chemical Hazardous Communications Policy</td>
<td>25</td>
</tr>
<tr>
<td>Hot Work Policy</td>
<td>27</td>
</tr>
<tr>
<td>Respirator Policy</td>
<td>28</td>
</tr>
<tr>
<td>Lead Policy</td>
<td>30</td>
</tr>
<tr>
<td>Blood Borne Pathogen Policy</td>
<td>30</td>
</tr>
<tr>
<td>Confined Space Entry Policy</td>
<td>31</td>
</tr>
<tr>
<td>Fall Protection Policy</td>
<td>31</td>
</tr>
<tr>
<td>Excavation Policy</td>
<td>32</td>
</tr>
<tr>
<td>Construction Lockout Policy</td>
<td>36</td>
</tr>
<tr>
<td>Company Vehicle Fleet Policy</td>
<td>39</td>
</tr>
<tr>
<td>Glossary of Terms</td>
<td>53</td>
</tr>
</tbody>
</table>
Technical Safety Requirements

- General Safety and Health 55
- Housekeeping 55
- Personal Protective Equipment 57
- Fire Protection 59
- Temporary Heating 60
- Welding and Cutting 61
- Hand and Power Tools 62
- Signs, Signals, and Barricades 63
- Fall Protection 64
- Floor and Other Openings 65
- Guardrail Systems 65
- Falling Object Protection 66
- Additional Fall Protection Requirements 66
- Residential Fall Protection 67
- Safety Monitoring Systems 68
- Scaffold 69
- Stairways and Ladders 75
- Aerial Lifts 79
- Electrical 79
- Trenching and Excavation 80
- Cranes 82
- Rigging 84
- Equipment and Motor Vehicles 84
- Powered Industrial Trucks (Forklifts) 85
- Concrete and Masonry 88
- Steel Erection 90
- Demolition 92
- Material Handling 93
- Back Injury Prevention, Ergonomics, & Stretching 95
# APPENDICES

<table>
<thead>
<tr>
<th>Document</th>
<th>TAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Discipline</td>
<td>1</td>
</tr>
<tr>
<td>Employee Discipline Report</td>
<td>2</td>
</tr>
<tr>
<td>Job Hazard Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Employee Responsibilities</td>
<td>4</td>
</tr>
<tr>
<td>Subcontractor Notice of Safety Violation</td>
<td>5</td>
</tr>
<tr>
<td>Stop Work Order</td>
<td>6</td>
</tr>
<tr>
<td>Needs Assessment and Pre-Const Checklist / Scaffold Inspection</td>
<td>7</td>
</tr>
<tr>
<td>Employee Orientation Checklist</td>
<td>8</td>
</tr>
<tr>
<td>Emergency Procedures / Fire Extinguishers</td>
<td>9</td>
</tr>
<tr>
<td>Safety Bulletin Board</td>
<td>10</td>
</tr>
<tr>
<td>Accident Investigation</td>
<td>11</td>
</tr>
<tr>
<td>Injury Report / Near Miss Report</td>
<td>12</td>
</tr>
<tr>
<td>Record Keeping</td>
<td>13</td>
</tr>
<tr>
<td>OSHA Inspection</td>
<td>14</td>
</tr>
<tr>
<td>Hazardous Communication / Hazardous Chemical List</td>
<td>15</td>
</tr>
<tr>
<td>MSDS Request Letter</td>
<td>16</td>
</tr>
<tr>
<td>Hazardous Communication Training Letter</td>
<td>17</td>
</tr>
<tr>
<td>CDL / Driver Checklists and Inspections</td>
<td>18</td>
</tr>
<tr>
<td>Hot Work</td>
<td>19</td>
</tr>
<tr>
<td>Lead Policy</td>
<td>20</td>
</tr>
<tr>
<td>Blood Borne Pathogens</td>
<td>21</td>
</tr>
<tr>
<td>Confined Space Entry</td>
<td>22</td>
</tr>
<tr>
<td>Excavation Checklist / Inspection</td>
<td>23</td>
</tr>
<tr>
<td>Safety Training Signoff Form</td>
<td>24</td>
</tr>
<tr>
<td>Safety Committee</td>
<td>25</td>
</tr>
<tr>
<td>Critical Lift Plan and Pre-engineered Lift Procedure</td>
<td>26</td>
</tr>
<tr>
<td>Emergency Evacuation Plan</td>
<td>27</td>
</tr>
</tbody>
</table>
DONAHUE MCNAMARA STEEL
SAFETY POLICY STATEMENT

It is Donahue McNamara Steel's policy to provide and maintain a safe and healthy work environment for all its personnel.

To achieve this goal, every reasonable effort shall be made to utilize the principles of accident and loss prevention in the management of all activities and programs.

Specifically, it is our management’s responsibility to identify, control and/or eliminate known hazards which can result in personal injury or illness, property damage, fire, breach of security, negative environmental impact or any other form of controllable loss.

All personnel are ultimately responsible for their own safety by complying with legislative, company and industry standards, as well as by promptly reporting all unsafe acts or conditions to supervisors. Supervisors are responsible for taking immediate action to solve such problems.

The success of our safety and loss prevention program requires the dedication, commitment, involvement and participation of all personnel working together to achieve this common goal.

Signature of Kevin Donahue (Owner):

Signature of Jack McNamara (Owner):

Signature of Ryan Donahue (Owner):

Signature of Rick Waldron (Safety Director):
SAFETY GOALS

The safety goals of Donahue McNamara Steel are structured around the following principals:

A. All injuries can be prevented.
B. Management and supervision has the responsibility for preventing personal injury.
C. It is possible to safeguard all exposures that may result in injury.
D. It is necessary to train all employees to work safely and to understand that it is to their advantage, as well as the company’s, to work safely and that they have a definite responsibility to do so.
E. It is good business from the standpoint of both efficiency and economy to prevent injuries on the job and off the job.
F. Safety is an equal partner with production, cost, and quality of work.

SAFETY OBJECTIVES

The objectives of this policy are as follows:
A. To provide safe and healthy working conditions to the maximum event possible.
B. To achieve the lowest possible number of injuries at all company project locations.
C. To develop in personnel a recognition that:
   - The prevention of injuries is significant and important to the accomplishment of corporate safety goals.
   - Safety performance of each operation will be considered, along with other criteria, when management and Foreman performance evaluations are made.
   - Employee accidents add directly to company costs, whether on-the-job (worker’s compensation) or off-the-job (group insurance plans, sick pay benefits, etc.); and the same is true of accidents involving employees dependents covered under the insurance plan.
D. To carry out the company’s obligations under federal state, and local safety and health laws and regulations.
E. To achieve the lowest possible level of off-the-job injuries.
POLICY PURPOSE AND SCOPE

A. To assign responsibilities and accountabilities for managing the Corporate Safety Program.
B. To assign individual accountability to corporate staff, project management, Foreman and employees.
C. To set forth the Company policy on safety and standard procedures that will be practiced by all employees. These procedures will be directed toward the common goal of preventing personal injury as well as equipment / property damage.

RESPONSIBILITY AND ACCOUNTABILITY

Corporate Management's Responsibility
In order to achieve the objective of maintaining a safe workplace for all employees, the President, Vice-President, and Project Managers must participate by initiating the Corporate Safety Program and giving their full support to the Program. Corporate management supports the Corporate Safety Program as follows:
A. Ensure all company operations comply with the Corporate Safety Program through monitoring and accountability of Project Managers and Foreman.
B. Assist in communicating the importance of adhering to the Corporate Safety Program through consistent support and monitoring of the projects.
C. Actively demonstrate commitment to the safety and health of all employees and express support for the Corporate Safety Program. This will be accomplished by the adherence to the Corporate Safety Program.
D. Ensure Foreman are provided with the necessary resources, training, budget, and other proven loss control tools to effectively administer a pro-active Corporate Safety Program.
E. Formally recognize Foreman progress in providing a pro-active Corporate Safety Program through awards, letters of commendation, and other positive efforts.

Foreman Responsibilities
At the project level, the primary responsibility for safety and the Corporate Safety Program and its results is that of the Foreman. His responsibility is to ensure all policies contained within the Corporate Safety Program are carried out operationally. These policies will be implemented through direct managerial support. Foreman will be accountable for the following:

A. Ensure all employees follow the policies of the Corporate Safety Program. Employees violating ANY safety policy or procedures may be subject to discipline. (Appendix 1 and 2).
B. Provide guidance and resources to Foreman for the implementation and maintenance of a pro-active Corporate Safety Program.
C. Ensure that the Foreman fulfills his/her responsibilities for accident prevention outlined in Foreman responsibilities.
D. Ensure, through proper planning and execution, all projects are given a hazard analysis before a task begins. Results of the hazard analysis will be made known to all corporate management for input on how to mitigate the hazards. Ensure all agreed-to mitigation techniques will be implemented. *(Appendix 3)*

E. All hazard analysis training will be documented as to content and those in attendance. Copies will be kept on site and at the corporate office.

F. Ensure Foreman are provided with the necessary resources, training, and other loss control tools to effectively administer a pro-active Corporate Safety Program. This will be accomplished by utilizing corporate safety resources, **First Link Safety Services**, seminars as well as other pro-active safety training.

G. Actively demonstrate their commitment towards the safety and health of all employees and express support for the Corporate Safety Program. This will be accomplished by demonstrating follow through and feedback to the employees on all safety issues brought to their attention.

**Foreman Responsibilities**

A. Ensure employees follow the company safety policies and procedures. Employees violating any safety policy or procedure will be disciplined and/or discharged depending on circumstances. *(Appendix 1 & 2).*

B. Provide all new employees with a thorough, documentable orientation utilizing a standard safety orientation checklist. A follow-up safety orientation must be completed at regular intervals after initial orientation.

C. Inform the corporate headquarters of all accidents as soon as possible. Investigate all accidents, complete accident investigation reports and ensure proper corrective action has been taken, all within the shift the accident occurred. Forward all Accident Investigation Reports to corporate office within 24 hours.

D. Observe employee work procedures and correct unsafe practices when found. Corrective action will be documented and kept in the employees work file at the corporate office.

E. Instruct employees in proper job safety procedures. Document the training, and include it in the employee’s work file at the corporate office.

F. Ensure identified unsafe conditions are corrected by completion of a weekly inspection checklist. All known unsafe conditions will be corrected immediately. Actions taken will be documented and included in the project files.

G. Conduct and document toolbox safety meetings at least every week with all operations employees. Topics covered in the meeting and its attendants will be included in the project documents and sent to the corporate office.

H. Stimulate and motivate employees to work in a safe manner through aggressive, documented training and re-training on safe work practices.

**Employee Responsibilities** *(Appendix 4)*

A. Employees will accept the established Corporate Safety Program as part of their responsibility to eliminate accidents. They should utilize all loss control measures, observing safe work practices, using proper safety devices, using personal protective equipment as required, and making prompt reports to their
immediate Foreman at the occurrence of each industrial injury or occupational illness.
B. Employees have a responsibility to encourage fellow workers to work safely and to report existing or potential hazards as they are recognized.

SUB-CONTRACTORS RESPONSIBILITY

The Subcontractor is required to:
A. Adhere to and comply with Donahue McNamara Steel policies and procedures, state and local regulations, and applicable provisions of CFR 29 Chapter XVII - Occupational Safety and Health Administration part 1926 “Safety and Health Regulations for Construction.
B. The sub-contractor is required to instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his/her work environment, as well as control or eliminate any hazards or other exposure to illness or injury.
C. The following violations are grounds for IMMEDIATE REMOVAL of subcontractor’s personnel from a job site.
   1. Disregard of safety and health rules and regulations, repeated violations or refusal to follow safety and health regulations.
   2. Fighting (physical contact), horseplay or gambling.
   3. Theft.
   4. Drugs or alcohol (possession or under the influence).
   5. Willful destruction of property.
   6. Possession of firearms or explosives.
   7. Any act or omission that could inflict or result in bodily harm or death.
D. The subcontractor will conduct a weekly safety meeting with its’ personnel. A copy of the written minutes and attendance of each meeting will be given to the Donahue McNamara Steel representative.
E. When necessary, the subcontractor will complete a hazard analysis form and returns it to the project Foreman prior to commencing that portion of work. (Appendix 3)

When required by Donahue McNamara Steel and CFR 29 1926, a copy of any certification, designed by engineer, proof of certification, or proof of competent person will be submitted to the Donahue McNamara Steel representative.
Sub-Contractors Pre-Construction Meeting

A pre-construction safety meeting will be held before a subcontractor and its lower tier subcontractors begin work. This meeting will be held with Donahue McNamara Steel project representatives and the contractor’s key site representative, such as the job Foreman. Discussion will center on the project safety manual and requirements. It is at this time that the subcontractor will present:

1. A copy of the company written safety program.
2. A copy of the company written hazardous communication program.
3. Name of the contractor’s on-site safety coordinator.
4. Name of the competent person when required by federal and state regulations, i.e. excavations and scaffolding.
5. Copy of crane annual inspection. (If applicable)
6. Copy of MSDS for all materials that will be used on the project.
7. Proof of qualification for operators, i.e. dozers, cranes, and as required by federal, state and local laws.
8. Any additional items as required by contract documents.
10. Copy of certified drawing, i.e. scaffolding and excavation shoring. (If applicable)
11. Equipment and safety certifications.

Sub-Contractor Safety Violation Notification (Appendix 5 & 6)

If a Donahue McNamara Steel representative notifies the subcontractor or its lower tier subcontractor of any non-compliance with the Donahue McNamara Steel and/or OSHA safety regulations, the subcontractor will immediately correct the deficient conditions. If the contractor fails to comply promptly with the directive, the Donahue McNamara Steel representative may stop all or any part of the work of the subcontractor. In this event, when satisfactory corrective action is taken by the subcontractor, a start order is issued by the Donahue McNamara Steel representative. No part of the time lost due to any safety violation is subject to claim of extension of time or for excess costs or damage by the subcontractor or its lower tier subcontractor.

For serious or repeat violations not corrected within 2 working days, Donahue McNamara Steel can perform or cause to be performed the necessary work and back-charge the contractor who is in non-compliance.

Contractors are required to discipline and/or remove from the work site employees who violate established rules and regulations.
Site Safety Inspection (Appendix 7)

A Donahue McNamara Steel representative (Foreman or designated person) will conduct regular inspections of the job-site. Each sub-contractor will also conduct frequent and regular inspection of his/her work area to assure that safety requirements and practices are being enforced.

This inspection includes, as a minimum:

1. Site conditions.
2. Tools.
4. Equipment.
5. Any areas that may compromise the safety of individuals or property.

Discussion of all safety deficiencies and corrective action will be noted at the site safety and coordination meeting.
EMPLOYEE SAFETY ORIENTATION (APPENDIX 8)

Federal and State laws require employers to provide to each employee information and training necessary to safely complete his/her job assignment. As part of the employee orientation, it is the responsibility of the Foreman to see that the safety checklist is completed for each new employee.

A. Company Safety Rules (Appendix 4)
   All new employees will receive a copy of the company safety rules on their first date of employment.

B. Project Orientation
   A project tour will be given in order to identify areas of danger, hazardous materials and location of exits, fire extinguishers and first aid facilities.

C. Emergency Procedures (Appendix 9)
   Instruction will be given on specific actions to take in the event of an emergency. This will include where to go and what to do.

D. First Aid/Medical Treatment Procedures
   The new employee will be instructed to notify his/her immediate Foreman when an accident occurs and to contact the emergency unit by calling the appropriate posted number. Employees will be briefed on each job site as to the appropriate emergency number.

E. Reporting Injury, Illness, Unsafe Act or Condition
   Instruction will be given as to how, where and when to report injuries and unsafe conditions or practices.

F. Personal Protective Equipment
   If personal protective equipment is required for the new employee's job assignment, it will be issued to the employee by the Foreman or department manager and specific training will be given on use and care.

G. Job Safety Procedures
   The Foreman will instruct the new employee in correct job safety procedures. This training will be consistent with the Standard Operating Procedures (SOP's) for the specific task.

Foreman will emphasize the need for greater safety awareness and provide timely safety training, holding safety meetings with their employees and distributing safety related information.
SAFETY TRAINING/EDUCATION PROGRAM

A. Company’s Responsibility

In order to provide a safe work environment, Donahue McNamara Steel is committed to providing adequate and appropriate safety training and education to its employees. Donahue McNamara Steel provides a Safety Orientation Program and ongoing education to keep employees well informed of the safest and most efficient work practices for each respective work area. The safety training programs mainly emphasize accident/injury prevention in various phases of operation.

Safety training and education programs include fire extinguisher use, first aid & CPR training, hazardous materials (where applicable), fall protection, confined space entry, personal protective equipment, and Lock out Tag out.

In addition, the corporate management staff will provide resources as necessary for use by the Foreman in the management of their respective safety challenges.

B. Foreman’s Responsibility

The Foreman is responsible to provide a safety orientation to each new employee on how to perform each work task in a safe and efficient manner. The orientation will include the use and care of personal protective equipment, emergency procedures, location of first aid equipment, location of material safety data sheets, and the proper use of hazardous materials (where applicable).

For more information on OSHA’s Training Requirements, refer to this webpage: http://www.osha.gov/doc/outreachtraining/htmlfiles/osha2254.html
PROJECT SAFETY MEETINGS (Tool Box Safety Meetings)

Foreman will emphasize the need for greater safety awareness and provide timely safety training by holding safety meetings with their employees and distributing safety related information whenever it is reasonably achievable.

Safety meetings will be held for operations employees at least weekly and a relevant safety subject will be discussed. These meetings will be a minimum of ten minutes and will allow for questions and answers. The meetings will present the opportunity for all members to address safety problems and issues. Documentation of attendees for each meeting will be kept on file for three years.

These meetings will also unveil information on any new hazards or processes introduced into the project that have the potential to effect safety and health of the employees.

SAFETY COMMITTEE (see Appendix 10)

Responsibilities
A. Implement and monitor company safety programs.
B. Review the safety performance of all operations of the respective departments, operations and projects.
C. Identify safety deficiencies and establish procedures to eliminate those deficiencies, including onsite inspection programs.
D. Review and make recommendations to management regarding safety suggestions and/or recommendations from individual employees.
E. Review accidents and make recommendations for immediate prevention measures and control of hazards.
F. Analyze accident reports to determine:
   • Trends in frequency or severity of accidents that indicate a need for added safety education.
   • Problem areas or operations that need increased attention.
   • Accidents repeat offenders who may need additional training and supervision.
G. Evaluate accident investigations to determine if reported unsafe conditions and acts have been adequately identified and corrected.
   Meet monthly to discuss the reports described above. Information that is to be relayed to employees will be addressed in the weekly project safety meeting and will be posted on the safety bulletin board.
H. Meet monthly to discuss the reports described above. Information that is to be relayed to employees will be addressed in the weekly project safety meeting and will be posted on the safety bulletin board.
I. Coordinate emergency response and evacuation procedures.
Safety Committee Meeting
A. The safety committee will be composed of members selected by corporate management and corporate management representatives.
B. Employee representation on the committee will be for a period of one year.

Safety Committee Guidelines
A. Determine meeting time, place and posting location so that employees as well as members will be informed of upcoming meetings.
B. Maintain, distribute and post written minutes of safety meeting.
C. Maintain and post a current list of safety committee members by name and department. This indicating dates of the committee member’s term of tenure.

SITE-INSPECTION (Appendix 7)

Each project must be inspected by the Project Foreman or his representative daily to ensure a safe environment and to maintain compliance with current local, State and Federal laws. The results of these inspections will be documented and will be placed in the project file. A recap of deficiencies found and corrections made will be forwarded to corporate office on a weekly basis for budget and training considerations.

During the course of the inspection, an unsafe act or condition may be recognized. If so, action will be immediately taken to eliminate the hazard.

FIRST AID, TRAINING, KITS AND SIGNS

A. All operations Foreman will be trained in first aid and in CPR. If their duties require absence from the job-site then other persons will be designated for first aid.
B. Other persons may be trained and designated by management to surpass or augment the standard requirements.
C. First aid kits will be in accordance with the requirements of the General Safety and Health Standards of Sub Part C of CFR 1926. These units will be properly maintained and stocked.
D. Signs listing emergency numbers, procedures, etc., will be located next to each telephone.
POSTING POLICY (Appendix 10)

On each project there will be a bulletin board designated for safety related information. This board will include the following:

A. Employer/employee notification of workman’s’ compensation insurance.
B. Safety bulletins and posters.
C. Emergency telephone numbers.
D. Evacuation layout drawing.
E. Minutes of safety committee and safety department meetings.
F. Significant changes in operations affecting safety and health.

EMERGENCY PROCEDURES (Appendix 9)

In case of fire:

A. The first employee to notice a fire should activate the nearest alarm to alert all other people in the building, proceed to the nearest telephone and call the appropriate emergency number and, if possible, notify the nearest Foreman about the location of the fire.

B. All employees should immediately evacuate the building according to the emergency plan located on the safety bulletin boards and proceed to a designated area so that all personnel may be accounted for. All employees should stay within their assigned area until informed to return to the building or to do otherwise.

C. If appropriate, Foreman should turn off equipment and close all windows.

D. Drills will be conducted to reinforce the proper procedures for emergency evacuations. Facilities should be checked during self-inspections for hazards that will restrict quick responses to emergency situations. This checklist will include:
   1. Pathways to exits will remain unobstructed.
   2. No permanent locking of the exit doors except from the outside.
   3. Doors resembling exiting doors will be marked "NOT AN EXIT".
   4. Alarms will be checked for physical damage and operating condition.
   5. Illumination within the department and individual exiting lights will be bright enough to identify all exit pathways and doors.
ACCIDENT INVESTIGATION AND REPORTING (Appendix 11)

Donahue McNamara Steel’s Foreman will be notified immediately when an accident has occurred. The first responsibility is to insure that first aid and medical treatment have been administered.

All accidents will be investigated. Pictures of accident site must be taken as soon as possible. Donahue McNamara Steel’s Foreman or designated person will be advised of the initial results of the investigation within 24 hours.

In addition, all subcontractors and lower tier subcontractors will forward to Donahue McNamara Steel’s representative a copy of Donahue McNamara Steel’s injury report form.

Accident Report Procedures (SEE APPENDIX 12)

A. Injury and/or Illness
   1. An employee involved in a work-related injury or illness will report it immediately to his/her Foreman.
   2. On notification of the injury or illness, the employee and Foreman will complete an incident report and submit it to the corporate office within 24 hours.
   3. If the injured worker requires medical treatment, the appropriate accident report form should be completely filled out.
   4. The Foreman will complete an accident investigation form and send this, along with signed copies of the appropriate accident form to the corporate office within the shift the accident occurred or when you were notified. Witness reports are required to be filled out and sent with the accident report form.
   5. An OSHA 300 Log, supplied by corporate management staff, will be posted by each project Foreman at their job-site.

B. Vehicular Accidents
   1. An employee involved in a vehicular accident in the course of his/her employment must report the incident to his/her Foreman immediately.
   2. On notification of the accident, the employee's Foreman should conduct a complete investigation immediately. Pictures of the accident site are required.
   3. The employee should complete a written statement describing the accident and the appropriate accident report form, if any injury or property damage was incurred.
   4. The Foreman will complete his/her portion of the accident report and return it within the day to the corporate office.
5. If the incident is a vehicular injury accident, the Foreman must take the employee to a medical department for treatment.
6. All vehicular accidents must be reported to the corporate office immediately.

**ACCIDENT INVESTIGATION (SEE APPENDIX 11)**

The purpose of an accident investigation is to discover and correct hazardous conditions and practices in order to provide a safe and productive work environment.

**A. Procedure**
When a vehicular and/or industrial accident occurs, the following information must be obtained.
1. Who was involved?
2. Exact location of the accident.
3. The exact date and time of the accident.
4. The sequences of events leading up to and involved in the accident.
6. What conditions, if any, attributed to the accident?
7. What unsafe act(s) or unsafe condition(s) contributed to the accident?
8. What was the underlying cause or causes of the accident

**B. Accident and Investigation Reports**
All vehicular and/or industrial accidents must be investigated and the proper reports must be completed and forwarded to the corporate office. A Foreman investigation report must accompany all vehicular and/or industrial injury reports that are turned in to the corporate office.

**C. Property Accidents**
Accidents involving any vehicle, building and/or equipment must be investigated at the scene of the accident by the appropriate Foreman as soon as possible. All accidents must be reported to the corporate office immediately.

**D. Employee’s Responsibility (Appendix 4)**
The employee is responsible to immediately report an accident to his/her Foreman and to fill out the employee portion of the industrial accident claim form(s) as soon as possible. The completed form(s) must be examined and verified by the appropriate Foreman and forwarded to the corporate office.
RECORD KEEPING (APPENDIX 13)

Records will be kept for three years on all of the following:
A. Log of Occupational Injuries and Illnesses (OSHA 300).
B. All Accident Reports:
   1. Industrial injury
   2. Incident reports

A master file will be maintained by management containing the following:
A. Company policy and procedures covering safety, loss control, accident prevention and a safe, healthy work environment.
B. Minutes of all safety committee meetings three years on file.
C. Inspection reports for three years on file.

MODIFIED WORK POLICY

The purpose of Donahue McNamara Steel's Modified Work Program is to minimize the results of an injury for both the employee and the company.

"Modified work", means temporarily placing the employee in a working environment that would not cause a further aggravation of an injury or previously existing condition. Modified work is accomplished by working directly with the employee, their supervisor and treating physician. Employees and treating physicians must understand the Donahue McNamara Steel modified work program. This is the responsibility of the Project Foreman and the Donahue McNamara Steel Insurance Coordinator.

The employee must notify his direct supervisor and Project Foreman immediately of any injury or condition that would place him or her in jeopardy during normal work assignments. Failure to report any such condition may be grounds for termination of employment and denial of workers' compensation benefits.

If the employee is under a physician's care, the employee must report this to his or her direct supervisor and the Project Foreman immediately. A copy of the treating physician's report listing specific work restrictions must be presented to the Project Foreman. The Foreman will then work with the employee and his direct supervisor to place the employee in a temporary modified work position that will not violate any restrictions listed by the treating physician.

Employees placed in a modified work assignment must inform their supervisor of any required physician visits that may occur during normal working hours. Otherwise, the employee will be required to be on the project during normal working hours. Efforts will be made to keep the employee working on the project where the injury may have occurred. However, this may not be feasible in all
cases. The employee may be required to report to another work location where a more suitable work environment can be developed.

Any employee placed on a modified work assignment will be evaluated on a weekly basis to monitor his or her recovery and ability to return to a regular work assignment. This will be the responsibility of the Project Foreman, working in conjunction with the employee, treating physician, and the Donahue McNamara Steel Safety Director.

Subcontractors who have employees injured or placed in a modified work assignment as a result of an incident that may have occurred on a Donahue McNamara Steel Construction Project are required to provide weekly medical updates on the employee's condition to the Project Foreman and Donahue McNamara Steel Corporate Management.

**ALCOHOL AND DRUG ABUSE POLICY**

In striving to maintain a safe, healthful and productive work environment Donahue McNamara Steel recognizes that it is not immune from the nationwide societal problem of alcohol and drug abuse. In order to limit the impact of alcohol and drug abuse on the company's workplace and employees, Donahue McNamara Steel has adopted this Alcohol and Drug Abuse Policy.

Donahue McNamara Steel prohibits and will take disciplinary action up to and including discharge for the following:

1. The unauthorized use, possession, manufacture, distribution, dispensation or sale of alcohol, drugs or drug paraphernalia on company premises, in company-supplied vehicles, or in any location while on company business. For the purpose of the Policy, "drugs" include marijuana, cocaine, opiates, PCP, amphetamines and any other controlled substances. Unauthorized possession includes possession on an employee's person, as well as storage in a locker, desk, company or personal vehicle, or any other repository on company premises or while on company business.

2. Performing any job duties under the influence of alcohol or drugs on company premises, in company-supplied vehicles, or in any location while on company business. An employee will be considered to be "under the influence" of alcohol or drugs if he or she exhibits recognizable symptoms of alcohol or drug abuse, including, but not limited to, slurred or inappropriate speech, dazed appearance, uneven gait, altered attention span, other symptoms or tests positive for the presence of alcohol or drugs.

3. The possession, use, manufacture, distribution, dispensation or sale of alcohol or drugs off company premises that may adversely affect the
individual’s work performance, his or her own or other’s safety at work or the company's reputation in the community.

4. Refusal or failure to follow reasonable instructions issued by a supervisor implementing this Policy.

Disciplinary action may also be imposed for the following:

1. Conviction under any criminal drug statute for a violation occurring in the workplace or in another location while on company business;

2. Conviction under any criminal drug statute under circumstances which adversely affect the company’s reputation in the community;

3. Failure to notify the company of any conviction under any criminal drug statute within five days of the conviction.

Testing Policy
In connection with this policy, Donahue McNamara Steel has instituted a program to identify employees whose alcohol and drug abuse problems may affect the workplace.

**For-Cause Testing**
Whenever a supervisor believes that an employee's performance or workplace behavior may have been affected in any manner by alcohol or drug abuse, Donahue McNamara Steel may require that the employee submit a urine sample for drug testing and/or a breath or blood sample for alcohol testing. Any employee who tests positive will be considered in violation of this policy and may face discipline up to and including immediate termination.

Donahue McNamara Steel will utilize one or more certified alcohol or drug testing laboratories and collections sites to assure accurate and reliable results. No result will be considered positive until a screening test has been confirmed by a second, confirmatory test of a different type. At the applicant/employee's request, a positive drug test result may be validated by a second testing laboratory using the same sample.

**Random Testing**
All employees will be subject to random testing for the presence of illegal drugs. A random test is a test that is unannounced and results in every employee having an equal chance of being selected for testing at any given time. The random selection method used by the company will be determined in consultation with the drug testing agency and will be conducted in a computer-
generated random selection method that ensures that all random testing will be accomplished in a completely arbitrary manner.

**Post-Accident Testing**
Any employee who is involved in a work related accident (as defined below) will be tested for the use of illegal drugs and alcohol as soon as possible after the accident.

Examples of an accident that will require an employee to take a drug and alcohol test include, but are not limited to, accidents that involve an employee and result in:

1. The death of a person.
2. Bodily injury to another person who requires medical treatment away from the scene of the accident.
3. An injury to the employee that may result in that employee filing a worker’s compensation claim and whose lost time will likely exceed one working day; or,
4. Damage to property owned by the company or a third party that may reasonably be estimated to exceed $500.

An employee who is seriously injured and cannot provide a specimen for testing will be required to authorize the release of relevant hospital reports or other documentation that would indicate whether there were drugs or alcohol in their system at the time of the accident.

If it is determined by management that an employee’s injury was definitely caused by an unsafe condition and that there was no unsafe act by the injured employee, the company reserves the right to waive post accident testing under these circumstances.

Employees who are involved in a work-related accident requiring medical attention are to inform their supervisor of the accident as soon as possible so that any needed drug or alcohol test may be promptly conducted in conjunction with their medical treatment.

**Policy on Use of Prescription Drugs**
Employees may possess and take medication prescribed for them by a licensed physician in accordance with the prescription. However, an employee taking any medication which may impair his or her physical or mental ability at work must report this fact to Donahue McNamara Steel, which, in its sole discretion, will determine whether and for how long the employee's job assignment should be changed. Employees should keep all prescribed medicine in its original container which is labeled
with drug identity, date of prescription and name of doctor. Improper use of medication obtained through a prescription is a violation of this policy

**Search Policy**

In order to enforce the prohibition against illegal activity on company premises, Donahue McNamara Steel retains the right to inspect, without prior notice including the employee's work area, desk, tool box, locker, Donahue McNamara Steel vehicle, or other company property in the custody or control of the employee, as well as the employee's personal effects on company property, including personal vehicles. In addition, the company has the right to restrict or deny any employee access to any part of the company's premises at any time, without prior notice. Refusal to permit an inspection is a violation of this Policy, and may result in discipline up to and including termination.

**SAFETY VIOLATION INSTRUCTIONS (Appendix 1 & 2)**

**SAFETY VIOLATION #1 - FIRST WARNING**

1. The Safety Violation # 1 form is to be used as the initial warning for a safety violation.
2. The initial form is to be filled out with simple and clear definitions of the items that are not being done or are not in compliance according to the safety policy.
3. The yellow copy of this form is to be given to the employee that is responsible for the safety violation.
4. The white copy is to be forwarded to the Donahue McNamara Steel Corporate Office.
5. The weekly safety meetings must clearly reflect and document the safety needs that are required for each and every phase of the project. Donahue McNamara Steel must show proof of prior safety education to give an employee a safety violation.
6. The violation form should reflect the date that the item in violation was previously discussed and proper procedures explained. If the employee was present the day of the training, their signature should be identified on the safety meeting sheet.
7. Supervisory personnel using the "Safety Violation" form for reasons determined inappropriate will be subject to disciplinary action.

**SAFETY VIOLATION # 2 - THE SECOND AND FINAL WARNING!**

(This form represents an employee’s last chance).
1. Prior to issuance, all documentation of previous meetings, warnings, and safety information, including dates, times, proper signatures and procedures must be assembled.

2. The pink copy is to be given to the employee that is responsible for the safety violation.

3. The white copy is to be forwarded to the Donahue McNamara Steel Corporate Office.

4. It should be made clear to the employee that this is a final warning prior to termination.

**OSHA INSPECTION POLICY (Appendix 14)**

Donahue McNamara Steel considers its relation with OSHA a positive working relationship, both entities intent to eliminate occupational injuries. In this spirit of partnership, Donahue McNamara Steel has developed the following OSHA Inspection Policy.

A. Ask for his/her credentials. If the inspector does not object, make a copy of his/her identification card. If a copy cannot be made, write down the inspector’s I.D. number and name.

B. Ask the reason for the inspection.

C. Ask if there is a complaint. If the answer includes an employee complaint, request a copy.

D. Tell the inspector that you are not denying entry, but it is the company policy that you contact the company’s corporate offices and the company’s authorized representative (First Link Safety Services) prior to allowing entry.

E. A Donahue McNamara Steel designated person will escort the inspector all the time the inspector is on the job-site. Notes should be taken on everything the inspector notes or says. Photos should be taken of everything the inspector photographs, plus 2 photos from different angles. The escort will be the same person during the entire inspection.

F. The inspector has the right to interview any employee in private. Do not attempt to stop the interview; however the escort should ask the employee if the employee has any objection to the escort being present and listening to the interview. If the employee has no objections, the escort should attend the interview, listen and take notes.
When the inspector has left the job-site, notify the corporate office and complete the OSHA INSPECTION FORM. Be specific, the more information the better. (See Appendix 14)


**CHEMICAL HAZARD COMMUNICATION PROGRAM (Appendix 15)**

**Company Policy**
To ensure that information about the dangers of all hazardous chemicals used by Donahue McNamara Steel is known by all affected employees, the following Hazard Communication Training Program has been established:

All departments of the company will participate in the Hazard Communication Program. This written program will be available in the operations office for review by any interested employee.

**Container Labeling**
The Foreman will designate employees to verify that all containers received for company use will be clearly labeled as to the contents, note the appropriate hazard warning and list the name and address of the manufacturer.

A letter (Appendix 16) will be sent to all suppliers of hazardous chemicals used, requesting proper labeling and copies of MSDS (Material Safety Data Sheet) for all chemicals received. A copy of this letter will be kept in file.

The Foreman will designate employees in each section to ensure that all secondary containers are labeled with either an extra copy of the original manufacturer's label or with labels that have the identity and the appropriate hazard warning.

**Material Safety Data Sheets (MSDS) (Appendix 15)**
The Foreman is responsible for establishing and monitoring the Company MSDS program. They or their designee will make sure procedures are developed to obtain the necessary MSDS and will review incoming MSDS for new or significant health and safety information. They will see that any new information is passed on to affected employees.
Copies of MSDS for all hazardous chemicals in use will be kept in the operations office. MSDS will be available in a convenient location to all employees during each work shift. If an MSDS is not available, immediately contact the Foreman.

**Employee Training and Information**

The Foreman is responsible for the company's employee safety training program. They will ensure that all program elements specified below are carried out. Prior to starting work, each new employee of Donahue McNamara Steel will attend a health and safety orientation containing the following information and training:

- An overview of the requirements contained in the Hazard Communication Standard.
- Types of hazardous chemicals present in the job site.
- Physical and health risks of the hazardous chemical.
- The symptoms of overexposure.
- How to determine the presence or release of hazardous chemicals in the work area.
- How to reduce or prevent exposure to hazardous chemicals through use of control procedures, work practices and personal protective equipment.
- Steps the company has taken to reduce or prevent exposure to hazardous chemicals.
- Procedures to follow if employees are overexposed to hazardous chemicals.
- How to read labels and review MSDS to obtain hazard information.
- Location of the MSDS file and written hazard communication program.

After completion of the training, each employee will sign a training acknowledgment receipt (Appendix 17) documenting the training received.

**Hazardous Non-routine Tasks**

Periodically, employees are required to perform hazardous non-routine tasks. An example of non-routine tasks is a confined space entry in a trailer where there has been a large spill.
Prior to starting work on such projects, each employee will be given information by the Foreman or designee about the hazardous chemicals he or she may encounter during such activity.

This information will include specific chemical hazards, protective and safety measures the employee can use, and steps the company is using to reduce the hazards, including ventilation, respirators, presence of another employee and emergency procedures.

**Multi-employer workplaces**

It is the responsibility of the Foreman to provide employees of any other employer at the work-site copies of MSDS (or make them available at a central location) for any hazardous chemicals that the other employer(s)' employee may be exposed to while working in conjunction with Donahue McNamara Steel. The Foreman will also inform other employers of any precautionary measures that need to be taken to protect employees during normal operating conditions or in foreseeable emergencies and provide other employers with an explanation of the labeling system that is used at the work-site.

**List of Hazardous Chemicals (Appendix 18)**

The MSDS book will contain a list of all known hazardous chemicals on an individual job site. This list must be updated whenever new hazardous chemicals are introduced into the workplace. A complete review by a member of management should be conducted once a year.

**HOT WORK POLICY (Appendix 19)**

Hot Work is any operation that requires an open flame or that generates enough heat to cause a fire. Individual owners may require a written policy and procedures to be followed prior to any Hot Work operation. Donahue McNamara Steel has developed its Hot Work policy to prevent fire in accordance with NFP.A No 51B.

All Hot Work and the implementation of Donahue McNamara Steel's policy is the responsibility of the individual Project Foreman or his designated representative. A Donahue McNamara Steel representative will inspect the work area and confirm that the policy has been followed and that no fire hazards exist.
RESPIRATORY POLICY

The purpose of Donahue McNamara Steel’s Respiratory Policy and program is to ensure the protection of all employees from respiratory hazards. The responsibility of ensuring that the Respiratory Policy and program are followed is that of the Project Foreman or his designated representative. **First Link Safety Services** will provide training and a equipment fit test as required prior to any respiratory operation.

Respirators are to be used **ONLY** when engineering, administrative, or work practice controls are not feasible, while engineering controls are being installed or in emergencies.

Respirators will be selected on basis of hazard to which the employee will be exposed. Only MSHA/NIOSH certified respirators will be selected and used. See **CFR 29 part 1926 Table E-4**.

The Corporate Safety Director will be contacted prior to any selection or use of respirators. Respirators are to be the last line of defense.

The user of respirators will be instructed in the proper use and the limitations of respirators. The instructions will be given by a person who possesses knowledge of respirator use.

The user will receive as a minimum, the following instructions:
1. Proper fitting of respirators. (Test face-piece to face seal)
2. How to adjust the respirator.
3. Conditions that prevent a good face-piece to face seal:
   - Growth of beard.
   - Absence of one or both dentures.
   - A temple piece on eyeglasses
   - Skull caps that project under face-piece
   - Failure to follow manufacturer’s face-piece fitting instructions.

Whenever possible, the respirator will be assigned to an individual employee for his/her exclusive use.

Respirators issued for the exclusive use of one worker will be cleaned after each day's use. For respirator used by more than one employee, the respirator will be thoroughly cleaned and disinfected after each use by each worker.

Respirator will be stored in a clean and sanitary location in a manner so the respirator will not be exposed to sunlight, dust, chemicals, excessive heat or cold, and moisture. The respirator will not be hung a by its straps or stored inside gang boxes.
Respirators used routinely will be inspected for worn and damaged parts during the cleaning operation. Respirators used for emergency use will be inspected at least once a month and after each use.

Appropriate surveillance of the work area conditions and degree of employee exposure or stress will be maintained.

Regular inspection will be conducted while respirator operations are being performed to determine that proper use, inspection, cleaning, and storage of respirators are being met. No person will be assigned to a task requiring the use of a respirator until it has been determined that person is physically able to perform the task while using the respirator. A physician will determine that an employee is physically able to perform the task while using the respirator. A physician will determine that an employee is physically able to wear the respirator. The respirator user's medical status will be reviewed annually or as conditions warrant.

(Mandatory) Information for Employees Using Respirators When Not Required Under the Standard

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

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.

2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.

4. Keep track of your respirator so that you do not mistakenly use someone else’s respirator.

**LEAD POLICY (Appendix 20)**

Donahue McNamara Steel has developed a lead policy to comply with requirements set forth by OSHA.

If lead is encountered, or if lead is suspected to be present in a work area, the Project Foreman will discontinue work in that area, and notify Donahue McNamara Steel corporate office. Donahue McNamara Steel and First Link Safety Services will then develop a site specific written program to mitigate the lead exposure.

The responsibility for the enforcement of the site specific written program procedures is that of the individual Project Foreman.

**BLOOD BORNE PATHOGENS POLICY (Appendix 21)**

Donahue McNamara Steel has developed a Blood Borne Pathogens policy to eliminate or minimize employee occupational exposure to blood or certain other body fluids, comply with the OSHA Blood Borne Pathogens Standard CFR 1910 or applicable state or industry standards, and to ensure the safety of its employees.

As needed, individual site specific programs will be developed for projects in which employees may have increased risk of exposure to blood borne infection. The responsibility of making that determination is that of the Donahue McNamara Steel corporate office and First Link Safety Services. If a determination is made that an increased risk is present, a suite specific policy will be developed and the content of the policy will be followed.

The responsibility of ensuring that the site specific policy is implemented and followed is that of the Project Foreman.
CONFINED SPACE POLICY (Appendix 22)

Donahue McNamara Steel has developed a Confined Space Policy in accordance with the OSHA Confined Space Standard. The policy establishes uniform requirements to ensure that the hazards of confined spaces at Donahue McNamara Steel job sites are evaluated, safety procedures implemented, and that the proper hazard information is transmitted to all affected workers.

The Donahue McNamara Steel Corporate Safety Director is responsible for all facets of this program and has full authority to make necessary decisions to ensure success of the program. The Corporate Safety Director is the sole person(s) authorized to amend these instructions and are authorized to halt any operation of the company where there is danger of serious personal injury. The responsibility of the site specific confined space program is that of the Project Foreman. The Foreman will have the authority to halt any operation of the company where there is danger of serious personal injury.

FALL PROTECTION POLICY (Technical Safety Requirements)

Donahue McNamara Steel considers fall protection a priority in ensuring the safety of its employees and subcontractor’s employees. For this reason, the Donahue McNamara Steel Fall Protection Policy requires all Donahue McNamara Steel employees and all subcontractors and their employees to adhere to the Donahue McNamara Steel Fall Protection Policy and to follow all applicable 29CFR 1926 OSHA Regulations.

The responsibility of ensuring that all employees adhere to the Donahue McNamara Steel fall protection policy is that of the superintendent and / or supervisor. It is also the responsibility of the individual employee to follow the fall protection policy/plan and use all personal fall protection equipment according to OSHA requirements and the manufacturer’s recommendations.
EXCAVATION POLICY (Technical Safety Requirements)

According to OSHA a trench is referred to as a narrow excavation made below the surface of the ground in which the depth is greater than the width, the width not exceeding 15 feet. An excavation is any man-made cut, cavity, trench, or depression in the earth's surface formed by earth removal.

Unguarded excavations are always hazardous and, whenever work is not actively in progress, they must be marked in a manner that will prevent any person from inadvertently walking into them. This task should be accomplished by its most practical means considering the population, terrain, and traffic of the area. It is the responsibility of all personnel involved in any operation to assure that all excavations are adequately marked.

Planning for Safety (Appendix 23.1)
Many on-the-job accidents are a direct result of inadequate initial planning. Correcting mistakes in shoring and/or sloping after work has begun slows down the operation, adds to the cost, and increases the possibility of an excavation failure. Donahue McNamara Steel will build safety into the pre-bid planning in the same way all other pre-bid factors are considered.

Before preparing a bid, these specific site conditions will be taken into account:
   a. Traffic.
   b. Location of structures and their conditions.
   c. Soil.
   d. Surface and groundwater.
   e. Water table.
   f. Overhead and underground utilities.
   g. Weather.

These and other conditions will be determined by job site studies, observations, test borings for soil type or conditions, and consultations with local officials and utility companies.

Before any excavation actually begins the estimated location of utility installations that may be encountered during digging will be determined, (sewer, telephone, fuel, electric, water lines, or any other underground installations, etc.). Also, before starting the excavation, Donahue McNamara Steel will contact the utility companies or owners involved and inform them, within established or customary local response times, of the proposed work.

To find the exact location of underground installations, employees will use safe and acceptable means. If underground installations are exposed, they be removed, protected and properly supported.
Employees who are exposed to vehicular traffic will be required to wear warning vests or other suitable garments marked with or made of reflective or high-visibility material. Donahue McNamara Steel will provide these items and will ensure that they are worn.

**On-The-Job Evaluation (Appendix 23.2)**

The OSHA standard requires that a competent person inspect, on a daily basis, excavations and the adjacent areas for possible cave-ins, failures of protective systems and equipment, hazardous atmospheres, or other hazardous conditions. If these conditions are encountered, exposed employees will be removed from the hazardous area until the necessary safety precautions have been taken. Inspections are also required after natural (e.g. heavy rains) or man-made events such as blasting that may increase the potential for hazards. The responsibility for the inspections is that of the Foreman or his designated representative.

**Protective Support Systems**

Donahue McNamara Steel and OSHA require that in all excavations in which employees are exposed to potential cave-ins, a protective system must be in place to protect those employees. These systems can include sloping or benching the sides of the excavation; supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area.

Prior to designing a protective system, a number of factors including soil classification, depth of cut, water content of soil, changes due to weather and climate, or other operations in the vicinity will be determined to ensure the system is proper.

**Sloping**

Donahue McNamara Steel employs the OSHA mandated sloping guide for all of its excavations, on all of its projects. They are as follows:

<table>
<thead>
<tr>
<th>Soil Type</th>
<th>Slope Angle</th>
<th>Degree</th>
<th>Benching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid Rock</td>
<td>Vertical</td>
<td>90</td>
<td>N/A</td>
</tr>
<tr>
<td>A</td>
<td>3/4 : 1</td>
<td>53</td>
<td>4’</td>
</tr>
<tr>
<td>B</td>
<td>1 : 1</td>
<td>45</td>
<td>4’</td>
</tr>
<tr>
<td>C</td>
<td>1-1/2 : 1</td>
<td>34</td>
<td>No</td>
</tr>
</tbody>
</table>

If a soil type is not known, it will be considered Type "C".

Excavations in excess of 20 in depth will be designed by a registered engineer. The data used to determine the design must be in writing and must include sufficient explanatory information to enable the user to make a selection, including the criteria for determining the selection and the limits on the use of the data. At least one copy of the information, including the identity of the registered
professional engineer who approved the data, will be kept at the work site during construction of the protective system.

**Trench Boxes**
Trench boxes will be used when other protective measures are not feasible. The trench boxes will be designed by a professional engineer and will have the design data with the box. If allowed by the manufacturer, boxes can be stacked and pinned. No personnel will be allowed in the trench box during the placement operation.

**Shoring**
Shoring will be used when other protective measures are not feasible. Shoring will be designed in accordance with the OSHA standard and/or will be manufactured equipment designed for shoring (Speed-Shore). A competent person will be present during the installation of the shoring.

**Support Systems**
Support systems such as shoring, bracing, or underpinning will be provided to ensure the stability of adjacent structures such as buildings, walls, sidewalks or pavements. No excavations will be allowed that are below the level of the base or footing of any foundation or retaining wall unless:
1. A support system such as underpinning is provided.
2. The excavation is in stable rock.
3. A registered professional engineer determines that the structure is sufficiently removed from the excavation and that excavation will not pose a hazard to employees.

**Installation and Removal of Protective Systems**
Donahue McNamara Steel requires the following procedures for the protection of employees when installing support systems:
1. Securely connect members of support systems.
2. Safely install support systems.
3. Never overload members of support systems.
4. Install other structural members to carry loads imposed on the support system when temporary removal of individual members is necessary.
5. As soon as work is completed, the excavation should be backfilled as the protective system is dismantled. After the excavation has been cleared, workers should slowly remove the protective system from the bottom up, taking care to release members slowly.

**Water Accumulation**
Donahue McNamara Steel prohibits employees from working in excavation where water has accumulated or is accumulating unless adequate protection has
been taken. If water removal equipment is used to control or prevent water from accumulating, the equipment and operations of the equipment must be monitored by a competent person to ensure proper use.

**Hazardous Atmospheres**

Excavations greater than four feet in depth must be tested as well as ones where oxygen deficiency or a hazardous atmosphere exists or could reasonably be expected to exist, before an employee enters the excavation.

If hazardous conditions exist, controls such as proper respiratory protection or ventilation must be provided. Also, controls used to reduce atmospheric contaminants to acceptable levels must be tested regularly.

Where adverse atmospheric conditions may exist or develop in an excavation, emergency rescue equipment, (e.g., breathing apparatus, a safety harness and line, basket stretcher, etc.) will be readily available. This equipment must be attended when used.

**Access and Egress**

Safe access and egress to all excavations will be provided to all personnel working in the excavation. Excavations four feet deep or more are required to have adequate means of exit, such as ladders, steps, ramps or other safe means of egress, must be provided within 25 feet of lateral travel. If structural ramps are used as a means of access or egress, they must be designed by a competent person.

**Additional Hazards**

In addition to cave-in hazards and secondary hazards related to cave-ins, there are other hazards from which workers must be protected during excavation related work. To protect employees from these hazards, Donahue McNamara Steel requires the following precautions be taken:

1. Keep materials or equipment that might fall or roll into an excavation at least two feet from the edge of excavations, or have retaining devices, or both.
2. Provide warning systems such as mobile equipment, barricades, hand or mechanical signals, or stop logs, to alert operators of the edge of an excavation. If possible, keep the grade away from the excavation.
3. Provide scaling to remove loose rock or soil or install protective barricades and other equivalent protection to protect employees against falling rock, soil, or materials.
4. Prohibit employees from working on faces of sloped or benched excavations at levels above other employees unless employees at lower levels are adequately protected from the hazard of falling, rolling, or sliding material or equipment.
5. Prohibit employees under loads that are handled by lifting or digging equipment. To avoid being struck by any spillage or falling materials, require employees to stand away from vehicles being loaded or unloaded. If cabs of vehicles provide adequate protection from falling loads during loading and unloading operations, the operators may remain in them.

CONSTRUCTION LOCKOUT POLICY

Purpose:
This procedure establishes a lockout practice for securing machinery and equipment during periods of construction. It is essential that all subcontractors are consistent with their lockout procedure to insure the safety of all employees. A lockout procedure is to render inoperative electrical systems, pumps, pipelines, valves and all other such energy systems that may accidentally be energized or started up while employees are working on them or before they are mechanically ready and released for service.

Each contractors and subcontractors Safety Representative will administer the lockout program. All locks and applicable tags will be issued by the contractor and/or subcontractor’s Safety Representative to their foreman and employees as they are requested. The contractor’s/subcontractor’s Safety Representative will maintain a lock and tag log.

Procedure:
All energy sources shall be locked out and a "DANGER" tag affixed to the equipment or system indicating who installed the lock, craft, contractor’s name, phone number, and the reason the system was locked out. Each employee shall be responsible for hanging their own lock and tag on the proper piece of equipment before starting work. No employee or other contractor may work behind a lock and tag belonging to another employee. Contractor or subcontractor supervision shall be responsible for assisting each employee in locating the proper piece of equipment to be locked out and tagged. Each employee involved with lockouts shall have a lock with an individual key. No locks with duplicate or master keys shall be used. Craft or gang locks shall not be used. Contractors and subcontractors are required to identify lockout / tagout locks by either paint, die markings etc.

If more than one employee is required to lockout and tag a circuit or piece of equipment, a multiple padlock device shall be used. After locking out and tagging a circuit, an attempt to energize the equipment shall be made by depressing-or turning to "on" all starting stations before work begins. In no case shall work begin before circuits and equipment is tested to ensure that they are, in fact, de-energized.
Any employee who removes a tag or lock belonging to another employee or person, or overrides a tag or lock in anyway, shall be terminated immediately. Written authorization must be obtained from the foreman and Project Manager of the responsible contractor when a lock has been left on a piece of equipment and the originator is not available for removal.

When locks and tags are required, the craft personnel working on that Circuit shall notify their appropriate supervisor. The supervisor, or his designee, shall see that appropriate locks and tags are provided. When work is completed, the appropriate supervisor is also to be notified when the lock(s) and tag(s) are removed.

Electrical systems which share a power source with a common main breaker may be worked as follows:
1. Where practical, the main breaker shall be opened and locked out per the Lockout Procedure.
2. In cases where fuses are used to sub feed Branch circuits (more than one circuit) being supplied from one main breaker and the panel will not accept a padlock with a buddy device, the panel may be locked with the door key, the key then may be locked in a (Key Lock Box) which will accept a padlock and a buddy lock device. The fuses removed will be listed in the log book as if they were a main breaker.

Electrical systems being started up where locks are required for a few minutes on different parts of the systems shall be worked as follows:
1. The person doing the work shall lock out the equipment he or she is working on. This lock must be logged out to the person using the lock in the log book. In the event the lock should be required over night, or off shift, then the equipment shall be locked and logged out in accordance with the Construction Lockout Procedure.

Examples of energy sources that are required to be locked out and tagged are:
1. Electrical systems as they are energized will be locked out by the responsible electrical contractor until they are released to the owner’s
representative. Anytime repairs or modifications are made to electrical systems, either temporary or permanent, they shall be locked out. Locks shall be applied to the main disconnect switch whenever possible. All locks must be accompanied by a tag.

2. Electrical systems that provide electrical power to equipment such as pumps and electrical motors shall be locked out by the appropriate subcontractor until such time that system is released.

3. Pipelines, valves and other such sources that could be inadvertently activated, causing a hazardous condition, shall be locked out, blanked off or otherwise secured to prevent accidental activation.

4. Lines, valves and similar systems that are being tested pneumatically or with other gases such as nitrogen, shall be tagged and/or locked out to prevent an accidental discharge of the pressure within the line. In addition, areas affected by the pneumatic test shall be barricaded against entry and inspected by the contractor or subcontractor's Safety Representative prior to commencement of the test.

When multi-worker or multi-craft situations exist, a multi-lockout tab is to be used. These devices allow for multiple locks for protection of all craft involved. Each lock must be properly tagged.

After equipment or systems are turned over to the owner no work or modifications will be done without Compliance to the Owner's Lockout/ Tagout Program.

When interface work is required on energized operations equipment, operations personnel must de-energize and lockout according to their procedure. Once operations have rendered equipment and systems safe, then the contractor or subcontractor will lock on top of the owner's lockout system.
COMPANY VEHICLE FLEET POLICY

Overview

As a driver of a company vehicle, the authorized driver has been given certain privileges. Our employee assumes the duty of obeying all motor vehicle laws, maintaining the vehicle properly at all times and, otherwise, following the policies and procedures outlined in the following policy.

Vehicle Fleet Purpose

Company vehicles are provided to support business activities and are to be used only by qualified and authorized employees. They are not to be considered a part of an employee’s compensation and will not be used as an inducement for employment. In all cases, our vehicles are to be operated in strict compliance with motor vehicle laws of the jurisdiction in which they are driven and with the utmost regard for their care and cost-efficient use. Our company vehicles may not be used for business activities of other companies or organizations. Vehicles may not be driven to foreign countries without prior approval of management.

Management Responsibilities

Our company management will be responsible for the implementation and maintenance of the fleet program. It is the responsibility of our management personnel to advise employees of the fleet program, provide initial safety orientation, and enforce the program should an employee operate a motor vehicle in a manner which is inconsistent with our policy.

- Management shall also provide CDL vehicles with safety devices including air pressure indicators, rear view mirrors, wheel chocks, safety struts, fire extinguishers, first aid kits, extra bulbs (lights) and flares / reflective triangles.
- Supervisors are responsible before the start of each shift to make sure drivers are in shape to drive and that vehicle inspections are completed and documented.
- Supervisors are responsible for driver orientation and training as described below.
- Supervisors are responsible for overseeing drivers attend weekly safety meetings. Also make sure all meetings / training is documented.
- Management shall discipline and document drivers as required.
Driver Licensing

Company drivers and anyone authorized to drive our company vehicles must have a valid driver’s license issued in the state of residence for the class of the vehicle being operated and must be able to safely drive the vehicle. Obtaining a driver’s license is a personal expense and responsibility.

Driver Qualifications

Driver qualifications are as follows:

1. Must meet our Company’s drug screening requirements.
2. Must be an authorized employee of our company.
3. Must have vision correctible to at least 20/40.
4. Must have at least one year of experience in the class of vehicle operated.
5. Must meet licensing requirements.
6. CDL drivers must meet commercial driver qualification requirements
7. CDL drivers required to transport placarded hazardous materials must have a valid hazardous material endorsement with their license.
8. CDL drivers required to pass a company road test as a condition of employment.
9. Employees will not qualify for a company vehicle if, during the last 36 months, the driver has had any of the following experiences:
   - Has been convicted of a felony involving a company vehicle.
   - Has been convicted of sale, handling or use of drugs.
   - Has had automobile insurance cancelled, declined or not renewed by a company.
   - Has been convicted of an alcohol- or drug-related offense while driving.
   - Has had driver’s license suspended or revoked.
   - Has been convicted of three or more moving violations or one or more other serious violations or at fault accident.
   - Has been convicted of reckless driving or speed contest.
   - Has been involved in two or more chargeable accidents.
   - Has been found guilty of leaving the scene or failure to report an accident.
   - Conspiracy or misrepresentation of identity.

In addition, CDL drivers and driver applicants will be disqualified to drive a commercial vehicle per Department of Transportation (DOT) standards:

- Until mandatory driver qualification requirements are achieved.
- Driver refused to be tested (for alcohol or drugs) by state or jurisdiction.
Review of Motor Vehicle Record

State Motor Vehicle Records (MVRs) will be used as the source for verifying driver history. MVRs will be obtained and reviewed periodically. Driving privileges may be withdrawn or suspended and/or the company vehicles removed for any authorized driver not meeting the above requirements. In addition, appropriate disciplinary action may be taken.

Driver Records and Corrective Action

Personnel files will include MVR, fleet accident histories, and corrective action documentation for employees who drive either company-owned vehicles or employee-owned vehicles used for company-related business.

Levels of corrective action shall include:

- **No Action:** One moving violation and/or non preventable accident in a three-year period.
- **Counseling:** Two moving violations in a three-year period and/or a preventable accident. The operator shall be advised by company management of his or her responsibility towards driving in a safe, courteous, and economical manner in accordance with the defensive driving concept.
- **Suspension:** Two preventable accidents, three or more moving violations or one major violation within a three-year period. The driver shall have driving privileges removed for a probationary period to be established by our Company Management. This includes driving of all company-owned vehicles as well as use of the driver's personal vehicle on company-related business. If any additional moving violations or major violations occur within the probationary period, the driver will not be permitted to drive any company vehicles or drive their own vehicle for any company-related purposes. If the employee's position is one that requires regular driving of company vehicles or driving of personal vehicles for company business, this may lead to termination of employment due to the inability of the employee to adequately perform his/her required employment duties.
- **Revocation:** Two or more preventable accidents in combination with three or more moving violations, three preventable accidents, four or more moving violations, or more than one major violation within a three-year period. The driver shall have all driving privileges removed for all company-related activities. This includes the use of company-owned vehicles and the use of the driver's personal vehicle for company related business. If the employee's position is one that requires regular driving of company vehicles or driving of personal vehicles for company business, this may lead to termination of employment due to the inability of the employee to adequately perform his/her duties.
Definitions:

Preventable Accident: "A collision in which the driver failed to do everything reasonable to prevent it". ("At-Fault" accidents typically are preventable accidents.)

Major violation: DWI, DUI, reckless driving, leaving the scene of an accident, vehicular homicide, speed in excess of 15 mph over the designated speed limit, driving under suspension or revocation, fleeing a police officer, chemical test refusal, unlawful transportation or use of weapons or explosives.

Personal Use

Company vehicles are provided primarily for business purposes; however, occasional personal use is permitted. Personal use is a privilege extended only to the authorized employee. The privilege of personal use may be withdrawn at any time without notice by the company.

The following rules apply to personal use of company vehicles:

- Only authorized employee may drive.
- The company vehicle may only be used for incidental trips within 25 miles of your home.
- Personal trailers, including boats and recreational vehicles, are not to be pulled.
- Company vehicle is not to be driven while under the influence of alcohol or any controlled substance.
- Possession, transportation or consumption of alcohol or illegal drugs by anyone in the vehicle is not allowed.
- Driver and all passengers must wear available personal restraints.
- Report any accident immediately to police and your manager.

Any exceptions to these rules requires advance, written approval by approved company manager or officer. Violation of these rules will result in disciplinary action from removal of driving privileges up to and including discharge.

Maintenance

Authorized drivers are required to properly maintain their company vehicles at all times. Vehicles should not be operated with any defect that would inhibit safe operation during current and foreseeable weather and lighting conditions. Preventive maintenance such as regular oil changes, lubrication, tire pressure and fluid checks determine to a large extent whether you will have a reliable, safe vehicle to drive and support work activities. You should have preventive maintenance completed on your vehicle as required in the owner’s manual.
Personal Cars Used on Company Business

Any person, using their personal vehicle for company business must meet the following criteria:

- Satisfy the company driver qualification requirements.
- Provide a certificate of insurance with limits of liability of at least $100,000/300,000/50,000.
- The company must be named as additional insured on the driver’s liability insurance policy.
- The vehicle must pass a documented company safety inspection.

Our organization does not assume any liability for bodily injuries or property damage the employee may become personally obligated to pay arising out of an accident occurring in connection with operation of his/her own car. The reimbursement to the employee for the operation of his/her car on company business includes the allowance for the expense of automobile insurance. The company does not specify and assumes no responsibility for any other coverage employees carry on their own cars since this is a matter of individual status and preference.

Traffic Violations

Fines for parking or moving violations are the personal responsibility of the assigned operator. The company will not condone nor excuse ignorance of traffic citations that result in court summons being directed to itself as owner of the vehicle. Each driver is required to report all moving violations to our company office within 24 hours. This requirement applies to violations involving the use of any vehicle (company, personal or other) while on company business. Failure to report violations will result in appropriate disciplinary action.

Please be aware that traffic violations incurred during non-business (personal use) hours will affect your driving as well and are subject to review.

Accidents Involving Company Vehicles

In the event of an accident:

- Do not admit negligence or liability.
- Do not attempt settlement, regardless of how minor.
- Get name, address and phone number of injured person and witnesses, if possible.
- Exchange vehicle identification, insurance company name and policy numbers with the other driver.
• Take a photograph of the scene of accident, if possible.
• Call the police if injury to others is involved. You may want to call police even if there are no injuries.
• Complete an accident report.
• Turn all information over to your supervisor within 24 hours.

**Accident Reporting and Review**

Every driver is required to promptly report to our main company office any accident in which he/she is involved while operating a company owned or leased motor vehicle. This means reporting any contact between the company vehicle and another vehicle, person, or fixed object which results in death, injury, or property damage. Single vehicle accidents must be reported regardless of the severity of damage to the vehicle or injury to the driver. Such contact must be reported as an accident regardless of who was hurt, what property was damaged and to what extent, where it occurred, or who was responsible. All accidents must be reported to our main company office as soon as possible, but absolutely no later than 24 hours after the accident. All the facts, favorable or otherwise, must be reported. Copies of any police reports generated by the accident will be requested by management for review.

All motor vehicle accidents shall be reviewed by our main company office to determine if an accident was preventable, and if so, whether corrective action should be suggested for the employee or driver in question.

**Preventable Accidents**

A preventable accident is defined as any accident involving a company vehicle – whether being used for company or personal use – or any vehicle while being used on company business that results in property damage and/or personal injury, and in which the driver in question failed to exercise every reasonable precaution to prevent the accident.

1. Classification of preventable accidents
   • Following too close
   • Driving too fast for conditions
   • Failure to observe clearances
   • Failure to obey signs
   • Improper turns
   • Failure to observe signals from other drivers
   • Failure to reduce speed
   • Improper parking
   • Improper passing
• Failure to yield
• Improper backing
• Failure to obey traffic signals or directions
• Exceeding the posted speed limit
• Driving While Intoxicated (DWI) or Driving under the Influence (DUI) or similar charges.

2. Fines for preventable accidents

In order to remind drivers of their responsibility to drive defensively, a fee will be charged to the driver for each preventable accident as defined above. This fee, which applies to each accident, will be capped at the lesser of the actual damages or $500. This is a mandatory fine. Any exceptions to this policy will require the approval of our company president.

Thefts

In the event of theft of a company vehicle, notify local police immediately.

Driver Responsibilities

Each driver is responsible for the actual possession, care and use of the company vehicle in their possession. Therefore, driver’s responsibilities include but are not limited to the following:

• Remain qualified by:
  o No more than 4 points accumulated from moving violations preventable accidents in accordance with the Driver’s Rating Sheet
  o Carry a current CDL or operator’s license
  o Carry a current physical examination card (every 2 years)
  o Carry current controlled substance test results
• Operation of the vehicle in a manner consistent with reasonable practices that avoid abuse, theft, neglect or disrespect of the equipment.
• Vehicle inspections are to be performed by the operator prior to the beginning of the work day to ensure the vehicle is fit for safe operation. Any problems or concerns noted during the inspection should be reported immediately to the driver’s supervisor.
• Perimeter inspections should be performed around the vehicle prior to entry into the vehicle - to reduce the potential of backing into or striking stationery objects.
• Obey all traffic laws. Know the local traffic regulations.
• Plan haul routes to minimize exposure, consider volume of traffic, schools, and congested areas.
• Drivers are responsible to avoid tracking dirt and mud onto roadways, use authorized entrances and exits with the proper storm water BMPs installed.
• The use of seat belts and shoulder harnesses are mandatory for driver and passengers.
• Adhere to manufacturer's recommendations regarding service, maintenance and inspection. Vehicles should not be operated with any defect that would prevent safe operation.
• Attention to and practice of safe driving techniques and adherence to current safety requirements.
• The use of vehicles is restricted to authorized drivers only.
• Drivers of rented trucks shall follow the same company policies as owned trucks
• Drivers will limit their working hours to 10 hours per day except in emergencies
• Report the occurrence of moving violations to supervisor.
• Transportation or storage of firearms, explosives, and associated devices or materials will not be permitted in company owned or leased vehicles.
• Transportation or storage of illegal drugs is strictly prohibited in company owned or leased vehicles, or in personal vehicles being used for company-related business.
• Driving under the influence of drugs and/or alcohol, as defined by State statute, is strictly prohibited in company owned or leased vehicles, or in personal vehicles being used for company-related business.

Failure to comply with any of these responsibilities will result in disciplinary action.

Driver Training

Driver error is the leading cause of accidents. All drivers must maintain a high level safety awareness to avoid accidents. Training will begin during orientation and continue on throughout the driver’s employment. Types of training conducted will include the following:

1. Orientation

It is very important to get the driver “off in the right direction” and should minimally include:

• Driving procedures
• Company policies and expectations
• Company employees and responsibilities
• Equipment familiarization and training
• Parking Procedures
• Location of the Donahue McNamara Steel Vehicle Inspection Forms
2. Driver Safety Meetings

Safety meetings are valuable in providing “quick hit” type accident prevention information and maintaining open lines of communications between management and the driver. Driver safety meetings should be held on a regular basis. Topics that may be discussed are as follows:

- A discussion of recent accidents or near misses.
- A review of new laws, regulations or local ordinances.
- Safe driving practices, driving courtesy or general driving safety.
- Care and maintenance of vehicles.
- Physical problems involving driving such as reaction time, fatigue, stopping distances or weather.
- First aid or general health issues.

3. Instructional Driver Training

Approximately once a year, a driver training program may be presented to drivers. Also, the same type of training program may be required as a retraining tool for drivers who have had marginal driving experience. The purpose of these training programs will be to increase driver awareness and understanding of safe, courteous and efficient driving, and of accident avoidance techniques. Some of the programs which may be presented include:

4. Hazardous Materials Driver Training:

Drivers who transport hazardous materials, who are not required to have a CDL with a hazardous materials endorsement, must receive function specific training as required by government standards. Training must include:

- Pre-trip safety inspections
- Use of vehicle controls and equipment, including operation of emergency equipment
- Operation of vehicle, including turning, braking, backing, parking, handling, and vehicle characteristics including those that effect stability, such as braking and curves, effect of speed on vehicle control, dangers associated with maneuvering through curves, danger associated with weather and road conditions that the driver may experience
- Procedures for maneuvering tunnels, bridges and railroad crossing
- Requirements pertaining to the attendance of vehicles, parking, smoking, routing and incident reporting
- Loading and unloading of materials including load securement
All employees who are responsible for the transport of hazardous materials must receive general awareness/familiarization training per government standards initially upon hire and once every three years thereafter. A written record must be maintained. This training should provide employees with a familiarity of standard and enable the employee to recognize and identify hazardous materials consistent with the hazardous communication standards of the hazardous materials regulation.

For Hire (Sub Haulers, Subcontractors)
For hire drivers and their vehicles contract with our company for the purposes of moving materials from one location to another. While completing this task, the for hire driver represents our organization and as such, must comply with the rules and regulations of our company plus all state, federal and local laws and ordinances. In addition, the for hire drivers and their company must provide our organization proof of insurance in the amount of $1,000,000 combined single limit for their vehicle(s). In regards to driver qualification and vehicle condition, the for hire company will, at our company’s request allow auditing of driver qualification files, vehicle condition reports and vehicle maintenance files.

Safe Driving Practices - Driver rules for the road:
All company drivers are expected to drive in a safe professional manner at all times. Drivers should follow the following basic or fundamental safe driving procedures.

Speed and following distance

1. Most rear-end accidents occur when the trailing vehicle is following too close and/or going too fast. Make sure to maintain a two second to four second spacing (plus additional spacing for vehicle length and speed) interval between your vehicle and the vehicle in front of you.

2. Always drive at or below the posted speed limit and no faster. There may be times where speed should be adjusted due to the prevailing traffic flow. Safety should always be the primary consideration.

3. Always comply with “advisory” speed limit warnings posted along construction sites or at congested intersections. Although these speed limits are not enforced by authorities, drivers are expected to fully comply with advisory speed limits.

4. When driving in inclement weather or when towing a heavy load, additional spacing should be allowed between your vehicle and the vehicle in front of yours. Speed should also be reduced.
Proper lane changing techniques
1. Numerous accidents occur when drivers fail to use proper lane changing techniques. When making a lane change, always check for vehicles approaching the intended lane or in the intended lane.
2. Always signal before making a lane change.
3. Do not depend on mirrors to detect vehicles traveling in your blind spot. Take a quick glance over your shoulder to check all blind spots before making a lane change. Not doing so is the primary cause of lane change accidents.
4. Make sure all rear view and side view mirrors are properly adjusted before beginning your trip.

Proper passing techniques
1. Always allow sufficient space in which to pass. Serious head-on collisions have occurred when the driver “thought” he/she had enough space to pass. When in doubt, DO NOT PASS.
2. Always use your turn signals to let drivers behind and in front know you are about to attempt a pass. Also use your signal before pulling back into the right hand lane.
3. Pass only where it is legal to pass. DO NOT pass on hills, curves, at intersections, on bridges, in no passing zones or where double yellow lines are present.
4. After passing a vehicle, do not depend on rear view or side view mirrors to judge ample space to return to the right lane. Glance over your shoulder to confirm the position of other vehicles and to confirm there is adequate space to pull back into the right lane.
5. Do not pass unless it is absolutely necessary. If the vehicle in front of you is going the legal speed limit, what reason is there to pass?

Precautions at intersections
1. Always reduce speed when approaching an intersection even if you have the green light or crossing traffic has a stop sign. Many accidents have occurred when the “other person” proceeded through a red light or ran a stop sign. Drive for yourself and the other person.
2. When your light turns green, do not immediately proceed into the intersection. Look both ways before entering the intersection even if you have the right-of-way. Confirm that all crossing traffic has come to a complete stop.
3. When two vehicles approach a four way stop sign at the same time, the automobile to your right has the right-of-way. If there is confusion, always use hand signals and to be safe yield to the other driver. Do not be impatient.
4. If you observe a vehicle following closely behind you as you approach an intersection, tap your brake three or four times to make sure the other person is aware you are about to stop. This could prevent a rear-end collision.

5. If you are at an intersection waiting to make a left or right hand turn and the vehicle approaching you from the left has its turn signal on to turn right at the intersection, do not assume the other person will actually turn. Many times they don’t.

**Driving on interstate highways and freeways**

1. Always drive at or below the posted speed limit. Refer to “Speed and Following Distance” earlier in this document.

2. When merging onto a multi-lane interstate, signal prior to merging and use the entrance ramp to pick up speed allowing you to enter traffic at the same speed as the traffic flow. DO NOT stop at the end of the entrance ramp and wait for traffic to clear.

3. Do not assume vehicles traveling in the right lane will move over, allowing you to merge into traffic. Many times they will not move over. This causes accidents on a regular basis.

4. If there is a vehicle in front of you on an entrance ramp, continuously move your eyes from the side view mirror to the vehicle in front. DO NOT disregard the vehicle directly in front of you. Many times vehicles being driven by elderly individuals will slow down and sometimes come to a complete stop on the entrance ramp. Rear-end collisions associated with this situation are common.

5. When exiting an interstate, use your turn signal and exit at the same speed as the traffic flow. Many drivers will slow down as they approach the exit ramp. This is a serious hazard.

6. If you happen to drive past your intended exit, do not backup along the shoulder of the interstate. Instead, continue on to the next exit.

**Proper backing procedures**

1. Avoid backing up whenever possible. Before backing up your vehicle, walk around the vehicle to check for any objects in your path. Never assume your path is clear. Do not depend entirely on rear view and side view mirrors to detect objects in the path of your vehicle.

**Proper turning techniques**

1. Make every effort to be in the turning lane 200 to 300 feet prior to the intersection. Many accidents occur when drivers make a last second decision to make a turn.

2. Drivers should signal well in advance of the turn. Most state laws require a driver to signal at least 100 feet before making a turn.
**Poor weather technique**

1. Be extremely careful not to signal for your turn if, before reaching your intended turn, there is another street or driveway where you can turn. There have been numerous accidents when drivers thought the vehicle was going to turn before reaching them, but instead proceeded into or through the intersection. During heavy rain storms, drivers should increase following distance an additional four seconds. When pulling heavy loads or driving a heavy class vehicle, increase your following distance up to eight seconds.

2. During or after heavy rain storms, reduce speed well in advance of intersections, interstate ramps and other areas where vehicles merge.

3. During inclement weather (rain, fog, etc.) reduce overall speed to compensate for poor road conditions and visual impairment. Numerous accidents have occurred due to hydroplaning as a result of driving too fast for existing road conditions. Standing water WILL cause a vehicle to hydroplane.
Protecting against vehicle theft

1. Always lock your vehicle and take the keys with you. Make sure all windows are closed securely.

2. Do not leave valuables visible in your vehicle. Put them where they cannot be observed, but do so before you park so you will not be observed storing the valuables.

3. Park in well lighted and fenced areas when possible. At home, park in the driveway, or better yet in a locked garage. Avoid parking on the street. Park in secured areas when possible.

4. To thwart thieves, turn wheels sharply to the right or left. With front-wheel drive vehicles, use the emergency brake and put the vehicle in park to lock all four wheels.

5. If your vehicle is equipped with an anti-theft device, use it. Visible devices may discourage thieves.

6. Do not leave your driver’s license or vehicle registration card in your vehicle. If the vehicle is stolen, a thief may use these documents to impersonate you.

7. Do not leave anything in the vehicle with your address on it. It may invite home burglary.

8. Do not discuss your destination, cargo contents, or other information with non-company personnel.

Acknowledgement of Responsibilities

My signature below confirms that I have been instructed as to the rules and responsibilities of our company’s driver safety policy. I have read, understand and agree to abide by the conditions as stated in this document regarding the operation of any vehicle for company business.

_________________________  ___________________________  ______________________
Print Employee Name          Employee Signature           Date
GLOSSARY OF TERMS

Authorized person means a person approved or assigned by the employer to perform a specific type of duty or duties or to be at a specific location or locations at the jobsite.

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

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

Controlled access zone (CAZ) means an area in which certain work (e.g., overhand bricklaying) may take place without the use of guardrail systems, personal fall arrest systems, or safety net systems and access to the zone is controlled.

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

Hole means a gap or void 2 inches (5.1 cm) or more in its least dimension, in a floor, roof, or other walking/working surface.

Infeasible means that it is impossible to perform the construction work using a conventional fall protection system (i.e., guardrail system, safety net system, or personal fall arrest system) or that it is technologically impossible to use any one of these systems to provide fall protection.

Leading edge means the edge of a floor, roof, or formwork for a floor or other walking/working surface (such as the deck) which changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed. A leading edge is considered to be an "unprotected side and edge" during periods when it is not actively and continuously under construction.

Low-slope roof means a roof having a slope less than or equal to 4 in 12 (vertical to horizontal).
**Lower levels** means those areas or surfaces to which an employee can fall. Such areas or surfaces include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavations, pits, tanks, material, water, equipment, structures, or portions thereof.

**Opening** means a gap or void 30 inches or more high and 18 inches or more wide, in a wall or partition, through which employees can fall to a lower level.

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

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

**Toeboard** means a low protective barrier that will prevent the fall of materials and equipment to lower levels and provide protection from falls for personnel.

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

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

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

General Safety and Health
1. General Safety and Health will be as outlined in Sub Part C of CFR 1926.
2. A fire protection and prevention plan will be developed and maintained for the duration of the project. (1926.24)
3. First-aid and medical care will be established prior to project start-up. (1926.23)
4. Emergency telephone numbers for physicians, hospitals, ambulance and fire department will be posted at each phone.
5. Toilets will be furnished to meet or exceed the requirements of Table D1 of 1926.51.
6. An adequate supply of potable water will be provided in all places of employment. Single service cups and a trash receptacle in which to place the used cups will be provided.
7. Hearing protection is to be used in areas where the noise exposure can be anticipated to meet or exceed the DBA in Table D2 of 1926.52.
8. Only qualified and trained employees with proof of qualification will be allowed to operate laser equipment.
9. If asbestos is encountered, the following steps will be taken:
   - Evacuate all employees from the area containing asbestos.
   - Contact the Foreman, Project Manager, and the corporate office.
   - **DO NOT** attempt to remove any asbestos.
   - **DO NOT** enter asbestos contamination area until a licensed contractor has removed the asbestos and air sampling results have been obtained showing that the air is free from asbestos.
10. Hazardous Communication CFA 1926.59
    - A copy of the company hazardous communication program will be maintained at the job site.
    - Employee will be trained in the handling of all hazardous material present at the work place.
    - Material Date Safety Sheets are to be kept for each hazardous material at the work place.
    - The MSDS will be maintained in a manner where employee will have access to the MSDS. The MSDS book will include a table of contents and be arranged in a manner for quick access.
    - The MSDS book should contain only those MSDS that correspond to material at the work place at that time.
    - On a project where an owner is occupying any portion of a building and his employee could be exposed to any hazardous material, the owner will...
be notified in writing the location of all Donahue McNamara Steel MSDS and request the same information from the owner for his MSDS.

- All containers that have hazardous materials are to be labeled i.e. gas cans, form oil cans, curing compound cans, etc.
- If an employee is exposed to a hazardous chemical, a copy of the MSDS will accompany the employee to the treating physician.
- In the event that personnel are not able to read the MSDS, a person will be assigned to assist the employee in understanding the material. This includes personnel that are non-English speaking.

**Housekeeping**

It is the policy of Donahue McNamara Steel that all projects and work areas will not be allowed to have debris accumulate. Trip and fall accidents are a major injury cause in the construction industry. These types of incidents can be directly related to poor housekeeping. Therefore the following will be the minimum requirements.

1. All walkways, ramps, stairway, and access points to ladders will be kept free of debris or stored material.
2. All trash and debris will be cleaned up and disposed of on a daily basis.
3. Laydown areas, parking lots and temporary facilities will be kept in a clean and orderly manner.
4. Trash barrels will be located at each water bucket location and used cups will be deposited in the trash barrel.
5. All combustible material, such as oily rags, will be deposited in a separate container with a lid to prevent the possibility of fire.
6. No glass bottles are allowed on the site.
7. Construction materials such as scrap sheet rock, broken block \ brick, and loose conduit will be picked up on a daily basis.
8. All materials will be stacked, piled, or stored in a manner to prevent falling or collapse.
9. Each sub-contractor will be responsible for controlling and removing any materials or debris created by work performed by their employees. If after being notified by a Donahue McNamara Steel representative, a subcontractor does not keep his/her portion of work cleaned, Donahue McNamara Steel (after 24 hours written notice) will perform the necessary clean-up and the subcontractor will be charged in a time and materials manner.
10. All scraps that are produced from employee lunches will be removed from the job site daily by the employee. Employee’s failure to comply may result in his/her removal from the project.
11. Scrap wood and other materials will have nails removed or bent-over as the material is initially removed.
Personal Protective Equipment

Personal Protective Equipment (PPE) is equipment designed and intended to enhance an individual employees' protection from hazards in the workplace. Employees who do not have and use the adequate PPE will be in violation of the Donahue McNamara Steel safety program and will not be allowed to continue their work until adequate PPE is acquired and training in its use is completed. Once PPE is issued, it is the employee's responsibility to see that it is maintained in good safe condition. PPE will be inspected daily.

Some items may be furnished for a specific use or project only. This equipment will be signed out to you specifically and you will be responsible for its care and return before leaving the project.

Head Protection

Hard hats are required at ALL times, except in designated break areas, office trailers, or while riding operating enclosed passenger vehicles.


2. Hardhats are to be worn face forward, with the adjustable fitting in back and the brow cushion in front. Hard hats will be unaltered and free of paint.

Footwear

1. Sturdy leather work will be worn at all times during construction activities. Tennis shoes, track shoes, sandals, loafers, or athletic shoes are NOT considered proper footwear for a construction site. Steel toed boots or foot guards will be required for certain construction activities i.e. operating hand operated compacting equipment, operating a jack hammer, or when the hazard of foot injury exists.

2. Rubber boots will be worn for concrete work.

Eye and Face Protection

1. Employees will have safety glasses with side shields with them at all times. All employees will wear eye protection appropriate for the tasks being performed. The type of eye protection required should be determined during the pre-job and pre-task planning. Non-ANSI Z47 glasses are not suitable when safety glasses are required.
2. Before using any type of tool or machine, always refer to the manufacturer's user guide for the required eye and face protection.

3. During the placement of concrete, eye protection is mandatory. Concrete finishers during the finishing stages are not required to wear eye protection.

4. Eye and face protection will be utilized in accordance with CFR 1926.102 table E1.

**Clothing**

1. Tank tops, muscle shirts, and sleeveless shirts are prohibited on site. Loose fitting garments, shirt tails, or floppy sleeves will be contained at all times.

2. Long pants are required at all times.

**Hearing Protection**

1. Donahue McNamara Steel has a mandatory hearing protection policy for all employees when an exposure exists. Hearing protection is required to be used when ambient or local noise levels exceed 85 DBA.

2. Hearing protection will be supplied in the form of foam earplugs and will be available on the project. Training in the proper use of earplugs is required.

3. Disposable earplugs will not be reused. Always wear clean earplugs.

4. Appropriate for the activity, other types of protection will be supplied and used (e.g. Muffs).

5. Hearing protection per CFR 1926.101 will be used as required.

**Hand Protection**

Gloves will be worn when handling certain chemicals, sharp objects, hot objects, or when the possibility of hand injury exists and for winter protection. Gloves are mandatory in demolition work. Protective equipment as outlined on Material Safety Data Sheet will be worn when working with hazardous materials that are under the guidelines of CFR 1926.59.
Fire Protection
A fire on any of our projects could be devastating. The intent of fire protection is to prevent the potential for a fire. If a fire should start then we need to know how to minimize the damage.

Fire prevention is a function of planning, organization, housekeeping, and safe work practices by all employees. The most important element under our control is good housekeeping. Keep combustible materials picked up and stored in dedicated areas away from ignition sources. Loose materials or debris will not be tolerated on the project. This is everyone’s responsibility.

Emergency fire procedures will be posted at the project office. All employees should be familiar with these emergency procedures.

Local fire service providers should be contacted during the initial phase of the project. They should be familiar with the location of the project. They will pre-plan for access into the job site, types and quantities of combustibles on site and any other information critical to their efforts. In many cases the fire department will also provide emergency rescue and medical services.

Fire extinguishers will be provided throughout the project and in hot work areas. Employees should be trained to identify and use the appropriate fire extinguisher and when to call for professional assistance.

1. General fire protection and emergency equipment must be kept free and clear from obstructions at all times and be properly located. This equipment must be easily visible and accessible.
2. A fire extinguisher rated not less than 2A will be provided for each 3000 sq. ft. of building area or travel distance will not exceed 100’. If fire barrels are substitutes for 2A fire extinguishers, they must be 55 gallon, open top, with 2 each fire pails (with rounded bottoms) at each barrel. Fire barrels should be kept from freezing when applicable.
3. A fire extinguisher rated not less than 10B must be located within 50 feet of wherever 5 gallons or more of flammable or combustible liquid or gas is being used.
4. All flammable or combustible liquids and gases must be stored a minimum of 20' from all buildings (This includes office trailers).
5. Oxygen and acetylene cylinders must be separated by 25' while in storage, or by a one hour rated wall.
6. A fire extinguisher will be located within 5' of each set of oxygen and acetylene bottles, while welding and cutting operations are being performed. All combustible materials will be removed to a distance that will not allow heat, sparks, or slag to pose a fire hazard.

7. Outdoor portable fuel storage tanks will be contained within a dike area with a curb of a minimum of 12" in height around the perimeter of the tanks. Tanks will be provided with emergency venting. Tanks will have one (1) portable fire extinguisher having a rating not less than 20B, and it will be kept not less than 25' and not more than 75' from the liquid storage area.

8. No smoking signs will be posted at ALL flammable storage areas, i.e. fuel tanks, paint storage.
   - Any person that discharges an extinguisher for other than fire extinguishing or other valid reason will be removed immediately from the project and will be subject to immediate termination.
   - As required by the project, a trained and equipped fire fighting (Fire Brigade) organization will be established and maintained.
   - As required by the project, a cutting, burning, and or welding permit may be needed. Upon completion, the work area will be examined by the person in whose name the permit is issued to insure that all sparks, or embers are extinguished. The permit will be signed and returned to the Project Foreman.

**Temporary Heating**

Temporary heat requirements are an important tool to allow Donahue McNamara Steel to efficiently work through the colder months. Temporary heat improves working conditions, as well as allows certain construction activities to continue in colder weather. To accomplish these goals, each employee will comply with safety regulations (OSHA 1926.154) in order to assure a risk free environment from such hazards associated with temporary heating devices. Some of the common hazards are: burns, fires, explosion, carbon monoxide poisoning, and production of oxygen deficient atmospheres.

1. Each temporary heating device will be inspected prior to operation for any signs of damage and also watched closely during initial operation to be sure that it functions properly.
2. Inspect all gas hoses, piping, fittings, and other connections to insure that they do not have leaks.
3. Make certain there is adequate ventilation where the heater will be used. If a natural supply of fresh air is inadequate, mechanical ventilation will be used.
   - Heaters not suitable for use on wood floors will not be set directly upon them. If this type heater must be used, it must set on a suitable heat insulating material.
• The insulating material must extend beyond the heater 24" or more in all directions.
4. Heaters must be placed at least 10 ft. away from combustible canvas, tarpaulins or similar coverings. (Make sure the covering is securely fastened to prevent hazards caused from extreme wind)
5. Heaters will set horizontally level.
6. Solid fuel (cake, coal, and wood) heating devices are prohibited in buildings, on scaffolds, or within 25 feet of any building or structure.
7. Propane fire heaters will not be used in any below grade application.
8. A competent person will continually monitor and maintain temporary heating equipment.
9. Temporary heat will not be used in any confined space.
10. Temporary heating devices must be installed to provide clearance to combustible materials as described in the following table:

<table>
<thead>
<tr>
<th>Minimum Clearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Heater</td>
</tr>
<tr>
<td>Circulating Type</td>
</tr>
<tr>
<td>Room Heater</td>
</tr>
<tr>
<td>Radiant Type</td>
</tr>
<tr>
<td>Room Heater</td>
</tr>
</tbody>
</table>

Welding and Cutting
1. A fire extinguisher will be mounted on every Donahue McNamara Steel Oxygen/Acetylene cart.
2. Cylinders should be in an upright position at all times.
3. A cylinder truck with a steadying device will be used while cylinders are in use.
4. Anti-flashback devices are required by Donahue McNamara Steel and by OSHA on all oxygen- acetylene units. The anti-flashback devices should be installed between the hoses and regulators. Torches that have built-in anti-flashback devices are acceptable.
5. When hoisting cylinders, they will be secured on a cradle, sling board, or pallet. NEVER use valve protection cap for lifting of cylinders.
6. Torches will be lighted by friction lighter (Striker). The use of matches, hot work, or butane lighter to light the torch is FORBIDDEN.
7. Proper eye protection will be used when welding and cutting. In welding operations, a flash shield will be used when other employees may be exposed to flash and arc burn.

8. Prior to transporting cylinders, gauges will be removed and valve protection caps will be in place.

9. Cylinders containing oxygen or acetylene or other fuel gas will not be taken into confined spaces.

10. Gauges, torches, and hoses will be inspected at the beginning of each work shift. Defective gauges, torches, and hoses will be taken out of service.

11. At a minimum, the first 10 feet of the cable end which the electrode holder is attached, will be free of repairs or splices. All other cable may be spliced or repaired with rubber and friction tape, or other equivalent insulation.

Hand and Power Tools
While working on a construction project, you will be required to operate and work around power tools and equipment. These tools and equipment must be operated in a safe manner. When assigned to operate a power tool, make sure you are familiar with its safe operation. You may be familiar with safe operating procedures from past experience. However, some equipment will be new or unfamiliar to you. Do not operate it until you have read and understand the operator’s manual and a foreman has explained how to use the equipment safely.

1. All hand and power tools will be inspected daily prior to use by the person who will be using them. Tools will be maintained in a safe condition (this includes employee furnished tools).

2. Guards on tools will be in operating condition. Any employee operating tools that require guards will not remove, alter, or in any manner render the guard inoperable. If employee disregards the above requirements, the employee will IMMEDIATELY be dismissed from employment.

3. Power operated hand tools will be of the double insulated type or have a ground plug. All tools not double insulated will be used in conjunction with a ground fault circuit interrupter (GFCI).

4. All power cords and power-operated tools will be checked each day prior to use to insure that the cord does not have damaged outer insulation sheath and that the ground pin is in place. The inspection will be completed by the employee using the equipment.

5. All hand held circular saws, table saws, and radial arm saws will be locked out by means of disconnecting the saw from the power source and the male end of the cord tagged or in view of the operator at all times while changing the saw blade.
6. All pneumatic power tools and hoses will be secured by a positive means at each connection.
7. All fuel-powered tools will be stopped and the engines will not be running while refueling is in progress. A fire extinguisher rated not less than 10B will be available for immediate use (within 5' of fueling operation).
8. Only employees with appropriate experience or training will be allowed to operate power tools.
9. Only employees who have received training in powder actuated tool usage and possess a certification card will be allowed to operate powder activated tools.
10. Compressed air hose connection fitting(s) will be safety wired or have wire whips installed prior to use to avoid accidental disconnection.
11. Saw horses or work benches will be used to secure material prior to using hand held saws, grinders, drills, and similar tools. These activities should not be attempted against body parts.

**Signs, Signals, and Barricades**

1. Signs, signals, and/or barricades will be visible at all times that a hazard exists.
2. Signs, signals, and/or barricades will be removed when a hazard no longer exists.
3. Where the general public is exposed to hazards, all signs, signals, and/or barricades will be checked at the start and finish of the work shift.
4. When signs, signals, and/or barricades are removed for short periods of time, a flagman will be posted until signs, signals, and/or barricades are replaced.
5. Prior to placing signs, signals, and/or barricades along highway right of way, and the proper authorities will be contacted.
6. Flagmen will wear orange high visibility warning garments while flagging.
7. Flagmen working at night will wear high visibility reflective material garments.
8. When hand signaling by flagman, a red flag at least 15" square or a sign paddle will be used. In darkness, a red light will be used.
Fall Protection

Important!

*Donahue-McNamara Steel requires fall protection at heights over 6 feet unless authorized steel erection exceptions exist.*

The intent of fall protection is to prevent an employee's exposure to or suffering from an injury due to a fall from elevation. Because of the seriousness of fall injuries, employees must exercise extreme caution when exposed to a fall. If for any reason you are uncomfortable working at heights, notify your Foreman immediately. Use of fall protection systems and equipment is mandatory on Donahue McNamara Steel projects. Any employee found in violation of Donahue McNamara Steel fall protection requirements is subject to immediate termination.

A "Fall Protection System" is a physical means or method of fall protection provided to eliminate a fall exposure 6 feet or greater. This may be accomplished by means of: ladders, scaffolds, lift units, guardrails, static lines, nets, vertical safety lines, retractable lanyards, full body harnesses, standard lanyards, and other fall protection equipment.

Donahue McNamara Steel requires that all fall protection issues on all projects are addressed by the appropriate contractor/subcontractor(s) through thorough analysis and pre-planning before the work begins. Equipment and systems must be designed, outlined and implemented based on the project safety plan to ensure that fall protection is provided to all employees. Any operation exposing an employee to a fall from an elevation of 6 feet or greater must be accompanied by a pre-approved, site-specific, written fall protection plan. The written plan must be fully engineered and detailed with approval by the project superintendent, project manager, or an authorized representative of Donahue McNamara Steel.

Donahue McNamara Steel projects require a positive means of fall protection when the work process exposes employees to a fall hazard of 6 feet or more. Remember that a fall hazard can be above grade or below it. Fall protection must be used when working around openings in the ground that could present a fall hazard. It is also important to remember that it is the responsibility of each subcontractor to train their employees and provide them with effective fall protection.

Any personal fall protection equipment that is subject to in-service loading (it was used to stop a fall) must be removed from service immediately. Fall protection equipment that
has been used to stop a fall will be returned to the manufacturer for re-certification or inspected by a competent person.

All fall protection equipment and Personal Fall Arrest Systems (PFAS) will be inspected daily by a competent person, must meet all OSHA requirements, and must be used according to the manufacturer’s recommendations.

Donahue McNamara Steel requires that all employees must be trained in the recognition of all fall hazards that they could be exposed to, in the proper use, care and storage of all personal fall protection equipment being used, and/or in the means and/or method that will be utilized to protect them.

Questions regarding fall protection requirements, effectiveness, or systems should be referred to the Donahue McNamara Steel project Foreman/supervisor immediately. For detailed information and requirements, refer to the OSHA CFR 1926. 500-503 – Fall Protection Standard – Subpart M.

Floor and Other Openings

Floor and roof openings will be covered with materials that are capable of supporting at least twice the weight of the total load that can be expected to be imposed. The cover will be identified by signage that states, "Hole or Cover – Do Not Remove" and secured to prevent accidental displacement. In lieu of a cover, a standard guardrail with toeboard can be installed.

Guardrail Systems

Employees exposed to a fall of 6 feet or greater and are not protected by a personal fall arrest system (PFAS) or other means of fall protection, must be protected by a standard guardrail system. The guardrail system will consist of a toprail 42 inches high (+/- 3 inches), midrail located midway between the top rail and working level, and toeboard a minimum of 3½ inches high. Guardrail systems must be capable of withstanding, without failure, a force of at least 200 pounds. Vertical posts are to be 8 feet on center maximum. If cable is used as a guardrail system, the cable must be maintained with a maximum of 3 inches of deflection including sag and must be flagged with a high visibility material every 6 feet minimum. (29CFR 1926.502 (b)
Falling Object Protection

Toe boards
- Erected along the edge of the overhead walking/working surface for a distance sufficient to protect employees below
- Must be capable of withstanding, without failure, a force of at least 50 pounds applied in any downward or outward direction at any point along the toeboard
- Must be a minimum of 3½ inches in vertical height from their top edge to the level of the walking/working surface with not more than 1/4 inch clearance above the walking/working surface and be solid or have openings not over 1 inch in greatest dimension
- Where tools, equipment, or materials are piled higher than the top edge of a toeboard, paneling or screening shall be erected from the walking/working surface or toeboard to the top of a guardrail system’s top rail or midrail, for a distance sufficient to protect employees below
- Guardrail systems, when used as falling object protection, shall have all openings small enough to prevent passage of potential falling objects

Additional Fall Protection Requirements
1. A full body harness will be worn with a lanyard properly attached to the tie rail when working out of the extendible and articulating boom platforms.
2. A full body harness will be worn by employees working out of suspended scaffolding. Lanyard will be secured to an independent lifeline separated from any line that is attached to the scaffold.
3. Safety nets will be provided when work places are more than 25 feet above the ground or floor where the use of other fall protection devices is impractical.
4. Positioning belts of the two (2) D ring type WILL NOT be used for fall protection.
5. All snaphooks shall be double locking and gates face shall be rated for 3600 lbs.

Questions regarding fall protection requirements, effectiveness, or systems should be referred to the Donahue McNamara Steel Safety Director immediately.

For additional fall protection requirements and information, refer to OSHA Regulations – Subpart M – Fall Protection (1926.500 – 1926.503).
Residential Fall Protection

Fall protection requirements for residential construction are set out in 29 CFR 1926.501(b)(13). In general, that provision requires conventional fall protection for work at or over six feet. However, OSHA Instruction STD 3.1 modifies those requirements. It permits employers engaged in certain residential construction activities to use alternative procedures routinely instead of conventional fall protection. No showing of infeasibility of conventional fall protection is needed before using these procedures. A fall protection plan is required but it does not have to be written nor does it have to be specific to the jobsite. Different alternative procedures are specified for different activities.

AVAILABILITY OF ALTERNATIVE PROCEDURES. Alternative procedures are available to employers who are (1) engaged in residential construction, and (2) doing one of the listed activities.

Definition of "residential construction."

1. For purposes of this instruction, an employer is engaged in residential construction where the working environment, materials, methods and procedures are essentially the same as those used in building a typical single-family home or townhouse.
2. Residential construction is characterized by:
   - Materials: Wood framing (not steel or concrete); wooden floor joists and roof structures.
   - Methods: Traditional wood frame construction techniques.
3. In addition, the construction of a discrete part of a large commercial building (not the entire building), such as a wood frame, shingled entranceway to a mall, may fit within the definition of residential construction. Such discrete parts of a commercial building would qualify as residential construction where the characteristics listed above are present.

Listed Activities and Alternative Procedures.

There are four groups of residential construction activities for which alternative fall protection plans are available. Each group has its own set of alternative procedures. The groups are:

1. GROUP 1. Installation of floor joists, floor sheathing, and roof sheathing; erecting exterior walls; setting and bracing roof trusses and rafters.
2. GROUP 2. Working on concrete and block foundation walls and related formwork.
3. GROUP 3. This group consists of the following activities when performed in attics and on roofs: installing drywall, insulation, HVAC systems, electrical systems (including alarms, telephone lines, and cable TV), plumbing and carpentry.
4. GROUP 4. Roofing work (removal, repair, or installation of weatherproofing roofing materials such as shingles, tile and tar paper).

For a complete discussion of fall protection requirements for the residential construction activities listed above, refer to OSHA Instruction STD 3-0.1A, Interim Fall Protection Compliance Guidelines for Residential Construction.

Safety Monitoring Systems

Safety monitoring systems [See 1926.501(b)(10) and 1926.502(k)] and their use shall comply with the following provisions:

The employer shall designate a competent person to monitor the safety of other employees and the employer shall ensure that the safety monitor complies with the following requirements:

- The safety monitor shall be competent to recognize fall hazards
- The safety monitor shall warn the employee when it appears that the employee is unaware of a fall hazard or is acting in an unsafe manner
- The safety monitor shall be on the same walking/working surface and within visual sighting distance of the employee being monitored
- The safety monitor shall be close enough to communicate orally with the employee
- The safety monitor shall not have other responsibilities which could take the monitor's attention from the monitoring function
- The safety monitor shall not have other responsibilities which could take the monitor's attention from the monitoring function
- No employee, other than an employee engaged in roofing work [on low-sloped roofs] or an employee covered by a fall protection plan, shall be allowed in an area where an employee is being protected by a safety monitoring system
- Each employee working in a controlled access zone shall be directed to comply promptly with fall hazard warnings from safety monitors
Scaffolds

Definitions

**Brace** means a rigid connection that holds one scaffold member in a fixed position with respect to another member, or to a building or structure.

**Cleat** means a structural block used at the end of a platform to prevent the platform from slipping off its supports. Cleats are also used to provide footing on sloped surfaces such as crawling boards.

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

**Equivalent** means alternative designs, materials or methods to protect against a hazard which the employer can demonstrate will provide an equal or greater degree of safety for employees than the methods, materials or designs specified in the standard.

**Exposed power lines** means electrical power lines which are accessible to employees and which are not shielded from contact. Such lines do not include extension cords or power tool cords.

**Fabricated decking and planking** means manufactured platforms made of wood (including laminated wood, and solid sawn wood planks), metal or other materials.

**Fabricated frame scaffold** (tubular welded frame scaffold) means a scaffold consisting of a platform(s) supported on fabricated end frames with integral posts, horizontal bearers, and intermediate members.

**Failure** means load refusal, breakage, or separation of component parts. Load refusal is the point where the ultimate strength is exceeded.

**Guardrail system** means a vertical barrier, consisting of, but not limited to, toprails, midrails, and posts, erected to prevent employees from falling off a scaffold platform or walkway to lower levels.

**Horse scaffold** means a supported scaffold consisting of a platform supported by construction horses (saw horses). Horse scaffolds constructed of metal are sometimes known as trestle scaffolds.
**Lower levels** means areas below the level where the employee is located and to which an employee can fall. Such areas include, but are not limited to, ground levels, floors, roofs, ramps, runways, excavations, pits, tanks, materials, water, and equipment.

**Maximum intended load** means the total load of all persons, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a scaffold or scaffold component at any one time.

**Mobile scaffold** means a powered or unpowered, portable, caster or wheel-mounted supported scaffold.

**Open sides and ends** means the edges of a platform that are more than 14 inches away horizontally from a sturdy, continuous, vertical surface (such as a building wall) or a sturdy, continuous horizontal surface (such as a floor), or a point of access. Exception: For plastering and lathing operations the horizontal threshold distance is 18 inches.

**Outrigger** means the structural member of a supported scaffold used to increase the base width of a scaffold in order to provide support for and increased stability of the scaffold.

**Platform** means a work surface elevated above lower levels. Platforms can be constructed using individual wood planks, fabricated planks, fabricated decks, and fabricated platforms.

**Rated load** means the manufacturer’s specified maximum load to be lifted by a hoist or to be applied to a scaffold or scaffold component.

**Scaffold** means any temporary elevated platform (supported or suspended) and its supporting structure (including points of anchorage), used for supporting employees or materials or both.

**Supported scaffold** means one or more platforms supported by outrigger beams, brackets, poles, legs, uprights, posts, frames, or similar rigid support.

**Walkway** means a portion of a scaffold platform used only for access and not as a work level.

**Scaffold Requirements**
1. Prior to erection, a competent person shall inspect all scaffold parts and components. Any scaffold component that is defective will be taken out of service.
2. Scaffold components manufactured by different manufacturers may not be intermixed unless the components fit together without force and the scaffold's structural integrity is maintained. Scaffold components manufactured by different manufacturers may not be modified in order to intermix them unless a competent person determines the resulting scaffold is structurally sound.

3. Scaffolds must be erected, moved, dismantled, or altered under the supervision and direction of a competent person. Such activities are to be performed only by experienced and trained employees selected for such work by the competent person.

4. Upon completion of the scaffold erection, a competent person will inspect the scaffold and all its components to insure proper erection.

5. Scaffolds and scaffold components will not be loaded in excess of their maximum intended loads or rated capacities, whichever is less.

6. Scaffolds and scaffold components must be inspected for visible defects by a competent person before each work shift, and after any occurrence that could affect a scaffold’s structural integrity.

7. Whenever a scaffold is not in use, place a sign at all access points “Scaffold out of service”.

8. All supported scaffolds must be erected on footing that is sound, rigid and capable of supporting twice the intended load without settling or displacement.

9. Supported scaffold poles, legs, posts, frames, and uprights must bear on base plates and mud sills or other adequate firm foundation. Unstable objects such as bricks, concrete blocks and similar materials may not be used to support the mud sill or scaffold frames.

10. All scaffolds must be erected plumb and level.

11. Frames must be joined together vertically by coupling or stacking pins or equivalent means.

12. Where uplift can occur which would displace scaffold end frames, the frames or panels must be locked together vertically by pins or equivalent means.

13. Each scaffold platform or walkway must be a minimum of 18 inches wide.

14. No ramp or walkway may be inclined more than a slope of one (1) vertical to three (3) horizontal (20 degrees above the horizontal).

15. Work platforms between 4 feet and 10 feet in height must be a minimum of 45 inches horizontally in both directions.

16. Each platform on all working levels of scaffolds must be fully planked or decked between the front uprights and the guardrail supports as follows:
   
   Each platform unit is to be installed so that the space between adjacent units and the space between the platform and the uprights is no more than 1 inch wide, except if it can be demonstrated that a wider space is necessary (for example, to fit around uprights when side brackets are used to extend the width of the platform). The platform must be planked or decked as fully as possible and the
remaining open space between the platform and the uprights may not exceed 9½ inches.

17. All scaffold planks must be scaffold grade or equivalent. Any scaffold planks that are damaged will be taken out of service immediately.

18. All planking of platforms must be overlapped over a support a minimum of 12 inches and/or be secured from movement.

19. Scaffold planks must extend over their end supports by a minimum of 6 inches and maximum of 12 inches.

20. Safe access must be provided to all scaffold work platforms. When access to scaffold is greater than 2 feet from ground or access to a work platform is greater than 2 feet, a portable or attachable ladder, or another acceptable means of access must be provided. (The ladder must extend 3 feet beyond the level being accessed and be secured.)

21. Climbing on scaffold crossbraces is **STRICTLY PROHIBITED**.

22. Each employee on a scaffold more than 10 feet above a lower level must be protected from falling to that lower level.

23. Guardrail systems must be installed along all open sides and ends of platforms and meet the following requirements:
   - Toprails must be installed between 38 inches and 45 inches above the work platform with midrails approximately midway between.
     - **Crossbracing** is acceptable in place of a **midrail** when the crossing point is between 20 inches and 30 inches above the work platform.
     - **Crossbracing** is acceptable in place of a **toprail** when the crossing point is between 38 inches and 48 inches above the work platform.
   - Each toprail must be capable of withstanding, without failure, a force of at least 200 lbs and each midrail must withstand 150 lbs.

24. The clearance between scaffolds and power lines shall be as follows: Scaffolds shall not be erected, used, dismantled, altered, or moved such that they or any conductive material handled on them might come closer to exposed and energized power lines than as follows:
   - **Insulated Lines**
     - Less than 300 volts: 3 feet
     - 300 volts to 50 kV: 10 feet
     - More than 50 kV: 10 feet + 0.4 inches for each 1 kV over 50 kV
   - **Uninsulated Lines**
     - Less than 50 kV: 10 feet
     - More than 50 kV: 10 feet + 0.4 inches for each 1 kV over 50 kV

**If there is ever any doubt or confusion about scaffolds and power lines, contact the power company.**

25. All employees working on or around a scaffold must wear a hardhat.
26. Toeboards must be a minimum of 3½ inches high and installed to protect employees where falling objects are a hazard.
27. Where there is a danger of tools, material or equipment falling from a scaffold and striking employees below, the area below the scaffold must be barricaded.
28. Debris will not be allowed to accumulate platforms.
29. Makeshift devices (buckets, boxes, barrels, etc.) will not be used on scaffold platforms to increase the height of the working level.
30. Ladders will not be used on scaffold platforms to increase the height of the working level. (Exception: large area scaffold and must meet criteria outlined in OSHA Regulations – Subpart L - 1926.451(f)(15)(i-iv))
31. To help control movement and prevent tipping, scaffolds greater than 3 feet wide with a height to base width ratio greater than 4:1 must be secured to the structure at each end and at intervals not to exceed 30 feet horizontally and 26 feet vertically. Scaffolds 3 feet wide or less with a height to base width ratio greater than 4:1 must be secured to the structure at both ends and at intervals not to exceed 30 feet horizontally and 20 feet vertically.
32. The use of shore or lean-to scaffold is prohibited.
33. Mobile Scaffolding will meet the following requirements:
   - The height of free-standing towers will not exceed Four Times the minimum base dimension.
   - All casters will be equipped with positive locking devices and in the locked position when employees are on the working platform.
   - Mobile scaffolds must have all cross braces in position including a horizontal diagonal brace.
   - Employees will be allowed to remain on a mobile scaffold when the scaffold is being moved only if OSHA requirements are followed. (Refer to OSHA Regulations – Subpart L - 1926.452(w)(2), (3), (6) and (10) for requirements)
   - All working levels must be fully planked, no matter what the height of the work platform.
34. Horse scaffolds will meet the following requirements:
   - Scaffold work surface must be a minimum of 18 inches wide and of scaffold grade plank material.
   - Scaffolds may not to be constructed or arranged more than two (2) tiers or 10 feet in height, whichever is less.
   - When horses are arranged in tiers, each horse will be placed directly over the horse in the tier below.
   - When horses are arranged in tiers, the legs of each horse will be nailed down or otherwise secured to prevent displacement.
   - When horses are arranged in tiers, each tier shall be crossbraced.
35. Each employee who performs work while on a scaffold must be trained by a person qualified in the subject matter to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards. The training must include the following areas, as applicable:

- The nature of any electrical hazards, fall hazards and falling object hazards in the work area.
- The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection systems and falling object protection systems being used.
- The proper use of the scaffold, and the proper handling of materials on the scaffold.
- The maximum intended load and the load-carrying capacities of the scaffolds used.

36. Each employee who is involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting a scaffold must be trained by a competent person to recognize any hazards associated with the work in question. The training must include the following topics, as applicable:

- The nature of scaffold hazards.
- The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question.
- The design criteria, maximum intended load-carrying capacity and intended use of the scaffold.

For additional scaffold requirements and information, refer to OSHA Regulations – Subpart L – Scaffolds (1926.450 – 1926.454).

Stairway and Ladders

Stairways and ladders are used frequently on construction projects and are intended to provide safe access to elevated work surfaces or to work at elevations. When used correctly, they are safe and efficient. Incorrect use of the equipment can cause serious injury. It is important to plan ahead and select the correct type of equipment for the job.
Stairways
1. A stairway or ladder must be provided at all personnel points of access where there is a break in elevation of 19 inches or more and no ramp, runway, or sloped embankment is provided.
2. When only one point of access between levels is provided, the access area must be kept clear at all times.
3. All metal pan landings and metal pan treads will be filled with concrete, wood, or other solid materials prior to being used.
4. Stairways having 4 or more risers or rising more than 30 inches, whichever is less, must be equipped with at least one handrail and one stair rail system along each unprotected side or edge.
5. The height of stair rails will be not less than 36 inches from the top of the stair rail to the surface of the tread in line with the riser.
6. Handrails that will not be a permanent part of the structure must have a minimum clearance of 3 inches.
7. Midrails must be provided midway between the top of the stair rail system and the stairway steps.
8. Unprotected sides and edges of stairway landings will be protected with guardrail systems.

Ladders
General Requirements:
1. Ladders must be capable of supporting the following loads without failure:
   - Each portable ladder: At least 4 times the maximum intended load
   - Each extra-heavy-duty type 1A metal or plastic ladder: At least 3.3 times the maximum intended load.
2. Ladder rungs, cleats, and steps must be parallel, level, and uniformly spaced when the ladder is in position for use.
3. Rungs, cleats, and steps of portable ladders must be spaced not less than 10 inches apart, nor more than 14 inches apart.
4. The minimum clear distance between side rails for all portable ladders must be 11½ inches.
5. A metal spreader or locking device must be provided on each stepladder to hold the front and back sections in an open position when the ladder is being used.
6. Wood ladders may not be coated with any opaque covering, except for identification or warning labels which may be placed on one face only of a side rail.
7. Job-built wooden ladders must have wooden spacer blocks installed between each rung. This includes the bottom rung. DO NOT cut into the side rail to receive the ladder rung.

Ladder Use
1. When portable ladders are used for access to an upper level, they must extend 3 feet beyond the level being accessed and secured.
2. Extension or straight ladders must be used at an angle such that the horizontal distance from the top support to the foot of the ladder is approximately one-quarter of the working length of the ladder.
3. Ladders must be maintained free of oil, grease, and other slipping hazards.
4. Ladders may not be loaded beyond the maximum intended load or beyond the manufacturer's rated capacity.
5. Ladders must be used only for the purpose for which they were designed.
6. Ladders must be used only on stable and level surfaces unless secured to prevent accidental displacement.
7. Ladders must not be used on slippery surfaces unless secured.
8. Ladders placed in any location where they can be displaced by workplace activities must be secured to prevent accidental displacement or barricaded.
9. The area around the top and bottom of the ladder must be kept clear.
10. Ladders may not be moved, shifted, or extended while occupied.
11. Ladders must have nonconductive side rails if they are used where the employee or the ladder could contact exposed energized equipment.
12. The top or top step of a stepladder may not be used as a step.
13. Cross-bracing on the rear section of stepladders may not be used for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.
14. Each employee using a portable ladder must inspect that ladder prior to use.
15. Ladders must be inspected by a competent person for visible defects on a periodic basis and after any occurrence that could affect their safe use.
16. Portable ladders with structural defects must either be immediately marked in a manner that readily identifies them as defective, or be tagged with "Do Not Use" or similar language, and must be withdrawn from service until repaired.
17. Ladder repairs must restore the ladder to a condition meeting its original design criteria, before the ladder is returned to use.
18. When ascending or descending a ladder, the user must face the ladder.
19. Each employee must use at least one hand to grasp the ladder when progressing up and/or down the ladder.
20. An employee must not carry an object or load that could cause the employee to lose balance and fall.
The following rules must be followed by all employees when placing, ascending or descending ladders:

- Use the *three points of contact* rule when going up or down a ladder. If material must be handled, raise or lower it with a rope either before going down or after climbing to the desired level.
- Always face the ladder when ascending or descending.
- Never slide down a ladder.
- Be sure shoes are not greasy, muddy, or slippery before climbing.
- Carry tools in a tool belt, not in the hand.
- Never lean too far to the sides. Keep your belt buckle within the side rails.
- Use a 4 to 1 ratio when leaning a straight or extension ladder and never climb higher than the third rung from the top.
- If a straight or extension ladder is being used to access another working level, the side rails must extend 3 feet beyond the access point and the ladder must be secured.
- Be sure that a stepladder is fully open and the metal spreader locked before starting to climb.
- Never stand on the top step or the top of a stepladder.
- A stepladder is a work platform and not to be used for access to another working surface.
- Inspect each ladder for defects before using.
- Never use a defective ladder. Tag or mark it so that it will be repaired or destroyed.
- Never splice or lash ladders together.
- Never use makeshift ladders, such as cleats fastened across a single rail.
- Keep ladders clean and free from dirt and grease.
- Never use ladders during a strong wind except in an emergency and then only when they are securely fastened.
- Never attempt to adjust a ladder while a user is standing on the ladder.
- Never jump from a ladder. Always dismount from the bottom rung.

**Training**

Each employee must receive training by a competent person in the following areas:

- The nature or fall hazards.
- The proper construction, use, placement, and care in handling of all stairways and ladders.
- The maximum intended load carrying capacity of ladders.
• Intended purposes of ladders.
• The contents of 1926 Subpart X.

Ladder Ratings
There are many types of portable ladders, but they all receive one of four ratings, based on their maximum working load (the maximum weight they can safely support).

<table>
<thead>
<tr>
<th>Rating</th>
<th>Working Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra heavy duty (I-A)</td>
<td>300 pounds</td>
</tr>
<tr>
<td>Heavy duty (I)</td>
<td>250 pounds</td>
</tr>
<tr>
<td>Medium duty (II)</td>
<td>225 pounds</td>
</tr>
<tr>
<td>Light duty (III)</td>
<td>200 pounds</td>
</tr>
</tbody>
</table>

Before you use a ladder, check its rating. And be sure not to subject it to a load greater than its rated capacity.

For additional stairway and ladder requirements and information, refer to OSHA Regulations – Subpart X – Stairways and Ladders (1926.1050 – 1926.1060).
Aerial Lifts

Anytime aerial lifts, including: (1) extensible boom platforms, (2) aerial ladders, (3) articulating boom platforms, (4) vertical towers, or (5) a combination of any such devices, are used to elevate employees to job-sites above ground, the following safety rules will apply:

- No aerial lift this company owns or uses will be 'field modified' for uses other than those intended by the manufacturer unless: (1) the manufacturer certifies the modification in writing, or (2) any other equivalent entity, such as a nationally recognized testing lab, certifies the aerial lift modification conforms to all applicable provisions of ANSI A92.2-1969, and the OSHA rules at 1926.453. The lift must be at least as safe as the equipment was before modification.
- Operators shall test all controls and functions before use.
- Operators shall inspect all Aerial lifts before each shift.
- 100% tie off personal fall arrest fall protection is required in aerial lifts that have rotating, articulating or extending booms. Use the approved tie off point inside the basket.
- All operators shall be trained before using aerial lifts and the training must involve reading the operators manual.
- Always stand firmly on the floor of the basket, never sit or climb on the edge of the basket. Never use planks, ladders, or other devices for a work position.
- Never exceed boom and basket limits specified by the manufacturer.

Electrical

It is the goal of Donahue McNamara Steel to assure that all temporary electrical equipment is maintained in a safe working condition to prevent electrical shock or fire. (By temporary electrical equipment, Donahue McNamara Steel means extension cords, electrical power tools, temporary breaker boxes on a construction site, temporary string lights, and etc.).

1. Ground fault circuit interrupters (GFCI) will be used on all temporary electrical 15 and 20 amp 120 volt; this includes cord sets that are plugged into permanent building outlets.
2. The GFCI system will be checked on a monthly basis and will be recorded on Foreman daily report.
3. All equipment to be used on the construction site will be tested!
   - All equipment will be tested before first use for grounding and continuity of the circuitry.
• Equipment returned to service following repairs will be tested for continuity before being used.
• All equipment will be tested after an event that might have caused damage. (e.g. Fire, vehicular travel over cord)

4. All breaker panels will be labeled on the outside cover with the voltage.
5. Each breaker will be numbered with a corresponding number of the receptacles it controls.
6. Extension cords will be of the three-wire type and will be designed for hard or extra hard use.
7. Extension cords will be visually inspected each day prior to use for:
   • Missing ground pin.
   • Cuts in outer insulation.
   • Proper strain relief at male and female fittings.
8. All lamps will be protected from accidental contact by protective covers.
9. Temporary lights will not be suspended by their cords unless the cord and light is designed for this means of suspension.
10. Electrical tools will be inspected each day prior to being put into service.
11. When pull boxes, switchboards, and panel boards become energized, they will be equipped with covers or the area will be secured so only qualified persons will have access.
12. Where cord sets are routed through floor holes, wall holes, doorway, or where subject to vehicular traffic, the cord set will be protected from damage by bushing or fittings that will eliminate the possibility of damage.
13. All 4-way and 2-way electrical boxes used in conjunction with temporary electrical will be UL approved. Job boxes are **PROHIBITED**.

For additional electrical requirements and information, refer to **OSHA Regulations – Subpart K – Electrical (1926.400 – 1926.449)**.

**Excavations and Trenching**
The purpose of trenching and excavation procedures is to prevent an injury or incident from occurring during this work process.

1. Prior to starting any excavation, the following **WILL** be done:
   • Contact local one call system and/or affected utility company.
   • Locate and identify all underground utilities on the project. This should be coordinated with local utility agencies and/or district representatives.
     Note: If at any time unidentified or non-located utilities are found, stop all work immediately and contact the Donahue McNamara Steel Foreman.
   • Insure that competent person is on site (if an excavation is part of subcontractor’s work, secure name of competent person).
• Determine protective system method to be used.
  • If shoring method other than outlined in 1926 Subpart P is to be used:
    □ A registered engineer must design the shoring system.
    □ A copy of the engineer designed and stamped drawings must be kept on site.
• If available, consult boring log in contract documents to help establish soil type.
• Complete Excavation Checklist. (Appendix 23.1)
• If ground water is encountered, have equipment available for water removal.
• Where possible, divert water run-off to keep from entering the excavation.

2. All surface encumbrances that create a hazard will be removed or supported prior to starting the excavation.

3. Where the stability of adjoining buildings, walls, or other structures is endangered by excavation operations, support systems such as shoring, bracing, or underpinning shall be provided to ensure the stability of such structures for the protection of employees.

4. Spoil piles and other materials must be kept 2 feet from the edge of the excavation.

5. A daily inspection of the excavation will be made and documented. Establish a daily inspection procedure and procedures for inspecting excavation after rain or any change in site conditions.

6. Each employee working in or near an excavation will be trained in the recognition of the hazards associated with excavations.

7. A stairway, ladder, ramp, or other safe means of egress will be located in trench excavations that are 4 feet or more in depth so as to require no more than 25 feet of lateral travel for employees.

8. When excavations exceed 5 feet in depth, each employee or person in the excavation will be protected from cave-ins by an adequate protective system design. (Protective system designs include: 1. shoring, 2. sloping, 3. benching, and 4. shielding).

9. Donahue McNamara Steel projects require a positive means of fall protection when the work process exposes employees to a fall hazard of more than 6 feet. Remember that a fall hazard can be above or below grade. Fall protection must be used when working around trenching and excavation where a fall hazard exists.

10. Walkways must be provided where employees or equipment are required or permitted to cross over excavations. A guardrail system must be provided where walkways are 6 feet or more above lower levels.

11. Where oxygen deficiency (atmospheres containing less than 19.5 percent oxygen) or a hazardous atmosphere exists or could reasonably be expected to
exist, the atmospheres in the excavation must be tested before employees enter excavations greater than 4 feet in depth.

For additional excavation requirements and information, refer to OSHA Regulations – Subpart P – Excavations (1926.650 – 1926.652).

Cranes
The intent of crane safety procedures is to insure all crane operations are performed in a safe manner. All crane work must be pre-planned to assure the safety of the process.

It is the responsibility of Donahue McNamara Steel and/or the crane equipment supplier to assure any crane used on a Donahue McNamara Steel project is in a safe working condition. All cranes must comply with all applicable state or federal safety and health standards.

On-Site documentation must be supplied with the crane and received by project management prior to any work by the crane on the job. Documentation required:
1. The manufacturer's O&M requirements and specifications will be followed.
2. The crane complies with all applicable state, federal or special requirements of the project.
3. Operator’s manual must be available in the cab of the crane.
   - A copy of the cranes annual inspection is to be on file at the site at all times.
4. The annual inspection will be by a person qualified to inspect and certify cranes.
5. The operator's view of the load charts will not be obstructed at any time.
6. Inspection logs for daily, weekly and monthly work are available in the crane cab for inspection.
7. Only certified operators will be allowed to operate cranes.
8. Special permission, in the form of a "lift plan", is required for any lift that exceeds 75 percent of the rated capacity of the crane in the pick condition. (This is not applicable for mobile cranes equipped with operating computer systems or tower cranes with operating limit switches.)
9. Prior to the on-site arrival of the crane, insure that any electrical lines that will be in the working area are de-energized or insulated. Whenever possible lines should be relocated.
10. A daily inspection will be performed at the start of each shift and recorded on crane daily inspection log.
11. At no time will a crane be operated with computer systems or limit switches in a non-functioning or override condition.
12. The operator has the responsibility and authority to cease operation whenever an unsafe condition exists. The Foreman will be "Immediately" contacted when this occurs.

13. Prior to all picks, the weight of the load must be known and the load chart consulted.

14. All outriggers must be fully extended and set on stable ground. Avoid setting outrigger pads on backfilled area. Any cribbing under outrigger is to be tightly planked.

15. The swing radius of the counter weight is to be barricaded prior to start of crane operation.

16. No alterations are to be made to any part of the crane without the written authorization of the crane manufacturer. Any structural repairs or modifications will meet the manufacturer's requirements and be inspected and re-certified.

17. Pick and carry operations are to be avoided if possible.

18. Cranes, rigging and loads are not permitted within 10 feet of high voltage power lines (50,000 volts or less). For lines over 50,000 volts, minimum clearance will be 10 feet plus 0.4 inch for each 1,000 volts. Any operations that will approach the 10 foot minimum must be re-planned to include calls to the local power company. At that time a request to have those power systems which are in close proximity reduced to the "one shot" mode.

The hoisting of personnel will be done only when all the requirements of CFR 1926.550 (suspended personnel platforms) have been met.

Due to the seriousness of crane safety procedures, any operator or Foreman who violates these procedures will be subject to immediate disciplinary action, up to and including termination.
Rigging

1. All rigging and hardware will be selected to safely handle the weight of the load.
2. Rigging is to be inspected daily. All defective rigging is to be red tagged and taken out of service.
3. Only personnel who are experienced will be allowed to perform rigging tasks.
4. Rigging will be stored in a manner that will protect the rigging from damage.
5. Both the weight of the load and the center of gravity will be known prior to the lift being performed. Accurately weigh the load before any pick.
6. Tag lines are to be attached to all loads. Tag lines should be made of non-conductive material and be at least ten (10) feet long and be well secured to the load.
7. Multiple lift rigging will comply with OSHA 29 CFR 1926.753(e).
8. Rigging used in conjunction with suspended personnel platforms are not to be used for any other purpose.
9. An erection plan will be made prior to all critical lifts and kept on the job site.

For additional crane requirements and information, refer to OSHA Regulations – Subpart N – Cranes, Derricks, Hoists, Elevators, and Conveyors (1926.550 – 1926.555).

Equipment and Motor Vehicles

1. Upon delivery, each piece of equipment will be checked to insure all safety features are operating properly. If a deficiency is found, equipment will be red tagged, "Out of Service", until repairs are made and equipment is re-checked. This applies to all company-owned, rented, and subcontractor's equipment.
2. All equipment with reverse gears will be equipped with a back-up alarm.
3. A fire extinguisher is to be mounted on each vehicle.
4. A First-Aid Kit is to be mounted in every vehicle.
5. At the beginning of each shift, the operator will check equipment prior to putting into service. Documentation of this check is required.
6. Seatbelts will be worn by all operators of equipment and motor vehicles.
7. Seatbelts will be worn by all passengers being transported in authorized motor vehicles.
8. All equipment that is fitted with Roll Over Protection (ROPS) will be equipped with seatbelts.
9. Riding on equipment by an employee other than the operator is PROHIBITED.
10. All operators of company-owned, hired or rented motor vehicles must have a valid, appropriate driver's license.
11. All forklift operators will be trained and carry certification of training.
Equipment Checklist:

- Service brakes – including trailer brake connections
- Brakes and hand brake
- Horn and back-up alarm
- Operating controls and steering mechanism
- Tires, rims and lug nuts
- Seatbelt(s) and all safety devices
- Lights, reflectors, windshield/wipers, and fire extinguisher

For additional equipment and motor vehicle requirements and information, refer to OSHA Regulations – Subpart O – Motor Vehicles and Mechanized Equipment (1926.600 – 1926.606).

Forklift (Powered Industrial Truck) Training Requirements

Operator training

Ensure that each powered industrial truck operator is competent to operate a powered industrial truck safely, as demonstrated by the successful completion of the training and evaluation.

Prior to permitting an employee to operate a powered industrial truck (except for training purposes), each operator has successfully completed the required training.

Training program implementation

Trainees may operate a powered industrial truck only:

- Under the direct supervision of persons who have the knowledge, training, and experience to train operators and evaluate their competence; and

- Where such operation does not endanger the trainee or other employees.

Training shall consist of a combination of formal instruction (e.g., lecture, discussion, interactive computer learning, video tape, written material), practical training (demonstrations performed by the trainer and practical exercises
performed by the trainee), and evaluation of the operator's performance in the workplace.

All operator training and evaluation shall be conducted by persons who have the knowledge, training, and experience to train powered industrial truck operators and evaluate their competence.

**Training program content** Powered industrial truck operators shall receive initial training in the following topics, except in topics which Donahue McNamara Steel can demonstrate are not applicable to safe operation of the truck in the employer's workplace.

**Truck-related topics:**

- Operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate
- Differences between the truck and the automobile
- Truck controls and instrumentation: where they are located, what they do, and how they work
- Engine or motor operation
- Steering and maneuvering
- Visibility (including restrictions due to loading)
- Fork and attachment adaptation, operation, and use limitations
- Vehicle capacity
- Vehicle stability
- Any vehicle inspection and maintenance that the operator will be required to perform
- Refueling and/or charging and recharging of batteries
- Operating limitations
- Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.

**Workplace-related topics:**

- Surface conditions where the vehicle will be operated
- Composition of loads to be carried and load stability
• Load manipulation, stacking, and unstacking
• Pedestrian traffic in areas where the vehicle will be operated
• Narrow aisles and other restricted places where the vehicle will be operated
• Hazardous (classified) locations where the vehicle will be operated
• Ramps and other sloped surfaces that could affect the vehicle’s stability
• Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust
• Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation

Refresher training and evaluation

Refresher training, including an evaluation of the effectiveness of that training, shall be conducted to ensure that the operator has the knowledge and skills needed to operate the powered industrial truck safely.

Refresher training in relevant topics shall be provided to the operator when:

• The operator has been observed to operate the vehicle in an unsafe manner
• The operator has been involved in an accident or near-miss incident
• The operator has received an evaluation that reveals that the operator is not operating the truck safely
• The operator is assigned to drive a different type of truck
• A condition in the workplace changes in a manner that could affect safe operation of the truck

An evaluation of each powered industrial truck operator’s performance shall be conducted at least once every three years

Avoidance of duplicative training If an operator has previously received training in a topic specified, and such training is appropriate to the truck and working conditions encountered, additional training in that topic is not required if the operator has been evaluated and found competent to operate the truck safely.

Certification The certification shall include the name of the operator, the date of the training, the date of the evaluation, and the identity of the person(s) performing the training or evaluation.
Concrete
1. All reinforcing steel that an employee could fall onto or into (this includes horizontal steel) will have protective caps or an equivalent means of guarding.
2. No employee will be allowed to place or tie reinforcing steel more than six feet above a work surface unless proper fall protection is used.
3. All reinforcing steel will be braced in a manner to prevent overturning and collapse.
4. All manually guided rotating type powered concrete trowel machines will be equipped with a control switch that will automatically shut off when hands are removed from the machine.
5. Where bull float handles could come in contact with energized electrical conductors, the handle will be constructed of non-conductive material.
6. A copy of drawings or plans for jack layout, formwork, working decks, and scaffolding will be maintained at the job site.
7. Erected shoring will be inspected prior to, during, and immediately after concrete placement.
8. All vertical formwork will be braced in a manner to prevent overturning and collapse. The practice of using wire tied to reinforcing steel will not be considered adequate bracing.
9. During post-tension operations, only employees who are essential to jacking operations will be permitted behind the jacks.
10. Form removal will not be done until the concrete has gained sufficient strength to support its weight and superimposed loads.
11. Only employees required for erection of pre-cast members are permitted in the area of erection.
12. Additional requirements for concrete construction - refer to CFR 29 Part 1926 Subpart Q.

Masonry
1. Prior to the start of masonry walls, a limited access zone will be established.
   - The limited access zone will be the height of the wall plus 4 feet.
   - Limited access zone will run the full length of the wall being erected.
   - Limited access zone will be on the scaffolded and un-scaffolded side of the wall.
   - Only employees who are actively engaged in the construction of the wall are permitted to enter the limited access zone.
   - Limited access zone will remain in place until the wall is adequately braced.
2. All masonry walls over 8 feet high will be adequately braced to prevent overturning or collapse.
3. Concrete mixers will be equipped with guards on all moving parts.
4. At no time will an employee attempt to clean out the hopper until the power to the equipment has been shut off.
5. Empty concrete sacks will be disposed of immediately.
6. Mixer operator will wear proper personal protective equipment while performing mixer operations.
7. Employees operating masonry saws will be guarded with a semi-circular enclosure over the blade. The operator will wear safety glasses and a face shield.
8. The motor frames on all stationary saws will be grounded.
9. Brick stacks will not exceed 7 feet in height. Taper back 2 inches per foot after 4 feet.
10. CMU blocks stacked higher than 6 feet will be tapered back ½ block per tier above the 6-foot level.

For additional concrete and masonry requirements and information, refer to OSHA Regulations – Subpart Q – Concrete and Masonry Construction (1926.700 – 1926.706).

Steel Erection
Steel erection activities include hoisting, laying out, placing, connecting, welding, burning, guying, bracing, bolting, plumbing and rigging structural steel, steel joists and metal buildings; installing metal decking, curtain walls, window walls, siding systems, miscellaneous metals, ornamental iron and similar materials; and moving point-to-point while performing these activities.

Commencement of Steel Erection – A steel erection contractor shall not erect steel unless it has received written notification that the concrete in the footings, piers and walls or the mortar in the masonry piers and walls has attained, on the basis of an appropriate ASTM standard test method of field-cured samples, either 75 percent of the intended minimum compressive design strength or sufficient strength to support the loads imposed during steel erection.

Site Layout – Donahue McNamara Steel or the controlling contractor shall ensure that the following is provided and maintained:

- Adequate access roads into and through the site for the safe delivery and movement of cranes, trucks, other necessary equipment, and the material to be erected and means and methods for pedestrian and vehicular control.
- A firm, properly graded, drained area, readily accessible to the work with adequate space for the safe storage of materials and the safe operation of the erector’s equipment.
Pre-planning of Overhead Hoisting Operations – All hoisting operations in steel erection shall be pre-planned to ensure that the all hoisting and rigging requirements are met.

Site-specific Erection Plan – Due to conditions specific to the site, steel erection contractors are required to develop a site-specific steel erection plan that outlines the means and methods that provide employee protection. The site-specific erection plan shall be developed by a qualified person and be available at the work site before erection begins.

Fall Protection – Each employee engaged in a steel erection activity that is on a walking/working surface with an unprotected side or edge more than 15 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. Each connector shall be protected from fall hazards of more than two stories or 30 feet above a lower level, whichever is less.

Falling Object Protection – All materials, equipment, and tools, which are not in use while aloft, shall be secured against accidental displacement. The controlling contractor shall bar other construction processes below steel erection unless overhead protection for the employees below is provided.

Controlled Decking Zones – A controlled decking zone may be established in that area of the structure over 15 and up to 30 feet above a lower level where metal decking is initially being installed and forms the leading edge of a work area. In each CDZ, the following shall apply:

- Each employee working at the leading edge in a CDZ shall be protected from fall hazards of more than two stories or 30 feet (9.1 m), whichever is less.
- Access to a CDZ shall be limited to only those employees engaged in leading edge work.
- The boundaries of a CDZ shall be designated and clearly marked. The CDZ shall not be more than 90 feet (27.4 m) wide and 90 (27.4 m) feet deep from any leading edge. The CDZ shall be marked by the use of control lines or the equivalent. Examples of acceptable procedures for demarcating CDZ’s can be found below.
- Each employee working in a CDZ shall have completed CDZ training in accordance with § 1926.761 (see below).
- Unsecured decking in a CDZ shall not exceed 3,000 square feet.
• Safety deck attachments shall be performed in the CDZ from the leading edge back to the control line and shall have at least two attachments for each metal decking panel.
• Final deck attachments and installation of shear connectors shall not be performed in the CDZ.

CDZ (Non-Mandatory) Procedures - When used to control access to areas where leading edge and initial securement of metal deck and other operations connected with leading edge work are taking place, the controlled decking zone (CDZ) is defined by a control line or by any other means that restricts access. Only authorized and trained personnel shall access the CDZ and signs should be posted accordingly. A control line for a CDZ is erected not less than 6 feet (1.8 m) nor more than 90 feet (27.4 m) from the leading edge. Control lines extend along the entire length of the unprotected or leading edge and are approximately parallel to the unprotected or leading edge. Control lines consist of ropes, wires, tapes, or equivalent materials, and supporting stanchions as follows: each line is rigged and supported in such a way that its lowest point (including sag) is not less than 39 inches (1.0 m) from the walking/working surface and its highest point is not more than 45 inches (1.3 m) from the walking/working surface. Each line has a minimum breaking strength of 200 pounds (90.8 kg).

Training Requirements for Steel Erection – Training required by this section shall be provided by a qualified person(s). The employer shall provide a training program for all employees exposed to fall hazards. The program shall include training and instruction in the following areas:

• The recognition and identification of fall hazards in the work area;
• The use and operation of guardrail systems (including perimeter safety cable systems), personal fall arrest systems, positioning device systems, fall restraint systems, safety net systems, and other protection to be used;
• The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used;
• The procedures to be followed to prevent falls to lower levels and through or into holes and openings in walking/working surfaces and walls; and
• The employer shall ensure that each employee who performs multiple lift rigging has been provided training in the following areas: the nature of the hazards associated with multiple lifts; and the proper procedures and equipment to perform multiple lifts required by § 1926.753(e).
• The employer shall ensure that each connector has been provided training in the following areas: the nature of the hazards associated with connecting; and the
establishment, access, proper connecting techniques and work practices required by § 1926.756(c) and § 1926.760(b).

- Where CDZs are being used, the employer shall assure that each employee has been provided training in the following areas: the nature of the hazards associated with work within a controlled decking zone; and the establishment, access, proper installation techniques and work practices required by § 1926.760(c) and § 1926.754(e).

For additional steel erection requirements and information, refer to OSHA Regulations – Subpart R – Steel Erection (1926.750 – 1926.761).

Demolition

1. Prior to permitting employee to enter any building to be demolished, a survey will be made by a competent person to insure the possibility of collapse does not exist. This survey will be in written form and maintained at the job site.
2. All utilities will be shut off and disconnected outside of the building. Any utility company that is involved will be contacted.
3. Prior to starting demolition, it will be determined if any hazardous chemicals, gases, explosive or flammable material has been used in any pipes or tanks.
4. Asbestos will be removed by a licensed abatement company prior to commencement of any demolition work.
5. Lead will be removed by a licensed abatement company prior to commencement of any demolition work.
6. The following personal protection equipment is **MANDATORY** during all demolition operation:
   - Hard hats.
   - Safety glasses.
   - Leather gloves.
   - Hearing protection.
   - Full face shield. (If applicable)
   - Steel toed boots or foot guards. (if applicable)
   - Long sleeve shirts. (If applicable)
7. Exhaust system will be installed prior to starting demolition work. If respirator is required, refer to Donahue McNamara Steel respirator program.
8. Only stairways, ladders, and passage ways that have been designated for means of access will be used. All others will be barricaded off in a manner that prohibits their use.
9. All chutes that are 45 degrees or greater angle will be fully enclosed on all sides.
10. All chute openings will be barricaded when not in use.
11. Dropping of material outside of the building without a chute is **STRICTLY PROHIBITED**.

12. Where material is dropped through a floor hole, the floor below will have a guard rail.

**Material Handling**

Appropriate materials storage and handling can help reduce job-site accidents and worker injuries. It can also make the construction process much more productive. One of the leading causes of construction worker fatalities is being “struck by” objects. The following basic materials handling and storage principles can help reduce “struck by” incidence.

- **Methods of Prevention:**
  - Whether moving materials manually or mechanically, Donahue McNamara Steel employees shall be aware of the potential hazards associated with the task at hand and know how to exercise control over their workplaces to minimize danger.

- **Moving, Handling, and Storing Materials:**
  - When manually moving materials, Donahue McNamara Steel employees shall seek help when a load is so bulky that it cannot be properly grasped or lifted, when they cannot see around or over it, or when load cannot be safely handled.
  - When a Donahue McNamara Steel employee is placing blocks under raised loads, the employee shall ensure that the load is not released until their hands are clearly removed from the load. Blocking materials and timbers should be large and strong enough to support the load safely. Materials with evidence of cracks, rounded corners, splintered pieces, or dry rot shall not be used for blocking.
  - Handles and holders shall be attached to loads to reduce chances of getting fingers pinched or smashed. Workers shall also use appropriate protective equipment. For loads with sharp or rough edges, wear gloves or other hand and forearm protection. To avoid injuries to the hands and eyes, use gloves and eye protection. When loads are too heavy or bulky, each Donahue McNamara Steel employee shall also wear steel-toed safety shoes or boots to prevent foot injuries if the worker slips or accidentally drops a load.
  - When mechanically moving materials, avoid overloading the equipment by letting the weight, size and shape of the materials being moved dictate the type of equipment used for transporting it. All materials handling equipment has rated capacities that determine the maximum weight the equipment can safely handle and the conditions under which it can handle those weights. The equipment-rated capacities must be displayed on each piece of equipment and must not be exceeded except for load testing.
• Stored materials must not create a hazard. Storage areas must be kept free from accumulated materials that may cause tripping, fires or explosions or that may contribute to the harboring or rats and other pests. When stacking and piling materials, it is important to be aware of such factors as the materials' height and weight, how accessible the stored materials are to the user, and the condition of the containers where the materials are being stored.

• All bound material should be stacked, placed on racks, blocked, interlocked, or otherwise secured to prevent it from sliding, falling or collapsing. A load greater than that approved by a building official may not be placed on any floor of a building or other structure. Where applicable, load limits approved by the building inspector should be conspicuously posted in all storage areas.

• When stacking materials, height limitations should be observed. For example, lumber must be stacked no more than 16 feet high if it is handled manually; 20 feet is the maximum stacking height if a forklift is used. For quick reference, walls or posts may be painted with stripes to indicate maximum stacking heights.

• Used lumber must have all nails removed before stacking. Lumber must be stacked and leveled on solidly supported bracing. The stacks must be stable and self-supporting. Stacks of loose bricks should not be more than 7 feet in height. When masonry blocks are stacked higher than 6 feet, the stacks should be tapered back one-half block for each tier above the 6-foot level.

• Bags and bundles must be stacked in interlocking rows to remain secure. Bagged material must be stacked by stepping back the layers and cross-keying the bags at least every ten layers. To remove bags from the stack, start from the top row first. Baled paper and rags stored inside a building must not be closer than 18 inches to the walls, partitions, or sprinkler heads. Boxed materials must be banded or held in place using cross-toes or shrink plastic fiber.

• Drums, barrels and kegs must be stacked symmetrically. If stored on their sides, the bottom tiers must be blocked to keep them from rolling. When stacked on end, put plank, sheets of plywood dunnage or pallets between each tier to make a firm, flat, stacking surface. When stacking materials two or more feet high, the bottom tier must be chocked on each side to prevent shifting in either direction.

• When stacking, consider the need for availability of the material. Material that cannot be stacked due to size, shape or fragility can be safely stored on shelves or in bins. Structural steel, bar stock, poles, and other cylindrical materials, unless in racks, must be stacked and blocked to prevent spreading or tilting. Pipes and bars should not be stored in racks that face main aisles; this could create a hazard to passers-by when supplies are being removed.
Back Injury Prevention

1. Back injury prevention training is necessary because of the following facts:
   - The majority of back injuries occur when picking up less than one pound
   - Eight out of ten Americans will eventually suffer a back injury
   - Once a back injury occurs, a future incident is three to four times more likely
   - When you bend at the waist to pick up 100 pounds, ¾ ton of force is exerted on the lower back
   - Some back injuries occur during slips, trips and falls

2. The number one cause of back injury is “improper lifting.” Some of the types of injuries resulting from improper lifting are:
   - Sprains and/or strains – weak muscles are stretched and torn by poor posture and aggravated by improper lifting, twisting and bending
   - Disk problems – slipped disks, contusions and ruptures cause spinal cord damage, numbness or pain
   - Fractured vertebrae – usually the result of a fall

3. Some of the items to avoid when safe-guarding your back are:
   - Bending the back, bend at knees
   - Twisting the back, move feet
   - Extending or reaching to lift, slide load toward you or get help
   - Walking on wet surfaces
   - Excessive twisting or straining of your back while attempting to move in areas such as restricted areas or some confined spaces

4. One of the best methods for preventing back injury is to follow the APL system as follows:
   - Assess the load – path, look for obstructions, doors, extension cords; load size, is it too large or too awkward
   - Position yourself – feet, get close to the load; grip and get the load close to your body; balance the load
   - Lift the load – bend at knees and lift with legs

5. Another back injury prevention system that has become very common-place, is the practice of “Ergonomics.” Following are some examples of applied “Ergonomics:”
   - Use a table, box or bench whenever possible to avoid bending over for long periods of time
   - Change your position frequently by stretching, standing, bending or sitting
   - Avoid bending or twisting your back, use your knees to bend, pivot your feet to twist
   - Position items in the work area no lower than 15 inches and no higher than 55 inches to avoid extending or reaching when lifting; slide the object toward you or get assistance
   - Avoid storing heavy objects above or below waist height
   - Avoid lifting things you cannot see over
Stretching

- Daily stretching has many benefits including:
  - Prepares body for physical work activities – it is a wakeup call for your muscles
  - Flexibility is increased – not just at work but all the time
  - Your circulation is promoted – your muscles need oxygen from the blood to operate at peak performance
  - Muscle tension is decreased – a static position locks the tendons
  - Relaxation is increased – gives your brain something else to concentrate on instead of normal work activities
  - Your range of motion is improved – progressively strengthens muscles and lengthens your tendons, which means greater range of motion.
  - Your body awareness is increased – keeps those muscles from sleeping on the job
  - Muscle fatigue is delayed – removes lactic acid from the muscles which contributes to fatigue
  - Reduces frequency and severity of injury – there are proven results from numerous studies
  - Your team morale is increased – it is not a competition, it’s team building, enjoy it and benefit from the results

- Guidelines for beginning with your body in a neutral position:
  - Standing relaxed with your feet shoulder-width apart, bend your knees a little and contract your abdomen a little. This will help keep your back straight. Your shoulders should be relaxed and your chest lifted.
  - Hold each stretch for a count of 10 – 15 seconds
  - Do not bounce while you are stretching.
  - Breathe in a relaxed manner and don’t hold your breath.
  - Do the stretches at your own rate – don’t compensate.
  - Stretch just beyond the point of natural tension.
  - Make stretching a daily habit, and do it before you start work and immediately after work.

- Limitations
  - Make sure you do these stretches at your own pace and ability, stretch only within your own limits.
  - You should stretch to the point of comfortable tension, and then relax before you do the stretch.
  - You should avoid straining while you are performing the stretches.
  - None of these stretches should be painful.
  - You should release the stretch slightly if your muscles begin to shake.
  - If you experience any pain in the joint area, back off the stretch and make sure you are doing it correctly. If necessary, you should try another position or a different stretch for the target muscles.
You should breathe slowly and rhythmically while holding these stretches. Don’t hold your breath, it is important that oxygen is getting to the blood and muscles.

**Shoulder Shrug with High Reach**

1. Lift (shrug) shoulders as high as possible while slowly raising your arms to fully extend position above head.
2. At the same time, lift the body up onto your toes (for as long as comfortable). While reaching high, extend and spread fingers.
3. Hold this position for 10 seconds and then slowly lower arms to the side into a neutral body position. Relax while breathing slowly and rhythmically. Concentrate on your breathing rate for at least 5 breathing cycles.

**Target:** Biceps, lats, forearms, and muscles that support the spine. Particularly good for using hand tools and light lifting tasks.

**Tricep Stretch**

1. Bring right hand to upper back between shoulder blades from above shoulder.
2. Place left hand on the triceps (muscle on the underside of the arm) near the elbow.
3. Gently pull right elbow up and back with left hand, moving the right hand down center of upper back as far as comfortable. This should not cause pinching in the neck. Repeat on opposite side.

**Target:** Triceps and shoulders, particularly good for light lifting, carrying or pushing such as laborers, and mail clerks.
Neck Stretch
1. Keep your neck as straight as possible while relaxing your shoulders. Tilt your head to the right, slowly lower head toward right shoulder.

2. Repeat in four positions: right, left, front and back each time returning to the upright position.

3. Be sure to do this slowly and do not hold your breath. There should be a complete breath cycle with each position of the head!
   Target: Neck muscles and stress reducer. Particularly good for equipment operators, office personnel, and engineers.

Upper Trunk Stretch
1. Place Hands on back of hips.
2. Slowly arch upper body backward to a comfortable position. Hold while continuing to breathe.
3. Return to neutral position and repeat two more times.
   Target: Lower back, abdominals. Particularly good for truck drivers, equipment operators, laborers.
Shoulder Rotation Stretch
1. Keeping knees slightly bent, clasp hands behind back.
2. Slowly bend forward from waist to a comfortable angle while lifting arms upward and behind your back.
3. Hold position for one breath cycle and slowly return to upright position. Repeat 2 more times.
Target: Shoulders and upper back. Particularly good for carpenters, office workers.

Trunk Rotation
1. Extend left arm out to side and grasp left hip with right hand.
2. Rotate upper body to the left while pulling on hip with right hand.
3. Release tension and change to other side. Repeat on opposite side.
Target: Lower back and trunk support muscles. Particularly good for laborers, mechanics, and iron workers.

Lateral Rotation Stretch
1. Stand upright with feet slightly apart for balance. Extend left arm out to side and grasp left hip with right hand.
2. Rotate upper body to left while pulling on hip with right hand, then bend slowly from waist to left side to a comfortable angle.
3. Return to upright position and change hand locations to other side. Repeat on opposite side.
Target: Lats, lower back muscles, abdominals, and upper leg muscles. Particularly good for laborers, iron workers.
Lateral Stretch
1. Place right hand on waist, extend left arm over head and bend upper body sideways to the right.
2. Hold position for one breath cycle and return to upright position.
3. Repeat two more times and change hand position to other side. Repeat on opposite side.
Target: Lats and triceps plus shoulder mobility. Particularly good for masons, riggers, machinists.

Single Leg Stretch
1. Cross leg, keeping both knees slightly flexed.
2. Bend forward slowly from the waist and place both hands on the forward knee. Continue bending forward as far as possible.
3. Hold position for one breath cycle. Warning: discontinue this exercise if you become dizzy or lose your balance. Change leg position and repeat.
Target: Hamstrings, lower back muscles and stability. Particularly good for laborers, masons, and mechanics.

Single Quadriceps Stretch
1. With your left hand holding onto a stationary object for support, grasp your right ankle behind hips with right hand.
2. Pull ankle upward to stretch the quadriceps muscle. Warning: do not attempt this exercise if you have problems with balance or severe knee injuries. If you have knee injuries, you may elect to lift the lower leg behind you and hold the position for 10 seconds. Repeat on opposite side.
Target: Quadriceps and also helps body balance and ankle strength. Particularly good for laborers, flaggers, and ironworkers.
**Calf Stretch**

1. Stand in upright position, left leg forward.
2. Flex the upper trunk forward and place both hands on left knee.
3. Keeping both feet flat on the floor, slowly push hips and body forward as far as possible as though you are leaning into something. The stress should be on the calf muscles in the back of the right leg if you keep your feet flat. Repeat on opposite side.

**Target:** Calves, lower back muscles. Particularly good for operators, teamsters, maintenance workers.

**Wrist Extension**

1. Palms together with fingers apart, press momentarily together and release.
2. Stretch arms out forward and make a fist in each hand. Hold 5 seconds and open hands wide.
3. Force your thumbs down while keeping fingers pointing toward the sky, wrists are bend back and elbows should be locked. You should feel a slight burn in the upper muscles (extensor muscles) of the forearm. These muscles are frequently less used and developed than the flexor muscles in the forearm which leads to unbalance and potential wrist injuries.
4. Hold 10 seconds and release. Return your arms to the neutral position at your side and shake out your hands.

**Target:** Exterior muscles. Particularly good for carpenter, administrative professionals, machinists, and maintenance workers.