



Corporate Safety, Health and Environmental Policies and Procedures Manual

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TABLE OF CONTENTS

SECTION 1: LF DRISCOLL CORPORATE COMMITMENT	6
<i>SAFETY ORGANIZATIONAL CHART.....</i>	<i>7</i>
SECTION 2: SAFETY 360° LF DRISCOLL.....	8
SECTION 3: CODE OF CONDUCT	9
SECTION 4: ADMINISTRATION	11
<i>SAFETY POLICY</i>	<i>11</i>
<i>a. LF DRISCOLL RESPONSIBILITIES.....</i>	<i>13</i>
<i>b. SUBCONTRACTOR CONTRACT RESPONSIBILITIES.....</i>	<i>17</i>
<i>c. SUBCONTRACTOR PRE-MOBILIZATION MEETING.....</i>	<i>21</i>
<i>d. SAFETY INSPECTIONS</i>	<i>22</i>
<i>e. VISITORS ON THE PROJECT.....</i>	<i>23</i>
<i>f. DISCIPLINARY POLICY.....</i>	<i>24</i>
<i>g. ZERO TOLERANCE POLICY.....</i>	<i>26</i>
<i>h. SAFETY VIOLATION FINING POLICY</i>	<i>27</i>
<i>i. SAFETY VIOLATION FINE SCHEDULE.....</i>	<i>28</i>
<i>j. SAFETY VIOLATION FINE FORM.....</i>	<i>30</i>
<i>k. OSHA INSPECTION PROCEDURE.....</i>	<i>33</i>
<i>l. SAFETY COMPLAINT PROCEDURES</i>	<i>36</i>
SECTION 5: PROJECT SAFETY FILE DOCUMENTATION.....	37
<i>SITE VISITOR CHECKLIST</i>	<i>40</i>
<i>SUBCONTRACTOR SAFETY DATA COMPLIANCE LOG.....</i>	<i>41</i>
<i>PROJECT START-UP SAFETY CHECKLIST.....</i>	<i>42</i>
<i>FALL PROTECTION INSPECTION REPORT</i>	<i>43</i>
<i>SUBCONTRACTOR SAFETY PROGRAM REVIEW CHECKLIST.....</i>	<i>45</i>
<i>SUPERINTENDENT SAFETY CHECKLIST</i>	<i>46</i>
SECTION 6: SAFETY TRAINING AND EDUCATION FOR LF DRISCOLL EMPLOYEES.....	48
<i>a. OSHA TRAINING REQUIREMENTS</i>	<i>48</i>
SECTION 7: PERSONAL PROTECTIVE EQUIPMENT (PPE).....	50
<i>a. HARD HATS:</i>	<i>50</i>
<i>b. CLOTHING:.....</i>	<i>50</i>
<i>c. WORK BOOTS:</i>	<i>50</i>
<i>d. EYE PROTECTION:</i>	<i>51</i>
<i>e. FACE PROTECTION:.....</i>	<i>51</i>
<i>f. HAND PROTECTION: See Hand Protection (Glove Policy) in this manual.</i>	<i>51</i>
<i>g. HEARING PROTECTION:.....</i>	<i>51</i>

h. RESPIRATORS: See Respiratory Protection Section in this manual.....	51
i. VESTS:	51
TRAINING:	51
a. HAND PROTECTION (GLOVE POLICY)	52
SECTION 8: TOOL SAFETY	53
a. POWER ACTUATED TOOLS	54
SECTION 9: JOB HAZARD ANALYSIS PROCEDURE.....	55
JOB HAZARD ANALYSIS FORM.....	56
SECTION 10: ACCIDENT RECORDKEEPING	57
a. ACCIDENT/INCIDENT REPORTING POLICY	58
b. PERSONAL INJURY AND PROPERTY DAMAGE DOCUMENTATION	60
c. INCIDENT REPORTING AND INVESTIGATION PROCEDURE	61
d. OSHA RECORDABLE INJURIES.....	63
e. EMERGENCY SERVICES.....	64
SECTION 11: CRISIS RESPONSE PROTOCOL	66
SECTION 12: SITE SPECIFIC SAFETY PLAN	71
SECTION 13: SITE LOGISTICS.....	72
SECTION 14: SIGN POSTING	74
SECTION 15: TRAFFIC CONTROLS.....	75
a. FLAGGER PROCEDURES	76
b. WORKING OVER OR NEAR WATER.....	77
SECTION 16: ENVIRONMENTAL MANAGEMENT PLAN	78
a. ENVIRONMENTAL PLANS AND PROCEDURES.....	79
b. ENVIRONMENTAL ISSUES ON A TYPICAL CONSTRUCTION SITE	80
c. LEAD REQUIREMENTS.....	83
d. HAZARDOUS WASTE OPERATION & EMERGENCY RESPONSE (HAZWOPER).....	85
SECTION 17: HAZARD COMMUNICATION PROGRAM	86
HAZARD COMMUNICATION WRITTEN PROGRAM.....	86
a. GHS LABELS.....	89
SECTION 18: PROJECT SECURITY	93
a. ACTIVE SHOOTER	94
SECTION 19: UTILITY SHUT-DOWN PROCEDURES	96
SECTION 20: POWERED INDUSTRIAL TRUCKS	97
SECTION 21: EARTHWORK, EXCAVATIONS AND TRENCHING.....	98
DAILY EXCAVATION INSPECTION CHECKLIST.....	100
PILE DRIVING REQUIREMENTS.....	101
CAISSONS.....	102
BLASTING PROCEDURE.....	103
BLASTING CHECKLIST.....	105
SECTION 22: DEMOLITION.....	106
DEMOLITION CHECKLIST AND PROCEDURES.....	107
DEMOLITION CHECKLIST AND PROCEDURES.....	109

DEMOLITION SURVEY PRIOR TO DEMO.....	111
SECTION 23: CONCRETE OPERATIONS	112
a. CAST IN PLACE CONCRETE.....	112
b. PRE-CAST PLANK REQUIREMENTS.....	113
c. POST TENSION CONCRETE	114
SECTION 24: CRANE SAFETY	118
a. CRANE-PREPLANNING AGENDA.....	120
b. CRANE REQUIRED DOCUMENTATION	122
c. CRANES & HELICOPTER PADS.....	123
d. CRANE & DERRICK SUSPENDED PERSONNEL PLATFORMS.....	124
e. RIGGING REQUIREMENTS	125
f. SIGNALING REQUIREMENTS	127
CRANE LIFT WORK SHEET.....	128
DOCUMENTATION FORM FOR CRANE OPERATOR EVALUATION.....	129
CRANE SET-UP / LIFT PLAN	130
SECTION 25: STEEL ERECTION	134
NOTICE TO COMMENCE STEEL ERECTION.....	136
DECK TURNOVER FALL PROTECTION CUSTODY CHECKLIST	137
FALL PROTECTION CUSTODY.....	138
SECTION 26: HOISTS AND ELEVATORS	139
HOIST PRE-ERECTION CHECKLIST	141
SECTION 27: FALL PROTECTION	143
a. GUARDRAIL DISRUPTION PERMIT PROCEDURE.....	146
Guardrail Disruption Permit	147
b. CABLE REWORK PROCEDURE.....	148
c. MAINTENANCE OF SAFETY INSTALLATIONS.....	148
SECTION 28: ELECTRICAL SAFETY	149
a. LOCKOUT/TAGOUT POLICY	153
B NFPA 70 E ENERGIZED ELECTRICAL WORK PERMIT & CHECKLIST	155
b. UTILITY SHUT DOWN PROCEDURES.....	157
UTILITY SHUT DOWN REQUEST FORM	158
SECTION 29: FIRE PREVENTION AND PROTECTION	159
a. HANDLING OF FLAMMABLES & COMBUSTIBLES	161
b. HOT WORK PERMIT PROCEDURE	162
c. FIRE WATCH DUTIES	163
d. HOT BITUMEN & KETTLE SAFETY.....	165
e. LIQUIFIED PETROLEUM GAS (LPG)	165
f. WELDING	166
g. TEMPORARY HEATING GUIDELINES	168
h. MATERIAL STORAGE	168
i. HOUSEKEEPING	169
j. COMPRESSED GAS CYLINDERS	171

k. WORKING IN OR AROUND OCCUPIED BUILDINGS	172
SECTION 30: LADDER SAFETY	173
SECTION 31: SCAFFOLD SAFETY	174
a. SWING SCAFFOLD PREPLANNING AGENDA	176
b. SWING STAGE SCAFFOLD COUNTERWEIGHT FORMULA	177
c. AERIAL/SCISSOR LIFTS	177
d. AERIAL LIFT PERMIT	179
SECTION 32: CONFINED SPACE ENTRY PROCEDURE (CSEP)	180
a. CONFINED SPACE DUTIES.....	187
b. PERMIT REQUIRED CONFINED SPACE DECISION FLOW CHART.....	189
CONFINED SPACE TRAINING ACKNOWLEDGEMENT.....	190
CONFINED SPACE ENTRY PERMIT.....	191
CONFINED SPACE DAILY PRE ENTRY CHECKLIST	194
CONFINED SPACE ENTRY LOG	195
SECTION 33: RESPIRATORY PROTECTION.....	196
a. RESPIRATOR USE REQUIREMENTS FLOW CHART.....	197
b. RESPIRATOR PROTECTION PROGRAM OUTLINE	198
SECTION 34: SILICA EXPOSURE PREVENTION PROGRAM.....	202
SECTION 35: INFECTION CONTROL RISK ASSESSMENT (ICRA).....	215
a. WORKING WITHIN LABORATORY AREAS	222
b. WORKING WITHIN STERILE ENVIRONMENTS	224
c. BLOODBORNE PATHOGEN EXPOSURE CONTROL PLAN.....	225
SECTION 36: SMALL UNMANNED AIRCRAFT VEHICLE/SYSTEM (UAV) & (UAS) DRONES.....	230

SECTION 1: LF DRISCOLL CORPORATE COMMITMENT

STATEMENT OF INTENT

LF Driscoll considers a successful safety, health and environmental management program of primary significance to its business. LF Driscoll is committed to the continual improvement of safety, health and environmental performance and the advancement of safety, health and environmental standards. LF Driscoll's overall goal is to protect both people and the environment. LF Driscoll recognizes that attaining the absolute goal of causing no harm to people or the environment is extremely challenging and will work with clients, suppliers and the workforce towards achieving this goal.

It is the policy of LF Driscoll to:

1. Pursue high standards of safety, health and environmental management as an integral part of efficient business management and ensure that the decisions related to other business priorities address safety and health issues and requirements.
2. Observe all federal, state and local legislation applicable to the construction industry.
3. Develop construction systems and procedures that set effective safety and health standards.
4. Inspect, initiate and audit construction operations for worker safety.
5. Establish practices and procedures to address the selection and performance of all subcontractors performing contractual obligations at LF Driscoll projects.
6. Develop and review safety and health performance indicators including:
 - a. Accident and incident matrix
 - b. LF Driscoll employee training
 - c. Subcontractor prequalification
 - d. Inspection findings
7. The LF Driscoll safety leadership team will annually provide:
 - a. Training
 - b. Audits
 - c. Reviews and revisions to the corporate safety policy whenever necessary

Frank M. Stulb

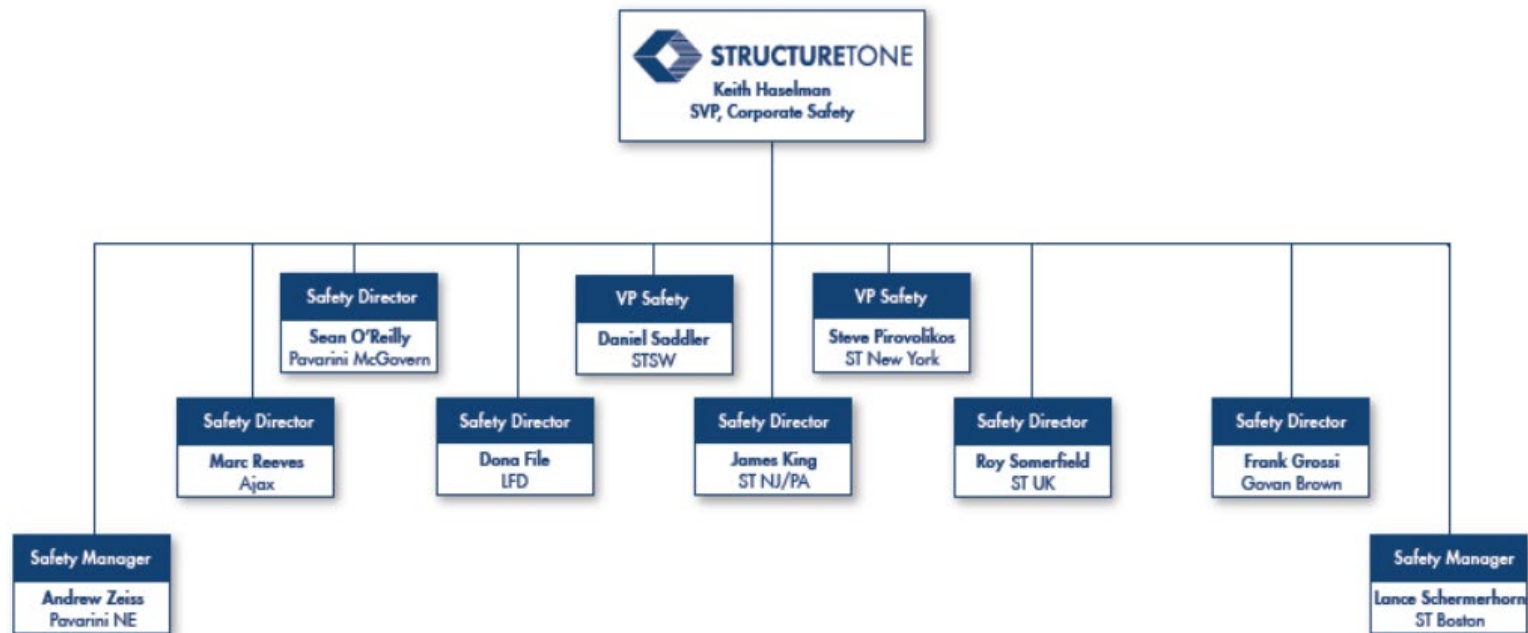


President

SAFETY ORGANIZATIONAL CHART



Safety Department
 2019



SECTION 2: SAFETY 360° LF DRISCOLL

Our Safety 360° initiative is a pillar of our identity as a company. We believe that our employees and workforce should never worry about returning home safely and our clients should never worry about the safety of their staff and visitors.

Our approach to safety is different; for us safety is a passion, not an obligation. Every employee receives annual safety coaching from our dedicated Safety Department that includes role plays of scenarios tailored to specific work environments; lessons-learned discussions and new best practices; and leadership training so that every employee is engaged and becomes a voice for safety. We expect continuous growth and innovation from our teams, which ranges from adopting new technology to testing cutting-edge emergency and safety measures.

In turn, our investment in safety benefits our clients who avoid safety-related impacts to their projects and rest assured of their staff and visitors' safety.

FOUR KEY COMPONENTS OF SAFETY 360°

Awareness

We foster a 360° view of safety physically and philosophically. We expect active engagement from each employee in his immediate environment, as well as awareness of activities above, below, and adjacent. It also means that we look out for one other's physical and mental safety, and that every employee and worker is empowered to speak up.

Shared Responsibility

Each and every employee receives annual safety coaching. We believe that the best way to increase accountability is to increase responsibility, so superintendents and project managers are as engaged in safety as our dedicated Safety Department team members.

Behavior

A key component of our approach is avoiding risky behaviors all together, as behavior is the primary contributing cause of over 80% of accidents. We are changing behaviors to support a strong safety culture that solicits feedback, engages our workforce and empowers people to make a difference.

Positivity

Our coaching takes a preventative approach and is defined by positivity rather than enforcement and punishment.

SECTION 3: CODE OF CONDUCT

LF Driscoll is committed to maintaining the highest standards of business ethics and corporate conduct. As an employee, you are required to do the same. Responsibility for the company's commitment to ethical business conduct rests with you. As long as you are part of the LF Driscoll family, you are a caretaker of the Company's most precious asset, its reputation.

Common sense, good judgment, and appropriate personal behavior are the responsibility of each and every employee. Conflicts of interest must be scrupulously avoided. You must perform all aspects of your work with the utmost honesty and transparency. You must keep complete records that accurately reflect the business of the company. In short, your daily activities on behalf of LF Driscoll must reflect a personal commitment to conducting business in "The LF Driscoll Way."

This Code of Conduct and Business Ethics (the "Code") identifies the fundamental requirements for compliance with LF Driscoll's standards. All employees must familiarize themselves with the ethical and legal principles contained in the Code and make a personal commitment to abide by them. The Code applies to all LF Driscoll employees' and to members of the board of directors, agents, consultants, contracted labor, and others when they are acting for, or on behalf of LF Driscoll. This Code also applies to the Company's vendors, subcontractors, suppliers and other business partners. We must only work with companies that uphold our values.

The purpose of the Code is to help all of us understand the legal and ethical guidelines that must govern the way we conduct our business. This Code (which we will update periodically so that it remains current) is complemented by a suite of other policies and procedures that further guide our corporate behavior. LF Driscoll recognizes that the complexity of everyday business life is such that a code of conduct can only provide the framework for our corporate responsibility. Questions and issues will arise that will require the exercise of prudent judgment and common sense.

Under the direction of our Board of Directors, Brian J. Fields, the Company's Chief Ethics and Compliance Officer, will administer the Company's Ethics and Compliance Program and this Code. Mr. Fields has the entire Executive Management team's full support. It is expected that all of our officers and managers will ensure that this Code is effectively implemented and enforced. If you have a concern about what is proper conduct, you are required to seek guidance and clarification from your supervisors. You are also encouraged to contact Mr. Fields or the Company's General Counsel, David Cahill, if the need should arise. You should be assured that the Company will treat all concerns seriously and will help you make the right choice.

Conducting our business with integrity and ethics is the only way to ensure the long-term success of our Company, our clients, and our employees around the world. I cannot stress strongly enough that LF Driscoll does not, and will not, tolerate any form of unethical or unlawful behavior by any person or entity associated with the Company. Violations of this Code, applicable laws, and of the Company's policies and procedures, as well as the failure to report any such violations, can be grounds for disciplinary action, including termination.

The entire Executive Management team is committed to ensure that the standards and principles of this Code are honored and observed throughout the Company. Thank you for your continued dedication to conducting business "The LF Driscoll Way."

FUNDAMENTAL PRINCIPLES

This Code is meant to provide guidance on our core values. Of course, one document cannot provide complete guidance on all of your daily actions and interactions. This Code should be read and followed in conjunction with the Company's other policies and procedures under the guidance of your supervisors. The Code is also not a substitute for exercising common sense and prudent judgment, and for asking for support when you need it.

Employees receive a copy of the Code and training regarding its contents and application. All employees must know, understand, and comply with the requirements of the Code. Your compliance with this Code will factor into your performance evaluations, and non-compliance may have serious consequences, including termination.

Likewise, supervisors are held responsible for ensuring that the Code is observed, and their own performance evaluations will incorporate their subordinates' records of compliance. Our leaders serve as role models and resources for proper business conduct, and they will be held accountable for subordinate conduct that they know *or should have known* exists and violate this Code. For those reasons they have enhanced responsibilities and must promote a culture of ethics and compliance. Our leaders must:

1. Lead by example.
2. Ensure their subordinates are knowledgeable about this Code and receive adequate training.
3. Foster an environment of integrity, transparency, honesty, and open communication.
4. Promote respect for and compliance with applicable laws and the Company's policies and procedures.
5. Deter non-compliant behavior, and report suspected violations of the law and the Company's policies and procedures.

All Employees have a duty to speak up and promptly report any suspected violation of this Code, the Company's other policies and procedures, and applicable laws and regulations, including violations by the Company's business partners. Depending on their type and seriousness, and in accordance with this Code, you may report suspected violations to your immediate supervisor, local Human Resources ("HR") representative, the Company's General Counsel, the Company's Chief Ethics and Compliance Officer ("CECO"), or the Compliance and Ethics intake email address: Compliance@structuretone.com. Supervisors have a duty to ensure that reports of suspected violations made to them are promptly escalated and otherwise handled in accordance with this Code. You may also report suspected violations anonymously through the Company's third-party reporting service.

The Company will investigate all reports promptly, thoroughly, and consistent with applicable law. Investigations will be kept confidential to the extent possible and consistent with applicable law. When necessary and consistent with applicable law, investigations or the results of investigations may be reported to law enforcement or to a client. The Company will take appropriate disciplinary action if a report is substantiated and a Code, Company policy, or legal violation is found.

LF Driscoll maintains a strict non-retaliation policy to protect those who report in good faith suspected violations of this Code, Company policies and procedures, or applicable law. "Good faith" does not require that the conduct be substantiated; rather it means only that you come forward with all the information you had and made a sincere and honest report. LF Driscoll will not tolerate conduct that deters employees from raising genuine concerns or interferes with employees' duty to report violations. Allegations of intimidation or retaliation will be investigated and, where substantiated, met with severe discipline up to and including immediate termination. If you suspect that you have been the victim of retaliatory behavior, you should report the matter immediately to the Company's CECO.

All project sites are required to have displayed the following Compliance Department/Ethics Helpline information:

<p>THE COMPLIANCE AND ETHICS DEPARTMENT</p> <p> Tel: 212-251-9279</p> <p> Email: compliance@structuretone.com</p> <p>BRIAN FIELDS Chief Ethics and Compliance Officer</p>	<p>ETHICS HELPLINE</p> <p> Tel: 1-866-593-6479</p> <p> www.structuretone.ethicspoint.com</p> <p><i>You may choose to keep your identity confidential</i></p>
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SECTION 4: ADMINISTRATION

SAFETY POLICY

LF Driscoll shall strive to provide a safe work environment for all its employees, the owner, the public, workforce and other contracting firms on all LF Driscoll project sites. It is LF Driscoll's intention, both in spirit and in deed, to abide by all federal, state and local safety and health regulations as they may pertain to the construction industry. Safety training, the recognition of hazards, documentation, abatement of unsafe conditions and compliance are the focus of this Safety Program.

Every LF Driscoll Supervisor shall maintain a safe work place and contribute to a safe project site, to preserve our corporate image of excellence in construction safety. With respect to LF Driscoll employees, the communities that surround our project sites, and the federal, state and local agencies with whom we interface, the LF Driscoll Safety Policy shall have the full support of management from the Chief Executive Officer down throughout the management ranks.

1. LF Driscoll will appoint competent safety and health superintendents and/or safety managers with duties outlined in the policy documents of this manual.
2. This manual provides assistance in complying with 29 CFR Part 1926 regulations (minimum OSHA Standards). The intent of the content is to make available to LF Driscoll personnel reasonably accurate and authoritative information concerning project safety. This program is in no way a substitute for subcontractor safety programs, which must meet or exceed requirements specified herein. The maintenance of safe operations and the elimination of unsafe practices and conditions remains the responsibility of LF Driscoll subcontractors. LF Driscoll does not direct, control or supervise the actual performance of subcontractor scopes of work. LF Driscoll does not self-perform work. The information provided in this manual is available to subcontractors to assist them in regulation compliance.
3. The LF Driscoll Safety and Health Policy Manual is a guidance document to manage all LF Driscoll projects. Certain elements of the programs may not be applicable to all types of projects.
4. The safety director has the authority and option to modify or develop program elements as it relates to this manual based on specific needs.
5. LF Driscoll is dedicated to the pursuit of safety excellence through a continuously improving Safety Program, the enforcement of safety compliance and the elimination or minimization of exposure to hazards on the jobsite. All Subcontractors are required to recognize and abate unsafe jobsite conditions and behaviors.
6. Subcontractors are responsible to follow their submitted safety program. In addition, each subcontractor is required to comply with any additional LF Driscoll and/or Owner-imposed safety regulations and standards. Other current industry standards or safe work practices such as Joint Commission, NFPA, ANSI and other regulatory standards incorporated to execute safe work practices. When more than one standard might apply to a given situation, the more stringent will be the prevailing authority, when feasible.
7. The LF Driscoll Safety Manual attempts to state the most commonly accepted regulatory work practices and spells them out in plain language to emphasize their importance.
8. The possession, sale, use or distribution of narcotics and/or related paraphernalia, alcohol (all related beverages) or other illegal substances/drugs are prohibited on the project. Persons found in violation of this policy will be subject to disciplinary action(s) up to and including discharge from the project.
9. The possession of firearms, explosives or other weapons used to cause harm to personnel or property, other than that use to perform specific construction activities, are not permitted on this project. Persons found in violation of this policy will be subject to disciplinary action(s) up to and including discharge from the project.
10. Harassment/violence will not be tolerated based on someone's sex, age, race, color, religion, creed, sexual preference or orientation, marital status, national origin, ancestry, citizenship, military status, veteran status, handicap or disability or any other protected group or status nor displaying of lewd or offensive pictures, graphics or gestures. Report all conditions relating to this policy to the LF Driscoll superintendent for review, investigation and resolution, which may subject the offender to immediate removal from the jobsite by their employer.

11. Each subcontractor shall appoint a safety representative as the Competent Person. This individual must have the ability to recognize hazards in the work environment and shall have the authority to take prompt corrective action, as set forth by OSHA 29 CFR 1926.32(f).
12. If required by LF Driscoll or the client, any subcontractor with 30 or more employees and/or tiered sub employees, shall have a full time dedicated safety manager with a minimum of OSHA 30 training within the past five years.
13. Prior to start of work, the Subcontractor shall submit a letter identifying all competent persons, qualified persons and/or authorized persons responsible for each aspect of their work. The respective subcontractor principal shall complete all appropriate LF Driscoll forms relating to this designation.
14. Subcontractors shall designate a competent corporate safety representative (from management) at the beginning of the job who shall inspect the jobsite at regular intervals as required by OSHA. This representative must coordinate inspection efforts and abatement of noted deficiencies with the LF Driscoll superintendent / safety manager, as appropriate.
15. Subcontractors are required to hold weekly toolbox talks and jobsite inspections with their onsite personnel; meeting minutes with sign-off and deliver to the appointed LF Driscoll onsite safety representative.
16. Conduct pre-planning meetings with written documentation for all high-risk activities. The Subcontractor as required will conduct a Job Hazard Analysis (JHA). LF Driscoll must be notified two (2) weeks prior to any known or planned high risk activities, critical crane lifts, scaffolding, demolition, excavation, fire or smoke potential or activity with potential for severe injury or death. Pre-planning meetings are required as necessary to satisfy the duty of reasonable care.
17. Subcontractors key personnel are required to attend a pre-mobilization safety meeting
18. Subcontractors shall maintain all required OSHA documentation and data before the start of work and through the duration of their contracted work. Including, at a minimum, a written Site Specific Safety & Health Program, OSHA 300A Summary form, identity of their designated Competent Person(s), name of designated Management safety representative and all certifications, licenses, credentials and training records for their employees. Forward a copy of these documents to LF Driscoll upon the initial arrival of each employee, where LF Driscoll reserves the right to accept or reject the adequacy of such documents.
19. Report all accidents to the LF Driscoll superintendent immediately. Subcontractors shall provide all associated documentation to LF Driscoll within 24 hours of the accident / incident. LF Driscoll Worker orientation is required for all new hires before the start of work on the day they arrive on site.
20. LF Driscoll Worker orientation is required for all new hires before the start of work on the day they arrive on site.
21. Failure by Subcontractor to meet or exceed the standards of the LF Driscoll Safety Policy, Safety Manual, preplanning meetings or other imposed safety elements subjects the subcontractor to remedies under the subcontract, including default.
22. All visitors must report to the field office and sign a Visitor Release. Visitors must wear all appropriate clothing including flat, hard-soled shoes, hard hats and safety glasses.
23. Subcontractor Site Specific Safety procedures will meet or exceed the more stringent requirements of OSHA, [STO Entity] or their own policy.
24. LF Driscoll, has instituted a fall protection requirement for all operations or work above six feet (6' fall protection rule).
25. LF Driscoll uses a guardrail disruption permit system. Details of the permit system are in Section 12 of this manual.
26. Each subcontractor must ensure that the on-site foreman, superintendents, or supervisor(s) has successfully completed an OSHA 30-hour construction safety course within the last five (5) years.
27. Non-compliance with OSHA regulations, Owner imposed safety regulation or standards, or the LF Driscoll Safety Manual subjects the subcontractor to remedies under the subcontract, including default.
28. LF Driscoll has adopted a Zero Tolerance Policy towards compliance with fall protection, electrical safety, confined space, harassment, violence and smoking/vaping including electronic cigarettes and electronic vaporizers as set forth in subsection "J" of this section. Each Subcontractor shall be responsible for enforcing this Policy throughout their respective work activities.
29. The LF Driscoll Safety Director shall have the full authority and final word in determining the Subcontractor's compliance with the Safety Program.

a. LF DRISCOLL RESPONSIBILITIES

Safety Director

1. Direct, administer, develop implement, execute and monitor LF Driscoll safety policies and programs to ensure compliance with the requirements of this manual.
2. Determine training needs for LF Driscoll employees and provide training to achieve safety implementation on jobsites.
3. Develop systems to evaluate and report accidents/incidents resulting in property damage or general liability claims.
4. Represent LF Driscoll with appointed attorneys in LF Driscoll's legal defense.
5. Manage and administer LF Driscoll Safety Staff and evaluate which projects require additional safety attention and staff accordingly.
6. Conduct or assist in accident and incident investigations and report directly to Designated Officer.
7. Act as the safety advisor to line management and/or related supervision on each project and to provide technical support for safety and occupational health requirements.
8. Manage onsite safety audits to insure compliance with safety and health standards as required by OSHA, Federal, State and Local Laws and other regulatory commissions as required.
9. Coordinate with the insurance safety representatives, OSHA and other authorized safety inspectors to evaluate and abate unsafe conditions and to improve safety implementation on the jobsite.
10. Establish priorities for the correction of factors contributing to or causing occupational injuries. In addition, coordinate with respective Risk Manager in the management of W/C claims.
11. Maintain lines of communication with all levels of management and supervision to ensure that each is aware of the Company's safety and health policies and their own responsibilities under the regulatory statutes.
12. Develop Site-Specific Safety Policies and Procedures, identifying areas requiring preventive maintenance, the procurement of safety equipment and first aid supplies, and the procedures for the safety of personnel, equipment and property.
13. Coordinate the public relations aspect of the Safety Program, participate in safety society meetings and attend educational seminars to ensure continued professional development.
14. Represent LF Driscoll Safety Policy at Owner meetings, community meetings and with subcontractors as required. Confer with clients to coordinate safety efforts and implement accordingly.
15. Track and trend Subcontractor compliance on projects. Work with Subcontractor principals to improve their level of safety performance. Work with designated Officers to insure subcontractor compliance and contract language addresses ongoing issues relevant to specific exposures created by subcontractor or the public.
16. Maintain a strategic overview of the implementation of safe work practices in the industry.

Site Safety Manager

1. Perform daily inspections of the project and address all matters relating to safety, fire protection, public safety and property/product damage prevention.
2. Implement and enforce LF Driscoll and owner policies such as fire watch, lockout/tagout, confined space, fall protection, etc. as directed by the Corporate Safety Director and/or Corporate Safety Manager.
3. Submit monthly work force and accident reports to the Corporate Safety Director.
4. Attend Interim Life Safety Committee meetings and others as required.
5. Accompany owners, other third part insurance representatives, and other governing agencies during site safety inspections.
6. Track compliance with items found during jobsite inspections.
7. Maintain all safety logs to ensure compliance with LF Driscoll Safety Program.

Project Managers

1. Administer and manage the overall Safety Program on the project in coordination with the Safety Director or Site Safety Manager, including collecting subcontractor OSHA compliance data as part of the submittal process.
2. Fully support the Project Team efforts in ensuring safety compliance at the project.
3. Participate in investigations of all personnel, equipment, and property accidents or incidents to reduce the risk of recurrence.
4. Cooperate with all insurance representatives having insurance coverage on the project.
5. Attend the monthly jobsite safety meeting and audit.
6. Initiate and conduct pre-planning meetings of high-risk activities and subcontractor kick-off meetings and invite safety representatives.
7. Enforce Subcontractor Safety Compliance through documentation, meetings and by withholding payment if necessary. Fully support Superintendent to enforce subcontractor jobsite compliance.
8. Document all exposures that might result in a claim or lawsuit. Attend LF Driscoll Safety Trainings to assure your full understanding of the LF Driscoll Safety, Health and Environmental Policies and Procedures Manual and execution thereof.
9. Ensure all the safety and reporting requirements of the jobsite are met.

Superintendents

1. Manage the overall Safety Program on the project, including ensuring subcontractors are adhering to their submitted safety program, the LF Driscoll Safety Program, and Owner Safety Program.
2. Plan and execute all work to minimize jobsite hazards and comply with LF Driscoll's Safety Program.
3. Enforce all provisions of the contract dealing specifically with safety and accident prevention.
4. Cooperate with all insurance representatives having insurance coverage on the project.
5. Direct or coordinate correction of unsafe conditions and hazards in plain view or reported or observed.
6. Attend the monthly jobsite safety meeting and audit.
7. Submit paperwork and documentation to the Safety Department as required.
8. Enforce subcontractor safety compliance on the jobsite on a day-to-day basis.
9. Ensure that all subcontractor personnel complete the site safety orientation before work.
10. Meet with local fire and EMT officials to review access to the jobsite in the event of an emergency.
11. Call the Safety Director and their project manager immediately following a severe accident or injury.
12. Submit all subsequent Accident/Incident Forms and participate in accident investigations as required.
13. Maintain and monitor all logs required by this manual.
14. Maintain daily logs to include work force logs and submit to Safety Department by the tenth of the following month.
15. Accompany owner and other agencies during jobsite inspections.
16. Ensure compliance with owner site-specific requirements.
17. Manage the owner's Hot Work Permit system.
18. Coordinate all Fire Protection Requirements.
19. Coordinate with LF Driscoll and the owner's Project Management all utility interruptions within the requirements of the owner policy.
20. Participate in the preplanning of all high risk or unusual activities with risk exposure.
21. Notify the Safety Department whenever local, state, or federal agencies representatives visit the site.
22. Ensure compliance with monthly reporting requirements.

LF Driscoll Project Team Requirements

It is our responsibility to address the safety concerns of workers on LF Driscoll jobsites by investigating and responding to those concerns. Additionally, we aspire to advance the cause of a safe work environment by a continuously improving safety program and creating worksites free from anticipated and recognized hazards. To maximize performance improvement and reduce exposures, safety measures must focus on compliance and the abatement of hazards to reduce injuries, promote risk mitigation and unforeseen events. Safety should be accorded the same attention on projects as production, schedule and budget.

1. The following are the core principles of the LF Driscoll Safety Policies and Procedures:
 - a. Management commitment
 - b. Employee involvement.
 - c. Worksite analysis
 - d. Hazard Prevention and control
 - e. Safety and health training
 - f. Evaluation and improvement
2. Develop a Site Specific Safety Policies and Procedures Manual that reflects the Owner health, safety and environmental requirements and addresses the hazards associated with the scope of work for that specific project with the Corporate Safety Department in accordance with applicable Federal, State and local safety standards and shall address the following items at a minimum:
 - a. Narrative of the job including excavation, foundations, structural steel/concrete, exterior components, demolition, rough-ins, finishes, and associated anticipated hazards.
 - b. Address high hazards such as the use of cranes, equipment for excavation or demolition, risk assessments for health care facility work, use of scaffolds, swing stage, electrical exposures, shaft work, confined spaces, hot work, work at heights, work at depths, etc.
 - c. Understand the requirements of the Contractor Controlled Insurance Program regarding reporting and follow-up.
3. In an effort to improve safety documentation, a **MONTHLY JOBSITE SAFETY STATUS REPORT** shall be completed and sent to the Safety Department by the tenth of the following month. The report should include:
 - a. Monthly Manpower Log (**CMIC**)
 - b. Accident log summarizing all accidents year to date (including First Aids) (**Origami**)
 - c. Incident log summarizing all incidents year to date (**Origami**)
 - d. Copies of the weekly jobsite inspection reports conducted by LF Driscoll Superintendent (**CMIC**)
4. The following logs should be available for review at the monthly safety audit meeting:
 - a. Tool Box Talk Log listing all subcontractors on site and the status of their weekly toolbox talks
 - b. Weekly Jobsite Inspection Log showing all subcontractors on site and the status of the weekly jobsite inspections of their work
 - c. Copies of the weekly toolbox talk conducted for LF Driscoll personnel
 - d. Subcontractor Safety Data Compliance Log
 - e. Subcontractor Safety Training Certification Log

LF Driscoll Project Team Safety Files, Documentation and Archiving

The points below are safety expectations to be followed at all LF Driscoll projects:

1. At least one member of the LF Driscoll Project Team staff on a project will be appointed the safety coordinator. This person should be responsible for setting up and maintaining a safety file.
2. Before the start of the project, subcontractors shall conduct a risk assessment identifying their largest exposures. The information in the assessment documents must include the means and methods used by sub and lower tier contractors for medium to high-risk work (in writing). This would include but not be limited to fall protection, scaffold erection, work at heights, work at depths, crane and elevator installation/erection and impact of project progress on adjoining buildings and particular site conditions.
3. The LF Driscoll Project Team will meet with every subcontractor before they commence work to review site specific safety requirements and document hazard prevention and control methods.
4. Safety will be a formal topic and documented at all weekly job meetings. Attendees identified and minutes maintained in the project files.
5. A designated project team member for LF Driscoll should conduct a formal weekly safety walk-through of the project and note potentially hazardous conditions or work practices. Notify Subcontractors for corrective actions. Maintain documentation of these inspections with item closure in the project files.
6. The LF Driscoll Project Team should be watchful for potential safety hazards and improper work practice during their daily rounds throughout the project. Subcontractors are to be notified for corrective actions.
7. All subcontractors on the project will be required to conduct their own weekly toolbox safety meetings and inspection with their workers. The topic and attendance at these meetings must be documented and a copy submitted to the LF Driscoll site project office to be placed in the safety file.
8. All accidents, incidents and near misses will be immediately reported to LF Driscoll Safety Department and an appropriate report form will be filled out. Follow Risk Management Department procedures.
9. LF Driscoll site personnel will develop and post emergency evacuation, fire and medical information at the project. LF Driscoll site personnel will immediately inform Corporate Safety Staff of any scheduled or unscheduled site visitations by OSHA.
10. Subcontractors are required to submit SDS sheets to LF Driscoll project team and be maintained on site.
11. Should any subcontractor or employee document an alleged safety hazard in writing and deliver it to LF Driscoll personnel, that alleged issue should be responded to in writing and depending on the severity of the issue, bumped up the hierarchy to a LF Driscoll executive.
12. Archive all monthly manpower reports, orientation sign-offs, meeting minutes, weekly walk-throughs, accident and incident reports and any other documentation which might be required in a future law suit.

b. SUBCONTRACTOR CONTRACT RESPONSIBILITIES

To the extent that a subcontractor of any tier performs any part of the contract scope of work, he assumes responsibility for complying with the provisions of the LF Driscoll Corporate Safety, Health and Environmental Policies and Procedures Manual. The Subcontractor has the responsibility for participating in and enforcing the site-specific safety and loss prevention programs established for the Project that shall cover all work performed by it and its sub-subcontractors. Subcontractor shall cooperate fully with LF Driscoll, the Owner, and all insurance carriers and loss prevention engineers on loss and accident prevention. There is no substitute for the exercise of good professional judgment.

1. Subcontractor shall perform all parts of its Purchase Order/Contract while assuming responsibility for complying with all applicable federal, state and local safety standards, regulations, rules or guidelines.
2. Subcontractor shall maintain documentation at the Project site that verifies that its safety program is in current compliance with applicable federal state, local, and Project safety regulations, rules or guidelines. LF Driscoll shall make documentation available upon request. The more stringent policy shall prevail.
3. Subcontractor shall plan and execute all work operations to comply with stated objectives of the project Site Specific Safety Policies and Procedures.
4. Subcontractor shall attend safety meetings as are scheduled by the LF. Driscoll project management team.
5. Subcontractor shall schedule weekly Toolbox safety meetings conducted by their job foreman for all of their site employees under their supervision with sign-off and submit to the LF Driscoll Project Team weekly.
6. Subcontractor shall implement immediate corrective action to eliminate unsafe practices and conditions when they are observed or reported.
7. Subcontractor shall provide initial safety orientations to their new employees upon arrival to the job-site. At a minimum, such orientations shall include training on safety hazards associated with their work, site-specific safety policies and procedures as they pertain, personal protective equipment requirements, rules and limitations on equipment operations and what to do in case of injury or illness and location of medical station(s). Such orientations shall also advise of each employee's required attendance at weekly "tool box" safety meetings and each employee's obligation to report observed or known unsafe conditions or practices to the employees' immediate supervisors and to LF Driscoll. LF Driscoll will have available the proof of orientation form.
8. Subcontractor Safety and Management Safety Representative shall investigate all events resulting in personal injury and/or hospitalization as well as incidences of property damage, fire and any third-party claim to determine the causes. All findings shall be in writing and submitted to LF Driscoll. Subcontractor's follow-up in connection with such investigations shall consist of immediate corrective action and a written report submitted to LF Driscoll within twenty-four (24) hours of the event.
9. Subcontractor shall evaluate hazardous exposures that may arise from every portion of the Work prior to the start of the operation and follow-up with appropriate action where required. For medium to high-risk scopes of work, Subcontractor shall submit to LF Driscoll a written Work Plan or Methods of Procedures (MOP) that shall include a safety "means and method" prior to the start of operations.
10. Subcontractor shall provide adequate safety measures against occupational disease exposures such as gases, fumes, vapors, dusts, chemicals, and noise levels that may be injurious to the Project workforce.
11. Subcontractor shall provide personal protective equipment to his employees at the work area where needed, required and to utilize all such equipment. Subcontractor shall be prepared to take immediate corrective action for noncompliance that shall include dismissal if Subcontractor's employee(s) refuses to utilize the provided safety equipment.
12. Subcontractor shall include all of its personnel (including office staff) in the Project's safety program.
13. Subcontractor shall maintain OSHA documentation related to injuries.
14. Federal and State regulations require each employer to have a Hazardous Communications ("Hazcom") program in place. The Project requires a complete library of safety data sheet (SDS) for all material incorporated into the construction process. The Subcontractor shall submit all SDSs for materials provided/used in the performance of his scope of work to LF Driscoll to ensure completeness of this library. The Subcontractor shall maintain on site a copy of hazardous communications program and a library of SDSs for materials provided/used in the performance of its scope of work. Subcontractor shall submit its written Hazcom program to LF Driscoll for record purposes prior to the start of work.

15. In connection with all Work performed hereunder, Subcontractor shall include provisions for and shall comply with all Safety and Health Regulations of the Occupational Safety and Health Act of 1970 (29 CFR. 1926), including all amendments and modifications thereto (hereinafter "OSHA"). In the event there is a conflict between the safety and health provisions of federal, state or local regulations, the more stringent provision shall prevail. Subcontractor acknowledges and agrees that with respect to the scope of its Work under this Subcontract, it shall comply with all obligations and assume all responsibilities imposed upon the "controlling contractor" as such term is defined and construed under all OSHA rules and regulations.
16. In accordance with the terms and conditions of the contract, LF Driscoll reserves its right to take appropriate actions to remedy subcontractor or sub-subcontractor non-compliance with these safety requirements at the Subcontractor's expense.
17. Subcontractor shall prepare the Site Specific Safety Program (SSSP) encompassing their contract activities and submit it to LF Driscoll for review prior to start of work. A SSSP should include a written Safety & Health Program, written Hazard Communication Program, Lockout/Tagout Program (if required), SDSs, OSHA 300A Summary form, Site-Specific Fall Protection Plan (if required), PTP, name of designated Competent Person, name of designated Management safety representative, name of Qualified Person (if required), Fall Protection Training Documentation (for all employees who might be exposed to a fall hazard), and other training or certification elements as required such as for ladders, scaffolding, excavations signaling and rigging for cranes, confined space, etc.
18. Subcontractor shall submit emergency contacts and telephone numbers for their senior safety person and their senior operations person, and management safety representative who are available 24/7.
19. Subcontractor shall appoint and submit in writing the name of the competent person who is qualified by training and experience to recognize and anticipate predictable hazards and has the authority to take prompt corrective action to abate them and must have the authority to stop work of his/her work forces in the event of a safety issue.
20. The subcontractor project safety representative shall ensure that their site employees, suppliers and technical support, regardless of tier, comply with the LF Driscoll Corporate Safety, Health and Environmental Policies and Procedures Manual, their project's Safety and Health and HAZCOM Programs, the Contract Documents, the project Site Specific Safety Plan, OSHA Standards and all other federal, state and local codes, laws and regulations.
21. Subcontractor shall provide and enforce, at all times, the use of personal protective equipment at no cost to the employees.
22. Subcontractor shall conduct periodic safety observations and take corrective actions for recognized hazards. Report unsafe conditions outside their scope of work to LF Driscoll personnel.
23. Subcontractor shall comply with the record keeping and procedural requirements of OSHA and LF Driscoll and its insurance carrier relating to accident reporting and investigation. Document loss control data involving personnel, equipment, and property.
24. Subcontractor shall report immediately any accident/incident involving employees and provide accident, insurance and hospital reports in a timely fashion per section 3 of the LF Driscoll Safety Manual.
25. Subcontractor shall provide for safety planning in the scheduling and coordination of the work.
26. Subcontractor shall conduct periodic safety meetings with employees, foremen and subcontractors, and direct subcontractors to issue safety instructions with work assignments including training to use the required tools, and to recognize hazards associated with the work environment. In addition, subcontractors are to provide safety training for all aspects of their job duties as required by OSHA (and re-training when necessary).
27. Where a designated site safety manager is required by contract he/she shall meet the following criteria:
 - a. Successfully completed an OSHA 30-hour construction safety course within the last five years.
 - b. Be recognized by the Subcontractor as competent person in accordance with OSHA definitions.
 - c. Have the ability to recognize hazards associated with the scope of work.
28. If LF Driscoll determines a Subcontractor's work is considered a high hazard (crane lifts, unusual lifts, extensive scaffolding, demolition, excavation, fire or smoke generating activities, concrete formwork, pre-cast concrete, steel erection, shaft work, confined space, work at heights, work at depths, etc.) the subcontractor shall provide a written Job Hazard Analysis (JHA) and/or a written Method of Procedures (MOP). A joint meeting shall be held to determine the need for a full time dedicated safety manager and review/coordinate the plan with the Owner or other subcontractors as required.

29. Subcontractor's with an on-site safety work history which does not meet LF Driscoll's expectations shall be required to designate a full time, on-site, dedicated safety person meeting the requirements of 27 (a-c).
30. The Foreman shall be required to prepare and submit a daily JHA covering that day's work and working conditions, as required.
31. LF Driscoll, in an attempt to be a leader in safety, shall strive to require all subcontractor foremen and/or competent persons to be OSHA 30 Hour Trained.
32. The project employees shall comply with all Federal and State Safety and Health Standards/Laws and all site employees are charged with obeying the law. The standards and laws contained in Federal and State mandates are available for review at the LF Driscoll job site field office. Rules cannot be written to cover every possible situation that may arise at the job site. Therefore, certain responsibilities rest upon the site employee, namely the protection of themselves and protection of fellow workers.
33. The following rules are important to the safety of all personnel on the project and are to be enforced by subcontractor management:
 - a. Employees are to be alert at all times and report all unsafe conditions or acts, along with all accidents, to LF Driscoll immediately.
 - b. Possession of or working under the influence of alcohol or drugs is prohibited and subject to immediate dismissal.
 - c. Firearms are prohibited on a project. Anyone found with such shall be subject to immediate dismissal and the authorities shall be notified.
 - d. Fighting on the job is cause for immediate dismissal.
 - e. "Horseplay" and other inappropriate behaviors are prohibited.
 - f. Zero tolerance is in effect for fall protection, confined space and NFPA 70E issues, even if discovered after the fact. Offenders will be removed from the project and re-trained within two days before returning to the project.
 - g. Expose no site employees to a fall hazard greater than six (6') feet above a lower level. When an employee observes a fall hazard, they shall notify their supervisor of the hazard. The responsible Subcontractor shall immediately correct the hazard. 100% continuous fall protection, for fall hazards greater than six (6') feet, shall be implemented using hard barricades or personal fall arrest system.
 - h. An operable Ground Fault Circuit Interrupter (GFCI) plugged in at the power source or a GFCI circuit breaker shall protect temporary power for all power tools and cord sets. If no GFCI outlets are available, the subcontractor shall provide a GFCI "pigtail". Above 110 V, any cord and plug set shall be protected via GFCI or Assured Equipment Grounding Conductor Program (AEGCP).
 - i. Site employees are to inspect all hand tools and extension cords they will be using. Defective tools and extension cords found to be defective are to be taken out of service immediately. The subcontractor's competent person prior to use shall inspect other equipment, such as scaffolding and ladders for any defects. If equipment is defective or unserviceable, it is to be immediately brought to the attention of the supervisor and removed from service.
 - j. Hot work permits and qualified full-time fire watch are required for all hot work.
 - k. Fire protection equipment is not to be tampered with or removed from its assigned location.
 - l. Obey "No Smoking/Vaping" rules. Smoking/vaping is prohibited including electronic cigarettes and vaporizers throughout the job site.
 - m. The use of gasoline is prohibited for the cleaning of equipment and tools or for starting fires. Gasoline engines shall be shut off and allowed to cool before refueling.
 - n. The use of plastic gas cans for storing combustible/flammable liquids on the site is prohibited. Use only approved metal containers.
 - o. Hazard Communication and Lockout/Tagout Programs shall be observed.
 - p. Use approved respirators when conditions warrant and procedures in the Respiratory Protection Program strictly followed.
 - q. Appropriate work attire shall be worn at all times:
 - I. Wear personal protective equipment supplied by the employer.
 - II. Hard hats and Safety glasses are required 100%.
 - III. Wear gloves as required by task such as when handling objects or substances that could cut, tear, burn or injure hands.

- IV. Wear traffic/safety vests as required by task, visibility, traffic or near heavy equipment operations.
- r. Maintaining good housekeeping is mandatory at all times.
 - s. Only authorized and properly instructed/trained employees shall operate machinery, equipment, vehicles and tools.
 - t. Operate vehicles and drive in a safe manner at all times and by no one other than the assigned operator.
 - u. Utilize proper lifting techniques. Workers are not to lift or push heavy objects. Get help if necessary.
 - v. Do not enter barricaded areas unless authorized to do so.
 - w. The use of portable FM/AM, iPod, and MP3 radios or other devices affecting the ability to hear emergency instructions and warnings on the site is prohibited at all times.
 - x. Subcontractor shall comply with respirable Crystalline Silica 1926.1153 and provide silica training to ensure employee can demonstrate knowledge and understanding of health hazards associated with exposure to respirable crystalline silica, specific tasks hazards associated with exposure to RCS, and measures that can be implemented including engineering controls, work practices and respirators to be used.
34. The Subcontractor is responsible to obtain and faithfully execute and comply with the most current version of the LF Driscoll Corporate Safety, Health and Environmental Policies and Procedures Manual available at www.lfdriscoll.com which is hereby incorporated by reference and made a part hereof as if fully set forth in length.

c. SUBCONTRACTOR PRE-MOBILIZATION MEETING

Agenda

1. Review Subcontractor Contract Responsibilities.
2. LF Driscoll policy includes personal protective equipment (PPE) shall be provided, at no expense to the employee, by the subcontractor. The subcontractor shall enforce the use of PPE when required.
3. Review Subcontractor Data Compliance Log including written Safety & Health Program, written Hazard Communication Program, lockout/tagout program as required, SDS sheets, OSHA 300A Summary Form, site-specific fall plan if required, competent person sign off, written verification of fall protection training.
4. Review of subcontractor's method of weekly jobsite inspection.
5. Review required OSHA Trainings with respect to scope of work especially verification of Fall Protection training.
6. Other trainings as required may include ladders, scaffolding, confined space, excavations, respiratory protection, rigging and hand signals, tools, etc. depending on the scope of work.
7. Task specific preplanning meetings required for all HIGH RISK activities.
8. Review competent and qualified person sign off.
9. Personal Protective Equipment Review: hard hats, safety glasses, hearing protection, face shields for grinding operations, welding and cutting shields, goggles, dust masks for nuisance dust, or a full respiratory protection program for respirator use for protection from hazard atmospheric conditions, appropriate cut level gloves, etc. Other items may be required depending on the task.
10. Review site-specific fall protection requirements that may exceed the LF Driscoll 6'-0" rule.
11. Review the use of the Guardrail Disruption Permit and its appropriate application. If handrails are removed without permission, LF Driscoll will assume that your firm is responsible for reinstalling the handrails and will charge your account accordingly.
12. Review LF Driscoll Fire Protection/ Prevention requirements: sub must provide a fire extinguisher with each burning outfit, 1-hour fire watch for new or unoccupied buildings, 3-hour fire watch for high hazard buildings occupied or historical in nature or otherwise determined high hazard. Use a garden hose when possible. LF Driscoll Hot work permits required.
13. Review LF Driscoll Site Specific Emergency Plan & Site Evacuation Plan.
14. Report immediately to LF Driscoll all medical emergencies. LF Driscoll will coordinate 911 responses. Subs required submitting first report of injury report, insurance accident report forms and hospital release forms in a timely manner.
15. Report all property damage incidents to LF Driscoll.
16. Safety violations (LF Driscoll three-strike rule): Subcontractors shall take corrective action to abate unsafe conditions immediately.
17. Zero Tolerance Policy in affect for 6-foot fall protection, hard barricades, or personal fall arrest system, NFPA 70E, confined space, harassment, violence and smoking/vaping. Other site specific requirements may be required.
18. Submit Weekly Tool Box Talks with employee sign off.
19. Each sub is responsible for drinking water for their employees.
20. Each sub is responsible to provide a first aid kit. Along with current trained First Aid/ CPR designated person(s).
21. Subcontractors are responsible to protect their own workers.
22. If you create a hazard, you must protect it.
23. All workers must attend site safety orientation, sign in and receive a LF Driscoll hardhat sticker. Some projects may not have hardhat stickers distributed.
24. Comply with any other site-specific safety policies and procedures as applicable.

d. SAFETY INSPECTIONS

Safety Inspections by LF Driscoll

1. LF Driscoll and all subcontractors shall conduct weekly safety inspections, submit a weekly written report and make corrective actions. As a minimum, the site Superintendent or his designated representative will use the SOAR Report as the basic method of safety oversight of the subcontractors' workforce.

Safety Inspections by Outside Agencies

1. From time to time, various persons will present themselves to the Project Team requesting permission to make safety inspections or accident investigations. Only the following persons are authorized to do so:
 - a. State or Federal OSHA Compliance officers. Please see Section k (OSHA Inspection Procedure).
 - b. Representative of LF Driscoll's insurance carriers
 - c. Representatives of the Owner, Architect and Engineer
 - d. Representatives of Labor Unions
 - e. Insurance carriers with coverage at the project
 - f. State and Local Municipal Governmental Agencies including: safety, building, police and fire departments
 - g. EPA (Environmental Protection Agency)
 - h. Third-party safety consultants at the discretion of LF Driscoll
2. The Project Team shall admit such persons only upon recognition or presentation of proper credentials. All other persons wishing to make safety inspections or accident investigations shall not be admitted without prior authorization from the LF Driscoll Officer- in-Charge (OIC). Each subcontractor shall notify LF Driscoll of the presence of safety inspectors from any of the above-mentioned areas.
3. The LF Driscoll Superintendent or his designee shall escort the safety inspector and record the inspector's observations.
4. Where such observations appear to be in conflict with the site specific safety policies and procedures, the matter shall be submitted to the LF Driscoll Project team for resolution.
5. Copies of safety reports, notices or citations resulting from safety inspections shall be submitted to LF Driscoll before leaving the site.

e. VISITORS ON THE PROJECT

1. All visitors entering LF Driscoll projects shall sign a liability release form in SECTION: 24.
2. Retain signed releases in a separate file at the project office.
3. Persons not required to sign a release form are as follows:
 - a. LF Driscoll employees and subcontractors.
 - b. Owner, Architect and Engineer employees and/or their representatives.
 - c. Representatives of Governmental Agencies on official business.
 - d. Persons making deliveries to subcontractors working on the project site.
4. The following items must be observed during a site visit as well as any other site specific requirements:
 - a. Hard hats, safety glasses
 - b. Safety vests or high visibility clothing as required. visibility, traffic or near heavy equipment operations.
 - c. Maintaining good housekeeping is mandatory at all times.
 - d. Appropriate sturdy, flat-soled footwear required at all times, no open toe shoes or high heels.
 - e. Obey all warning signs and barricades.
 - f. Do not stray from the approved path for ingress and egress.
 - g. Do not enter areas with inadequate lighting.
 - h. Be aware of and stay clear of any overhead hazards.
 - i. Smoking /vaping is prohibited.
 - j. Do not touch or walk on welding leads, wires, piping, ductwork, conduit or other construction materials of any kind.
 - k. Do not climb on ladders or scaffolds.
 - l. Do not lean on, reach beyond or travel beyond any handrails or barricades.
 - m. Be aware that walking surfaces will be uneven or have other impediments not present in a finished product and take extreme caution with each step.
 - n. Report any hazards to a LF Driscoll representative.
 - o. Do not go into unsafe areas where fall protection does not exist or where obvious safety hazards exist.

f. DISCIPLINARY POLICY

1. LF Driscoll Employees

- a. LF Driscoll employee disciplinary procedures available in the Employee Handbook.

2. Subcontractor Employees

- a. The ultimate responsibility for the discipline of any worker rests on the employer.

3. Zero tolerance (See Zero Tolerance Policy)

- a. LF Driscoll has adopted a Zero Tolerance Policy for items including but not limited to harassment, smoking/vaping and violence in the workplace. Workers determined to be in non-compliance with specified Zero Tolerance items are subject to immediate removal from the jobsite by their employer. Owner requirements supersede LF Driscoll policies.
- b. Fall exposures exceeding 6'-0, exposure to live energized electrical components without proper protection and/or permits and confined space will subject the employee to removal from the jobsite by their employer. The employee must be retrained before returning to the site. Retraining may occur on the second day after which the employee may be returned to the jobsite. The subcontractor employer must supply written verification of re-training before the employee will be permitted to return. Retraining will be only allowed once. A repeat violation will require immediate and permanent removal. The foreman or direct supervisor may also be subject to retraining, possible removal from the project and a fine may be imposed.

4. Incidental Employee Misconduct (aka The Three Strike Rule)

- a. Incidental employee misconduct will be subject to a graduated system of enforcement known as the three-strike rule and will include but not be limited to issues such as PPE, misuse of a ladder, using a damaged cord or tool, etc.
- b. When a subcontractor employee is observed engaging in an unsafe act or working in an unsafe condition, the worker will be approached and verbally engaged in a manner that seeks to obtain worker buy-in. If necessary, his or her foreman will be brought to the area and involved in the corrective action.
- c. This first warning may or may not be noted using a LF Driscoll Safety Violation Notice, which will be issued to the subcontractor foreman.
- d. When a worker is observed engaging in continued unsafe activities, a second warning will be given, and the subcontractor's foreman will be notified.
- e. The third occurrence will result in removal of the employee from the site permanently. A LF Driscoll Safety Violation Notice will be issued to track violations.
- f. The Safety Violation Notice is intended to inform the Subcontractor of continued instances of non-compliance with jobsite safety requirements.
- g. The Subcontractor is, via the Safety Violation Notice, reminded of their obligation to comply with the jobsite safety rules including OSHA regulations, City, State, and Federal ordinance and those of other regulatory authorities including those imposed by the Owner.
- h. All safety requirements are contractual including imposing of fines.

5. Disciplinary Notifications

- a. When an employee is removed from a jobsite, the Safety Department is to be notified immediately.
- b. Written notifications must include the name of the dismissed, subcontractor, trade, local number and reason for dismissal.
- c. The Safety Department will maintain a log with the name of the worker, subcontractor, trade, local number and reason for dismissal.
- d. Notification of all Zero Tolerance issues and Safety Violation Notices must be distributed to the subcontractor, LF Driscoll Superintendent, LF Driscoll Project Manager, LF Driscoll Project Executive, and the LF Driscoll Safety Department.

6. Stop Work Policy

- a. A Stop Work Order may be issued in any imminent danger situations. All parties involved as well as the LF Driscoll Officer-in-Charge, LF Driscoll Executive Vice President, and LF Driscoll

Safety Department shall be immediately notified and an investigation and/or remediation of the situation handle promptly.

g. ZERO TOLERANCE POLICY

**ANYONE FOUND VIOLATING ANY OF THE FOLLOWING
WILL BE REQUIRED TO LEAVE THE JOBSITE IMMEDIATELY**

GENERAL ISSUES:

1. Blatant disregard for safety will result in immediate and permanent dismissal from the site
2. Harassment / violence will not be tolerated based on someone's sex, age, race, color, religion, creed, sexual preference or orientation, marital status, national origin, ancestry, citizenship, military status, veteran status, handicap or disability or any other protected group or status.
3. Displaying lewd or offensive pictures, graphics or gestures.
4. Harassment: verbal, physical, obscene, vulgar gestures towards anyone or foul language in public areas.
5. The possession, sale, use or distribution of narcotics and / or related paraphernalia, alcohol (all related beverages) or other illegal substances / drugs or evidence of impairment are not permitted on the project.
6. The possession of firearms, explosives or other weapons used to cause harm to personnel or property, other than that use to perform specific construction activities, are not permitted.
7. Jobsite violence or horseplay.
8. Smoking/vaping is prohibited on the job site.
9. Parking on site permitted only superintendent only.

FALL PROTECTION ISSUES:

1. Workers observed in unprotected or unguarded areas without proper fall protection in place.
2. Disrupting a guardrail system without a permit.
3. Removing a hole cover or working in the area of an unprotected or insufficiently protected hole without appropriate fall arrest system.
4. The use of an inadequate anchorage point.

SAFE ELECTRICAL WORK PRACTICES ISSUES:

1. Any worker engaged in energized work of any type whether observed or discovered after the task, as specified in NFPA 70E.

CONFINED SPACE:

1. Workers and their foreman observed or discovered after the task without a preplanning meeting and/or a permit or working in or entering a confined space.

EXCAVATIONS:

1. Workers in trenches or excavation exceeding 5'-0" in depth, observed or discovered after the task, without OSHA compliant systems.

RETRAINING GUIDANCE:

1. The employee must be retrained within two days before returning to work.
2. The subcontractor employer must supply written verification of re-training before the employee is permitted to return to the jobsite.
3. Retraining will be only allowed once.
4. A repeat violation will require immediate and permanent dismissal.
5. The foreman or direct supervisor may also be subject to retraining and possible removal from the project.

h. SAFETY VIOLATION FINING POLICY

1. Subcontractors acknowledge and accept the requirement that they be responsible for instructing their employees and lower tier subcontractor's employees in the recognition and elimination of hazards and unsafe acts.
2. Employees must be made aware of the regulations applicable to their work.
3. Safety training, good safe work practices and appropriate immediate corrective action are the keys to the prevention of accidents, loss of life and property damage.
4. No matter how many rules and regulations are established, a good safety program depends mainly on a positive and intelligent attitude by Management and Labor.
5. The lack of a policy, procedure, rule or regulation is not an excuse for the use of poor professional judgment.
6. Subcontractor further agrees that for rule violations listed on the attached schedule, the fines indicated will be assessed.
7. Violations will be compiled per subcontractor, not per employee. If, for instance, a subcontractor's employee violates the rule with respect to hard hats and the next day a different employee violates this rule, two warnings will have been given. The next violation by any employee will result in a fine.
8. When applicable all fines will be charged to the subcontractor.
9. Communicate all warnings and fines in writing given to the subcontractor's superintendent or other person in charge of the subcontractor's crew on site.

Note: The issuance and collection of safety violation fines will be established on a job-by-job basis. This does not infer that the LF Driscoll project team cannot inform subcontractors of safety violations or issue written documentation to subcontractors (see the next two pages).

I. SAFETY VIOLATION FINE SCHEDULE

Violation*	First Offense	Second Offense	Subsequent Offense
Bringing alcoholic beverages or illegal drugs onto a jobsite, possession, consumption, or being under the influence of such alcohol or drugs	Worker Removed \$2,500	Worker Removed \$3,500	Worker Removed \$5,000
Failure to comply with fall protected	Worker Removed \$2,500	Worker Removed Foreman Interviewed \$5,000	Worker Removed \$10,000
Improper use or storage of pressurized gas cylinders	\$500	\$2,500	\$5,000
Improper use or storage of flammable liquids	\$500	\$2,500	\$5,000
Failure to follow project safety rules as established by regulatory agencies, LF Driscoll and/ or the client.	\$500	\$2,500	\$5,000
Failure to replace safety protection (handrails, cables, barricades, covers, etc.) each time you leave the area and when work is completed*	Worker Removed \$2,500	Worker Removed Foreman Interviewed \$5,000	Worker Removed Foreman Removed \$10,000
Failure to secure and comply with Hot Work program procedures.	\$1,000	\$2,500	\$5,000
Failure to use proper Personal Protective Equipment	\$500	\$1,000	\$2,500
Improper attire; no shirt, shorts, improper shoes, etc. (individual to be sent home)	\$500	\$1,000	\$2,500
Use of ladders not complying with OSHA29 CFR Part 1926 or improper use of ladders	\$1,000	\$2,500	\$5,000
Unauthorized hoisting operation	\$1,000	\$2,500	\$5,000
Use of radio headsets or radios	\$500	\$1,000	\$2,500
Building or using an unsafe platform or scaffold that does not comply with OSHA 1926 Subpart L	\$1,000	\$2,500	\$5,000
Leaving an area in an unsafe or cluttered condition or failure to report such condition including housekeeping.	\$1,000	\$2,500	\$5,000
Failure to follow OSHA Assured Equipment Grounding Conductor Program or GFCI protocol	\$1,000	\$2,500	\$5,000
Failure to report an injury or incident within 24 hours	\$1,000	\$2,500	\$5,000
Failure to use tools or equipment safely	\$500	\$1,000	\$2,500
Failure to follow OSHA 1926 Subpart P with respect to excavations	2,500 Competent Person/Worker Removed	\$5,000 Competent Person/Worker Removed	\$10,000 Competent Person/Worker Removed
Violations that cause immediate danger to the employee or others	Worker Removed \$2,500	Worker Removed \$3,500	Worker Removed \$5,000
Smoking/vaping in unauthorized area	Worker Removed \$2,500	Worker Removed \$5,000	Worker Removed \$10,000
Exposing workers to live electrical components	Warning and/or \$2,500 and Foreman Interviewed	Foreman Interviewed and \$5,000	Worker Removed Foreman Removed \$10,000
Performing unauthorized live electrical work	Worker Removed \$2,500	Foreman Removed \$5,000	Worker Removed Foreman Removed \$10,000

Violation	First Offense	Second Offense	Subsequent Offense
Refusal of Subcontractor to implement and comply with the CCIP 6' fall protection policy	Contractor Removal \$5,000	N/A	N/A
Failure to comply with the CCIP Return to Work Program by not providing Modified Duty for the injured employee for up to 90 calendar days	\$1000	\$1,000 per week for each week employee is receiving workers comp benefits	\$1,000 per week for each week employee is receiving workers comp benefits
Bringing a tiered subcontractor on-site prior to enrollment in the CCIP Program or prior to confirming an excluded tiered subcontractor has submitted a valid Certificate of Insurance approved by the broker	\$2,500	\$5,000	\$10,000
Failure of subcontractor employee to attend project orientation.	Warning	\$500	\$1,000
Performing unauthorized confined space work.	2,500 Competent Person/Worker Removed	\$5,000 Competent Person/Worker Removed	\$10,000 Competent Person/Worker Removed

Fines and disciplinary actions indicated in the policy are issued solely as the result of the failure of a subcontractor, or subcontractor's employees to comply with safety requirements. They are action based and will not be issued as a result of a report of occupational injury or illness but due to the lack of compliance that may lead to an accident or illness.

*The subcontractor shall remove the individual or individuals involved from the jobsite until they have successfully completed an acceptable re-training program within two days. Submit evidence of re-training completion to and accepted by LF Driscoll. Employees dismissed a second time shall be permanently banned from the project site. It is the sole responsibility of the subcontractor to remove and re-train their employee(s).

LF Driscoll reserves the right to remove from, and ban from returning to, the jobsite any individual who presents a danger to themselves or others and/or refuses to follow the safety regulations in place at this project. LF Driscoll will notify subcontractor of any employee banned from returning to the jobsite. Subcontractor may request re-admission of said individual; however, subcontractor is required to receive written permission from LF Driscoll Site Safety Manager, Site Safety Supervisor or the LF Driscoll Safety Director agreeing to allow said individual access to the jobsite prior to their return.

Note: The safety director will determine the actual fine amounts.

j. SAFETY VIOLATION FINE FORM

Violation #:

**LF DRISCOLL SAFETY NOTICE
 FOR POTENTIAL HEALTH & SAFETY HAZARDS**



SAFETY



FIRE SAFETY



PROPERTY



ENVIRONMENTAL

Sender Information

Date:		Phone:	
Sender:		Fax:	
Department:		E-mail:	

Location

Job Number:		Location City:	
Job Name:		Location State:	
Location Address:		Location Zip:	

Contractor

Name:		Phone:	
Email:		Fax:	

Safety Notice

- | | | | |
|--|---|---|---------------------------------------|
| <input type="checkbox"/> Safety warning notice | <input type="checkbox"/> Stop Activity Notice | <input type="checkbox"/> 1 st Repeat | <input type="checkbox"/> Repeat # ___ |
| <input type="checkbox"/> Failure to Abate | <input type="checkbox"/> Other | <input type="checkbox"/> Safety Violation | <input type="checkbox"/> |

Violation or Observed Hazard

- | | | | |
|---|---|---|--|
| <input type="checkbox"/> PPE Requirement | <input type="checkbox"/> Fire Ext | <input type="checkbox"/> Electrical Wiring | <input type="checkbox"/> SDS sheets |
| <input type="checkbox"/> Housekeeping | <input type="checkbox"/> Illumination | <input type="checkbox"/> Guardrail / Hand Rails | <input type="checkbox"/> Powder Actuated Tools |
| <input type="checkbox"/> Fall Protection | <input type="checkbox"/> Scaffolding | <input type="checkbox"/> Ladders | <input type="checkbox"/> Hoisting & Rigging |
| <input type="checkbox"/> Welding | <input type="checkbox"/> Lockout/Tagout | <input type="checkbox"/> Gas Cylinders | <input type="checkbox"/> Fire Extinguishers |
| <input type="checkbox"/> JHA Required | <input type="checkbox"/> Hand Tools | <input type="checkbox"/> Extension/ Power Cords | <input type="checkbox"/> Training Documents |
| <input type="checkbox"/> Competent Person | <input type="checkbox"/> Power Tools | <input type="checkbox"/> Hot Work Permits | <input type="checkbox"/> Daily Pre-Task Plans |
| <input type="checkbox"/> Floor Penetrations | <input type="checkbox"/> Project Orientation | <input type="checkbox"/> Fire Guard | <input type="checkbox"/> Excavation |
| <input type="checkbox"/> Equipment Storage | <input type="checkbox"/> Tool Box Talks Not Submitted | <input type="checkbox"/> Other: Please Type Here | |

Safety Notice

The following potential hazard was observed at the above location. LF Driscoll would like to be your partner in creating a safe and healthful workplace for all of our employees. To this end, we ask that you take appropriate corrective actions to eliminate this potential hazard and to prevent its recurrence. Please complete and sign the enclosed abatement certification form by the date indicated with an explanation of the corrective measures taken. The maintenance of safe operations and the elimination of unsafe practices remains your legal responsibility. Your cooperation is greatly appreciated. Thank you in advance.

Violation or Observed Hazard

Signed LF Driscoll Safety Department

Issued by:

Violation #:

**LF DRISCOLL SAFETY NOTICE
 PICTURES & COMMENTS**



SAFETY



FIRE SAFETY



PROPERTY



ENVIRONMENTAL

Picture # 1:	Picture # 2:	Picture # 3:	Picture # 4:
Picture # 5:	Picture # 6:	Picture #7:	Picture # 8:

K. OSHA INSPECTION PROCEDURE

The Project Team shall cooperate with all authorized safety personnel and implement their recommendations for correction of safety hazards unless they are in clear conflict with OSHA regulations or company safety policies and procedures. For clarification of conflicts, contact the Safety Department. The information appearing on the following pages details what to do during an OSHA inspection. The Project Team must always accompany the OSHA inspector during an inspection and carry out the instruction in the guide. He may not delegate this responsibility to others.

Once OSHA has arrived on site, notify the Safety Department immediately. Request the Compliance Officer to wait for the site walk until a Safety Representative can get there. Typically, the Compliance Officer will give up to one hour, but it is their choice to wait or not.

HOW TO HANDLE AN OSHA INSPECTION

This guide is merely a brief introduction to the Occupational Safety and Health Act and Regulations to help Project Teams understand their employer's rights during an OSHA inspection.

Arrival on Site

1. When the OSHA Compliance Officer (called a CHSO) arrives, they will introduce themselves and they should show their badge and identification.
2. They may have seen something in passing that the law requires them to address, or the site chosen on a "scheduled" but unexpected inspection.
3. Call your Project team, have the superintendent, and project manager present for the duration of the inspection. Call your Corporate Safety Department. The CHSO will often allow up to one hour for a corporate safety staff to arrive.
4. Remain polite and compliant. Try not to be defensive as CHSO's may interpret this as obstructing their investigation.
5. You may ask if the inspection is "scheduled" or if the CHSO saw something.
6. The CHSO will often have an opening conference with all subcontractors on site. This will give you time to have another staff member and other subcontractor employees inspect the site for obvious hazards which may have been overlooked in the course of their work that day.
7. The Superintendent shall comply promptly with the CHSO's request to provide a list of subcontractors and supervisor's names and assemble the highest-ranking supervisor of each subcontractor (including second and third tier contractors) at an appropriate on-site facility for the conducting of the conference.
8. During the conference, the CHSO will explain the nature, purpose, and scope of the inspection, and call for the selection of employer and employee representatives to accompany him during the actual inspection. The CHSO will also ask information of each employer present, required for the completion of inspection report forms.
9. The CHSO should indicate if this is a "focused inspection" (limiting the inspection to four major hazards) or a "wall to wall" which would be a full-blown inspection of every nook and cranny.
10. ***The CHSO is not required to sign any release or waiver for entry into the job site.***

The Inspection

1. A representative authorized by the employees of each employer to accompany the CHSO during the physical inspection of any work place. The purpose for the selection of the employee representative is to provide an appropriate degree of involvement of employees themselves in the physical inspection of their own places of employment, and to aid in the inspection. Employee representatives have the right to point out hazards to the CHSO during the inspection. Subcontractors are not permitted to designate an employee representative.

2. On unionized projects, the CHSO will normally request the Construction Manager's Superintendent to assemble the Shop Stewards of each trade to enable them to select an employee representative from among himself or herself. On non-union projects, or where for any reason it cannot be determined with reasonable certainty who is to be the employee representative, the CHSO is required to interview a reasonable number of employees from each employer and craft regarding safety conditions on the project.
3. The CHSO may ask to go to a particular area where s/he observed an alleged violation.
4. During the inspection, remain cordial as you would any visitor to your home.
5. The CHSO may want to interview an employee who they observed exposed to a hazard as indicated in CFR 1926. The CHSO has the right to interview the employee in private, however, the employee who is part of organized labor, has the right for his steward to be present. Step aside and permit the employee to be interviewed.
6. Take your own notes as to the areas inspected, what specifically the CHSO was looking at and if the CHSO takes a photograph, you should. These might be good guidelines:
 - a. If the CHSO takes a picture of something, you should take the same picture.
 - b. Description of methods, materials, equipment or machinery involved; how positioned and operated. Condition; ownership; where applicable, provide dimensions, weights, make, model, and number in use.
 - c. Exact location by floor, room or column lines.
 - d. Document date and time of day.
 - e. Provide diagrams where helpful.
 - f. Distances and heights.
 - g. Weather conditions.
 - h. Identify employees affected by hazards or involved in violations. Describe type of work being done, employer, location and number of employees.
 - i. Identify employees interviewed by CHSO. Specify nature of discussion or complaint, trade, and employer.
 - j. Describe all hazards or violations corrected during the inspection and how corrected.
 - k. Description of all instrumented tests and readings.
 - l. Record of all samples taken.
 - m. Description of all photos taken including subject, location of photographer, and direction facing.
7. As part of the inspection process, the CHSO may want to look at the LF Driscoll or subcontractor safety manual, training certifications, toolbox talks, orientation verifications, etc. Make every effort to comply with the CHSO's requests.
8. Remain with the CHSO at all times.

The Closing Conference

1. The CHSO is likely to have a closing conference with the LF Driscoll project team and subcontractor foremen to review possible findings.
2. This is time to get clarifications and be sure you understand any issues, which arose.
3. The CHSO cannot issue OSHA Citations him or herself. The Area Director issues them after review.

After the Inspection

1. Immediately after the CHSO leaves, compile a report for management from the notes. Record any deviation from the inspection procedures by the CHSO. Provide a record of all persons attending the opening, closing conferences, and participating in the walk around inspection. Include details on the conferences, walk around inspection, and alleged violations. If the identity on any complainant is learned, take no action that may be regarded as discriminatory, as this may result in additional fines and penalties.
2. If the CHSO request information, such as drawing, safety programs, etc., inform the CHSO that all requests must be made formally. Have them send an e-mail requesting the information. Once the information is gathered, a produce a transmittal coversheet to help track what and when information was sent to OSHA.

3. OSHA has up to six months to issue citations to any contractors and most likely, they will send the citation to your main office.
4. Corporate Safety Staff should assist with the follow-up. The contractor has fifteen days to request an informal conference where a good faith effort might reduce the amount of the fine. Recently, OSHA has not seen fit to be generous in this regard.
5. Carefully read any instructions appearing on the citation, comply with abatement instructions, and report the details of corrections made to management and the Safety Department. If abatement of any violation takes more than one week to complete, make weekly progress reports.
6. Follow up inspections can occur to determine an employer's compliance with abatement orders, and that the Act provides fines and penalties for any person making false reports about abatements.

TYPES OF INSPECTIONS

This guide explains the procedures for a General type inspection. Special circumstances may require OSHA to make other types of inspections. All of the procedures applicable to a general type inspection are applicable to the others, except that normally those inspections will be limited to the particular circumstances under investigation. However, in the course of such an inspection, the inspector may determine that conditions are such that a complete inspection of the establishment may occur. Before expanding the scope of one of these inspections, the inspector should phone his supervisor for permission and should notify the involved subcontractors of his intentions.

The following other types of inspections:

1. **Fatality/Catastrophe:** Subcontractors are required to report to OSHA all accidents resulting in a single fatality or the hospitalization of five or more employees. OSHA is required to investigate all such reports.
2. **Follow Up:** Citations issued for imminent danger, serious, willful, or repeated violations require mandatory follow up inspections to determine the employer's compliance with abatement as called for in the citations. Follow up inspections for non-serious violations are at the discretion of OSHA.
3. **Complaint:** The Act provides that employees or their representative may report violations of OSHA Safety and Health Regulations to OSHA and request an inspection by signing a written complaint. At the opening conference, the inspector is required to deliver a copy of the complaint to the appropriate employer and to the Construction Manager. Since the Act entitles the complaint to anonymity if he so desires, his name may be deleted from the employer's copy of the complaint. However, it may be important to know whether outside interests are attempting to use the complaint right to disrupt the project or as harassment. Therefore, the LF Driscoll Superintendent should ask the inspector who filed the complaint. Was it filed by one of his employees, by an employee of a subcontractor, or by a third party?
4. **Federal or State:** The Act authorizes individual States to adopt their own OSHA plan and enforcement procedures. Generally, there is little difference between State and Federal plans affecting rights and procedures. This guide is based on the Federal plan. Consult the Safety Department for differences between your State's plan and the Federal plan.

GOOD FAITH

Employer attitudes and cooperation during the inspection demonstrate good faith. One important way to insure recognition of good faith is to point out to the CHSO any special efforts to comply with or exceed OSHA regulations. Tell the CHSO of any exceptional features of the safety program, safety meetings, employee education, safety equipment or installations, internal inspection procedures, etc. Another way to establish good faith is to correct immediately any safety hazard or violation pointed out by the CHSO. When feasible, the Project Superintendent or subcontractor representative should order such corrections at once and show them to the CHSO before they leave the project site.

IMMINENT DANGER

An imminent danger is any condition or practice that could reasonably be expected to cause death or serious physical harm immediately. When a CHSO discovers an imminent danger, he will inform the employer

representative and request affected employees removed from the affected area until the dangerous condition or practice eliminated. The CHSO has **no** authority either to order the closing down of the operation, or to direct employees to leave the area of imminent danger. If abatement is not immediately abated or is refused, the CHSO is authorized to issue an Imminent Danger Citation on the spot and post a copy of the citation in the affected area. He will then proceed to obtain an immediate court order restraining the imminent danger.

I. SAFETY COMPLAINT PROCEDURES

1. OSHA gives employees the right to notify the Federal/State Department of Labor and request an inspection if they believe that unsafe and unhealthful conditions exist at their work site. OSHA gives a high priority to employee complaints and a heavy percentage of inspections are of this type.
2. Unsafe acts and conditions may occur on construction projects without the supervisor's knowledge. The employee safety complaint is usually an effort to call these to the superintendent's attention. Since most safety complaints are in good faith, they should be welcomed as an opportunity to correct unknown safety hazards before injury results. Investigate the complaint and resolve the issue before the situation gets out of hand and results in an injury or an OSHA complaint.
3. Follow this procedure in handling employee safety complaints:
 - a. Pass along all employee safety complaints to the Superintendent. Do not ignore any complaint.
 - b. Assure the complainant (if known) that the matter will be investigated immediately, and any required corrective action taken. Explain that the OSHA regulations shall be the basis for determining hazards and corrections.
 - c. Fully investigate the item of complaint and call the LF Driscoll Safety Department for guidance if required. Consult the OSHA regulations to determine if a violation exists and the required correction. Order immediate corrective action for any violation, including any act or condition not covered by OSHA regulations but believed to be hazardous.
 - d. Always report the disposition of the complaints back to the complainant promptly. Settle the complaint to the mutual satisfaction of all concerned.
 - e. Make a written record of the details of the complaint, including corrective actions taken and file for future reference in the event of a complaint inspection by OSHA.
4. This procedure will be of little value in handling complaints internally if employees do not know it is available to them. At a safety meeting, notify all employees of the procedure.
5. At a safety meeting, review the procedure with subcontractors and instruct them to follow it. Have them report their employee complaint handling to you in writing. Enforce their compliance with this procedure, as a complaint inspection for any contractor may include all contractors on the project.

SECTION 5: PROJECT SAFETY FILE DOCUMENTATION

a. On-site Safety Representative / Competent Person

All direct subcontractors and sub-tier contractors are to complete this form, submit to LF Driscoll and keep on file at the project.

The employee named below has been designated as the on-site OSHA competent person for the below named contractor. The competent person has the education and experience to enable him / her to recognize hazards and the authority to take necessary actions to correct those conditions related to their contract scope and limited to work under their care, custody and control in the following applicable areas.

Subparts	Title	Applicable Y/N	Subparts	Title	Applicable Y/N
1926.20	Job Site Inspections		1926.453	Aerial Lifts/Operations	
1926.50	First Aid		1926.603	Pile Driving/Signalman	
1926.53	Ionizing Radiation		1926.650	Excavations/Inspection	
1926.54	Lasers		1926.651	Excavations/Design	
1926.55	Industrial Hygiene		1926.700	Concrete Inspections	
1910.146	Confined Spaces		1926.754	Iron Work/Supervision	
1910.1200	HAZWOPER		1926.800	Tunnels/Inspection	
1926.101	Hearing Protection		1926.803	Compressed Air/Senior	
1926.155	Fire Protection		1926.501	Fall Protection	
1926.251	Sling/Wire Rope Inspections		1926.850	Demolition	
1926.302	Powder-Actuated Tools		1926.900	Blasting Program	
1926.354	Welding - IH		1926.950	Power Transmission	
1926.400	Equipment Grounding		1926.955	Live Line Bare Hand	
1926.451	Scaffolding		1910.134	Respiratory Protection	
1926.500	Roofing		1926.1101	Asbestos	
1926.1400	Certified Operator		1926.62	Lead	
1926.1400	Qualified Rigger		1926.25	Housekeeping	
1926.1400	Certified Signal Person		1926.51	Sanitation	
1926.1400	Cranes Inspections		1926.417	Lockout/Tagout	
1926.552	Hoists/Inspections/Tests		1926.400	Electrical	
1926.1153	Respirable Crystalline Silica				

Job Number:	
Job Name:	
Address:	
Subcontractor:	
Sub PM Name:	
Sub PM Signature:	
Competent Person:	
Signature:	
Date:	

b. Safety Orientation Record

The undersigned is provided the information on the following requirements:

- 1. LF Driscoll Safety Orientation Guide**
- 2. Review of site regulations**
- 3. Emergency procedures**
- 4. Emergency telephone numbers**
- 5. Personal protective equipment**
- 6. Fall protection and fall hazards**
- 7. Smoking prohibited on job site**
- 8. Proper work attire**
- 9. Electrical safety**
- 10. Proper conduct**
- 11. Housekeeping**
- 12. Accident reporting procedures**
- 13. Reporting any hazard**
- 14. Electronic cigarettes & similar devices prohibited on job site**

Issue the undersigned employee, from their employer, the following safety equipment with instructions as to their proper use (when and as required):

- 1. Hard Hat**
- 2. Eye protection**
- 3. Hearing protection**
- 4. Gloves**
- 5. Respirators**

I have received the orientation as indicated above. I am aware of, understand, and agree to comply with the safety rules and other policies and procedures for the LF Driscoll project named below. I understand that all instructions that I have been given. "Site specific safety orientation" is provided in cooperation with the client. This orientation is specifically intended to provide workers with information regarding the mandatory safety requirements established for this job site. It is not intended to provide task or craft specific training, nor is it intended to provide training in the use, care, selection or inspection of tools, material, personnel protective safety equipment or any other safety equipment. Training in those items is the sole responsibility of your employer or the employer's designated representative. It is also expressly not our intent to provide safety equipment, tools or materials. If, after this orientation, you do not believe that you or your coworkers are appropriately trained or equipped to work in accordance with the safety mandates established for this job or that your tools and equipment are inappropriate, unsafe or substandard, you are urged to contact your employer immediately, before beginning work in the field.

Silica Awareness:

- 1. Subcontractor shall provide silica training to ensure employee can demonstrate knowledge and understanding of health hazards associated with exposure to respirable crystalline silica, specific tasks hazards associated with exposure to RCS, and measures that can be implemented including engineering controls, work practices and respirators to be used.**

Asbestos Awareness:

1. An asbestos survey is available from the owner for the floors where we are working.
- 2. ONLY those floors and/or areas that have been cleared can be accessed by LF. Driscoll and sub-contractors.**
3. If the subcontractors work requires going into those areas, STOP and do not proceed. Alert the LF Driscoll project team. LF Driscoll will take the necessary action as required.
- 4. UNDER NO CIRCUMSTANCES SHOULD THE SUBCONTRACTOR CONTACT, HANDLE, CLEAN-UP OR REMOVE ANY SUSPECT ACM.**
5. If, the sub-contractor encounters any material that is visibly suspect material, STOP and do not proceed. Alert the LF Driscoll project team.

Date:		Job Number:	
Job Name:			
Subcontractor:			
Name of Employee:			
Date of Birth:		Last 4 Digits of SS#:	
Date of Birth:			
Employee Address:			
Home Phone Number:		Emergency Contact:	
Signature:			
Circle One:	Journeyman / Apprentice (Years _____) / Other		

c. Visitor Release

This is an active construction site and as such has inherently dangerous conditions. As a condition to be permitted lawful access to the site, you must sign and acknowledge a Waiver of Liability as set forth below. No persons shall be granted access to the site without wearing proper shoes, a hard hat and protective eye gear at all times. Furthermore, no such person shall be allowed on site unless they are accompanied by a duly authorized agent of the Owner.

By signing below, you, on your own behalf and on the behalf of your heirs, successors and assigns, are granting a full and complete Waiver and Release of Liability towards and in favor of the Owner, LF Driscoll, all of its subcontractors, and all of their employees, agents, partners, successors and assigns, for any and all bodily injury or property damage sustained during your presence on this Project site by whatever cause. **YOU ARE WAIVING IMPORTANT LEGAL RIGHTS BY SIGNING THIS WAIVER. YOU ARE ASSUMING THE RISK OF INJURY TO PERSON AND PROPERTY BY YOUR PRESENCE ON THIS SITE.** A copy of this Waiver may be given to you upon request. Valid photo identification must be presented for verification purposes before signing this form.

SITE VISITOR CHECKLIST

1. All visitors to the site must report to the reception area before entering the site.
2. All visitors are required to sign a Release Form and obtain a visitor sticker before entering the site.
3. The following items must be observed during a site visit:
 - a. Hard hats, safety glasses and appropriate flat soled footwear required at all times;
 - b. All warning signs and barricades must be obeyed;
 - c. Do not stray from the approved path for ingress and egress;
 - d. Do not enter areas with inadequate lighting;
 - e. Be aware of and stay clear of any overhead hazards;
 - f. Smoking/vaping is prohibited;
 - g. Do not touch or walk on welding leads, wires, piping ductwork, conduit or other construction materials of any kind;
 - h. Climbing on ladders or scaffolds is prohibited;
 - i. Do not lean on or reach beyond any handrails or barricades;
 - j. Be aware that walking surfaces will be uneven or have other impediments not present in a finished product and that extreme care should be taken with each step;
 - k. Report any hazards to a LF Driscoll representative.

In consideration of permission granted to the undersigned to enter and inspect the premises:	
Name of Project:	
Print Name:	
Date:	
Signature:	
Form of ID:	
Witness:	
Name of Company:	
Reason for visit:	

PROJECT START-UP SAFETY CHECKLIST

Information		
Subcontractor:		
Type of Work:		
Date of Review:		
Person Completing Review:		
Topic	Completion Date	Notes
Have corporate safety manual available		
Develop Site Specific Safety Program (SSSP) and distribute to subcontractors		
Develop OSHA Competent Person matrix for subcontractors		
Develop site-specific orientation		
Collect subcontractor safety programs and job hazard analysis (JHA form in SSSP)		
Post construction / warning signs		
Develop Emergency Evacuation Plan including off-hours emergency phone contacts		
Have copy of OSHA 29 CFR 1926 on site		
Set up HAZCOM Program / SDS program		
Post federal & state posters		
Schedule subcontractor pre-construction safety meeting		
Review accident reporting procedures		
Have First Aid Kit at site		
Consider housekeeping issues and public protection		
Collect subcontractor training records		
Maintain current insurance log for subcontractors		
Locate stand pipe shut-off valves		
Ensure LO/TO procedures are in place		
Obtain required permits		
Have fire extinguisher at site		
Have proper PPE available at site for employees		
Set-up file for toolbox talks & other Safety Docs		
Have GFCI program in place		
Post OSHA 300 Log		

FALL PROTECTION INSPECTION REPORT

This should be used during pre-con as a planning tool, and then again during the work to inspect. The following is a tool used by the Project field staff or subcontractors to ensure compliance with OSHA's 29 CFR 1926 Subpart M Fall Protection

CHECK APPROPRIATE BOX FOR COMPLIANCE OR NOTE CORRECTIVE ACTION

Location	
Job Number:	Date:
Job Name:	Subcontractor:
Address:	Competent Person:
Description of task:	
Description of protective system:	
Fall Protection Inspection Report by:	
Type of Fall Exposure	
<input type="checkbox"/> Leading Edges	<input type="checkbox"/> Unprotected Sides
<input type="checkbox"/> Hoist Areas	<input type="checkbox"/> Holes
<input type="checkbox"/> Excavations	<input type="checkbox"/> Formwork
<input type="checkbox"/> Low Sloped Roof	<input type="checkbox"/> Rebar Work
<input type="checkbox"/> Steep Roof	<input type="checkbox"/> Precast Concrete Erection
<input type="checkbox"/> Steep Roof	<input type="checkbox"/> Ramps, Runways and other Walkways
<input type="checkbox"/> Wall Openings	<input type="checkbox"/> Protection from falling Objects
<input type="checkbox"/> Above Dangerous Equipment	<input type="checkbox"/> Overhand Bricklaying and Related Work
<input type="checkbox"/> Walking/Working Surfaces Not Otherwise Addressed	<input type="checkbox"/> Wells, Pits or Shafts
<input type="checkbox"/> Leading Edges (workers not involved in Leading Edge work)	<input type="checkbox"/> Other:
Type of fall protection system used	
<input type="checkbox"/> Guardrail	<input type="checkbox"/> Safety Nets
<input type="checkbox"/> Fall Arrest (See list below)	<input type="checkbox"/> Positioning Device
<input type="checkbox"/> Fences/Barricades	<input type="checkbox"/> Controlled Access
<input type="checkbox"/> Warning Line	<input type="checkbox"/> Safety Monitor
<input type="checkbox"/> Other:	
Guardrail System	
<input type="checkbox"/> Wood	<input type="checkbox"/> Wire rope
<input type="checkbox"/> Rope	<input type="checkbox"/> Flagged every six feet
<input type="checkbox"/> Gates or offsets at access holes	<input type="checkbox"/> Midrail 21"±3; 150 #
<input type="checkbox"/> Toprail 42" ±3; 200 #	<input type="checkbox"/> Toeboard 3 1/2"; 50 #
Safety Nets	
<input type="checkbox"/> Sufficient clearance underneath	<input type="checkbox"/> Correct horizontal extension
<input type="checkbox"/> In good condition	<input type="checkbox"/> Documentation of regular inspections
<input type="checkbox"/> Installed within 30 feet of the fall exposure	<input type="checkbox"/> Free from debris
<input type="checkbox"/> Post installation tested to withstand a drop of 400 lbs. or a letter on record certifying the installation.	
Fall Arrest System	
<input type="checkbox"/> Vertical Life Line	<input type="checkbox"/> Horizontal Life Line
<input type="checkbox"/> Positioning Device	<input type="checkbox"/> Retractable
<input type="checkbox"/> Rope Grab System	<input type="checkbox"/> Other
<input type="checkbox"/> Fixed Anchor able to withstand 5000# per person	

Personal Fall Arrest Equipment:	
<input type="checkbox"/> Full Body Harness	<input type="checkbox"/> Use of shock absorber Device
<input type="checkbox"/> Double lanyard	<input type="checkbox"/> All the required equipment being used
<input type="checkbox"/> All the required equipment being used	<input type="checkbox"/> Connection devices comparable
<input type="checkbox"/> All components in acceptable condition	<input type="checkbox"/> Harness worn correctly and sized correctly

Anchor:	
<input type="checkbox"/> Harness worn correctly and sized correctly	<input type="checkbox"/> A Fixed structural object
<input type="checkbox"/> Able to support 5000 lbs./worker	

Horizontal Lifelines:
<input type="checkbox"/> A qualified person(s) has supervised the installation/inspection, design and use of the lifeline as a system

Positioning Devices:	
<input type="checkbox"/> Correct application for the correct job	<input type="checkbox"/> Full body harness being worn

Inspection Procedures:	
<input type="checkbox"/> All components in good condition	<input type="checkbox"/> Documentation of an inspection program

Warning Line System:	
<input type="checkbox"/> Erected around open sides of roof $\geq 10'$ from edge	<input type="checkbox"/> Flagged every 6 feet
<input type="checkbox"/> Stanchions capable of sustaining 16 lbs. lateral force	<input type="checkbox"/> Warning line height 34" min/39" max

Controlled Access Zone:	
<input type="checkbox"/> Signage Posted	<input type="checkbox"/> Employees Trained
<input type="checkbox"/> Authorized worker identified	<input type="checkbox"/> Control Line in Place
<input type="checkbox"/> Infeasibility statement on record	<input type="checkbox"/> Control line not less than 6'

Safety Monitoring System:	
<input type="checkbox"/> Non-working designated Safety Monitor	Name of the Safety Monitor:
<input type="checkbox"/> Safety Monitor able to see and communicate with crews working near the edge	

Covers:	
<input type="checkbox"/> Capable of withstanding 2X the anticipated load	<input type="checkbox"/> Marked
<input type="checkbox"/> Secured	<input type="checkbox"/> Other:

Rescue:	
<input type="checkbox"/> Previsions for a prompt rescue are in place	What are they?

Notes:

SUBCONTRACTOR SAFETY PROGRAM REVIEW CHECKLIST

	Exceeds OSHA Requirements	Meets OSHA Requirements	Lacks OSHA Requirements	Missing All Together
Section I: Management Commitment				
Section II: Worksite Analysis				
Jobsite inspections program				
Equipment inspection program				
Section III: Health and Safety Program - Hazard Prevention and Control				
Policy statement				
Safety responsibilities for all employees				
General safety rules				
Disciplinary process				
Fall protection				
First-aid				
Personal protection equipment				
Respiratory protection				
Hazard Communication				
Hot Work/Fire Prevention/Flammables Use and Storage				
SDS				
Fire and Life Safety				
Infection Control				
Use of Scaffolding				
Ladder Use				
Electrical Safety/ Lock-Out Tag-Out				
Excavation/Trenching				
Crane use				
Hearing Protection				
Eye Protection				
Section IV: Safety and Health Training				
Fall Protection				
Lock-out/Tag-out				
Respirator Protection				
Hearing Protection				
Powered Operated Equipment (Fork lifts and prime movers)				
Specialized Equipment				
Controlled Access Zone				
Ladder				
Scaffolding				
Section V: Accident Investigation and Trade Analysis				
Accident Investigation				
Near Miss Investigation				

SUPERINTENDENT SAFETY CHECKLIST

DATE:	PROJECT LOCATION:	NAME (S) OF PERSON/PEOPLE CONDUCTING INSPECTION:

“Y” Indicates compliance.

“N” Indicates non-compliance and requires immediate correction.

“NA” Indicates that the item is not applicable at the project.

“CA” Corrective action – Initials of responsible contractor to complete.

Planning and Documentation	Yes / No / NA	Comments	CA
Tool Box safety meetings held			
Project orientation provided			
First-aid supplies available			
Qualified first aid person on project			
Safety bulletins, rules, regulations, etc. posted			
Emergency telephone numbers posted			
General Safety	Yes / No / NA	Comments	CA
Slip, Trip & Fall hazards identified and cleared			
Overhead hazards identified			
Adequate ventilation in work areas			
Adequate lighting provided and maintained in work areas			
Sharp objects properly disposed of or protected			
Proper storage of tools and materials			
Adequate trash containers provided			
Personal Protective Equipment	Yes / No / NA	Comments	CA
Hardhats worn by workers			
Safety glasses or protective eyewear used (100%)			
Appropriate respirators used when required			
Proper work shoes worn by all employees			
Appropriate hearing protection used when required			
Proper protective clothing used when required			
Kevlar sleeves used for demo and above ceiling work			
Appropriate cut level gloves in use			
Fire Protection and Prevention	Yes / No / NA	Comments	CA
Fire suppression equipment available and inspected routinely			
Flammable and combustible materials stored properly			
Flammable liquid stored in approved safety cans			
Safety cans have self-closing lids and flame arresters			
Flammable containers properly labeled			
Tools: Hand and Power	Yes / No / NA	Comments	CA
Hand tools in good condition and free of visible defects			
Guards in place			
Electric tools double insulated or properly grounded			
Power cords on electric tools in safe working condition			
Powder actuated tools: operators certified			
All belts, chains, sprockets and pulleys properly guarded			
Welding and Cutting	Yes / No / NA	Comments	CA
Welders and fireguards are properly certified			
Fireguard in place during Hot Work, with fire extinguisher			
Combustible material cleared from welding area			
O2 & Acetylene bottles separated & secured by 25 ft./ rated wall			

Scaffold	Yes / No / NA	Comments	CA
Scaffold is equipped with guardrails when required (over 6 ft.)			
Scaffold is constructed with base plates and mudsills or wheels			
Proper access is provided, stairs or ladders			
Scaffold wheels are locked when in use			
Working platform is fully planked with OSHA grade planks			
Scaffold is properly secured when required			
Electrical	Yes / No / NA	Comments	CA
GFCI or assured grounding in use			
Extension cords free of visible defects			
Temporary lighting properly guarded			
All live circuits and panels clearly posted			
Lockout / Tag out procedure being followed			
Fall Protection	Yes / No / NA	Comments	CA
Workers exposed to a fall 6ft or more have proper fall protection			
Fall protection used at unprotected edges greater than 6'			
Lanyards secured to proper anchorage			
Lifelines secured to proper independent anchorage			
Controlled access zone warning lines in place			
Guard rails and handrails in place			
Ladders	Yes / No / NA	Comments	CA
Ladders are free of visible defects			
Ladders proper height for work			
Workers do not overextend reach of ladders			
A-frame ladders used in open position			
Workers do not use top two steps of A-frame ladders			
Workers do not climb back of A-frame ladders			
Straight ladders secured and extend 36 inches above landing			
Stored ladders must be secured or laid down			
Public Liability	Yes / No / NA	Comments	CA
Fencing provided where necessary			
Warning signs posted where necessary			
Flag persons used to direct pedestrian and vehicle traffic if needed			
Life Safety	Yes / No / NA	Comments	CA
Evacuation plans posted			
Paths of emergency egress kept clear			
Rescue equipment and team available			
Excavation	Yes / No / NA	Comments	CA
Sheeting, shoring and bracing in place (excavation greater than 4')			
Sloping and bracing where necessary (excavation greater than 4')			
Ingress and egress provided (excavation greater than 4')			
Guardrails in place (excavation greater than 4')			
Spoils two feet from excavation			

NOTE: Based on the results of this inspection, all causing, exposing and contractors responsible for correcting deficiencies and non-compliance will be contacted in writing to perform necessary corrective actions.

Comments :	
Signature :	

SECTION 6: SAFETY TRAINING AND EDUCATION FOR LF DRISCOLL EMPLOYEES

a. OSHA TRAINING REQUIREMENTS

REFERENCES:

[Training Requirements in OSHA Standards and Training Guidelines Publication 2254](#)

Subpart C	General Safety and Health Provisions General Safety and Health Provisions Safety Training and Education
Subpart D	Occupational Health and Environmental Controls Medical Services and First Aid Ionizing Radiation Non-ionizing Radiation Hazard Communication, Construction Gases, Vapors, Fumes, Dusts, and Mists Asbestos Lead in Construction Silica in Construction
Subpart E	Personal Protective and Life-Saving Equipment Hearing Protection Respiratory Protection
Subpart F	Fire Protection and Prevention Fire Protection
Subpart G	Signs, Signals and Barricades Signaling
Subpart I	Tools - Hand and Power Powder-Operated Hand Tools Woodworking Tools
Subpart J	Welding and Cutting Gas Welding and Cutting Arc Welding and Cutting Fire Prevention Welding, Cutting and Heating in Way of Preservative Coatings
Subpart K	Electrical Ground Fault Protection Lock-out/Tag-out Procedures
Subpart L	Scaffolding Erecting, Disassembling, Moving, Operating, Repairing, Maintaining, or Inspecting General Requirements for Users Competent Person Fall Protection
Subpart M	Fall Protection All workers who might be exposed to a fall hazard

Subpart O	Motor Vehicles, Mechanized Equipment and Marine Operations Material Handling Equipment Site Clearing
Subpart P	Excavations General Protection Requirements (Excavations, Trenching and Shoring)
Subpart Q	Concrete and Masonry Construction Concrete and Masonry Construction
Subpart R	Steel Erection Fall Hazards Multiple Lift Rigging Procedures Connector Procedures Controlled Decking Zone Procedures Bolting, Riveting, Fitting-Up and Plumbing-UP
Subpart S	Underground Construction, Caissons, Cofferdams and Compressed Air Underground Construction Compressed Air
Subpart T	Demolition Preparatory Operations Chutes Mechanical Demolition
Subpart U	Blasting and Use of Explosives General Provisions (Blasting and Use of Explosives) Blaster Qualifications Surface Transportation of Explosives Firing the Blast
Subpart V	Power Transmission and Distribution General Requirements Overhead Lines Underground Lines Construction in Energized Substations
Subpart X	Ladders General Requirements
Subpart Z	Toxic and Hazard Substances SDS General Requirements Asbestos
Subpart CC	Cranes and Derricks in Construction Certified Signalperson Qualified Rigger Certified Crane Operator
Subpart DD	Cranes and Derricks in Demolition and Underground Construction

SECTION 7: PERSONAL PROTECTIVE EQUIPMENT (PPE)

REFERENCES:

[29 CFR 1910.132 – General Requirement/Personal Protective Equipment](#)
[OSHA eTool – Eye and Face Protection](#)
[OSHA Safety and Health Topics - Personal Protective Equipment \(PPE\)](#)
[29 CFR 1926 Subpart E – Personal Protective and Life Saving Equipment](#)
[OSHA Fact Sheet – What Is Personal Protective Equipment](#)
[29 CFR 1910.133 – Eye and Face Protection](#)
[OSHA Publication #3151 – Personal Protective Equipment](#)
[OSHA Quick Card – Construction Personal Protective Equipment](#)
[OSHA Publication #3252 - Worker Safety Series/Construction](#)
[OSHA Publication – Overview for 1926 Subpart E/Personal Protective Equipment](#)
[OSHA Safety and Health Topics - Controlling Surrounding Dust Sources](#)
[OSHA Publication - Worker Series/Pocket Guide](#)
[29 CFR 1926.50 - Medical Services And First Aid](#)
[29 CFR 1910.151 – Medical Services and First Aid](#)
[Standard Interpretations - Clarification of using ANSI Z358.1 as guidance to comply with 1910.151\(c\)/Eyewash and Safety Showers](#)

1. Personal Protective Equipment is a worker's last line of defense against injury and illness.
2. When engineering controls and work practices may not successfully limit exposures, it is the policy of LF Driscoll that subcontractors provide a complete Personal Protective Equipment Program and training, along with the necessary protective equipment to fully protect their workers.
3. Each subcontractor is responsible for procuring, issuing, using, and maintaining personal protective equipment as required in this Section.
4. Each subcontractor shall see that foremen issue required equipment to employees and instruct the foremen to enforce its use.
5. Each subcontractor shall provide for regular inspection of the equipment to see that it is in safe working condition and provide for its care and maintenance.
6. The following is a guideline of Personal Protective Equipment (PPE) use:

a. HARD HATS:

- i. ANSI-approved hard hats shall be worn **at all times**.
- ii. Subcontractors are responsible to provide their employees with hard hats.
- iii. Visitors must obtain visitor hard hats at the LF Driscoll trailer.
- iv. LF Driscoll hard hats are for LF Driscoll personnel only.
- v. Hardhats to be worn, inspected and replaced according to manufacturer.
- vi. Work above the curtain wall on new buildings, exterior scaffolds, roofs and in shafts, hard hats with 4-point chin straps or tethers are required.

b. CLOTHING:

- i. Long pants must be worn to the ankle, no shorts.
- ii. Shirts must have sleeves, no tank tops or muscle shirts.
- iii. High visibility reflective clothing is required around heavy equipment, exposure to traffic or when required by project specifications.
- iv. Florescent clothing as required by the project.

c. WORK BOOTS:

- i. All workers are required to wear industrial quality work shoes or boots (no sneakers).
- ii. Visitors must wear appropriate sturdy, flat-soled shoes, no high heels.
- iii. Boot guards required during jackhammer activities.

d. EYE PROTECTION:

- i. ANSI-approved Z87.1 safety glasses with side shields as required.
- ii. Selection of the type of eye protection shall be based on 29 CFR 1926, Subpart E, Table E-1.
- iii. The use of welding shields when there is a hardhat requirement must be integrated.
- iv. Dark glasses shall not be worn indoors.
- v. Goggles may be required for a specific task including overhead drilling.

e. FACE PROTECTION:

- i. Face shield required when exposed to grinding, chop saw, overhead chipping, mason saw, chemical handling and other activities as required.
- ii. Safety glasses must be worn when using face shields.

f. HAND PROTECTION: See Hand Protection (Glove Policy) in this manual.

- i. Appropriate cut level gloves required when working.
- ii. When gloves are required, workers must have the gloves easily accessible, such on their person.
- iii. Kevlar or equivalent arm gauntlets shall be worn during demolition and when working above ceilings.

g. HEARING PROTECTION:

- i. When noise exposures exceed 85 decibels, a Hearing Conservation Program is required.
- ii. Subcontractors are required to provide their employees hearing protection when required.

h. RESPIRATORS: See Respiratory Protection Section in this manual.

i. VESTS:

- i. A high visibility vest, shirt, or jacket shall be worn when working around heavy equipment or as specified by the site.
- ii. Appropriate DOT high visibility clothing shall be worn when in traffic and/or directing traffic.

TRAINING:

- a. Each employee shall be trained by his employer in at least the following:
 - i. When and What PPE is necessary.
 - ii. How to properly put on, take off, adjust and wear PPE.
 - iii. The limitations of the PPE.
 - iv. The proper care, maintenance, useful life and disposal of the PPE.
- b. An employee shall be retrained when he demonstrates a lack of understanding. Other circumstances which may require re-training include, but are not limited to, the following:
 - i. Changes in job requirements.
 - ii. Changes in the type of PPE to be used which make previous training obsolete.

a. HAND PROTECTION (GLOVE POLICY)

REFERENCES:

[OSHA Publication 3151 – PERSONAL PROTECTIVE EQUIPMENT](#)

[OSHA Publication 3157 – A Guide For Protecting Workers From Woodworking Hazards](#)

[29 CFR 1910.138 – Hand Protection](#)

[OSHA Publication 3170 - Protecting Employees from Amputations](#)

[OSHA Publication 3080 – Hand and Power Tools](#)

[OSHA Quick Card - Amputations](#)

The purpose of this policy is to reduce the number of hand and finger injuries by ensuring that every person working on site has the proper gloves provided by their employer.

1. The subcontractor must assess the task and select gloves based on the exposure.
2. The subcontractor must provide the proper cut level glove for the job.
3. The subcontractor will ensure that each employee wears hand protection when working in areas where a hazard exists that could cause injury to hands and fingers due to skin absorption of hazardous substances, severe cuts, lacerations, abrasions, punctures or burns and temperature extremes.
4. Hand protection must meet the following minimum requirements:
 - a. adequately protect against the particular hazards for which they were designed;
 - b. be reasonably comfortable when worn under designed conditions;
 - c. fit properly without interfering with the movements of the wearer;
 - d. be durable; kept clean and in good repair
 - e. be capable of being cleaned and/or disinfected and/or disposed of upon completion of intended use.
5. Gloves must be available for immediate use (on the worker).
6. Kevlar or equivalent arm gauntlets shall be worn during demolition and when working above ceilings.
7. If a subcontractor does not have a hand protection program the LF Driscoll project team should assist the subcontractor in implementing a policy.

SECTION 8: TOOL SAFETY

REFERENCES:

[29 CFR 1926 Subpart I – Tools – Hand and Power](#)

1. Read the manufacturer's instructions before use.
2. Inspect all tools before each use.
3. Use tools for the job for which they were intended.
4. Tools in disrepair shall be tagged and removed from service.
5. Do not remove guards from tools.
6. Do not use tools with broken handles.
7. Compressed air hoses shall have safety clips at connections.
8. Compressors require a breakaway valve.
9. Training required before using a powder-actuated tool.
10. Chisels with mushroomed heads are not to be utilized.
11. Do not use electric tools with damaged cords. Remove tools from service.
12. All tools that may be subject to a fall to a lower level shall be tethered.

a. POWER ACTUATED TOOLS

REFERENCES:

[29 CFR 1926.302 Tools – Hand and Power](#)

1. Follow the manufacturer's instructions.
2. Only properly trained, qualified operators shall use powder actuated tools. Each subcontractor shall maintain a listing of qualified operators on file.
3. Powder actuated tools shall be kept in their respective cases when not use.
4. Test tools before each use to ensure that safety devices are in proper working condition, that the tool is clean, that all moving parts operate freely, and that the barrel is free of obstruction.
5. Removed from service and tag unsafe any tool not in working order or that develops a defect while in use. Do not use such tools until competent, trained personnel make repairs.
6. Prior to the testing of any powder-actuated tool, employees shall ensure that tool is not loaded.
7. The operator and assistant must wear safety glasses during powder actuated tool operation.
8. Wear full-face shields if there is danger of flying plaster, wood, metal or concrete.
9. Do not carry a loaded tool on the work site.
10. Leave tools unloaded until ready for actual use.
11. Do not point the tool at anyone, whether loaded or unloaded, and hands shall be kept clear of the muzzle end.
12. Powder actuated tools shall never be stored or used in explosive atmospheres, near highly flammable materials, or in any area where non-sparking tools are required.
13. Hold the tool firmly against and perpendicular to the surface to which it is applied.
14. Consult the manufacturer's recommendations if there is any doubt about the fastening application.
15. It is not recommend shooting into very hard or brittle materials such as cast iron, glazed tile, surface hardened steel, glass block, live rock, face brick, hollow tile and similar materials.
16. To prevent flying hazards, no object shall be driven without first ensuring it will not pass completely through the material being driven into. Fasteners driven by standard velocity tools should not be driven directly into masonry materials closer than one-half ($\frac{1}{2}$) inch from the corner edge. Low velocity piston tools using fastener shank diameters of five thirty-seconds ($\frac{5}{32}$) of an inch or less may be driven no closer than two (2) inches from an edge in masonry or one-quarter ($\frac{1}{4}$) inch in steel. Fasteners should not be driven into a spalled area such as where a previous fastener has failed, or into a very rough concrete or through predrilled or prepunched holes.
17. In the event of a misfire, do not remove tools from the working surface for at least 15 seconds. Remove the cartridge from their tool before lifting it from the surface.
18. In the event of jamming, miss-fire or obstruction in the bore of the tool, follow the manufacturer's recommendations for clearing.
19. Never clear an obstructed bore by firing another cartridge or stud and cartridge assembly.
20. For the applications requiring the fastening of clips, brackets, tracks, etc., special shields, use fixtures or adapters.
21. Use only fasteners specially designed and manufactured for use in powder-actuated tools.
22. Install warning signs and barricades in areas where there is extensive use of powder-actuated tools. Signs shall identify by type of hazard present and shall limit access to these areas.
23. Consult with the manufacturer's recommendation for disposal of expended shots or misfires.

SECTION 9: JOB HAZARD ANALYSIS PROCEDURE

REFERENCES:

[Job Hazard Analysis](#)
[OSHA Publication 3071](#)

Complete a Job Hazard Analysis (JHA) to identify potential hazards and possible protective measures associated with single tasks already performed on the jobsites. JHA's identify hazards associated with one trade and one task. When multiple trades and/or high-risk activities are going to commence, conduct a pre-planning meeting. The following is an example of a job task.

The first step to a JHA is break down job task into steps. Describe each action taken by the worker to complete the task.

Loading Zone Safety. Example

SEQUENCE OF BASIC JOB STEPS (List each step of the job in order of occurrence as you watch the worker perform his/her job)	
Step No.	
1	Worker removes the "removable" wooden guardrail to enter the loading zone
2	Worker wearing a full body harness, ties off to the designated tie off point
3	Worker replaces the "removable" wooden guardrail
4	Worker takes down the wire rope cable guard rail to receive a load
5	Worker replaces wire rope cable guard rail
6	Worker un-ties and removes the "removable" wooden guardrails
7	Worker removes the load and replaces the "removable" wooden guardrail

The second step to a JHA is to identify any hazards associated with each step. Example

POTENTIAL HAZARDS/ACCIDENTS (List any potential hazards associated with each step)	
Step No.	
1	Outside wire rope cable guardrail is not in place
2	Worker not properly wearing his PPE, Worker incorrectly tying-off to an anchor not suitable for 5000 lbs. strength.
3	Worker does not replace "removable" wooden guardrail
4	The bay used for the loading zone was not isolated from the rest of the floor
5	Worker forgets to reconnect the wire rope cable.
6	N/A
7	N/A

The last step lists the recommended protective measures for each step. Example

RECOMMENDED SAFE JOB PROCEDURES (List recommended protective measures)	
Step No.	
1	Before removing the "removable" wooden guardrail, ensure wire rope cable guardrail is in place. Ensure the worker is tied off before the wooden "removable" guardrail is taken down.
2	Ensure worker is properly wearing his PPE; ensure the tie-off point meets the 5000 lbs. requirement.
3	Place signage with instruction indicating step by step the process to receive a load
4	The bay used for the loading zone needs to be dogged off prior to setting up the loading zone
5	Place signage with instruction indicating step by step the process to receive a load
6	Make sure worker is aware of loading zone procedures
7	N/A

SECTION 10: ACCIDENT RECORDKEEPING

REFERENCES:

[OSHA's Injury and Illness Recording Handbook](#)

The Superintendent is responsible for accident reporting and recordkeeping but may delegate this responsibility to another member of the project team. The following reports and records are required:

1. **Accidental Injury and Illness Report:** Reported by phone to the Safety Department any accidental, work related injury or illness occurring to an employee who requires the services of a physician, nurse, medical clinic, or hospital. The Superintendent will then prepare all required written reports and provide copies to the Safety Department. Retain copies of these reports in the Field Safety File.
2. **OSHA Form No. 300A (Log of Occupational Injuries and Illnesses):** Record each reportable occupational injury or illness on the Log within six (6) workdays after learning of its occurrence. Do not post the log but retain it in the Field Safety File. Keep a separate Log for each calendar year. Post at the end of the year form 300A as an Annual Summary. See section on Posting Requirements for instructions on how to post this form. The LF Driscoll Safety Department will provide you with the LF Driscoll 300A to be posted each year.
3. **OSHA Report for Fatalities and Disasters:** Report any accident resulting in a fatality or work related-hospitalization, amputation, or loss of an eye to the Area Director of the Occupational Safety and Health Administration.
 - A fatality must be reported within 8 hours
 - An in-patient hospitalization, amputation, or eye loss must be reported within 24 hours.

Make this report by phone at 1-800-321 OSHA (6742) Notify the Safety Department at once. A list of addresses and phone numbers of OSHA Area Offices appear on the OSHA website www.osha.gov. Your safety department will generally handle these details when available.

4. **Public Liability Reports:** Report all accidents resulting in injury to members of the public, or damage to public or private property, or vehicles, by phone at once to the Safety Department. The Superintendent will prepare all required written reports and provide copies to the Safety Department. Retain a copy of this report in the Field Safety File and archived.

NOTE: *Where members of the public make claims of damage or injury to themselves or their property, the Superintendent shall first make an effort to determine responsibility. When any subcontractors' materials, equipment or operations cause damages and injuries, the supervisor of that subcontractor shall be notified and brought in so that the claim may be properly placed with the responsible subcontractor.*

5. **Subcontractors' Accident Reports:** All Subcontractors are required to submit copies of their insurance accident reports for workmen's compensation, or public liability, or property damage to the Superintendent. The Superintendent will enforce this requirement and follow up until reports are submitted. Send a copy of each report to the Safety Department at the Main Office and a copy retained in the Field Safety File.
6. **Record Storage:** All records are to be archived with the job or in CMiC (scan or drag/drop into existing CMiC file folders).

a. ACCIDENT/INCIDENT REPORTING POLICY

DEFINITIONS:

1. An “accident” is an unplanned event, which results in an injury to an employee or subcontractor employee (any employee of a company with whom we have a contractual relationship).
2. An “incident” is unplanned event, which results in an injury to a non-construction worker, the public or property damage.
3. A “near-miss” is an unplanned event, which could have resulted in an accident or incident.

RESPONSIBILITIES:

LF Driscoll Project Team:

1. The project team is to notify the Officer-in-Charge and the Safety Department immediately following any accident.
2. The site Superintendent must submit the **Origami First Report** for any Accident/Incident as soon as possible after discovery of or notification of the event.
3. Depending on the severity of the accident/incident, the safety staff will discuss with the project team who will perform the first party investigation.
4. Safety Department to conduct the follow-up investigation, if required, and work with site supervision to mitigate hazardous conditions.
5. The site superintendent is to record the event on the CMIC Daily Log.

LF Driscoll Safety Department:

1. Ensure proper distribution and notification of the **Origami First Report** of the event.
2. Notify legal for accidents resulting in medical care (emergency room or involving a Doctor or clinic), OSHA recordable accident (includes lost time and/or restricted work), 911 police/fire department, potential property damage over \$50,000 and any event which may result in a legal suit.
3. Determine if the event requires additional investigation by the safety department or a third party
 - a. For accidents: a third-party adjuster/investigator should be involved for severe injuries, loss of consciousness, severe bleeding, broken bones, falls from elevation, cave-in, facial injuries, burns, hospitalization, any 911 event, etc. Further determination of when a third-party investigation is needed shall be decided jointly with Safety and Legal.
 - b. For incidents and property damage: a third-party adjuster/investigator should be involved in the event of water damage in occupied spaces effecting owner operations, major water damage in non-occupied spaces, fire requiring the fire department, vehicle accidents involving the public, injury of non-construction worker, or extensive property damage that may impact the client or the schedule, etc.
 - c. Consult with the risk management, legal and insurance departments in questionable cases to determine if a third party is required.
 - d. Subcontractors to fully cooperate ensuring that they preserve the scene of incident and provide witness statements as required.
4. Keep lines of communication open among safety, site supervision, and risk management and legal.
5. Conduct follow-up as required.

Subcontractors:

1. Notify LF Driscoll Project Team promptly upon discovery of an event and submit written report by end of shift.
2. Subcontractor to conduct an investigation when it involves their employees, property or vendors and submit report before the end of shift. Report to include cause, contributing factors, appropriate PPE for task, was more than one worker required for the task, and type of training.
3. Subcontractor to perform the initial follow-up when it involves a lower tier subcontractor and submit to LF Driscoll for follow-up and resolution.
4. Provide copies of all pertinent documents including medical release forms and work status.

After the subcontractor has notified the LF Driscoll Project Team, THEN:

1. The LF Driscoll Site Superintendent must submit the **Origami First Report** of any Accident/Incident as soon as possible, but within 24 hours after discovery of or notification of the event.
2. Site Supervision must notify the Safety Department who will perform the first party investigation
3. Perform the follow-up investigation, if required, and work with site supervision to mitigate hazardous conditions.
4. The site superintendent is to record the event on the Accident/Incident log and the Daily Log.

b. PERSONAL INJURY AND PROPERTY DAMAGE DOCUMENTATION

The following items should be included in both accident and incident reports:

1. **Photos:** All reports filed should have photos attached. Photos such as:
 - a. Area where the accident/incident occurred.
 - b. Any damage inflicted.
 - c. Any defective tools/materials involved in accident/incident.
 - d. Provide any pre-accident/incident photos of area.
 - e. Please include reference points to the location of where the pictures were taken. Example, mark 19th Floor on a piece of paper and include it in the picture. Indicate if you are looking north, east, south or west, which column line or room you are looking at.
 - f. Do not take pictures of the injured employee, blood or guts.
2. **Subcontractor Accident/Incident Reports:** All reports should contain the reports of all subcontractors involved in accident/incidents. Include in the report the names of all subcontractors involved or witnessed the accident/incident.
3. **Explanation of damaged property involved:** A detailed description of damaged property should be included in report. This includes owner of the property, description of the property, how it was damaged and by whom.
4. **Witness statements:** Collect all information of persons witness to the accident/incident as well as a detailed statement. (See witness statement form in this manual).
5. **Locations:** Document the location of the incident/accident on the Form. (Discern where on site the incident took place) Give room number(s) or control lines (column lines).
6. **Conditions:** Describe job site conditions in area (i.e. weather, muddy, dusty, dimly lit, uneven terrain, cluttered, etc.). Include information on who owns debris involved in the incident/accident.
7. **Accidents:**
 - a. Accident reports should have attached all medical paperwork for the injured party involved. This includes discharge papers or any information from their personal doctors concerning their injury. If these are not available immediately, send accident report updates and clearly, in **BOLD**, write: UPDATE #1, UPDATE #2, etc. as information and paperwork become available.
 - b. Give details when other people other than workers are involved in accident. If visitor, explain how they came to be involved in the accident.
 - c. Describe injury (laceration, bruise, exact body part, location i.e. right elbow or left ankle).
8. **Incidents:**
 - a. Please include information regarding all subcontractors involved in the incident, not only the primary. In the case of severe accident or incident, the area should be sealed off to all personnel, with the exception of Emergency Responders, until so directed by the Safety Director and/or Project Executive.
9. **After Hours Incidents:**
 - a. For after hours, weekends and holiday work, LF Driscoll has set an "800" number to call 24/7 to make emergency notification of an incident or accident. Make all attempts to contact your project team, the Safety Director first. If no contact, call 1 (800) 452-5452.

c. INCIDENT REPORTING AND INVESTIGATION PROCEDURE

INTRODUCTION

The failure of people, equipment, supplies or surrounding to behave or react as expected causes most incidents. Incident investigation determines how and why these failures occur. Investigation activities are directed towards defining the facts and circumstances relating to the event, determining the causes and developing remedial action to control the risks. Investigations are **NOT** to place blame.

OBJECTIVE

Incidents can yield positive results if we learn from what went wrong and prevent a reoccurrence. To achieve this, we need to investigate the circumstances that led to the incident and report, record, analyse and determine effective remedial solutions. An effective incident reporting and investigation system will:

1. reveal the immediate and underlying causes of incidents
2. provide an accessible database to prevent recurrences of similar incidents
3. develop remedial actions that address causes to prevent recurrence
4. provide information in case of litigation and information on the costs of accidents
5. reduction of operating costs and improve productivity by control of accidental losses
6. follow-up to ensure that actions taken are successfully implemented and relevant risk assessments updated
7. express the concern of management
8. provide feedback to relevant parties to share immediate learning
9. meet statutory requirements

PROCEDURE

All incidents must be reported by the employee concerned to their Supervisor immediately and without unreasonable delay (by the end of the shift). Prepare a report detailing the circumstances of the accident (including identification of immediate causes, basic causes and lack of control and resultant remedial actions) within 24 hours and submit to the Safety Manager.

The relevant Head of Department will initiate any corrective action required following the investigation by:

1. assigning to a person responsible for ensuring that it is completed by a specified target date.
2. record same on the incident form.
3. tracking to completion.

The status of action items shall be reviewed by risk management to ensure that follow-up is being maintained at appropriate levels.

Incident reports forwarded to risk management shall be processed as follows:

1. Any information pertaining to serious and high potential incidents relevant to other area will be communicated within 24 hours.
2. Completed incident investigation reports are copied to the relevant Head of Department and General Manager.
3. All incident reports are analysed, and the analysis is presented at the monthly management meeting. The analysis must include the causes and status of remedial actions.

RESPONSIBILITIES

1. All Employees are responsible for reporting incidents they are involved in or witness to their Supervisor immediately and without unreasonable delay (by the end of shift latest). The employee must also be a part of the investigation team and provide accounts of what he/she did or saw prior to the incident happening on the witness Statement Form.
2. The Front-Line Supervisor is responsible for initiating and leading the investigation for accidents/incidents, filling in all appropriate parts of the Incident Report Form and obtaining the Witness Statement Forms. The completed form shall be forwarded to the Safety Department within 24 hours.
3. All Heads of Departments are responsible to ensure that the supervisors in their department are fully aware of, understand and initiate the Incident Reporting and Investigation Policy and avail of training in Incident investigation provided by the Safety Department.
4. All Heads of Department must review the findings and corrective actions to ensure they are adequate to prevent a reoccurrence, actively participate in the investigation for other events and are responsible for taking appropriate action on the conclusions and results of any incident investigation within their Department
5. All Heads of Departments shall ensure their area has a suitable tracking system to ensure that action items are completed and effective in preventing a reoccurrence of the initial incident.
6. The Safety Department will ensure that management and their representatives are informed on the incident investigation policy.
7. The Safety Department will provide technical assistance and support to the Supervisor for all incident investigations.
8. The Safety Manager is responsible for reporting incidents to the Company Loss Adjuster and Company Insurance Co-ordinator and co-ordinating any subsequent follow-up investigation.

d. OSHA RECORDABLE INJURIES

RECORDABLE:

1. Loss of consciousness
2. A significant injury or illness diagnosed by a physician
3. Death
4. Stitches, Staples or Medical Glue to treat lacerations
5. Removal of Foreign Bodies embedded in the eye(s)
6. Non-Simple removal of Foreign Bodies from a wound
7. Prescribed use of Medications (even over the counter medications) prescribed at prescription strength
8. Cutting away dead skin
9. Positive X-Ray diagnosis
10. Admission to the hospital (or equivalent) for treatment
11. Lost time or restricted work
12. Burns (first, second, or third) which cause days away from work, work restrictions or additional medical treatments
13. Intravenous (IV) fluids for relief of heat stress

NON-RECORDABLE:

1. Antiseptics
2. Prophylactic treatments only (tetanus shots)
3. Cleaning, flushing or soaking wounds on the surface of the skin
4. Bandages, Butterfly Dressings or Steri Strips
5. Using hot or cold therapy
6. Use of any non-rigid means of support such as elastic bandage
7. Use of temporary immobilization devices (backboard and neck collars) for transportation only
8. Drill of a fingernail or toenail to relieve pressure, or draining fluid from a blister
9. Use of eye patch
10. Removal of foreign bodies not embedded in eye (only irrigation or cotton swab)
11. Simple removal of foreign bodies from a wound
12. Non-prescription medications not prescribed by a physician
13. Massage
14. Drinking fluids for relief of heat stress
15. Ointments
16. Whirlpool bath therapy (first visit to medical personnel)
17. Negative x-ray diagnosis
18. Observation of injury during visit to medical personnel
19. Rigid finger guard for a strained or sprained finger
20. Administration of oxygen purely as a precaution

EQUATIONS FOR BUREAU OF LABOR STATISTICS ACCIDENT STATISTICS:

Incident Rate: <i>(Total Case Rate)</i>	$\frac{\text{Number of OSHA Recordables} \times 200,000}{\text{Total Hours Worked}}$
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Frequency Rate: <i>(DART Case Rate)</i>	$\frac{\text{Number of DART Cases} \times 200,000}{\text{Total Hours Worked}}$
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Severity Rate: <i>(Lost Workday Rate)</i>	$\frac{\text{Number of Lost Time Days} \times 200,000}{\text{Total Hours Worked}}$
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e. EMERGENCY SERVICES

Prior to the start of the project, the Superintendent shall meet with the local fire and EMT provider to ensure coordination with emergency services. Additionally, the Superintendent shall provide and maintain throughout the life of the project the following emergency services:

1. **First Aid Kit:**
 - a. The contents of the kit shall be checked on a regular basis
 - b. All subcontractors at the project site shall evaluate their first aid kit to determine that the medical products in that kit are adequate to meet any safety hazards noted in their Employer's Material Safety Data Sheets.
 - c. Each first-aid kit shall provide personal protective equipment (such as gloves, gowns, face and eye protection) for the protection of bloodborne pathogens.
 - d. Maintain a bloodborne pathogens cleanup kit on site. At a minimum fresh bleach for mixing of a 10% bleach solution for the cleanup of blood and body fluids.

2. **Medical Services and First aid:**
 - a. **Physician or Medical Clinic:** For LF Driscoll Employees, a panel listing of physicians, medical clinics and hospitals shall be posted. Business hours at the facility should coincide with those worked at the job site
 - b. **Ambulance Service:** Posted in the LF Driscoll field office shall be the name, address and phone number of the nearest ambulance service. Typically, "911" is the quickest and most efficient means to call an ambulance service. Where ambulance service is not readily available to the job site in terms of time (20 minutes) and distance (5 miles), provide an alternate means of transportation.
 - c. **First Aid Training Requirements:** Where a physician, clinic, or hospital is not readily available in terms of time and distance for treatment of injured employees, a person who has a valid certificate in first aid and CPR/AED training from the American Red Cross or equivalent training verified by documentary evidence shall be available to render first aid. Consult the Safety Department in the Main Office for information on first aid and CPR/AED training.
 - d. An Automatic External Defibrillator should be available in the case of a sudden cardiac emergency. Consult your Safety Department for information on AED supplies for purchase and available training.

3. **Safety Data Sheets:** Safety Data Sheets (SDS) required when a worker sustains a chemical injury. These sheets should be readily available for any First Aid needs.

4. **Fire and Police Services:** Posted in the LF Driscoll field office shall be the locations, availability and jurisdiction of local fire and police department. Contact the local fire department and request them to visit the job site to review the following items:
 - a. Fire reporting procedures
 - b. Access to the job site
 - c. Location of stairways and ladders
 - d. Location and emergency operation of hoists, elevators, pumps, electrical controls and other equipment essential to fire fighting
 - e. Location of fire department connection to standpipe/sprinkler system(s) and hose connections
 - f. Required signage for hose connections and standpipes
 - g. Implement recommendations of fire department and schedule follow-up surveys as warranted by the scope of the project and development of buildings and structures on the job site.

5. **Fire Alarm:**
 - a. OSHA regulations require a means of alerting workers in case of an emergency such as fire.
 - b. The alert system may consist of air horn sirens, bells, telephone system, public address or other communication systems capable of being audible to employees throughout the building or structure when sounded.

- c. Purpose of the alert system is to notify employees to evacuate in the event of fire or other emergency.
- d. The alert system is not complete until a telephone is available to notify the local fire department.
- e. During renovations, consider leaving the current fire alarm system in place until the new one can be installed.
- f. For health care facilities, coordinate with their safety/security department to ensure appropriate coverage.

SECTION 11: CRISIS RESPONSE PROTOCOL

Crisis Communication:

The intent of communicating during a crisis is to aid LF Driscoll Organizational personnel to respond in a professional, calm, organized and expeditious manner. A crisis is any serious incident or situation that focuses questionable or potentially negative attention on LF Driscoll either in the media or before key audiences. The goal is to influence and/or control the situation and any media coverage by:

1. Offering a credible, knowledgeable spokesperson to respond to media inquiries to provide accurate information to avoid conjecture and the dissemination of potentially damaging misinformation to the public.
2. Demonstrating that the situation is under competent control and thereby reassuring employees, clients, contractors and the community.
3. Communicating what actions/steps are being taken to control the situation and that every effort is being made to mitigate the crisis.

For LF Driscoll a crisis may include, but not be limited to:

1. A fatality
2. An accident involving a severe or multiple injuries
3. An accident involving a fall greater than 6 feet
4. An explosion, significant fire or serious burns
5. Loss of Limb / Crush Injury
6. Physical contact with heavy machinery
7. Any event with significant media attention

Company Communications Principles:

In the event of a crisis, LF Driscoll is committed to the communication of relevant, factual information on the situation. The crisis response plan guidelines facilitate that process. When executing the recommended guidelines, LF Driscoll encourages all employees involved in the response process to adhere to the following communications principals:

1. Anything said by anyone is **“on the record”** and considered the opinion of the company
2. Avoid saying “no comment”
3. **[STO Entity]** is in the process of gathering facts.
4. “Please provide your contact information and I will have the appropriate person call you as soon as possible.”
5. Anyone in a LF Driscoll hardhat may be considered an agent of management

CRISIS RESPONSE TEAM

No one person fully and effectively manages a crisis. Due to the uncertainty surrounding any crisis, and the potential for escalation or complication, every crisis needs control by a team of experts who represent the various disciplines potentially needed to execute proper response strategy.

Responsibilities:

The Primary Crisis Response Team will include:

1. SVP Corporate Safety
2. VP Risk Management
3. VP Corporate Communications
4. General Counsel
5. Assigned Outside Counsel
6. BU Leader
7. Most knowledgeable of incident (PM, Super, Site Safety)

It is essential that all team members identify and prioritize appropriate personnel that can serve in a back-up capacity for each in advance.

Additional Team Members:

1. BU Safety Director
2. Corporate Claims Director
3. VP Operations
4. SVP Human Resources
5. President
6. CEO
7. Chairman

In general, the crisis response team will:

1. Define the extent of the crisis
2. Implement communication protocols
3. Designate a spokesperson
4. Determine an appropriate response strategy
5. Provide guidance to the BU
6. Assign Legal Counsel, Investigator, Grief Counselor and offer to coordinate public relations statements with the Owner.
7. Monitor the response efforts
8. Evaluate the effectiveness of the plan and team activity after the crisis has passed

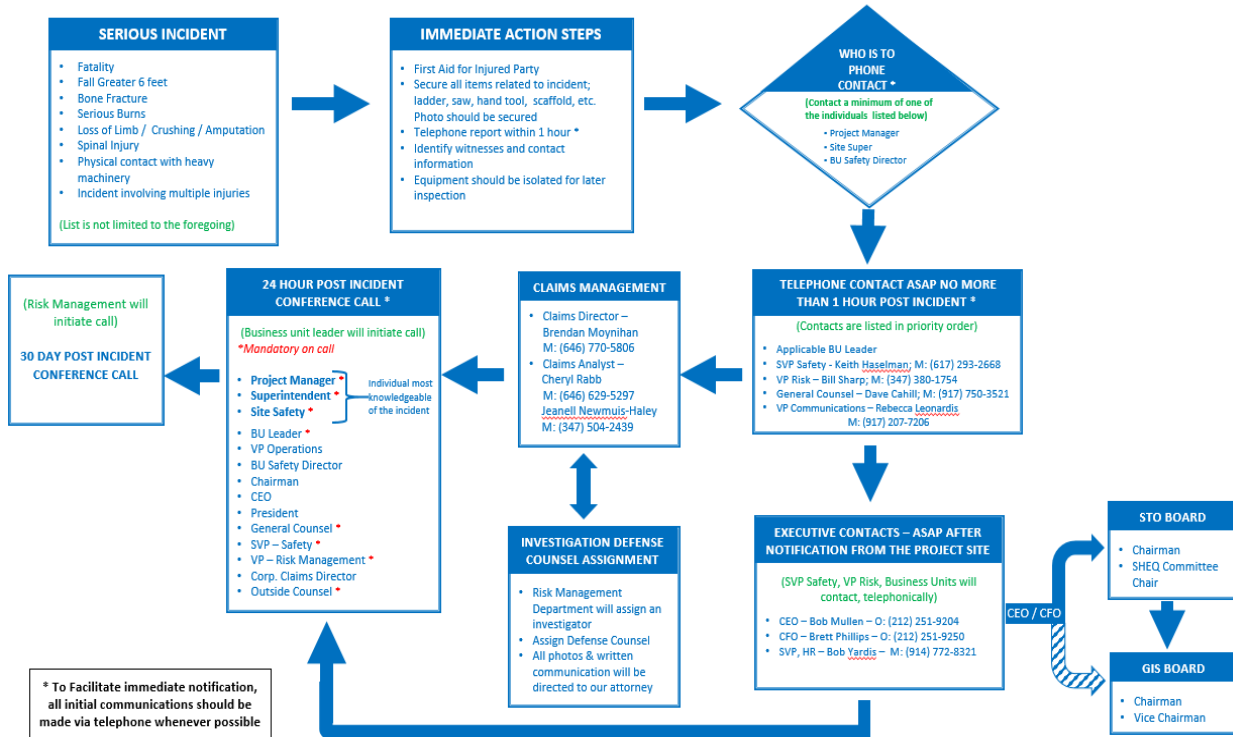
Chain of Communication:

Upon completion of initial response to an incident and the incident scene has been secured, the Project Executive or his designee shall notify the BU Leadership, SVP Corp Safety, VP Risk and General Counsel. They will in turn communicate with the CEO, CFO, SVP Human Resources and VP Communications. The BU Leader or his designee shall notify the client and offer LF Driscoll's help to coordinate Public Relations efforts.

Team Members must be prepared to report the following:

1. Names of persons and companies involved in the incident.
2. Extent of injuries or property damage.
3. A basic understanding and chronology of the event.

SERIOUS INCIDENT COMMUNICATION & ACTION PROTOCOLS



Once communication protocols are completed, the Crises Management Team will advise the Project Leader or his designee of any additional action(s) to take including but not limited to:

1. Additional Notifications
2. Secure evidence
3. Collect Information
4. Take Photographs

Crisis Spokesperson

Regardless of the type of crisis, the initial spokesperson(s) will be a Corporate Executive (Chairman, CEO or President) and / or, if designated the Vice President of Corporate Communication. After initiating the crisis response process, the crisis response team members will determine whom the designated spokesperson should be through the duration of the crisis based upon the type of incident and potential mitigating factors involved. If necessary, identify additional back-up spokespersons (or support personnel) from the project-type and/or geographic region in question. It is **not** recommended that any legal personnel interact with media during a crisis. This will ensure an appropriate opportunity exists for the spokesperson to be able to provide requested information, and that the title of the spokesperson does not send an unwarranted message about the seriousness of the incident. The spokesperson will coordinate comments/statements with LF Driscoll legal counsel prior to interacting with media.

Crisis Response Team Leader

For all crisis incidents, or potential crisis, the CEO or appointee is the crisis response team leader. At any given time, the potential exists for crisis response team members to be dispersed across the country. Given this potential scenario, the crisis response team leader plays a pivotal role in the event of a crisis, initiating the crisis response plan. The responsibility holds true for all types of crises from incidents where the media has yet to be alerted or involved, to those where the crisis has yet to fully manifest itself. Specifically, the crisis response team leader is responsible for:

1. Establishing contact/control at crisis source
2. Convening the crisis team
3. Identifying the spokesperson
4. Alerting the LF Driscoll receptionist(s) and key executive secretaries
5. Providing administrative support to crisis team

Public Relations Component

1. Inform corporate and legal of a potential crisis.
2. Crisis response team leader starts notification process of crisis team members.
3. Crisis response team members assess situation based on available information. Crisis response team members determine designated spokesperson and appropriate response strategy.
4. Inform/bring in other parties (if necessary).
5. Corporate Communication drafts initial media response statement; updates developed as appropriate and develop internal and/or external materials (as necessary).
6. Spokesperson ensures coordination of the LF Driscoll statements with other parties (if necessary).
7. Crisis response team leader informs all team members of crisis status as it unfolds/continues. Spokesperson and/or crisis response team leader informs select individuals/audiences of crisis status (as appropriate).
8. Crisis response team members determine how (and if) news of the crisis' resolution is communicated to appropriate audiences.
9. Crisis response team members determine what post-crisis actions/activities need to be taken to correct perceptions/situation created by crisis.
10. Crisis response team members analyze and evaluate the effectiveness of the crisis response system identifying ways in which to amend and/or improve the process for future incidents.

TELEPHONE INQUIRY RESPONSE

During a crisis, a number of calls will likely be coming into LF Driscoll. Notify all personnel who could be in a position to answer calls or inquiries of the situation immediately and advised how to respond. Receptionist/administrative personnel should not acknowledge that a crisis is occurring. Rather, the standard response should be that: ***“Our spokesperson is not available right now. May I take your name and number and have someone call you back as soon as information is available.”***

If any personnel were pressed for information about a current crisis, an appropriate response would be: ***“I am not the one to make a comment on this issue. I would be happy to take your name and number and have the appropriate person call you back as soon as information is available.”***

It is important to handle each inquiry as efficiently as possible and that a log is to be kept to keep track of who called or stopped by and what information was sought. Specifically, document the following information:

1. The person's name
2. The person's phone number
3. How long they will be at that phone number
4. What the inquiry is regarding

Other questions asked if calls/queries are from media:

1. What station or publication do they represent?
2. What is their deadline?

SAMPLE GENERAL STATEMENT

In most all crises, a statement will be prepared for the spokesperson to use in handling media queries. If a response is needed before a formal statement is prepared, the spokesperson can simply make a general statement to indicate the stage of the process, such as: ***“We are in the process of gathering facts to determine precisely what has occurred. We will provide more information as it becomes available.”***

NOTE: Record names and phone numbers in the event a return call is necessary/ warranted.

NOTIFICATION OF EMPLOYEE'S NEXT OF KIN

LF Driscoll is concerned about the health and welfare of all its employees and subcontractors. Notify Human Resources of the event. In the event of a serious or fatal incident, the speed with which an employee's family is informed, and the way in which it is done can help ease the pain and afford some level of comfort or support when it is needed most. Please keep in mind that others will know how the employee's family is treated in an emergency.

Absolutely no discussion with media should take place until the employee(s) next of kin or emergency contact has been notified.

SECTION 12: SITE SPECIFIC SAFETY PLAN

INTRODUCTION

The purpose of a Site-Specific Safety Plan (SSSP) is to provide for the systematic identification, evaluation and prevention or control of general workplace hazards, specific job hazards and potential hazards that may arise from foreseeable conditions on any project. A SSSP plan defines respective project and site employee responsibilities, participation in the program, and individual activities required by each. The coordinated, cooperative approach shall minimize labor and monetary losses and help all site employees to comply with all current laws and regulations.

This management plan establishes the duties and responsibilities of the field supervisory staff, as well as the basic procedures followed by each site employee. The regulations and objectives are to help assure the health and safety of each site employee, their fellow workers, all persons authorized to be on the job site, and the public. In the preparation of this management plan, every effort is made to be complete, yet practical. It is the explicit intention of the project management team that each program, policy, and procedure described in the SSSP be comprehensive and compliant with all applicable current laws to the best of their ability. The project management team, subcontractors and all site employees shall apply them to the daily work processes on the project.

It is possible that a process or requirement on any job site may not be completely addressed, or that a new process or requirement may be encountered. In such conditions, it is understood that prior to performing the related work activities each new situation shall be addressed by immediately referring to and applying local, state, and/or federal laws governing the situation for site employees. Rights and responsibilities go hand in hand. No project site employee shall ever intentionally expose any worker to an unsafe condition or observe actual or possible exposure without reporting the instance to his or her supervisor as soon as possible. Site employees are expected to develop their own commitment to safety and health protection for themselves and for their fellow workers. Any site employee who does not comply with the project safety policy, or who is persistently negligent in his or her responsibilities may be subject to disciplinary action or dismissal.

A Site-Specific Safety Plan shall be developed and implemented for:

1. Core and Shell projects
2. Large interior projects
3. Healthcare facilities
4. When required by contract

SECTION 13: SITE LOGISTICS

Activities on construction projects frequently create safety hazards for the public and strong, positive steps must be taken to control such hazards and to reduce our exposure to liability claims. Therefore, before the start of the project, the LF Driscoll project team shall review the work ahead to determine hazards to the public that may arise during the course of the work and identify required controls to protect the public. As work on the project progresses, the Project Team shall continually review the work to identify new hazards that may arise and implement new controls as required. During the life of the project inspect and maintain all items installed for public safety. The Project Team shall enforce all requirements for public protection with subcontractors where their work creates safety hazards for the public.

Public protection shall conform to all local codes as well as the following requirements:

Fences:

1. All construction projects shall be fenced at all open perimeters to prevent unauthorized or inadvertent entry by the public.
2. Where construction material may tend to splash or fly into public areas, the fence shall be constructed of solid material such as plywood, and be free of openings which might permit the passage of the materials.
3. Fences shall be free of projections such as protruding nails, etc., upon which the public may become snagged, impaled, or bump into.
4. Fences shall be free of projections that may present tripping hazards to the public.
5. Areas on the public side of fences shall be kept free of debris and construction materials.
6. Bases and support members of fences shall be so constructed as to prevent accidental displacement of the fence by high winds or if struck by construction vehicles.
7. Openings in fences for the passage of construction vehicles and employees shall be equipped with gates incorporating the same safety features required for fence construction.
8. Equip gates with locking devices keep closed during work hours and locked during non-working hours.
9. Where the erection of fences is not immediately feasible due to the nature of the work, or where fences must be temporarily taken down to facilitate the work, alternate protection such as barricades shall be provided.
10. Gates should swing inward as to not create a hazard to oncoming pedestrian and vehicular traffic.

Canopies:

1. Sidewalk canopies or covered walkways erected in public ways shall be constructed according to local codes.
2. Bases and support members of canopies shall be so constructed as to prevent accidental displacement by high winds or if struck by construction vehicles. Consider jersey barriers as a base for overhead canopies adjacent to vehicular traffic.
3. Temporary walkways constructed under canopies shall present a smooth and stable walking surface, free of excessive deflection and tripping hazards.
4. Canopies and covered walkways shall be lighted in accordance with local codes.
5. Maintain lighting in working order at all times.
6. Walkways under canopies shall be kept free of debris, construction materials, projections, and tripping hazards.
7. Canopies are not to be used for the storage of construction materials or equipment unless designed, stamped and approved by a registered engineer.
8. Canopies are not used as work platforms unless approved by the Superintendent.
9. When used as a work platform, all open sides of the canopy shall be protected with a standard guardrail installed in compliance with OSHA regulations.
10. A ladder shall be used to provide access to the platform.
11. If the installation of a guardrail is not feasible, employees shall be fall protected.
12. Fences attached to canopies shall comply with requirements under the section for fences above.

13. Where employees entering or leaving buildings or structures under construction are exposed to overhead hazards, access to the building or structure shall be limited to areas provided with overhead protection of planking, 3/4 inch plywood or equal (check local codes).
14. Construct canopies with a four-foot parapet.

Project Signs:

1. Subcontractor shall provide for the prompt and conspicuous posting and maintenance of Danger Signs, Caution Signs and Safety Instruction Signs as required for general use at the project to alert and inform subcontractors and workers of safety hazards and safety rules and regulations.
2. Areas adjacent to gates where construction vehicles are entering and leaving the job site shall be posted with signs warning the public to watch out for trucks and other vehicles.
3. All doors, gates or other points of entry from occupied areas into construction areas shall be posted with warning signs. Signs may state **“DANGER: CONSTRUCTION AREA,” “KEEP OUT,” “AUTHORIZED PERSONNEL ONLY,”** etc.
4. Where blind spots may exist for pedestrians or motorists along fences, under canopies, at approaches to driveways or gates where construction vehicles are entering or leaving the job site, appropriate warning signs shall be posted to warn the public of the hazard. Strategic placement of Plexiglas mirrors will help both pedestrians and vehicles through potential blind spots.
5. Post project signage in accordance with local jurisdictions.
6. Post safety 360 signage throughout the project. Ensure posters are changed regularly and are relevant

SECTION 14: SIGN POSTING

REFERENCES:

[29 CFR Subpart G – Signs, Signals, and Barricades](#)

1. Also, see Site Logistics in this manual.
2. All LF Driscoll job sites will have the proper accident prevention signs as outlined in the OSHA Standard Sub Part G 1926.200. Accident prevention signs are to define specific hazards and prevent accidental injury to workers, public and property. Accident prevention signs will be strategically placed, maintained and visible at all times when work is being performed and shall be removed or covered promptly when the hazard no longer exist.
3. **Sign Types:**
 - a. **Danger Signs:** Use red as the predominant color and used only where an immediate hazards exist. Inform all employees that danger signs indicate immediate danger and that special precautions are necessary.
 - b. **Caution Signs:** Shall have yellow as the predominating color and used to warn against potential hazards or to caution against unsafe practices. Inform all employees that caution signs indicate a possible hazard and take proper precaution.
 - c. **Exit Signs:** Shall have red letters and white field and placed strategically indicating where the main egress point is located. Exit signs should be placed in corridors as the walls on the project are erected.
 - d. **Safety Instructional Signs:** Shall be white with green upper panel and shall be used where there is a need for general instructions and suggestions relative to safety measures.
 - e. **Traffic Signs:** Post where visible to vehicular traffic and in compliance with local and state traffic regulations.

SECTION 15: TRAFFIC CONTROLS

REFERENCES:

[23 CFR 630 Subpart J – Work Zone Safety and Mobility Policy](#)

[Highway Work Zones and Signs, Signal, and Barricades](#)

[23 CFR Part 655 Subpart F - Manual on Uniform Traffic Control Devices \(MUTCD\)](#)

1. Each employer shall assign trained personnel as a flagger to direct vehicular traffic under their control.
2. Such personnel shall be instructed in the proper procedures of traffic controls per local laws.
3. Where construction vehicles entering or leaving the jobsite are required to perform unusual maneuvers in the public way, which may interrupt the normal flow of pedestrian or other vehicular traffic, one or more flagger as required, shall be used to safely control the traffic.
4. In all cases, where construction vehicles enter or leave the job site by backing up, a flag person shall be used to safely control pedestrian and other vehicular traffic.
5. Construction vehicles backing up on the job site shall be equipped with back-up alarms or have a flagger in attendance.
6. Construction vehicles entering or leaving the job site shall travel at reduced speeds commensurate with safety for pedestrians and other vehicular traffic.
7. All construction operations involving workers, construction vehicles, and equipment in the public way, which are not static or fixed, but are changing or fluid, shall be attended by one or more flaggers as required to safely control pedestrians and other vehicular traffic around the operations.
8. All construction operations involving workers, construction vehicles, and equipment in the public way, which are fixed or static, shall be protected by one or more of the following traffic control devices as required to safely control pedestrians and other vehicular traffic around the operations:
 - a. Warning signs
 - b. Barricades
 - c. Flashing Light Signals
 - d. Warning Flags
 - e. Traffic Lane Cones
9. Signs and lights shall be placed well ahead of construction operations to allow pedestrians to heed the warnings. Flags, Barricades and Traffic Lane Cones shall be so placed as to create clearly defined lanes of traffic to permit the safe flow of traffic.
10. In all cases where flaggers control pedestrians and vehicular traffic, they shall receive instructions in the type of work, traffic controls required, and proper signaling of traffic.
11. Flaggers shall wear high visibility PPE and use a flag to signal traffic.
12. Where construction operations take place in pedestrian walkway or create safety hazards over pedestrian walkways, the walkway shall be closed, and pedestrian traffic routed to safe, alternate walkways.
13. Close walkways with barricades and warning signs clearly posted at the points of closure, warning of the hazard and clearly indicating the alternate walkway.
14. Consult with the local department of transportation to change street striping, lane changes or lane closures.

a. FLAGGER PROCEDURES

REFERENCES:

[23 CFR 630 Subpart J – Work Zone Safety and Mobility Policy](#)

[Highway Work Zones and Signs, Signal, and Barricades](#)

[23 CFR Part 655 Subpart F - Manual on Uniform Traffic Control Devices \(MUTCD\)](#)

[American Traffic Safety Services Association - www.flagger.com](http://www.flagger.com)

1. Flaggers shall be trained, at a minimum, in all items listed.
2. Flaggers shall wear high visibility reflective vest in compliance with local jurisdictions
3. Flaggers shall use a red or orange (check with state regulations) 24" X 24" flag to signal traffic
4. Flaggers using STOP/SLOW paddle, the paddle must be:
 - a. Octagonal in shape
 - b. 18-inch minimum size STOP sign on one side
 - c. Diamond-shaped SLOW sign on opposite side
 - d. Both sides retro-reflective
 - e. 72-inch staff (minimum)
5. Flagger shall use their free hand to direct traffic
6. Work zone should be set up with four components:
 - a. Advance warning area
 - b. Transition area
 - c. Activity area
 - d. Termination area
7. Never stand in front of traffic to direct vehicles to stop
8. Always face traffic
9. During hours of darkness, illumination of flagger station is required
10. Never walk behind equipment that is backing up
11. Always maintain eye contact with the driver who is backing up
12. Keep intersections clear
13. Coordinate all construction traffic with traffic signals
14. Yield to all emergency vehicles
15. Circle construction vehicles around the block until access is available
16. Get help if additional flaggers are required
17. Communicate your problems/concerns to your supervisor and the LF Driscoll safety representative on site
18. Be courteous
19. Keep alert for pedestrians and handicapped persons
20. Use common sense
21. Each jobsite should modify these procedures to meet site-specific needs
22. Flaggers must not:
 - a. Give mixed signals
 - b. Use profanity or rude gestures
 - c. Take chances

b. WORKING OVER OR NEAR WATER

REFERENCES:

[29 CFR 1926.106](#)

1. Provide to employees working over or near water or where the danger of drowning exists, a U.S. Coast Guard-approved life jacket or buoyant work vests.
2. Prior to and after each use, inspect the buoyant work vests or life preservers for defects that would alter their strength or buoyancy. Do not use defective units.
3. Ring buoys with at least 90 feet of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet.
4. At least one lifesaving skiff shall be immediately available at locations where employees are working over or adjacent to water.

SECTION 16: ENVIRONMENTAL MANAGEMENT PLAN

REFERENCES:

[EPA Construction Industry Compliance Assistance Center](#)

[OSHA Publication – Globally Harmonized System \(GHS\)](#)

[OSHA Publication - Guidance For Hazard Determination](#)

[29 CFR 1926.65 and Related Appendices – Hazardous Waste Operation and Emergency Response](#)

1. The purpose of LF Driscoll's Environmental Management Plan is the prevention of construction related environmental incidents or exposures to our employees, the employees of our sub-contractors and any of their sub-contractors or vendor employees, the owner's employees, the general public, property or building damage on jobsites controlled by LF Driscoll
2. This plan applies to all construction related work activities contracted to and/or controlled by LF Driscoll.
3. The objectives of this environmental management plan are:
 - a. Implement and enforce Safety, Health and Environmental Policies and Procedures that will minimize the impact of construction activities on LF Driscoll jobsites, LF Driscoll employees, their sub-contractor employees and the general public.
 - b. Conduct regular jobsite inspections on each project to ensure compliance with LF Driscoll environmental environment plan.
 - c. Staff all LF Driscoll jobsites with a LF Driscoll Superintendent who is aware of and trained to recognize potential environmental hazards associated with typical construction activities.
 - d. Conduct monthly safety and health inspections to ensure overall compliance with LF Driscoll, local, state and federal regulations, policies and procedures.
 - e. Ensure all contractors working on LF Driscoll jobsites are advised of this management plan and understand the potential impact of their construction on the overall jobsite, other employees and the public.
4. Before any renovation, demolition of an existing building, or excavation of a new building, an initial assessment must be completed by an environmental consultant to determine what, if any, environmental hazards are present. A detailed report and test results of the environmental hazards associated with the property must be forwarded to LF Driscoll prior to mobilization. The environmental hazard statement must be made available to all LF Driscoll lower tier sub-contractors and employees and shall include the exact location and nature of the hazards as well as the owner's abatement plan.
5. Any project with construction adjacent to occupied spaces must consult with the LF Driscoll Safety Department and/or an environmental consultant to develop an action plan to properly maintain a separation between occupied spaces and the jobsite. Recommended procedures include maintaining negative pressure within the construction space, tightly sealed separation, door sweeps, wet removal of building materials, etc.
6. Any time an environmental issue arises on a jobsite contact the LF Driscoll Safety Department and complete and submit an Incident/Accident Report.
7. A Site-Specific Plan should be developed by the Project Manager for any jobsite with known environmental hazards.
8. When working in occupied buildings, such as healthcare facilities or laboratories a request for environmental clearance must be obtained from the owner before the start of work.

a. ENVIRONMENTAL PLANS AND PROCEDURES

1. An initial hazard survey shall be conducted and reviewed during the pre-bid phase of the project.
2. A site-specific hazard assessment shall be conducted by an environmental consultant to identify the nature and location of anticipated environmental hazards.
3. The Safety Department shall be notified as soon as possible and included in the development of a site-specific environmental plan.
4. The services of an outside consultant may need to be obtained to assist in the hazard identification and abatement plan.
5. The site-specific environmental plan should include:
 - a. Site survey data
 - b. Identified hazard areas
 - c. Written abatement plan
 - d. Procedures for encountering unexpected hazards
 - e. Procedures for workers not involved with the hazard
 - f. Training and information distribution on the site
6. Conduct meeting with workers, union leaders, subcontractor representatives and safety personnel to inform any individuals associated, in any manner, with the jobsite of the known hazards, the procedures for hazard abatement and procedures for encountering unexpected environmental hazards.
7. LF Driscoll Safety Department will inform Environmental Insurance Carrier as soon as possible when encountering an environmental hazard.
8. Maintain open lines of communications with all parties to allay unnecessary concerns (including the community if necessary).
9. Determine the criteria for the implementation of a Return to Work Plan.
10. Be sure that all documentation is thorough for future reference.
11. Adjust the Plan as needed for each jobsite.

b. ENVIRONMENTAL ISSUES ON A TYPICAL CONSTRUCTION SITE

Environmental Issue	Areas Found	Procedure to follow if found
Asbestos (Friable and Non-friable)	<ul style="list-style-type: none"> • Pipe and boiler insulation • Ceiling/floor tiles • Wallboard/wall shingles • Exterior roof material • Trowelled-on surfacing, i.e. fireproofing, plaster materials • Unknown fire materials • Pipe gaskets • Transite material <p>Found mostly in buildings built prior to 1970-72</p>	<ul style="list-style-type: none"> - While working in building with asbestos containing material, all material that is suspect must be presumed to contain asbestos until otherwise determined by a Certified Asbestos Inspector. - If Asbestos containing material has been accidentally disturbed, stop work immediately and isolate the suspected area until testing results show the area to be clear. - Material that is presumed to contain asbestos will be considered to be asbestos and must be properly abated by a certified asbestos abatement contractor. - The only exception would be a building that has been certified asbestos free by a certified building inspector. - If the asbestos has been encapsulated or enclosed, these areas must be identified and properly labeled. All work on or near asbestos that has been encapsulated or enclosed must be closely coordinated with the owner. - Random air samples (both area and personal) might be required to assure continued compliance. If positive results are shown, stop until action plan is developed and completed. - If Asbestos Containing Material is present all OSHA, EPA, Local and State regulations will be followed.
Contaminated Soils (i.e. – PCBs, Volatile Organic Compounds, Metals such as Lead, Mercury and Arsenic)	<ul style="list-style-type: none"> • Soils surrounding underground storage tanks • Ground surface subject to infiltration by chemicals, oils spills, infectious waste, unknown substances • Sand waste used to remove lead containing paint 	<ul style="list-style-type: none"> - If during excavation, any soil shows new indication of contamination, all work must be stop until otherwise advised to continue by an Environmental Consultant and/or the owner. - All found contaminated soil must be properly handled and disposed of in accordance with local/state/federal guidelines.
Dust and debris	<ul style="list-style-type: none"> • Demolition 	<ul style="list-style-type: none"> - The best practice for control of dust from becoming an issue is to ensure all work is done using a water mist. - If work cannot be done wet, an action plan must be developed to contain dust the while the work is being done. - Consider the use of negative pressure and HEPA-filters.
Raw Sewage	<ul style="list-style-type: none"> • Existing building piping system • Excavation with unknown or unexpected sanitary sewer 	<ul style="list-style-type: none"> - Precautions shall be taken to prevent exposure to raw sewage - Employers who have employees with a potential exposure on regular basis shall have a blood borne pathogen program and ensure workers are wearing proper PPE and offer the Hepatitis B Vaccination.

Environmental Issue	Areas Found	Procedure to follow if found
		<ul style="list-style-type: none"> - Employers whose employees have had an unexpected exposure shall complete an assessment and will be required to offer Hepatitis B Vaccination and Post-exposure Evaluation and Follow-up - Develop a clean-up plan
Lead Containing Paint	<ul style="list-style-type: none"> • Painted surfaces both interior and exterior • Lead-acid batteries • Lead lined sheet rock <p>Banned from paint products in 1978</p>	<ul style="list-style-type: none"> - Before alterations, sanding or grinding of any painted surfaces in building renovation jobs which might have painted surfaces containing lead, a determination must be made by a certified lead inspector or a certified lead risk assessor, that the area is “free of lead-based paint”. Stop work in the area and isolate the suspected area. - Certified Lead Inspector should take both bulk and/or wipe samples for laboratory analysis or conduct X-Ray Fluorescence (XRF) field test. - All material found to contain lead must be handled and disposed of in accordance with local and state guidelines. - If lead is suspected, all OSHA related standards must be followed until testing results are negative.
Magnetic Fields	<ul style="list-style-type: none"> • Magnetic Resonance Imaging (MRI) • Magnetic sources for MRI 	<ul style="list-style-type: none"> - Not an environmental hazard but could be an occupational hazard for any employees with a pacemaker, who have had eye injuries with ferrous material, or with metal body plates of any sort. - All metal jewelry, debit/credit cards, and electronic devices must be removed prior to working around magnetic fields. - Be sure area is clearly marked with signage and that workers are aware of the hazards.
Mercury	<ul style="list-style-type: none"> • Thermometers • Thermostats • Mercury Vapor Lamps • Florescent light bulbs 	<ul style="list-style-type: none"> - Any building material that is suspected to contain mercury must be properly disposed of in according to local or state guidelines. - Building fixtures that contain or could possibly contain mercury must be removed intact and stored in approved waste collection containers for proper disposal. - For Spill clean-up procedures contact the owner’s Safety and Health Department and/or LF Driscoll’s Safety Department.
Mold (Found in renovation jobs which building material is going to be removed)	<ul style="list-style-type: none"> • Any areas where there is moisture from existing leaks or previous leaks within a building. • Wall board (drywall) • Insulation • Ceiling tile • Fire proofing material • Any porous organic material (paper, wood, rug fibers) 	<ul style="list-style-type: none"> - The first step in stopping mold is to identify and abate the source of water infiltration. -In areas where mold is suspect, all building materials should be removed if possible. - Where all building material cannot be removed, an environmental consultant should be brought in to help determine the extent of the mold and what steps should be taken to eliminate the mold issue.

Environmental Issue	Areas Found	Procedure to follow if found
Mold (Found in new construction materials)	<ul style="list-style-type: none"> • Normally found in jobs that are not water tight • Wall board (drywall) • Insulation • Ceiling tile • Fire proofing material • Any porous organic material (paper, wood, rug fibers, etc.) 	<ul style="list-style-type: none"> - The best practice of mold control is by ensuring the building is water tight prior to the start the drywall and insulation. - Where maintaining a water tight building is impractical, develop an action plan to keep supplies of building materials off the floor and covered to keep dry, make sure drywall is hung at least ¼ to ½ inch off the floor, use or DensGlass board instead of drywall products, etc. - To help verify a newly constructed building is mold free, an environmental consultant should be brought in during the building process to take moisture readings of building products and advise what procedures need to be taken when mold is in evidence.
P.C. B's (Polychlorinated biphenyls)	<ul style="list-style-type: none"> • Chemicals used in electrical transformers and light ballasts used as cooling agents, common names are Arochlor, Askarel, Inerteen, Chloroxtol, Phyanol <p>Production halted in 1977</p>	<ul style="list-style-type: none"> - Light ballasts and electrical transformers must be considered contaminated with PCB's and properly handled and disposed of in accordance with local/state/federal guidelines until otherwise certified and labeled not to contain PCB's. - For Spill clean-up procedures contact the owner's Safety and Health Department and/or LF Driscoll's Safety Department.
Silica	<ul style="list-style-type: none"> • Demolition • Cutting/coring concrete products • Cutting/coring stone/marble products • Excavation 	<ul style="list-style-type: none"> - The best practice for control of silica dust from becoming an issue is to perform all work wet. - If work cannot be done wet, an action plan must be developed to contain the silica while the work is performed. - Consider vacuum exhaust of area adjacent to saw blade.
Retention Ponds/Lagoons	<ul style="list-style-type: none"> • Landfills 	<ul style="list-style-type: none"> - Prior to the start of a job, a letter involving the hazards associated with the area must be received in writing. - Develop a plan to address known hazards.
Tanks and Drums	<ul style="list-style-type: none"> • Used for storage of fuel oils, gasoline, acids, toxic chemicals, etc. 	<ul style="list-style-type: none"> - All tanks and drums not associated with the construction activities should be removed prior to the start of work by a certified contractor to an approved location. - If during the construction, tanks (underground or above ground) and/or drums are found, stop work and consult with an Environmental Consultant and/or the owner. - All tanks and drums that are determined to have contaminated materials stored in them must be handled and disposed of in accordance with local/state/federal guidelines.

The above chart is a listing of some typical environmental hazards found on construction sites. Please use this chart as a reference. Any questions on this chart or environmental question should be directed to the LF Driscoll Safety Department.

c. LEAD REQUIREMENTS

REFERENCES:

[29 CFR 1910.1025 –Lead](#)

EPA CFR Part 745 Lead: Renovation, Repair and Painting Program for Child Occupied Facilities

1. The OSHA Lead Rule requires the construction industry to take steps to prevent workers from exposure to lead levels greater than 50 micrograms per cubic meter of air averaged over an eight-hour period - weighted average (TWA).
2. Preliminary worker protections are required when workers are exposed to lead levels above 30 micrograms per cubic meter as an eight-hour TWA, such as medical monitoring. Once the exposure level exceeds 50 micrograms, contractors would have to employ more extensive worker protection methods, such as supplying respirators. Until determination of the potential lead exposure, through air sampling, is known, proper personal protective equipment shall be used including respiratory protection.
3. The standard sets the same exposure limit that OSHA uses to protect workers in general industry. Among those likely to be affected by the rule according to OSHA are general contractors who build industrial buildings, warehouses and other nonresidential construction.
4. The EPA standard on the Renovation, Repair and Painting Final rule requires both firms to be Certified and an individual on site to be a Certified Renovator for any buildings likely to be occupied by children under age 6 two days per week for at least three hours.
5. LF Driscoll Safety Department is responsible to:
 - a. Respond to sampling requests or employee inquiries;
 - b. Perform frequent and regular inspections of job sites to help project management team manage lead issues;
 - c. Recommend resources, such as a third-party industrial hygienist firm who will conduct sampling to determine the presence of lead and potential exposure levels;
 - d. Coordinate the training for LF Driscoll employees exposed above the action level;
 - e. Recommend services of licensed lead abatement contractors for Class C work activities.
6. Project Team is responsible to:
 - a. Have a third-party industrial hygiene firm assess conditions and develop a plan of action.
 - b. Notify all subcontractors (who in turn will notify their employees) of a potential hazard
 - c. Notify all site employees of the purpose and intent of this Lead Policy and procedures
 - d. Conduct periodic inspections of job sites to ensure appropriate procedures and work practices are being followed
 - e. Ensure that all employees are trained in the procedures
 - f. Contact Safety Department for lead testing resources
 - g. Disclose the presence of lead to any contractors conducting work activities which will involve the disturbance of lead-based paint surfaces
 - h. Distribute this Lead Policy to contractors, referencing the pertinent sections or writing the pertinent sections of the policy into job specifications; and
7. Employees are responsible for complying with the procedures identified in this policy.
8. Effected Subcontractors are required to comply with the following:
 - a. Contractors and sub-contractors are responsible for complying with the Occupational Safety and Health Administration's (OSHA) Construction Lead Standard 29 CFR 1926.62 and the appropriate sections of this policy.

- b. Subcontractors must determine if any worker is exposed to lead levels above 30 micrograms per cubic meter of air as an eight-hour time-weighted average.
- c. Exposure levels greater than 30 micrograms per cubic meter will require periodic exposure monitoring, biological monitoring (Blood tests) and annual employee training.
- d. When the lead exposure level exceeds 50 micrograms per cubic meter of air as an eight-hour TWA, the permissible exposure limit (PEL), engineering and work practice controls (to the extent feasible) must be implemented.
- e. Provide workers with respiratory protection if exposure limits are not below the permitted limit through engineering and work practice controls, or whenever a worker requests such protection. The rule also requires proper maintenance of respirator evaluation & respirator fit testing.
- f. Subcontractor is responsible to provide protective clothing and equipment to the employee. It must be cleaned, laundered, replaced or repaired as needed when the lead exposure exceeds the PEL.
- g. The rule provides requirements for housekeeping, including vacuuming floors, rafters and other surfaces to prevent accumulation of lead dust. The use of a wet floor scrubber is equally acceptable. Blowing with compressed air is prohibited.
- h. Subcontractors are required to provide hygiene facilities and ensure that workers comply with hygiene practices to reduce lead absorption that accumulates on a worker's body or clothes.
- i. Provide a medical surveillance program to subcontractors under the supervision of a licensed physician. Employee participation is not mandatory.
- j. If a worker's periodic blood test (including a follow-up test) shows a blood lead level at or above 50 micrograms of lead per deciliter of blood, the employee must be removed from the job. Employees with medical conditions that place them at an increased health risk from lead exposure also must be removed from the job. Employees are given up to 18 months of medical removal protection benefits, including maintaining total earnings, seniority and other employee rights.
- k. Workers must be provided with information and training under OSHA's Hazard Communication Standard.
- l. Subcontractors must post warning signs in any work area where leads exposure exceeds the permitted level.
- m. Recordkeeping requirements provide that subcontractors must keep records on exposure monitoring and assessment medical surveillance and temporary medical removals.

d. HAZARDOUS WASTE OPERATION & EMERGENCY RESPONSE (HAZWOPER)

REFERENCES:

[29 CFR 1910.1200 and Appendix – Hazard Communication](#)

[OSHA Safety and Health Topics – Hazard Communication/Foundation Of Workplace Chemical Safety Program](#)

[OSHA Publication #3111 - Hazard Communication Guidelines for Compliance](#)

[OSHA Safety and Health Topics - What is Hazard Communication?](#)

[CDC - NIOSH Pocket Guide to Chemical Hazards](#)

[CDC - Hazard Communication Self-Inspection Checklist](#)

[OSHA Safety and Health Topics – Hazardous and Toxic Substances, Additional Information](#)

[OSHA Safety and Health Topics – Toxic Metals](#)

1. Under OSHA regulation 1910.120, a HAZWOPER (Hazardous Waste Operations & Emergency Response) Program will be in effect **in the event of a chemical or construction material spilled that requires "HAZWOPER Clean up Procedures"**.
2. A Safety Data Sheet (SDS) or Chemical Fact Sheet shall accompany all new materials and chemicals brought onto the site.
3. The subcontractor shall review all new Material Safety Data Sheets and Chemical Fact Sheets.
4. LF Driscoll and the Subcontractors at the site shall:
 - a. Ensure the appropriate first aid supplies and rescue equipment is available in the event of an emergency.
 - b. Ensure all workers designated to use rescue equipment such as respirators, harnesses, air-testing monitors, protective wear such as gloves, boots and suits are trained. Keep written records at the site to document training.
 - c. All subcontractors shall submit a copy of their HAZWOPER Training Records to the LF Driscoll Project Superintendents when required.
5. Clean all construction material and chemical spills as outlined in Section VII of the Material Safety Data Sheet and the Emergency Response Section of the chemical Fact Sheet.
6. Notify appropriate City, State or Federal Governmental Agencies in the event of a construction material or chemical spill.
7. All Federal SARA Title III or Local Right-to-Know Laws, recordkeeping and report filing shall be in compliance.
8. Notify the project O-I-C, Executive, Project Manager, Superintendent and LF Driscoll's Safety Department if any "HAZWOPER Clean Up Procedures" are used.
9. The LF Driscoll Project Superintendent shall complete a written Incident Investigation Report in the event a chemical or construction material is spilled that requires "HAZWOPER Clean Up Procedures". A copy of the Incident Investigation Report shall be sent to the O-I-C, Project Executive, Project Manager, Risk Manager and Corporate Safety Director.

SECTION 17: HAZARD COMMUNICATION PROGRAM

REFERENCES:

- [29 CFR 1910.1200 and Appendix – Hazard Communication](#)
- [OSHA Safety and Health Topics – Hazard Communication/Foundation Of Workplace Chemical Safety Program](#)
- [OSHA Publication #3111 - Hazard Communication Guidelines for Compliance](#)
- [OSHA Safety and Health Topics - What is Hazard Communication?](#)
- [CDC - NIOSH Pocket Guide to Chemical Hazards](#)
- [CDC - Hazard Communication Self-Inspection Checklist](#)
- [OSHA Safety and Health Topics – Hazardous and Toxic Substances, Additional Information](#)
- [OSHA Safety and Health Topics – Toxic Metals](#)

1. Train all LF Driscoll employees in the LF Driscoll Hazard Communication Program. Records of the required training are available at each jobsite.
2. Each Subcontractor is required to have a Hazard Communication Program.
3. Confirm all subcontractor employees trained in his/her employee's Hazard Communication Program with written verification as specified by OSHA.
4. Safety Data Sheets (SDS) must be readily available on each jobsite for the products specifically used on that jobsite.

HAZARD COMMUNICATION WRITTEN PROGRAM

(For LF Driscoll Employees)

1. This program has been prepared to comply with the requirements of the Federal OSHA. Standard 1910.1200 and to insure that information necessary for the safe use, handling, and storage of hazardous materials is provided to and made available to employees of the LF Driscoll.
2. This program applies only to LF Driscoll employees.
3. This program includes guidelines on identification of chemical hazards and the preparation and proper use of containers, labels, placards and other types of warning devices.
4. **CHEMICAL INVENTORY:**
 - a. Each jobsite is to maintain an inventory of all known chemicals purchased by LF Driscoll for use on the site. When purchasing any potentially hazardous materials, it is the jobsite Superintendent's responsibility to secure an SDS sheet with the product from the supplier.
 - b. The SDS sheet of hazardous chemicals brought onto the worksite by LF Driscoll will be included in a separate book.
5. **CONTAINER LABELING:**
 - a. All LF Driscoll chemicals on site will be stored in their original or approved containers with a proper label attached, except small quantities for immediate use. Label even small sprayers or containers to prevent misuse. Identify any container not properly labeled for labeling or proper disposal.
 - b. Workers may dispense chemicals from original containers only in small quantities intended for immediate use. After completion of work, return any chemical to the original container or to LF Driscoll supervision for proper handling.
 - c. Unmarked containers of any size are prohibited.
 - d. LF Driscoll will rely on manufacturer applied labels whenever possible and will assure that these labels are maintained. Containers not labeled or on which the manufacturer's label has been removed will be re-labeled.

6. SAFETY DATA SHEETS (SDS):

- a. Employees working with a potentially hazardous chemical may request a copy of the Safety Data Sheet (SDS). Requests for SDSs should be made to the LF Driscoll project team.
- b. SDSs should be available or readily available via fax on the site to provide immediate reference to chemical safety information.

7. EMPLOYEE TRAINING:

- a. Employees shall be trained to work safely with hazardous chemicals. Employee training will include:
 - i. Methods used to detect a release of hazard chemical(s) in the workplace.
 - ii. Physical and health hazards associated with chemicals.
 - iii. Protective measures to be taken.
 - iv. Safe work practices, emergency responses and use of personal protective equipment.
- b. Information on the Hazard Communication Standard including:
 - i. Labeling and warning systems
 - ii. An explanation of the Safety Data Sheets (SDS).

8. PERSONAL PROTECTIVE EQUIPMENT (PPE):

- a. Required PPE will be available for LF Driscoll employees. Any employee issued Personal Protective Equipment but found in violation of PPE requirements shall be subject to disciplinary actions up to and including discharge.

9. EMERGENCY RESPONSE:

- a. Report any incident of overexposure or spill of a hazardous chemical/substance immediately to the LF Driscoll jobsite Safety Representative.
- b. The foreman or the immediate supervisor will be responsible for insuring that proper emergency response actions are taken in leak/spill situations.

10. HAZARDS OF NON-ROUTINE TASKS:

- a. Supervisors will inform employees of any special tasks that may involve possible exposure to hazardous chemicals.
- b. Review safe work procedures and use of required PPE prior to the start of such tasks. Where necessary, post areas to indicate the nature of the hazard involved.

11. INFORMING OTHER EMPLOYERS:

- a. Other onsite employers are required to adhere to the provisions of the Hazard Communication Standard as required by OSHA.
- b. Exchange information on hazardous chemicals known to be present with other employers upon request. Employers will be responsible for providing necessary information to their employees.
- c. Provide other onsite employers with a copy of LF Driscoll's Hazard Communication Written Program upon request.
- d. Subcontractors are required to maintain a copy of their SDS sheets on site to be available even if they have no employees on site at the time.
- e. Subcontractors are to submit all SDS sheets to LF Driscoll Project Management during the submittal/approval process for record.
- f. In the case where the subcontractor's access to SDSs are from a Fax on demand service, the name, phone number and account number must be available to LF Driscoll and their subcontractors.
- g. Failure to comply will result in breach of contract and dismissal from the jobsite.

12. POSTING:

- a. LF Driscoll has posted information for its employees at this jobsite on the Hazard Communication Standard. More information on the Hazard Communication Standard may be obtained by contacting the Safety Department.
- b. The OSHA requires every employer to have a written Hazard Communication Program describing how the requirements of the standard will be met.
- c. The intent of LF Driscoll's Hazard Communication program is to achieve compliance with the OSHA Hazard Communication Standard and use the procedures for implementation by the Project Superintendent at each project.

13. PROCEDURES FOR HAZARD DETERMINATION:

- a. All chemicals produced or imported in the United States must be evaluated to determine if they are hazardous. Manufacturers and importers are required to perform the evaluations and report the results on Safety Data Sheets (SDS). Subcontractors who are end users of chemicals are not required to evaluate chemicals unless they choose not to rely on evaluation performed by the manufacturers and importers. Information resulting from such evaluation shall be reported on SDS provided to LF Driscoll by suppliers of hazardous chemicals.

14. PROCEDURES FOR MULTI-EMPLOYER WORKPLACES:

- a. To comply with OSHA requirements for the hazardous communication program at Multi-Employer Workplaces, LF Driscoll shall ensure each subcontractor makes available the SDS for the materials used on the site.
- b. LF Driscoll has Safety Data Sheets (SDS) for hazardous chemicals they use or store at this workplace.
- c. The SDS contains information about precautionary measures taken to protect employees from exposure to the chemicals during normal operation conditions and in foreseeable emergencies.
- d. Subcontractors, employees and their designated representatives may review the SDS and Written Hazard Communications Program during working hours in the LF Driscoll field office upon request to the Project Superintendent.
- e. Copies of the SDS and Written Hazard Communications Program will be furnished upon request.

a. GHS LABELS

Chemical labels and Safety Data Sheets are the key sources of information for how to safely use chemicals. All chemical labels and Safety Data Sheets will soon be written to follow the Globally Harmonized System (GHS), a worldwide effort by the United Nations to have common ways to describe chemicals and how to use them safely. With GHS, chemical labels and Safety Data Sheets from manufacturers in many countries will offer the same information in the same format.


ISOPROPYL ALCOHOL 99% ANHYDROUS

UN 1219, ISOPROPYL ALCOHOL

24 Hour EMERGENCY
NUMBER 444/555-6666

NET WEIGHT:
32.00 LBS
14.51 KGS

Danger: Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness and dizziness.



PREVENTION
 Keep away from sources of ignition - No smoking. Avoid contact with skin and eyes. Avoid breathing mist and vapors. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take precautionary measures against static discharges.

RESPONSE
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. **IF ON SKIN (or hair):** Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. **IF INHALED:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Avoid breathing. Wear protective gloves/eye protection/face protection. Wash hands thoroughly after handling.

STORAGE
 Store in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed. Keep away from sources of ignition - No smoking

DISPOSAL
 Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.










Red River Chemicals 4568 Front Street Riverdale, Illinois 44444
 Emergency Phone Number: 444-555-6666

Chemical Labels that are compliant with GHS must have five things:

1. Product Identifier – this gives the name of the chemical, part numbers or other identifiers and the name and address of the manufacturer or supplier.
2. Signal Words that tell us about the hazard level of the chemical. **Danger** is for severe hazards and **Warning** is for less severe hazards. Sometimes there is no signal word, but that does not mean that the product is hazard free.
3. Hazard Statement that describes the type of harm the chemical can cause.
4. Pictograms are symbols that instantly identify the kind of hazard the chemical poses.
5. Precautionary Statements that describe what we need to do to be safe when using the chemical.

PICTOGRAMS

Nine distinct pictograms are part of the Hazard Communication Standard. The pictograms are symbols that show what kind of hazards a chemical has. There can be one or more pictograms on a label depending on the hazards. The pictograms will always be a black symbol on a white background with a red diamond-shaped border.

Health Hazard 	Flammables 	Oxidizers 
Irritant 	Gasses Under Pressure 	Explosives 
Corrosives 	Environmental Toxicity 	Acute Toxicity 

Follow these rules for labeling:

1. Make sure all containers have a proper GHS label
2. If you use workplace labels, make sure that they include the name of the product and information regarding the hazards of the product
3. Replace torn and damaged labels
4. Label smaller workplace containers that have had chemicals transferred into them if they are used during more than one work shift or by more than one employee.

GHS SAFETY DATA SHEETS

Safety Data Sheets are a detailed source of information for learning about how to safely use chemicals. All Safety Data Sheets will soon be written to follow the Globally Harmonized System (GHS), a worldwide effort by the United Nations to have common ways to describe chemicals and how to use them safely. With GHS, Safety Data Sheets from manufacturers in many countries will offer the same information in the same format.

What is on a Safety Data Sheet?

The GHS has established a standard Safety Data Sheet format. It has 16 sections presented in this order.

Section 1 - Product Identification: This section includes the product name, the part number the Chemical Abstracts Service or CAS number, synonyms or other common names for the product, a short product description and the product type. Section 1 also tells what the product is used for and provides the name of the supplier, the supplier name, address and an emergency telephone number.

Section 2 - Hazard Identification: This section provides information on the hazard classification, which includes the GHS signal word (Danger or Warning), one or more pictograms and the hazard statements. Section 2 also details the Precautionary Statements, which include information on Prevention, Response, Storage, Disposal and any other hazards.

Section 3 - Composition and Ingredients: This section identifies the ingredients contained in the product including any impurities and stabilizing additives. The section will show the Chemical Name, Common Names and Synonyms, CAS Number and other unique identifiers.

Section 4 - First-aid Measures: This section shows first aid measures for eye contact, inhalation, skin contact and ingestion. The first-aid section also includes details on immediate and delayed health effects and provides information on when to seek medical help.

Section 5 - Fire-fighting Measures: This section includes recommendations for fighting a fire involving the chemical. Information includes what to do if there is a fire, how to extinguish the fire, what could happen if the chemical burns and what equipment and special precautions firefighters must take.

Section 6 - Accidental Release Measures: This section provides information on what to do if the chemical spills, leaks or is released, how to contain and clean up the released chemical, what emergency procedures to follow and what experts should be brought in to help.

Section 7 - Handling and Storage: This section gives information on safe handling processes, protective measures to take to minimize the risk of the chemical spilling or released and recommendations for safely storing the product.

Section 8 - Exposure Controls and Personal Protection: This section describes the permissible exposure limits to the product, engineering controls needed and what personal protection equipment is required for workers.

Section 9 - Physical and Chemical Properties: This section details the product's physical and chemical properties including information on the product's appearance, color, odor and viscosity. Other important information might be the product's flash point – the temperature that the product will burn; the vapor density – how heavy the vapors are compared to air; the upper and lower explosive limits – the percentage range in air that the product will burn; and the pH – pH below 2 or above 12 can cause burns to skin, clothing and can be corrosive to materials in the work place.

Section 10 - Stability and Reactivity: This section tells if the chemical can be unstable and cause reactions. It defines what reactions can be and what conditions to avoid to prevent reactions.

Section 11 - Toxicological Information: This section describes what health effects that exposure to the product can cause. It defines how the product can get into the body, and the symptoms and effects of exposure.

Section 12 - Ecological Information: This section provides information on what impact the product can have on the environment. It may affect water, air and soil quality.

Section 13 - Disposal Considerations: This section tells how to safely dispose the product, ways to recycle or reclaim the chemical and what to do with used and empty containers.

Section 14 - Transport Information: This section gives information on how to ship and transport the chemical by road, air, rail or sea so it remains stable and properly contained.

Section 15 - Regulatory Information: This section covers any other additional regulatory information that may be required for certain products not covered in any other section of the Safety Data Sheet.

Section 16 - Other Information: This last section will include information such as abbreviations or acronyms used in other sections, it lists when the Safety Data Sheet was created or revised and any important changes from previous versions.

Follow these rules for Safety Data Sheets:

1. Make sure you know where to find a Safety Data Sheet if you need one.
2. Ask a supervisor for a Safety Data Sheet if you do not understand the information presented on the product label.
3. Ask for help if you do not understand how to safely use a chemical after reading the Safety Data Sheet.

SECTION 18: PROJECT SECURITY

(When required)

PURPOSE:

Provide positive identification of authorized personnel and vehicles for access to specific construction areas as required. Designate specific entrance gates, access roads and parking areas for authorized contractor vehicles/equipment, supply vehicles, and personally owned vehicles. Establish procedures for visitor access to construction site. Establish procedures for delivery and removal of equipment/material from construction. Provide additional site-specific security instructions.

IDENTIFICATION (OTHER THAN VISITORS WHEN REQUIRED BY CONTRACT)

Vehicles:

Allow personal vehicles only on routes specified by the owner if required. Transport all personnel from designated parking site(s) to the job site by a Contractor furnished vehicle if the job site is beyond normal walking distance if required. All company vehicles other than construction equipment, e.g., dump trucks, cranes, air compressors, etc., are designated on Contractor vehicle identification form and decals issued. Obtain insurance requirements as per contract documents.

Visitors:

All visitors to the site must have a legitimate business purpose connected with the project and have the specific approval of the owner or its representative to enter the job site. Visitors will report to the designated visitors building adjacent to the job site to register and obtain authorized clearance. Upon clearance, give visitors temporary passes for entry to construction office area. Contractors will furnish hard hats with suitable decals or badges for visitor admittance beyond office areas.

Delivery/Removal of Material:

When a delivery is made to a Contractor or Subcontractor, a standard bill of lading or invoice will be required. This must include the following information:

1. Company to whom the materials, goods, or equipment is being delivered.
2. Description of material, goods, or equipment.
3. Quantity of cargo (pieces, feet, tons, drums, etc.).
4. Project or building destination of the materials.
5. If leased equipment, serial number and means of identification.
6. A copy of this invoice will be furnished to the Security Host at the on-site vehicle gate.

Homeland Security:

Federal jobsites will require lengthy clearance processes to obtain a security clearance from the Department of Homeland Security. Do not underestimate the length of time this may take.

a. ACTIVE SHOOTER

Crisis Response is designed to give employees an understanding of what actions to take during an unforeseen crisis such as an act of terrorism or an active shooter scenario. Individuals must be prepared both mentally and physically to deal with these situations should they arise on our jobsites. This policy is designed to cover both an office setting as well as an active construction site. Quickly determine the most reasonable way to protect your own life. Employees are likely to follow the lead of managers during these situations as they evolve quickly. The following is situation dependent.

EMPLOYEE ACTIONS:

1. Evacuate

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

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

2. Hide out

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

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

To prevent an active shooter from entering your hiding place:

- a. Lock the door
- b. Remove the means of access (i.e. pull the ladder up to prevent use to your location)
- c. Blockade the door with heavy equipment / furniture

If the active shooter is nearby:

- a. Lock the door
- b. Silence your cell phone
- c. Turn off any source of noise (i.e. radios, power tools)
- d. Hide behind large items
- e. Remain quiet

If evacuation and hiding out are not possible:

- a. Remain calm
- b. Call 911, if possible, to alert police to the active shooter's location
- c. If you cannot speak, leave the line open and allow the dispatcher to listen

3. Take action against the active shooter

As a last resort, and only when your life is in imminent danger, attempt to disrupt and/or incapacitate the active shooter by:

- a. Acting as aggressively as possible against him/her
- b. Throwing items and improvising weapons
- c. Attack en masse whenever possible (safety in numbers)
- d. Yelling

e. Committing to your actions

4. Responding when law enforcement arrives

- a. Remain calm, and follow officers' instructions
- b. Put down any items in your hands (i.e. bags, tools, jackets)
- c. Immediately raise hands and spread fingers
- d. Keep hands visible at all times
- e. Avoid making quick movements toward officers such as holding on to them for safety
- f. Avoid pointing, screaming and/or yelling
- g. Do not stop to ask officers for help or direction when evacuating, just proceed in the direction from which officers are entering the premises

5. Information to provide to law enforcement or 911 operator

- a. Location of the active shooter
- b. Number of shooters, if more than one
- c. Physical description
- d. Number and type of weapons used
- e. Number of potential victims at the location

Based on the location of the shooter and the location of employees in the building, either a finished building or active construction site, it may be impossible to evacuate. If the shooter is a fellow employee and is aware of the access points for egress from the building, he/she may be merely waiting for people to leave. In those instances, best practice is to remain in place, deny access to your location (if possible), barricade and notify the authorities.

SECTION 19: UTILITY SHUT-DOWN PROCEDURES

1. Utilities include all mechanical, plumbing, or electrical services within a facility and incoming services to a facility. Examples are electrical, HVAC systems, natural gas, medical gas and vacuum system, laboratory gas supply systems, sewer, storm water plumbing, domestic and fire protection water supply, fire suppression systems, elevator service, nurse call systems, fire detection systems, intercom and telephone systems.
2. Submit all shut down requests in writing using the Request Form, or the owner request form, as specified by the jobsite superintendent.
3. Follow owner shutdown procedures which will take precedence, if applicable.
4. After the utilities are shut down, proper lockout/tagout procedures are to be followed. (See Lockout/Tagout section of this manual).
5. In occupied buildings or partially turned over buildings where securing or energizing utilities will affect the occupied areas, no utilities can be secured or energized without authorization of the owner. In most cases, the owner's representatives are responsible to complete the actual shut down and/or the energizing of utilities.
6. Remember, the owner owns his own systems.
7. We need to locate and test all isolation valves in advance. In occupied buildings, this process should be scheduled for after hours
8. Prior to any work, that may accidentally interrupt live systems, (mechanical, electrical, sewerage, hydraulic, pneumatic, etc.); the Project Superintendent shall review and coordinate the work with the representative utility company, authority or Local Municipal Agency and with trades doing the work. Implement proper safeguards as required to prevent accidental interruption of such systems. Work requiring review and safeguards may include demolition and any blind penetration of floors, walls and ceilings.
9. Identify, locate and verify all live systems whether they are mechanical, electrical, sewerage, hydraulic, pneumatic, etc.
10. Follow LO/TO procedures for re-energization.

SECTION 20: POWERED INDUSTRIAL TRUCKS

REFERENCES:

[29 CFR 1926.602](#)

[29 CFR 1910.178](#)

1. Powered industrial truck equipment such as fork lifts, lulls, petty-bone lifts, on construction site require operator training in accordance with 1910.178(I). The term powered industrial truck is defined in the American Society of Mechanical Engineers, ASME B56.1 (formerly the ANSI B56.1 standard) as a "mobile, power propelled truck used to carry, push, pull, lift, stack, or tier material." Consider prime movers and powered buggies to be industrial trucks.
2. Only trained personnel may operate a powered industrial truck. The subcontractor must submit to LF Driscoll a copy of the training and/or license.
3. Electric equipment is required inside buildings. Use of diesel or propane fueled engines requires pre planning and MOP. Scrubbers & maintenance records are required. Area to be adequately exhausted and air monitored by subcontractor.
4. Mechanical equipment used on interior spaces shall require a listing and description of all proposed equipment to be used, including the scope of equipment work and positioning of equipment on the existing structure. The subcontractor shall provide a description of equipment to include calculations by a registered design professional signed, sealed, and submitted to LF Driscoll showing the adequacy of the existing structure to support loads imposed by such equipment. If more than one piece of equipment is proposed to be used at the same time, the effect of the simultaneous loads imposed on the existing structure shall be described and investigated.
5. Lift trucks, stackers, etc., shall have the rated capacity clearly posted on the vehicle to be clearly visible to the operator.
6. No modifications or additions, which affect the capacity or safe operation of the equipment, to the equipment allowed without the manufacturer's written approval.
7. If two or more trucks working in unison lift a load, the proportion of the total load carried by any one truck shall not exceed its capacity.
8. All high lift rider industrial trucks shall be equipped with overhead guards.
9. Wear seat belts at all times.
10. Inspect all powered equipment in accordance to the manufacturer's recommendation.
11. Do not permit unauthorized personnel to ride on powered industrial trucks.
12. Protect all moving parts from accidental contact.
13. Fuel equipment in areas away from open flames and areas not vapor sensitive.
14. When working near edges, install wheel stop protection to prevent the vehicle from driving off the floor.
15. Be aware of workers on foot especially at blind corners.
16. Assess the following:
 - a. Floor surfaces and/or ground conditions where the vehicle will be operated
 - b. Composition of probable loads and load stability
 - c. Load manipulation, stacking, unstocking
 - d. Pedestrian traffic
 - e. Narrow aisle and restricted place operation
 - f. Operating in classified hazard locations
 - g. Operating the truck on ramps and other sloped surfaces that would affect the stability of the vehicle
 - h. Other unique or potentially hazard environmental conditions that exist or may exist in the workplace
 - i. Operating the vehicle in closed environments and other areas where insufficient ventilation could cause a buildup of carbon monoxide or diesel exhaust.

SECTION 21: EARTHWORK, EXCAVATIONS AND TRENCHING

REFERENCES:

[29 CFR 1926.650 – 29 CFR 1926.652 and Appendix “A” thru “F” – Excavation](#)
[29 CFR 1926 Subpart P – Appendix F/Selection of Protective Systems](#)
[Standard Interpretations - Registered Professional Engineer Approval Requirements \(Combination Trench Shield/Sloping System Trenches with A Depth Greater Than 20 Feet.](#)
[Standard Interpretations - Permissibility of Using Average Excavation Depth To Determine Protective System Requirements For The Excavation](#)
[OSHA Construction eTool – Trenching and Excavation](#)
[OSHA’s Hazard Exposure and Risk Assessment - Trenches and Excavations](#)
[OSHA Directives - Inspection Procedures for Enforcing the Excavation Standard, 29 CFR 1926, Subpart P](#)
[OSHA Safety and Health Topics – Trenching and Excavation](#)
[OSHA Fact Sheet – Trenching and Excavation](#)
[OSHA Publication #2226 - Excavation](#)
[OSHA Construction Safety & Health Outreach Program – Excavation](#)
[OSHA Technical Manual - Excavations: Hazard Recognition In Trenching And Shoring](#)

1. A pre-planning meeting is required for all excavation work exceeding 5'-0" in depth. Proper sloping, benching, shielding or shoring required in all trenches exceeding 5'-0" and for any trench less than 5'-0" when a cave-in potential exists and before employees are permitted to enter.
2. The subcontractor's competent person is to determine the soil type for identification of the proper protective system. If a variation is requested, a registered professional engineer is to approve the protective system in writing.
3. Before employees enter any excavation, it must be inspected a minimum of daily, more frequently if conditions warrant, by the subcontractor's competent person.
4. The Subcontractor is responsible to identify all underground utilities via One Call system or a private locator. On private property, the services of a private contractor may be required.
5. JHA is required for all excavations not requiring a full pre-planning meeting.
6. During excavation, especially in critical utility areas, Subcontractors are required to have a competent person at the top of the trench or Excavation (trench is a subset of excavation) as a standby at all times to identify hazards, such as changing soil conditions, and stop work.
7. Wear seat belts at all times.
8. Depending on the situation, OSHA may consider any excavations 5'-0" or greater, caissons, and underpinning pits confined spaces requiring air monitoring, full-body harness, full time standby and rescue pre-planning. Plan accordingly.
9. Identify all excavations less than 6'-0" deep with danger tape as a minimum; greater than 6'-0", by orange fencing or standard handrail as needed. Protection must be commensurate with hazard.
10. Ladders or ramps are required for trenches greater than 4'-0" for egress no further than 25'-0" apart.
11. Workers exposed to vehicular traffic shall wear high visibility vests.
12. Obtain street closures and permits from the subcontractor before start of work when required.
13. Trained flaggers are to coordinate truck egress off and on the site.
14. Truck wash station required as needed.
15. Dust control required as needed.
16. Backup alarms are required on all construction vehicles and/or the use of a spotter.
17. Assess de-watering before the start of work and implemented as required.
18. Review adjacent structures for structural stability and documented in writing. Photographs by a professional photographer of adjacent properties are recommended.

19. A registered engineer shall approve protective systems not specified by OSHA or manufacturer tabulated data.
20. When utilizing water removal equipment, a competent person shall be present while workers are in the trench.
21. Where protective system (OSHA specified sloping or benching in 1926 Subpart P, Appendix B) cannot be maintained, implement a comparable system.
22. Materials and equipment used for protective systems shall be free from damage and defects that might impair their structural integrity.
23. Utilities and especially electric and gas lines shall be identified and protected from damage.
24. Protect employees from loose rock or soil.
25. Train employees in hazards associated with excavation work per OSHA.
26. Follow EPA/DER requirements per local authorities.
27. Analytical Lab Soils testing may be required if necessary.
28. Hand digging is required in the areas of anticipated or known underground utilities.
29. The tops of sheer walled trenches, such as trench boxes, are to be considered under the six-foot rule.
30. The tops of those trench boxes shall be left up a minimum of 42" or other guardrail systems will be required.
31. Blasting, pile driving, and caissons require a separate preplanning meeting.
32. Fall protect is required at excavations exceeding six feet deep unless sloped or benched appropriately.
33. Workers in trenches or excavations exceeding 5'-0" in depth, observed or discovered after the task, without OSHA compliant systems, will result in the Zero Tolerance Policy.

PILE DRIVING REQUIREMENTS

REFERENCES:

[29 CFR 1926.603 Pile Driving Equipment](#)

[29 CFR 1926.1400 Cranes and Derricks](#)

1. See the Crane requirements in this Manual.
2. Provide stop blocks to prevent the hammer from being raised against the head block.
3. Provide guards across the top of the head block to prevent the cable from jumping out of the sheaves.
4. Provide fixed leads with ladder, and adequate rings or similar attachment points so that the elevated worker may engage his safety harness lanyard to the leads. If leads are provided with platforms, such platforms shall be protected with standard guardrails.
5. Secure pressurized hoses to the hammer with an adequate length of one-quarter (1/4) inch diameter chain or cable to prevent whipping in the event the joint at the hammer is broken.
6. Provide safety chains, or equivalent means, for each hose connection to prevent thrashing around in case the hose coupling becomes disconnected.
7. Keep employees clear when piling hoisted into the leads.
8. Employees working aloft on the mast 6 feet above the ground shall fall protected with a personal fall arrest system.
9. Other ANSI standards may apply as required.

CAISSONS

REFERENCES:

[29 CFR 1926.603 – Pile Driving Equipment](#)

[29 CFR 1926.1400 – Cranes and Derricks](#)

[29 CFR 1926.800 Underground Construction, Caissons](#)

[ANSI A10.16-1995 \(R2001\) Safety Requirements for Tunnels, Shafts, and Caissons](#)

1. There shall be present, at all times, at least one competent person designated by and representing the employer, who shall be familiar with this subpart in all respects, and responsible for full compliance with these and other applicable subparts.
2. The employer shall develop a plan to execute a shaft in an emergency and the procedures to carry out the plan shall be made known to the employees and to the rescue team.
3. Cords and plugs shall be heavy duty and suitable for use in damp locations.
4. A shaft or caisson shall be protected with a guardrail system as prescribed in 29 CFR 1926.502 fall protection systems criteria and practices.
5. A gate opening into the shaft shall be provided and shall be closed at all times, except when necessary to enter or leave the shaft or caisson.
6. Workers inside the caisson guardrail system shall be fall protected by a personnel fall arrest system with adequate anchorage.
7. Drilling equipment that is to be used during a shift shall be inspected each shift by a qualified employee. Defects shall be corrected before the equipment is used.
8. The drilling area shall be inspected for hazards before starting the drilling operation.
9. A rescue plan must be in place.
10. An employee shall not be allowed on a drill mast while the drill is in operations or when the machine is being moved.
11. When a drill is moved from one area to another, drill steel, tools and other equipment shall be secured, and the mast shall be placed in a safe position.
12. An employee who enters a caisson shall be protected by a steel or concrete casing designed by a qualified employee and approved by a registered engineer.
13. A copy of the design specifications of the casing shall be maintained at the jobsite.
14. An employer shall not permit an employee to work below the casing in running or unstable soil.
15. Each employee who is required to enter a caisson excavation shall have a lanyard attached to a body harness and to the load line of a crane.
16. The maximum rate of travel when lowering an employee shall be 100 feet per minute. Free-spooling when lowering employees into a caisson is prohibited.
17. All employees shall be removed from the caisson when material is being hoisted from the caisson.
18. A secondary mechanical means that is capable of removing an employee from the caisson shall be readily available in case the crane performing the caisson work breaks down.
19. A top person shall be stationed at the caisson and shall constantly monitor any employees who are in the caisson.
20. A positive means of communication shall be maintained between employees working in the caisson and the top person.
21. The air quality of a caisson shall be tested and maintained in accordance with SECTION 6: CONFINED SPACE ENTRY PROCEDURE (CSEP).
22. A rescue plan must be in place.
23. Workers inside the guardrail system shall be protected by a personal fall arrest system with anchorage.

BLASTING PROCEDURE

Purpose:

The purpose of this policy is to develop, implement, maintain and enforce safe work practices when working with any level of explosive material. Due to the hazardous nature of the use of blasting agents and explosive materials planning is of utmost importance to protect workers during these operations. This policy outlines the requirements for a site-specific blasting plan to achieve worker safety during these operations.

General Requirements:

1. Subcontractor shall develop and implement a site-specific blasting plan according to the specifications of this policy. The written plan must be maintained on site and conform to 29 CFR 1926.900.
2. The proper explosive permits will be obtained, and notification to local authorities including the fire marshal and/or governing agency will occur.
3. Only authorized and qualified employees shall handle or accept delivery of explosives or detonators. Don't allow unnecessary people to be present (within 50 feet) where explosives are being handled.
4. Flammable liquids, fires, smoking/vaping, matches, and any other spark or heat producing device shall not be allowed within 100 feet of explosives.
5. Good housekeeping is vital to preventing fires near explosives. No fire shall be fought that may come in contact with explosives. Everyone shall be kept a safe distance from the fire.
6. Any explosives shall be accounted for at all times. The blaster shall keep an accurate, up to date record of explosives and detonators that are delivered, used and removed from the job. Appropriate authorities shall be notified of any loss or theft of explosives or detonators.
7. Handle explosives and detonators carefully so as to prevent damage. Don't place them where they may be exposed to an impact. Damaged items shall not be used. Contact the manufacturer or supplier for safe disposal methods. Explosives shall not be abandoned.
8. Every reasonable precaution, including signs, guards, flagmen, horns, blasting mats, flags and barricades shall be used to ensure public and employee safety. Warning signs shall be posted around the circumference of the blasting area.
9. Adequate signs, warning against the use of mobile radio transmitters shall be displayed on all roads with-in 1,000 feet of blasting operations.
10. Blasting shall only be done during daylight hours.
11. Special precautions in the loading, delaying, initiation and confinement of blasts shall be taken, when blasting near buildings, railways, roadways, utilities or any other public area.
12. Blasting shall not be done near overhead power lines or other utility structures until the owners have been notified and safe control measures have been taken.
13. Explosives shall be fired with an electric blasting machine unless stray electricity or overhead power-lines make it too dangerous to use this method.

Site-specific Blasting plan

1. Any project using explosives must have a specific site blasting plan, including, but not limited to:
 - a. A thorough survey of nearby structures, photographs, videos, notes and vibration analysis may be needed.
 - b. A list of authorized and qualified personnel and credentials.
 - c. Transportation, storage, and handling requirements.
 - d. Blasting records, including:
 1. Date of blast;
 2. Time of blast;
 3. Number of holes;
 4. Type of explosive used;
 5. Number of delays;
 6. Amount of charge per delay;
 7. Stemming;
 8. Number and type of caps; and

- 9. A continuous inventory of all explosives.
- e. Warning signals.
- f. Traffic control.
- g. Employee training.
- h. Any other local requirements.

Types of Explosives: Classification of explosives by the U.S. Department of Transportation is as follows:

Class A Explosives: Possessing detonating hazard, such as dynamite, nitro- glycerin, picric acid, fulminate of mercury, black powder, blasting caps, and detonating primers.

Class B Explosives: Possessing flammable hazard, such as propellant explosives, including some smokeless propellants.

Class C Explosives: Include certain types of manufactured articles, which contain class A or B explosives, or both, as components, but in restricted quantities.

BLASTING CHECKLIST

Work Operations Checklists shall not be considered all-encompassing as they relate to Federal, State and local regulations or manufacturer's specifications and requirements. They are only intended as a guide in pre-planning and coordinating work operations. It is each employer's responsibility to address the hazards associated with their scope of work.

Company Name:

Project:

Date:

General

Yes	No	N/A	
			Has a written survey been conducted of all adjacent improvements and underground utilities?
			Have seismic or vibration tests been conducted?
			Have all the applicable project permits been obtained?
			Has there been a check for radio frequency hazards and are signs posted at all entrances and exits?
			Has a competent person been named to direct demolition and blasting and will they always be on site whenever work involves explosives?
			Are the operators and supervisors licensed?
			Are all local laws and regulations observed?
			Has security and theft protection been provided?
			Is there proper protection of and accounting for all explosives at all times?
			Are only trained and authorized employees allowed in or near areas where explosives are being handled, transported, or used?
			If any explosives have been lost, stolen, or tampered with, have the appropriate authorities been notified?

Transportation of Explosives

			Is there a written procedure for the transport of fuses and explosives?
			Are all motor vehicles transporting explosives marked or placarded with warning signs required by OSHA and DOT?
			Are motor vehicles transporting explosives attended at all times?
			Are passengers prohibited from riding in any vehicle transporting explosives?
			Are blasting caps transported in separate vehicles from other explosives?

Fire & Explosion Protection/Prevention

			Is smoking/vaping prohibited and are "No Smoking/vaping" signs posted in areas where explosives are being handled, transported, or used?
			Are work operations that produce sparks or flames prohibited within 100 feet of any explosive material?
			If electrical detonators are used, have two-way radios been restricted from or near the demolition site?

Handling & Storage

			Are manufacturer's instructions for the safe handling and storage of explosives available and being followed?
			Instead of storage of explosives, have arrangements been made with the supplier for daily delivery and pickup of unused explosives?

Blasting

			Is blasting conducted between sunup and sundown?
			Is there an audible alarm or warning to be sounded to warn of the impending blast and to signal an all clear after the blast?
			Is blasting occurring as soon as possible after loading is complete?
			Are all workers being cleared from the area before a blast is fired?
			Has the competent person conducted an inspection of the area and surrounding rubble to determine if all charges have been exploded before allowing workers to return?
			Are blasting mats or other containment available to control debris?

Additional Sources of Information:

29 CFR 1926.900, Subpart U – Blasting and the Use of Explosives

SECTION 22: DEMOLITION

REFERENCES:

[29 CFR 1926 Subpart T](#)

1. Conduct a pre-planning meeting to review the assessment and engineering survey.
2. Prior to the start of demolition, an assessment must be performed to determine occupational health hazards, structural stability issues, environmental, utilities, fire and explosions potentials. Submit survey to LF Driscoll Superintendent for review.
3. Demolition of major structural members requires a written engineering survey by a registered professional engineer. The engineering survey must include building characteristics, shoring requirements and demolition sequencing method of procedures. Submit survey to LF Driscoll for review.
4. Adjacent buildings or structures that are directly affected must be included in the engineering survey.
5. Identify all utilities, underground and overhead and protected prior to the start of demolition.
6. All utilities that are going to be abandoned must be cut and capped before the start of demolition.
7. Pedestrian and road traffic must be redirected, protected, and/or restricted prior the start of demolition.
8. During the demolition, if any environmental issues arise, refer to LF Driscoll's Environmental Management Plan.
9. Maintain access and egress throughout the demolition.
10. Remove debris with a trash chute or a means to ensure proper protection during removal.
11. When explosives and/or blasting are used, strict compliance of OSHA 1926, follow Subpart U.
12. Post signage in areas to clarify limits and/or expectations.
13. Side balling requires prior approval from the LF Driscoll Safety Department and possibly the Owner's Representative.
14. Develop a color-coding system to determine when mechanical, electrical, plumbing, nurse call, pneumatic tube system, telephone or data, or structural components (walls, ceilings, etc.) can be demolished. Remember **Red Light / Green Light**.
 - a. **Green Paint:** GO indicates items are to be demolished
 - b. **Red Paint:** STOP indicated items are NOT to be demolished
 - c. Unpainted: STOP indicated items are NOT to be demolished or have not been cleared for demolishing.
15. **Mandatory PPE includes hard hat, safety glasses with side shields, appropriate cut resistant gloves, and Kevlar sleeves. Depending on the task additional PPE should be identified and required.**

DEMOLITION CHECKLIST AND PROCEDURES

Listed below are procedures or guidelines specifically for demolition and associated infrastructure.

Before demolition work starts, the demolition contractor will perform the following task:

Items required to be submitted:

1. Site specific Health and Safety Program including a structural engineering survey by a registered PE.
2. Respiratory Protection Plan, if warranted
3. Site specific engineering survey or demolition plan [1926.850 (a)]
4. Site specific fall protection plan, if warranted
5. Letter or proof of employee fall protection training
6. Inspection/certification of crane [1926.753 and 1926.550]
7. Company letterhead stating competent and qualified individuals on site
8. Weekly Tool Box Talks
9. Weekly Jobsite Inspections

Electric Make safe for demolition:

1. Ensure LOTO is in place and no live work is performed. All work in compliance with NFPA 70E, State, Federal and local guidelines, Proper PPE required.
2. Obtain JHA for electric make safe. Review JHA with workers and have them endorse it.
3. Physically mark all de-energized circuits at location (switch & receptacles).
4. Tic Trace and identify all energized feeds.
5. Ensure via tic trace, the circuits to be de-energized, protected and will not interrupt business for adjacent tenants.
6. Ensure GFCI power source is available.
7. Lock electric closet door or panels.

Mechanical Make safe for demolition:

1. Ensure that mechanical equipment, moving machinery, steam lines, water lines, gas lines, and other operating systems be de-energized by means of LOTO.
2. Equipment and machinery must be in a zero Mechanical State (ZMS).

General demolition:

1. Verify and coordinate with building engineer that smoke detectors / fire alarm are covered and off line. Obtain a bagging permit.
2. Obtain JHA from demolition contractor and review with workers. Obtain sign off from workers.
3. Ensure adequate fire extinguishers are in place (1 for every 3000 sf. of floor area).
4. Ensure first aid kit for workers is on site.
5. Protection of blinds and convactor covers.
6. Filter media installed on return duct and HVAC equipment including fan boxes.
7. Verify Negative air machines (s) are in place and adequate (HEPA fans.)
8. Perform a pre-punch list on all finishes to remain prior to demolition.
9. Install protection of public areas, elevators, and loading dock.
10. Ensure proper PPE use and post required safety sign.
11. Conduct an on-site safety training orientation, identify competent person and review JHA.
12. Identify location of critical room above, below and adjacent to area to avoid flooding.

Topics of Discussion

Environmental issues:

1. Asbestos
2. Written clearance sample results
3. Lead or Lead base paint
4. Mercury
5. PCB's
6. Light bulbs
7. Hydraulic oil
8. Freon or refrigerant needs to be recovered from air condition, refrigerators or freezers
9. Cooling Towers need to be treated
10. Radioactive EXIT signs
11. Fixed fire suppression systems ex. Halon
12. Others

Utility disconnects:

1. Electrical
2. Water
3. Sewer
4. Natural Gas
5. Telephone / Fire Alarm/ Security
6. Others

Fire Protection:

1. Portable fire extinguisher
2. Hot Work Permit System
3. Standpipe/Sprinkler system status

Fall Protection:

1. Review plan
2. Review Zero Tolerance Policy
3. Demolition Procedures- Review Demolition Policy
4. Use of shafts or holes in the floor for debris drop
5. Entrance to the building to be maintained and protected

Dust Control:

1. Review plan
2. Respiratory protection requirements

Water leaks inspection:

1. Prior to demolition, identify live sprinkler, tag with danger tape.
2. Identify all water source is shut off in demo scope and drain the system down.
3. Verify location of sprinkler shut off valves, review with all workers.
4. Post live water plan, review with all workers.
5. Ensure a water crash kit is available consisting of two water barrels, Wet vacuum, funnel, mop and pail are in place.
6. Inspect floor during and after demolition for water leaks upon refill of sprinkler system (if drain down is allowed by building) review area after refill.

DEMOLITION CHECKLIST AND PROCEDURES

DEMOLITION CHECKLIST AND PROCEDURES		
Job Number:		FLOOR:
Job Name:		Subcontractor:
Address:		City:
Listed below are procedures or guidelines specifically for demolition and associated infrastructure		
Before demolition work starts, the demolition contractor will perform the following task:		
ITEMS REQUIRED TO BE SUBMITTED:		
<input type="checkbox"/>	1	Site specific Health and Safety Program including a structural engineering survey by a registered PE
<input type="checkbox"/>	2	Respiratory Protection Plan, if warranted <input type="checkbox"/> YES <input type="checkbox"/> NO
<input type="checkbox"/>	3	Site specific engineering survey or demolition plan [1926.850 (a)]
<input type="checkbox"/>	4	Site specific fall protection plan, if warranted <input type="checkbox"/> YES <input type="checkbox"/> NO
<input type="checkbox"/>	5	Letter or proof of employee fall protection training
<input type="checkbox"/>	6	Inspection/certification of crane [1926.753 and 1926.550]
<input type="checkbox"/>	7	Company letterhead stating competent and qualified individuals on site
<input type="checkbox"/>	8	Weekly Tool Box Talks
<input type="checkbox"/>	9	Weekly Jobsite Inspections
ELECTRIC MAKE SAFE FOR DEMOLITION		
<input type="checkbox"/>	1	Ensure LOTO is in place and no live work is performed. All work in compliance with NFPA 70E, State, Federal and local guidelines, Proper PPE required.
<input type="checkbox"/>	2	Obtain JHA for electric make safe. Review JHA with workers and have them endorse it.
<input type="checkbox"/>	3	Physically mark all de-energized circuits at location (switch & receptacles).
<input type="checkbox"/>	4	Tic Trace and identify all energized feeds.
<input type="checkbox"/>	5	Ensure via tic trace, the circuits to be de-energized, protected and will not interrupt business for adjacent tenants.
<input type="checkbox"/>	6	Ensure GFCI power source is available.
<input type="checkbox"/>	7	Lock electric closet door or panels.
MECHANICAL MAKE SAFE FOR DEMOLITION		
<input type="checkbox"/>	1	Ensure that mechanical equipment, moving machinery, steam lines, water lines, gas lines, and other operating systems be de-energized by means of LOTO.
<input type="checkbox"/>	2	Equipment and machinery must be in a zero Mechanical State (ZMS).
GENERAL DEMOLITION		
<input type="checkbox"/>	1	Verify and coordinate with building engineer that smoke detectors / fire alarm are covered and off line. Obtain a bagging permit.
<input type="checkbox"/>	2	Obtain JHA from demolition contractor and review with workers. Obtain sign off from workers.
<input type="checkbox"/>	3	Ensure adequate fire extinguishers are in place (1 for every 3000 sf/or state and local laws, codes, and regulations ex. NYC 1 for every 1500 sf).
<input type="checkbox"/>	4	Ensure first aid kit for workers is on site.
<input type="checkbox"/>	5	Protection of blinds and convector covers.
<input type="checkbox"/>	6	Filter media installed on return duct and HVAC equipment including fan boxes.
<input type="checkbox"/>	7	Verify Negative air machines (s) are in place and adequate (HEPA fans.)
<input type="checkbox"/>	8	Perform a pre-punch list on all finishes to remain prior to demolition.
<input type="checkbox"/>	9	Install protection of public areas, elevators, and loading dock.
<input type="checkbox"/>	10	Ensure proper PPE use and post required safety sign.
<input type="checkbox"/>	11	Conduct an on-site safety training orientation, identify competent person and review JHA.
<input type="checkbox"/>	12	Identify location of critical room above, below and adjacent to area to avoid flooding.

TOPICS OF DISCUSSION

Environmental issues:

1. ASBESTOS
2. Written clearance sample results
3. Lead or Lead base paint
4. Mercury
5. PCB's
6. Light bulbs
7. Hydraulic oil
8. Freon or refrigerant needs to be recovered from air condition, refrigerators or freezers
9. Cooling Towers need to be treated
10. Radioactive EXIT signs
11. Fixed fire suppression systems ex. (Halon)
12. Others

UTILITY DISCONNECTS

1. Electrical
2. Water
3. Sewer
4. Natural Gas
5. Telephone / Fire Alarm / Security
6. Others

FIRE PROTECTION

1. Portable fire extinguisher
2. Hot Work Permit System
3. Standpipe/Sprinkler system status

FALL PROTECTION

1. Review plan
2. Review Zero Tolerance Policy
3. Demolition Procedures – Review Demolition Policy
4. Use of shafts or holes in the floor for debris drop
5. Entrance to the building to be maintained and protected

DUST CONTROL

1. Review plan
2. Respiratory protection requirements

WATER LEAKS INSPECTION

1. Prior to demolition, identify live sprinkler, tag with danger tape
2. Identify all water source is shut off in demo scope and drain the system down
3. Verify location of sprinkler shut off valves, review with all workers
4. Post live water plan, review with all workers
5. Ensure a water crash kit is available consisting of two water barrels, wet vacuum, funnel, mop and pail are in place
6. Inspect floor during and after demolition for water leaks upon refill of sprinkler system (If drain down is allowed by building/state and local laws, codes, and regulations)
7. Local laws, codes, and regulations might require Fire Guards to patrol the impaired area every hour. One FG for every 50,000 sq ft. (This could apply to standpipe, sprinkler, fire alarm systems)

DEMOLITION SURVEY PRIOR TO DEMO

Demolition Survey Subcontractor Requirement			
Job Number:		Date:	
Job Name:		Subcontractor:	
Address:		Competent Person:	
Floor of Demo:		Location of floor:	

Document to be signed by Competent Person of the Demolition Subcontractor

To:

Subject: Engineering Survey by Competent Person employed by the Demolition

Subcontractor: **Re:**

(Enter Address, floors, areas, etc.)

I have been designated as the onsite Competent Person and I am responsible for planning the means and methods of the demolition work. As the designated Competent Person for the project located I conducted a thorough engineering survey of the structure and the referenced demolition areas to determine the condition of the structure, framing, floors, slabs, walls, hung ceilings, false ceilings, etc. to guard against the unplanned collapse of any portion of the structure.

During the demolition, we will comply with OSHA 29 CFR 1926 and, more specifically, the rules and regulations of Subpart "T" Demolition.

**Name of Demolition Competent Person: Signature of Competent Person:
Subcontractor**

SECTION 23: CONCRETE OPERATIONS

a. CAST IN PLACE CONCRETE

REFERENCES:

[29 CFR 1926 Subpart Q 1926.700 – 1926.706 – Concrete and Masonry Construction](#)

[29 CFR 1926.250 – General Requirements For Storage](#)

[OSHA Silica eTool – Silica Advisor](#)

[OSHA Construction eTool – Constructing Masonry Walls](#)

[OSHA Construction eTool – Unguarded Protruding Steel Rebars](#)

[OSHA Publication #3106 – Concrete and Masonry Construction](#)

[OSHA Publication – Overview of Subpart Q/Concrete and Masonry](#)

[OSHA Outreach Program – Concrete and Masonry Construction](#)

[OSHA Guidance Documents - Preventing Skin Problems from Working with Portland Cement](#)

[OSHA Interpretations - 10/30/2003 - Revised Response/Storage of Materials On a Scaffold For More Than One Shift's Work](#)

1. A site-specific fall protection plan is required. Hard barricades or personal fall arrest system is required. The use of a controlled access zone, monitor or warning line is not permitted unless approved by LF Driscoll.
2. A registered professional engineer shall review, approve, date and sign all design, shoring, re-shoring and form work drawings and shall be available on site at all times.
3. Permit no field changes in the design without the written direction of the design engineer and the structural engineer of record (as required).
4. Subcontractors shall submit a written Fall Protection Plan including stripping operations exceeding 6 feet.
5. The use of the controlled access zone is not permitted.
6. 100% fall protection is defined as the use of hard barricades or personal fall arrest systems.
7. All scaffolding systems must follow the scaffolding section of this manual. No makeshift or lean-to scaffolds will be permitted.
8. All rebar for walls and columns should be tied flat and picked by crane into place whenever possible.
9. Objects presenting impalement hazards shall be adequately protected (i.e., rebar and conduit).
10. Train all workers in fall protection with written verification of training submitted to the jobsite superintendent.
11. All formwork and shoring systems shall be able to support imposed loads.
12. Inspect all formwork before, during and after the pour.
13. All cutting, drilling, penetrating or coring a post-tensioned slab must be coordinated with the LF Driscoll superintendent.
14. All workers engaged in post tension concrete operations such installation of strands, tension process, and de-tensioning must trained and certified.
15. Handles on bull floats, used where they may contact energized electrical conductors, shall be of non-conductive material, or insulated with a nonconductive sheath.
16. Do not expose workers to silica dust hazards created by grinding and cutting operations.
17. Do not expose workers to hazards associated with working in wet concrete.
18. Where employees may work or pass below operations involving the stripping and removal of concrete formwork and shoring, the following precautions shall be observed:
 - a. Remove all loose debris, material, and equipment from formwork before stripping the form.
 - b. Permit only those employees involved in the work in areas where formwork and shores are being removed.
 - c. Rope off areas below operations involving the stripping or removal of forms or shores, barricaded, or guarded by a flagger to prevent employees from entering in under the operations.
19. Be aware of exposures related to concrete pumping and placement.

20. Rebar is not permitted for use as an anchorage point unless approved by a registered professional engineer.
21. A deck turn over procedure with a written permit is required.

b. PRE-CAST PLANK REQUIREMENTS

REFERENCES:

[29 CFR 1926 Subpart Q 1926.700 – 1926.706 – Concrete and Masonry Construction](#)

[29 CFR 1926.250 – General Requirements For Storage](#)

[29 CFR 1926.1400 Subpart CC – Cranes and Derricks in Construction](#)

[OSHA Silica eTool – Silica Advisor](#)

[OSHA Construction eTool – Constructing Masonry Walls](#)

[OSHA Construction eTool - Unguarded Protruding Steel Rebars](#)

[OSHA Publication #3106 – Concrete and Masonry Construction](#)

[OSHA Publication – Overview of Subpart Q/Concrete and Masonry](#)

[OSHA Outreach Program – Concrete and Masonry Construction](#)

[OSHA Guidance Documents - Preventing Skin Problems from Working with Portland Cement](#)

[OSHA Interpretations - 10/30/2003 - Revised Response/Storage of Materials On a Scaffold For More Than One Shift's Work](#)

1. A site-specific fall protection plan is required. Hard barricades or personal fall arrest system is required. The use of a controlled access zone, monitor or warning line is not permitted unless approved by LF Driscoll.
2. Pre-cast plank shall be engineered and fabricated with hooks or points to facilitate 100% tie-off to meet the OSHA requirement of 5000 pounds per person or engineered to support twice the intended load.
3. Fall exposures exceeding six feet at the perimeter are not permitted. Workers will not unhook from one point until secured to another.
4. All workers will be trained in site-specific fall protection by their employer in accordance with the OSHA Fall Protection Standard, the LF Driscoll 6-foot rule and the employer will provide written certification of training per OSHA.
5. A crane preplanning meeting is required for each setup (crane requirements in this manual).
6. The use of tongs for lifting of pre-cast members will not be permitted.
7. Rigging hooks or slings shall be inspected daily by the subcontractor for defects and removed from service if found to be damaged.
8. All rigging devices shall be engineered and tested to 125% of their design capacity as specified by OSHA or provided with appropriate manufacturer's documentation.
9. No one shall be permitted under a load. Loads will not be lifted over workers.
10. Two floors will remain clear below the setting of pre-cast members.
11. Planks will not be set until the load bearing walls/columns have attained sufficient structural strength.
12. Unless otherwise specified by the contract, the pre-cast concrete subcontractor is responsible for implementation of all safety requirements set forth in the Site-Specific Policies and Procedures Manual on all floors and formwork under his control until turned over to and accepted by LF Driscoll.
13. Employees shall not be permitted to work above vertically protruding reinforcing steel unless protected to eliminate the hazard of impalement.
14. Employees working more than 6 feet above adjacent working surfaces placing and tying reinforcing steel in walls, tiers, columns, etc. shall be provided with a personal fall arrest system and tie off while aloft on the steel.
15. Reinforcing steel for walks, tiers, columns and similar vertical structures shall be guyed and supported to prevent collapse.

c. POST TENSION CONCRETE

POST TENSION SAFETY

- 1. PROPER DOCUMENT CONTROL**
 - a. Installation drawings
 - b. Shipping list
 - c. Material certifications
 - d. Stressing equipment calibrations
 - e. Stressing records
- 2. STRESSING EQUIPMENT**
 - a. Ensure proper electrical supply
 - b. Check connections and hoses
- 3. STRESSING PROCEDURES**
 - a. Compression of concrete
 - b. Breaks sheets to the ironworker prior to stressing
- 4. STRESSING OPERATION**
 - a. Ensure safe working area (platform)
 - b. Proper tie-off for jack and pump
 - c. Ironworker in full body harness
 - d. Ironworker on pump in orange vest
- 5. SAFETY MEETINGS**
 - a. Orientation to stressing dangers
- 6. STRESSING AREA**
 - a. Clear of personal and debris
 - b. No stressing in tagged areas for repair
- 7. DETENSIONING PROCEDURES AND DANGERS**
 - a. 5 years of experience
- 8. LIFT-OFF PROCEDURES**
- 9. PROPER PROCEDURES FOR HUNG UP JACKS**
 - a. Never piggy back
 - b. Proper equipment
- 10. PRE-JOB REQUIREMENTS FOR CONTRACTORS**

POST TENSION CONCRETE

1. A preplanning meeting is required for the installation or removal of tendons.
2. Post tensioning is a ZERO TOLERANCE issue. Anyone discovered directing or drilling, coring, cutting or chipping into a post tensioned slab, even after the fact, will be held accountable.
3. Information regarding the post tensioning process shall be included in worker orientation.
4. The area for post tensioning shall be barricaded with a hard barricade a minimum of 25' clear.
5. Only workers involved in the post tensioning process shall be permitted inside the post tensioning zone.
6. Workers involved in post tensioning shall stand clear of the stressing zone and the tendon a minimum of 6'0 while tensioning the tendon.
7. The tensioning zone shall remain clear for 12 hours after stressing.
8. Use two sheets of ¾" plywood behind the anchor to protect people and property.
9. Never stand directly over or behind the ram when stressing the strand.
10. Ensure the strand is perpendicular to the anchor and that the anchor is parallel to the concrete face. Do not stress if out of alignment.
11. Ensure the anchor is clean and free of dirt and debris so that the ram plunger will seat squarely. No debris in the wedge cavity or sheathing.
12. Any void or honeycombing of the concrete may result in a potential explosion of the concrete.
13. A post tensioned slab cannot be cored, drilled or saw cut without written direction from the structural engineer of record or a registered professional engineer.
14. The floor shall be x-rayed to locate strands which shall be painted on the deck before the concrete deck is cored, chipped, drilled, cut or disturbed in any fashion.
15. The slab shall be reinforced from below at the direction of a registered professional engineer.
16. The structural integrity of the slab shall be analyzed, and drawings shall be prepared by the structural engineer of record or a registered professional engineer to ensure the structural integrity of the slab before the slab is disturbed.
17. The de-tensioning process should be at the direction of the structural engineer of record or a registered professional engineer.
18. Ensure the execution of the de-tensioning process is well documented.
19. Ensure the structural integrity of the slab has been restored at the direction of the structural engineer of record or a registered professional engineer.

POST TENSION SLAB REMOVAL SAFETY

Note: The following is a safety guideline for minimum requirements for the removal of slab scope. The selected subcontractor will be required to submit to LF Driscoll the necessary engineering and method statement for the deconstruction of post tensioned slabs.

Cutting openings in PT slabs require care and caution when PT tendons are to be cut. With the proper knowledge of structural behavior retrofitting openings in PT slabs can be achieved safely. Creating a large opening in a PT slab will result in several PT strands being interrupted by the new opening. An engineer should be consulted to analyze the effect that the new opening will have on the slab. The slab with the new opening should be analyzed. The analysis should show that strength is adequate and that all serviceability conditions, including stress limitations and deflections, are met. It is important for the design team to understand the implications of locating new openings in certain critical regions. To ensure successful execution of any retrofit project, it is vital that each member of the project team (architect/engineer, contractor, and specialty PT contractor) clearly understands who is responsible for completing the following tasks. For large openings, the general tasks associated with the planning and creation of an opening are:

1. Select the location for the new opening.
2. Evaluate the structural adequacy of the slab in its final state with the opening. Design a slab strengthening solution.
3. Evaluate the structural capacity of the slab during intermediate stages of construction. Design temporary shoring.
4. Install shoring.
5. Identify locations of existing PT strands that intersect the new opening.
6. De-tension and re-anchor strands at the perimeter of the new opening.
7. Remove concrete from the opening.
8. Strengthen the slab.

Slab opening procedure

The following discussion provides a typical approach that should be used to create openings in PT slabs. This procedure may vary depending on many factors.

Step 1: The perimeter of the opening is marked on the top and bottom of the existing slab.

Step 2: Shoring is installed under the opening and extended several feet beyond the perimeter of the opening in each direction. Shoring is also placed below the opening to prevent debris from falling to the level below during demolition.

Step 3: PT strands intersecting with the opening are located.

Step 4: Prior to beginning de-tensioning of the strands, the post-tensioning contractor should take appropriate measures to ensure the safety of the public and mitigate risk to property. Small de-tensioning pockets are chipped into the slab, exposing the strands using chipping hammers. The strands are then individually de-tensioned using a handheld grinder. PT strands are typically de-tensioned in phases to minimize the loss of pre-stress at any given time during construction. There are various techniques that can be employed to protect property and the public from potential hazards during the de-tensioning operation. Some of these techniques include:

1. Using a de-tensioning collar to temporarily lock off the strand at a predetermined location in the slab (normally at the boundary of the new opening). Although de-tensioning collars can be a very effective means of eliminating the sudden release of energy during de-tensioning, they cannot be used in situations where strands are grouped or bundled together.
2. Using a specially designed de-tensioning jack to release the force in the strands in a controlled manner.
3. Installing a barrier at the slab edge to prevent the strand and grout plug from becoming projectiles during de-tensioning operations.

Step 5: New anchorage pockets are chipped in the slab at the intersection of the strand groups and the perimeter of the opening. The width and length of the pockets depends on the number of strands in the group and the location of the new anchorage relative to the strand profile's high and low points. If the new anchorage is near a strand high point, then the pocket will have to be long enough to allow the strand to be re-profiled so that the new anchorage can be located at the mid-depth of the slab.

Step 6: New PT anchorages are placed in the pockets along with the appropriate backup reinforcing steel.

Step 7: Anchorage pockets are then poured using a pre-bagged high-strength Portland cement grout with appropriate consolidation.

Step 8: After the grout achieves at least 3000 psi compressive strength (normally the day after the pour), the strands are restressed using a hydraulic jack.

Step 9: The strand tails are cut by an approved method. Protective end caps are then installed over the tendon tails and the stressing pockets are patched with a non-shrink grout.

Step 10: Once all of the strands are stressed and anchored at the perimeter of the opening, demolition of the remaining concrete in the opening is completed using conventional concrete breakers. The edge of the opening can be left as a rough, unfinished surface or it can be formed and poured to create a formed edge.

SECTION 24: CRANE SAFETY

REFERENCES:

[29 CFR 1926.1400 Subpart CC – Cranes and Derricks in Construction](#)

[29 CFR 1910.179 – Overhead and Gantry Cranes](#)

[29 CFR 1910.180 - Crawler Locomotive and Truck Crane.](#)

[OSHA e-Tool: Steel Erection – Cranes](#)

[OSHA e-Tool: Steel Erection – Inspection Guide](#)

[OSHA Construction e-Tool: Cranes and Derricks](#)

[OSHA Quick Card – Crane Safety](#)

[OSHA Construction Outreach Training: Sling Safety](#)

[OSHA Construction Outreach Training: Cranes, Derricks, Hoists, Elevators, and Conveyors](#)

[OSHA Construction Outreach Training: Material Handling and Storage](#)

[Guidelines for OSHA Compliance Officers – Inspecting A mobile Crane](#)

[OSHA Publication: Construction Pocket Guide-Workers Safety Series/Construction](#)

1. Conduct a preplanning meeting to address all of the pertinent elements required by CFR 1926.1400. A crane preplanning agenda is included in this manual.
2. Prior to the pre-planning meeting, the crane contractor must submit (a complete list of required documentation is found in this manual) :
 - a. Complete the Crane Lift Work Sheet. (See example in Sample Form Section)
 - b. Provide Annual Inspection Certificate satisfying OSHA requirements and submit to LF Driscoll before the crane arrives on site. Cranes used for critical, high risk or sensitive lifts shall have an annual inspection within the past three (3) months.
 - c. Provide operator qualifications and/or license to LF Driscoll. Operators are required to have Certified Crane Operators (CCO) certification or equivalent. Check with local codes for any other specific requirements.
 - d. If the crane operator is not a Certified Crane Operator, a letter or other written document from the subcontractor or subcontractor’s crane training organization attesting that the “operator has been trained, evaluated and meets the qualification requirements of OSHA 29 CFR 1926.1427.
 - e. Submit load chart and load weights verification in writing. Identify maximum radius and capacity.

REQUIREMENTS:

1. Locate and place cranes on firm, drained and graded surfaces sufficient to support all crane functions and travel.
2. For each crane set-up, identify the location of all underground hazards on a drawing. Convey these hazards to the crane operator/owner, and crew for each crane set-up and location of outrigger pads for underground utilities, voids or soft spots in streets.
3. The subcontractor shall identify the Assembly/Disassembly Director (A/D Director) who must be a qualified and competent person, or a competent person assisted by a qualified person.
4. Review all items identified by 29 CFR 1926.1404 with the assembly/disassembly crew, by the A/D Director before work begins.
5. Submit shift, monthly and annual written OSHA inspection reports are to the LF Driscoll Superintendent or Safety Manager.
6. Danger tape or barricades must be place to protect pinch points and radius of weights.
7. Landing areas must be identified and communicated to all workers who might be affected.
8. Do not permit cranes to operate within twenty (20) feet of any electrical lines 350 kV or lower, except where lines are de-energized or visually grounded at the worksite. Voltages higher than 350 kV require greater distances. See OSHA 1926.1410.
9. Safety devices, including but not limited to crane level indicator, boom/jib stops, outrigger stabilization, and horn must be operational as required by the standard.
10. Do not use safety devices and operational aids as a substitute for professional judgment.
11. Lift routes shall avoid lifting over personnel.

12. Subcontractor to secure a street closure permit, if needed.
13. Notify local helicopter rescue units and establish procedures for shutdown, lay down, downdraft, two-way communication, etc.
14. Obtain FAA permit for cranes over 200 feet.
15. Subcontractor shall submit in writing the names of the competent and qualified person for both rigger and signalperson as required before arrival of the crane.
16. Train and evaluate Signalperson and Riggers, by the employer, in accordance to 29 CFR OSHA 1926.1430.
17. Review as required: slings, points of attachment, hooks, spreaders, shackles and training.
18. Identify method of communication during picks.
19. Review lay down, staging and shakeout operations.
20. Coordinate with local police and owner security.
21. Develop an emergency plan, if necessary.
22. Fall Protection required for employees working above six (6) feet in unprotected areas. Verification of training required.
23. Anti-two block device required.
24. Tower cranes require two rescue stretchers, one on the ground and one in the air.
25. Use of a suspended person platform (man basket) requires further pre-planning per 29 CFR 1926.1431.
26. Tower Crane requires OSHA pre- and post erection inspection with documentation by a third party prior to jobsite usage.
27. Tower Crane requires shift, monthly and annual written inspections per 29 CFR 1926.1445 (f).
28. When a rescue plan for the crane operators is needed, the subcontractor will be responsible to develop and implement a plan and supply any needed rescue equipment.
29. Cracked or broken window glass in cabs of cranes is prohibited.
30. Use of helicopters must have prior approval from LF Driscoll Safety Department, lift plan submitted and a pre-planning meeting.
31. Helicopter picks shall comply with all applicable regulations of the Federal Aviation Administration.
32. Lifts in the following categories are considered **Sensitive Lifts** and require development of a detailed lift plan to be submitted by the subcontractor and reviewed by the LF Driscoll Safety Department.
 - a. Lifts over personnel occupied areas (i.e., buildings, sidewalks, etc.).
 - b. Any lift where the payload weight is 20 tons or greater.
 - c. Lifts requiring the crane to be set up over or adjacent to underground building structures, transportation tunnels, retaining walls,(i.e. parking garages, etc.)
 - d. Lifts where any part of the crane or load encroaches onto or over highway, roadway or railroad rights of way, unless the corridor is shut down to traffic
 - e. Drifting operations, i.e., crane lifts where the load is drifted sideways by external means
33. Lifts in the following categories are considered **Critical Lifts and require development of a detailed lift plan to be submitted by the subcontractor and** review by the LF Driscoll Safety Department.
 - a. Lifts exceeding 85% of crane rated capacity
 - b. Lifts requiring two or more cranes or additional equipment assisting in lifting simultaneously (tandem)
 - c. Lifts using any type of equipment to transfer a worker within a personnel basket except for steel erection
 - d. Lifts with helicopters over areas defined by the FAA as “congested areas”. Which are defined as areas people utilize or inhabit (e.g., non-wilderness areas)
 - e. Unusual or complex lifts that exceed any site specific or owner requirements
 - f. Subcontractors conducting a critical lift must:
 - i. provide Annual Inspection Certificate satisfying OSHA requirements and submit to LF Driscoll before the crane arrives on site. Cranes used for critical lifts shall have an annual inspection within the past three (3) months.
 - ii. submit a detailed lift plan reviewed by a Master Rigger
34. Lift Plan shall include, but not limited to:
 - a. Position and configuration of the crane
 - b. Location of lifts from start to finish

- c. Detail on rigging equipment, lifting devices, hardware, etc.
 - d. Detail on load, how to rig it, what rigging is needed. Stamped drawing, if needed
 - e. Time line of all the sequences of all lifts
35. When multiple cranes are on site, all operators shall have direct contact with each other through the use of a dedicated radio channel.
36. When multiple cranes are on site, use radius limiting systems for collision avoidance.
37. Tower cranes require 110-volt hard wired aviation lighting with solar back-up.

a. CRANE-PREPLANNING AGENDA

1. Scope of Activity & Date of Pick(s):

- a. Provide a spread sheet with the following information for each pick:
 - i. Date & Time
 - ii. Item
 - iii. Weight
 - iv. Crane Capacity
 - v. Percent capacity of crane

2. Crane Documentation Submittal Review:

- a. OSHA Annual Inspection
- b. Crane lift work sheet.
- c. Operator qualifications, license or documentation as required
- d. Load Chart: High light the capacity at the furthest radius on load chart
- e. Verified load weights: maximum radius and capacity
- f. Site plan/sketch of location of crane and adjacent hazards

3. Name of Assembly/Disassembly Director: both Qualified Person/Competent Person: YES NO

- a. Name of Qualified Person:
- b. Name of Competent Person:

4. Crane Configuration:

- a. Type or Model of Crane
- b. Size of Crane
- c. Length of boom
- d. Length of Jib attachments
- e. Maximum Radius of pick
- f. Configuration for side, back, rubber etc.
- g. Anti-two block device
- h. Weight of Ball and deducts
- i. Capacity of crane at that configuration

5. Setup (Number of setups/assist crane):

- a. Locations of setups
- b. Arrival
- c. Police Presence verified by:
- d. Street closure & permits by:
- e. Pedestrian Control & signage by:
- f. Duration
- g. Underground Utilities identified and located on sketch
- h. Overhead Utilities
 - i. Voltage of overhead power lines:
 - ii. Verified by utility owner/operator:

- iii. Height distance of overhead power lines during traveling
 - 1. If less than 20 feet, must follow table T
- iv. Distance during set up
 - 1. If less than 20 feet, must follow table A
- v. Distance during operation
 - 1. If less than 20 feet, must follow table A
- vi. All crew, including dedicated spotter(s) must be trained
- i. Mat size and location identified on site plan/sketch.
- j. Any special staging requirements
- k. Truck holding areas
- l. special truck permits or routing requirements
- m. Danger tape or barricade pinch points and radius of weights
- n. Identify and develop a method of communication so that effected workers stay clear of landing zones and paths of travel.
- o. Cranes moving on ramps require a written plan to include crane configuration, slope of ramp and manufacturer's recommendations.

6. Rigging:

- a. Weight of heaviest pick: verified by: drawings? Cut sheet? Third Party?
- b. Type of slings
- c. Identify Points of Attachment
- d. Use of hooks, spreaders, shackles, etc.
- e. Name of Qualified Riggers: Verify method of evaluation

7. Signaling:

- a. Name of Qualified Signalperson: Verify method of evaluation
- b. Types of signals (Voice or Hand)
- c. Method of signals (radio, squawk box, etc.)

8. Coordination with Air Traffic:

- a. Unit: (Emergency Air Transport, etc.)
- b. Flight path
- c. ETA for incoming
- d. FAA Permit
- e. Flag, light, etc.
- f. Method of communication for laydown/shutdown by whom:

9. Other issues:

b. CRANE REQUIRED DOCUMENTATION

Prior to the arrival of the crane on-site, supply the following documentation:

1. Annual OSHA inspection
2. Operator qualification and/or licenses
3. Any other Operator state mandated additional requirements such as current physicals
4. Post assembly written inspection completed by the qualified person
5. Street closure permits, if required
6. Specific OSHA required documentation for all trainings and evaluations of operators, signalpersons, riggers, A/D Director, competent and qualified personnel
7. A letter on letterhead shall be submitted stating the following have been trained and/or evaluated:
 - a. Crane operator
 - b. A/D Director (for smaller cranes the crane operator can be the A/D Director)
 - c. Qualified rigger
 - d. Competent person to complete shift inspection of rigging hardware and slings
 - e. Qualified signalperson
 - f. Competent person for crane inspection (might be Crane operator)
 - g. Competent person for wire rope (crane hoisting line) inspection (Might be Crane operator)
8. For tower crane:
 - a. A pre-assembly and post assembly written inspection completed by the qualified person
 - b. A post erection third party written inspection
 - c. Hazard Analysis work plan for the assembly, disassembly, and any tower section jumps

Required On-Going Documentation:

1. Shift inspections
2. Updated annual OSHA inspection
3. Monthly written crane and rigging inspections

c. CRANES & HELICOPTER PADS

Hold a preplanning meeting with all relevant parties to discuss and document the procedures for operations effected by helicopter landings. Identify a single point of contact to interface between the facility and the jobsite.

THIS IS AN EXAMPLE OF AN INCOMING FLIGHT PROCEDURE WHERE HELIPADS MAY BE AFFECTED. EACH JOBSITE IS TO ESTABLISH A SITE-SPECIFIC PLAN.

1. Facility contacts LF Driscoll field personnel who in turn notify crane operator that flight is incoming with estimated time of arrival.
2. Crane operator confirms that the pick can be put on hold and places the boom in an agreed upon safe position to allow the helicopter to land. The crane does not move until helicopter is no longer on pad or until advised by the facility/LF Driscoll to start work again.
3. If crane operator is going to be longer than 10 minutes getting into a safe position, he will let the facility/LF Driscoll know how long it will take to get into the safe position. The Facility will then determine if flight may be diverted to another facility.
4. **In the event that the crane is operating and the Facility/LF. Driscoll cannot make radio contact, the facility is to divert all incoming flights until they can confirm that the crane has acknowledged the incoming flight and the crane is in the safe position.**
5. For long duration jobs, test the radio system on a regulator basis (i.e. test radio via contact with crane operator at 7:00 AM and 12 Noon - Monday thru Friday. On days that are **NOT** normal work days (Sat., Sun., Holiday) a LF Driscoll supervisor will notify the facility prior to the crane starting that the crane operations.
6. At the end of the work shift, call the facility to say that the work shift is completed, and the crane has been stowed in a safe position.
7. If on a normal workday (Monday thru Friday), the crane is going to shut down due to weather, lack of work, etc., place the crane in a safe position and LF Driscoll must contact the facility to inform them that the crane will not be in operation.
8. When the helicopter pad is closed due to construction activities, only the LF Driscoll Superintendent has the authority to give the facility the clearance that the construction activities that closed the pad are complete.

Incoming Flight / Crane Worksheet

LF Driscoll Contact Name:		Phone Number:	
Crane Operator's Name:		Phone Number:	
Facility Contact Person:		Phone Number:	
Crane Stoppage Procedure:			
Resume Crane Operation Procedures:			
Authorized By:			

d. CRANE & DERRICK SUSPENDED PERSONNEL PLATFORMS

REFERENCES:

[29 CFR 1926.1431 Subpart CC – Cranes and Derricks in Construction](#)

Use of an employee work platform hoisted by cranes is permitted when the following requirements are met:

1. The use of a suspended personnel platform is prohibited unless it can be determined that no less hazardous means of access to the work are available or practical, except for steel erection. Local regulations may apply further restrictions.
2. The use shall be limited to wind speeds of 20 miles per hour. A qualified person must determine if, in light of weather conditions, it is safe to lift personnel.
3. Do not use platforms during high winds, electrical storms, snow or other adverse weather conditions, which could endanger workers.
4. The total load must not exceed 50 percent of capacity at the crane's current configuration.
5. Conduct a test pick test pick at each crane set up.
6. The platform must be hoisted a few inches off the ground with the workers, tools and material and inspected by a competent person to ensure the platform is secured and properly balanced. Before hoisting any personnel, correct any deficiencies found during the trial.
7. Perform a proof test prior to any hoisting.
8. A pre-lift meeting of the operator, signal person, employees to be hoisted and the person responsible for the task to be performed must be held and documented with sign-off and submitted to LF Driscoll.
9. Complete and submit to LF Driscoll a Crane Lift Work Sheet and test pick for each configuration change or new configuration.
10. Subcontractors must have on site documentation of crane lifting capacity.
11. Verify the stability of the footing during the full cycle operational test.
12. Pre-lift plans showing boom angle and maximum intended load should be prepared for each group of lifts.
13. A firm footing, uniformly level with 1 percent, or one foot in 100 feet, should be provided for cranes. Appropriately, use outriggers for cranes during hoisting.
14. The load line on which the platform is suspended should have control load lowering. A "free fall option" should not be used with suspended work platforms.
15. Lifting bridles for platforms shall consist of four legs attached so that stability of the platform is ensured. The bridle shall be secured by a shackle, master link or attached by a closed hook, which cannot be opened due to position of the load on the hook. Eyes must have thimbles.
16. Enclose the platform with a guardrail system, including a top rail of approximately 42 inches, mid rail and a toe board. The guardrail system should withstand a load of at least 200 pounds applied in any direction.
17. The suspension system shall be designed to minimize tipping of the platform due to movement of employees occupying the platform.
18. Signals should be visible or audible to the crane operator at all times.
19. Engage all brakes when stationary.
20. Equipment must have properly functioning devices, that is, boom angle indicators, hoist limiting devices, anti-two-block devices and controlled load lowering devices. Do not operate equipment if these devices are not working. Do not attach a personnel platform directly to a luffing jib.
21. The platform must support its own weight and five times the maximum load and meet other structural requirements (e.g., guardrails, welds, grab rails, access gates/doors, headroom, and overhead protection).
22. Post rated capacity on the platform.
23. Hoisting must be in a slow, controlled, cautious manner with no sudden movements.
24. Keep all body parts inside during hoisting, except the signal person giving direction.
25. Secure the platform to the structure before it is exited or entered.
26. When the signalperson is not in the platform, employees being hoisted must be in direct communication with the operator or signal person.
27. Hoisting personnel is generally prohibited near power lines see CFR1926.1400 for details.

e. RIGGING REQUIREMENTS

REFERENCES:

[29 CFR 1926 Subpart CC – Cranes and Derricks in Construction](#)

[29 CFR 1910.184 - Slings](#)

[29 CFR 1926.552 – Material Hoist, Personal Hoist and Elevators](#)

[29 CFR 1926.753 – Hoisting and Rigging](#)

[29 CFR 1926.953 – Material Handling](#)

[29 CFR 1926.251 - Rigging Equipment for Material Handling](#)

[OSHA Publication 3072 – Sling Safety](#)

[OSHA Publication 2236 – Material Handling and Storage](#)

[OSHA Construction Safety and Health Outreach Program – Sling Safety](#)

[OSHA Construction Safety and Health Outreach Program – Material Handling and Storage](#)

[OSHA Guidance on Safe Sling Use](#)

[OSHA Standard Interpretations - Rigging Equipment/Custom-Designed Accessories](#)

[OSHA Standard Interpretations - Load-Testing; Custom-design Rigging Accessories & ASME Standards](#)

[OSHA eTool – General Requirements Gear and Equipment for Rigging and Materials](#)

[OSHA eTool – Steel Erection/Hoisting and Rigging](#)

GENERAL:

1. Review job requirements prior to lift.
2. Use only approved slings, chains, cables and accessories.
3. Know the weight of the heaviest pick and the rated capacity of the slings.
4. Use only slings that exceed the anticipated weight of the heaviest pick.
5. Custom designed lifts, clamps or lifting accessories must be designed, marked to indicate the safe working load and proof tested to 125% of their rated load.
6. Use approved, rated skip pans for loose parts and small material.
7. Do not overload skip pans so that loose parts can dislodge during the lift.
8. Store rigging equipment properly (loosely coiled in a dry place away from sunlight).
9. Use rigging equipment only for the activity for which it is intended.
10. Inspect rigging equipment prior to each use to ensure that it is safe to use.
11. Remove defective equipment from service.
12. Do not load rigging equipment in excess of its recommended safe working load.
13. Remove rigging equipment from the immediate work area, when not in use, so as not to present a tripping hazard to employees.
14. Do not use makeshift fasteners, formed from bolts, rods, wire, etc.
15. Do not secure wire rope cables by knots for any purpose.
16. Wire rope cables, used in hoisting, lowering or pulling loads, shall consist of one continuous piece without knots or splices.
17. When using U-bolt wire rope clips to form eyes or loops in any load bearing cable, follow manufacture recommendations as to the minimum number of clips to use. Apply clips so that the "SADDLE" portion of the clip is not in contact with the dead end of the cable.
18. Hooks used for lifting shall be equipped with a safety latch.
19. Pelican hooks can be used for shaking out loads but not for lifting overhead.

INSPECTIONS:

1. All inspection criteria must follow 29 CFR 1926.251.
2. Inspect all materials and rigging equipment before each use.
3. A competent person designated by the employer shall inspect slings, all shackles, attachments and rigging equipment for damage or defects before each use.
4. Remove damaged or defective slings from service. (This means whenever the colored safety thread is exposed in nylon slings or when chains or chokers are cracked or split, kinked, birdcaged, etc.)
5. Hooks, rings, links, couplings, shackles or attachments shall have the rated capacity at least equal to the slings, chain or cables.

6. Do not use homemade or makeshift equipment.
7. Rated capacity shall be marked by the manufacturer on the sling, chain, cable, shackle or hook.
8. All rigging equipment shall be identifiable as to their use, capacity and manufacture via a tag or the OSHA tables. Chain slings must also have a logbook with periodic and annual inspections recorded.
9. Do not use wire rope if, in any length of eight diameters, the total number of visible broken wires exceeds 10% of the total number of wires, or if the rope shows other signs of excessive wear, corrosion or defect.
10. Do not shorten nylon slings with knots, bolts, or other makeshift devices.
11. Protect nylon slings from sharp edges.
12. Do not shock load.

RAISING AND LANDING MATERIALS:

1. Know the weight of the material to be lifted, the capacity of the crane and the appropriate slings and rigging hardware and the structural integrity of the landing zone.
2. Be sure truck motor is off and wheels chocked before rigging.
3. Be sure the material to be rigged is stable and evenly distributed before lifting.
4. Keep hands, feet and fingers clear of the load as the slings are being tightened.
5. Only one worker should be signaling the operator at a time.
6. Land materials on blocking without pinching or catching the slings.
7. Keep walkways and egress clear when landing materials.
8. Be sure the load is stable before you remove the slings (chock pipe if necessary).
9. Do not pull a sling from under a load if the load is resting on a sling.
10. Use tag lines to move and position loads.
11. Do not stand under loads or direct loads over other workers.
12. Ensure loads are landed on structurally stable areas, capable of supporting the load.

TRAINING REQUIREMENTS:

1. Qualified Riggers shall be trained on the materials, methods, equipment, techniques, communication and other items as is necessary for safe performance of their specific tasks.
2. All local criteria for cranes and rigging shall be applied.
3. Each employer shall submit in writing the list of Qualified Riggers.
4. Qualified rigger requirements vs. certified rigger:
 - a. 1926.1401 "qualified rigger" is defined as: *a rigger who meets the criteria for a qualified person.* In addition, the definition for a "qualified person" is *a person who is identified by their employer and, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, successfully demonstrated the ability to solve/resolve problems relating to the subject matter, the work, or the project.*
 - b. A qualified rigger is required:
 - i. during assembly/disassembly of cranes,
 - ii. when employees are engaged in hooking, unhooking, or guiding the load,
 - iii. in the initial connection of a load to a component or structure and
 - iv. when employees are within the fall zone.
 - c. Certified Rigger, by an accredited agency, shall meet the definition of a Qualified Rigger
5. The employers must verify the training and evaluation of each Rigger either through:
 - a. A worker who has been trained and demonstrated competence through oral or written and practical testing by a third party such as the local Joint Apprentices Training Committee (JATC) might meet the definition of a Qualified Rigger.
 - b. A Certified Rigger, by an accredited agency (such as NCCCO or CIC), shall meet the definition of a Qualified Rigger,
 - c. The employer must verify the competence of the Qualified Rigger. Documentation must be available upon request.
 - d. If a rigger demonstrates lack of knowledge, the employer must not allow the individual to continue working as a signal person until retrained and a reassessment confirms that the individual meets the Qualification Requirements.

f. SIGNALING REQUIREMENTS

REFERENCES:

[29 CFR 1926.1419 - .1422 Subpart CC – Cranes and Derricks in Construction](#)

GENERAL:

1. A Qualified Signal person is required when:
 - a. the operator is not in full view of the load area or load travel, or
 - b. when the travel view is obstructed or whenever the operator or load handler determines one is needed,
 - c. when operating within less than 20 feet of energized electrical lines acting as a Spotter
2. Qualified Signalpersons can use hand signals, voice, and audible signals.
3. Use ANSI Standard signals at all times unless they do not meet the needs of the lift.
4. Agree on non-standard hand signals ahead of time. New non-standard signals must be equally effective and comply with a national consensus standard.
5. Signals must be appropriate to the conditions and the ability to transmit them maintained at all times.
6. Operations must stop if interference interrupts transmission of signal.
7. Only one person can give signals at a time, except when a safety problem requires an emergency stop.
8. Give all signal directions from the operator's perspective.
9. If one signal person is signaling for more than one crane/derrick, they must be able to identify the one to which they are signaling.
10. Test signaling devices before operations and use dedicated channels.
11. Operators must be able to receive signals hands-free.
12. Voice signals must be coordinated and include three elements in this order:
 - a. Function, direction
 - b. Distance and/or speed
 - c. Function, stop command
13. Communication must be in a common language.
14. Post hand signal charts near the operation or on the vehicle.

TRAINING REQUIREMENTS:

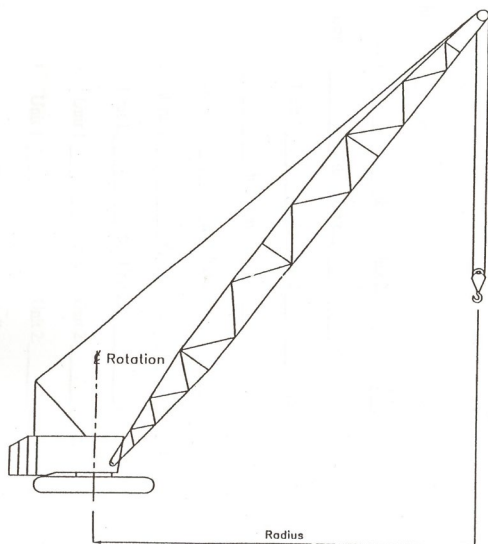
1. A Qualified Signalperson shall:
 - a. Know and understand the type of signals used.
 - b. If hand signals are used, the signal person must know and understand the Standard Method for hand signals.
 - c. Be competent in the application of the type of signals used.
 - d. Have a basic understanding of equipment operation and limitations, including the crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads.
 - e. Know and understand the relevant requirements of § 1926.1419 through § 1926.1422 and § 1926.1428.
 - f. Demonstrate, through an evaluation process, that he/she meets the requirements above through an oral or written test, and a practical exam.
2. The employers must verify the training and evaluation of each Signalperson either through:
 - a. **Third Party Qualified Evaluator:** A worker who has been trained and demonstrated competence through oral or written and practical testing by a third party such as the local Joint Apprentice Training Committee (JATC) shall meet the definition of a Qualified Signalperson after the employer verifies the training and evaluation. Documentation must be available upon request.
 - b. **Employer Qualified Evaluation:** A worker who has been trained and demonstrated competence through oral or written and practical testing. Documentation of such evaluation must be available upon request.
 - c. Each employer shall submit in writing the list of Qualified Signalpersons.
 - d. Certified Signalperson, by an accredited agency (such as NCCCO or CIC), shall be the definition of a Qualified Signalperson.
- e. If a signalperson demonstrates lack of knowledge, the employer must not allow the individual to continue working as a signal person until retrained and a reassessment confirms that the individual meets the Qualification Requirements.

CRANE LIFT WORK SHEET

Pick Location			
Job Number:		Date of Lift:	
Job Name:		Superintendent:	
Address:		City:	

Contractor Information			
Subcontractor:		Competent Person:	
Crane Company:		Competent Person:	
Rigging Company:		Competent Person:	

Crane Information & Set-Up			
Crane Type:		Crane Operator:	
Scope of Work:			
Radius:		Max radius to be used: feet	
Chart Capacity@		Minimum Boom angle:	
Percent of Capacity%		Ground Conditions:	
Utility Locations:		Shutdown Criteria:	



Weight Information	
Weight of Heaviest Load:	
Deducts	
Jib:	
Ball & Hook:	
Load & Block:	
Wire Rope:	
Rigging:	
TOTAL:	

Personnel Information	
Operator:	
Operator Credentials:	
Rigger:	<input type="checkbox"/> Qualified <input type="checkbox"/> Certified
Signalperson:	<input type="checkbox"/> Qualified <input type="checkbox"/> Certified

DOCUMENTATION FORM FOR CRANE OPERATOR EVALUATION

Operator's Name:		
Operator's Employer:		
Evaluators Name:		
Make:	Model:	S/N#:

Configuration of Equipment (please provide a description of the equipment's configuration at the time of evaluation such as attachments, boom length, counterweight set-up, etc.)

Task(s) Performed (please provide a description of the task(s) performed by the operator during the evaluation such as hoisting formwork, personnel basket, concrete bucket, multi-crane pick/lift, blind pick/lift, etc.)

With respect to equipment that the candidate will operate, I have evaluated the candidate and have determined that he/she:

- (i) has the skills necessary to operate the equipment safely for the assigned task(s);
- (ii) (ii) has the skills and knowledge as well as the ability to recognize and avert risk; and
- (iii) (iii) can apply the equipment's load charts and the manufacturer's procedures.

Evaluator's Signature:	Date:
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Note: Retraining must be provided in relevant topics for each operator when the performance of the operator, or an evaluation of the operator's knowledge, indicates that retraining is necessary. When retraining is required, the employer must re-evaluate the operator with respect to the subject of the retraining.

CRANE SET-UP / LIFT PLAN

Page 1 of 4

See Last Page for additional Instructions/Clarifications

Date:	Project:	Lift Location:
Subcontractor Responsible for Pick:		
Responsible Person/Contact:		
Rigging Company:	Crane Comp Responsible Person:	
Qualified & Competent A/D Director Name:		
Responsible Person Lift Director:		
Qualified Rigger Name(s):		
Qualified Signal Person Name(s):		
Crane Operator Name:		

1. Crane Information:			
Make:		Model:	S/N #:
Size (Tons):			
Type:	<input type="checkbox"/> Hydraulic <input type="checkbox"/> Friction <input type="checkbox"/> Lattice <input type="checkbox"/> Truck <input type="checkbox"/> Tower <input type="checkbox"/> All Terrain <input type="checkbox"/> Crawler		
Boom Length:	Jib Used? YES / NO	Length:	
Load Line # of Parts:	Lift Block Capacity:		
Will outriggers be fully extended? If not, please explain:			
Will Lift Plan be based on 360° chart? If not, please explain:			
Will this plan require more than one crane, either for a dual-lift or for material handling? Please explain:			
Will crane(s) need to "walk" with loads? If so, please explain:			
<p>Lifts in the following categories are considered Sensitive Lifts and require development of a detailed lift plan that must be reviewed by the Safety Department: a) Lifts over personnel occupied areas (i.e., buildings, sidewalks, etc.); b) Any lift where the payload weight is 20 tons or greater; c) Lifts requiring the crane to be set up over or adjacent to underground building structures, transportation tunnels, retaining walls, (i.e. parking garages, etc.); d) Lifts where any part of the crane or load encroaches onto or over highway, roadway or railroad rights of way, unless the corridor is shut down to traffic; and e) Drifting operations, i.e., crane lifts where the load is drifted sideways by external means</p> <p>Lifts in the following categories are considered Critical Lifts requiring review by the Safety Department: a) Lifts exceeding 75% of crane rated capacity; b) Lifts requiring two or more cranes or additional equipment assisting in lifting simultaneously (tandem); c) Lifts using any type of equipment to transfer a worker within a personnel basket; d) Lifts with helicopters over areas defined by the FAA as "congested areas". Which are defined as areas people utilize or inhabit (e.g., non-wilderness areas); e) Unusual or complex lifts that exceed any site-specific requirements</p> <p>Subcontractors conducting a critical lift must: a) provide Annual Inspection Certificate satisfying OSHA requirements and submit to LF Driscoll before the crane arrives on site. Cranes used for critical lifts shall have an annual inspection within the past three (3) months; b) submit a detailed lift plan reviewed by a Master Rigger.</p>			

2. Load Characteristics:		
Will this plan cover more than one pick?		
Description of Load(s):		
Dimensions of Max Load. Provide information on both the HEAVIEST and the LARGEST volume load:		
Weight of Max Load: How was this determined? Please insert or attach calculations?		
Location of load Center of Gravity: How was this determined?		
Maximum Boom Length Required	Minimum Boom Angle Required	Maximum Radius Required
Will any load be upended? If so, please explain WHY and HOW - multi-drum, dual crane, lift/block/lift, etc. (**provide a detailed sketch and documentation from manufacturer supporting such use):		
3. Rigging Information:		
List Rigging Components. Please be specific – number, type, size, length, capacity, differing pick configurations. Sketches help.		
Minimum Capacity Component (describe, and show capacity):		
Worst Case Weight of All Rigging:		
Will a Lifting Beam or other similar component be used? Please provide capacity, PE certification, and drawing.		
Other Weights to be Considered to Determine Gross Load:		
Max Load:		
Rigging:		
Jib:		
Jib Hook:		
Hook Block:		
Load Line:		
Other:		
Maximum Gross Load:		
4. Crane Location/Clearances:		
a. Provide a to-scale plot plan showing crane location, adjacent buildings, pipe racks, and other significant obstructions within load swing radius. Indicate direction and span of swing.		
b. Provide a to-scale elevation depicting crane, adjacent structures (property / structure)		
c. What is the horizontal distance from the crane center pin to the nearest structure?		
d. What is the minimum clearance from boom to highest point of structure during a pick?		
e. What is the minimum clearance from load to highest point of structure during a pick?		
f. What is the minimum distance from boom to load during a pick?		
g. Will the load or any part of the crane be over any active structures, property, tanks, or equipment during a pick?		
h. Have underground site utilities, sidewalk vaults, storm drains been identified and located?		
i. Will outriggers be located over underground utilities? If so, please explain protective measures to be taken:		

j. Describe signaling procedure – who will be responsible for signaling? Will hand or radio signals be used?

5. Summary “Worst Case Lift Scenario”:

Max Radius	Min Boom Angle	Max Gross Load	Max Chart Capacity	% of Capacity Max Gross Load/Max Capacity
------------	----------------	----------------	--------------------	--

6. Attachments Provided (All must be checked):

Plot Plan w/Crane Location	Elevation Plan	Load Calculations	Rigging Lists	Crane Charts (including any applicable Notes)
3 rd Party Annual Inspection Report	Operator’s License Number and expiration date	Rigging Diagram (spreader beams, eccentric CG, chain falls, multiple pick points, etc.		

Be sure you have considered the following (all must be checked or marked N/A):

The Following Items are in the Crane Cab:

1. Hand Signal Chart	2. Fire Extinguisher	3. Complete Load Capacity Charts with Notes	4. 3 rd Party Annual OSHA Inspection Report	5. Completed Daily/Shift Inspection Sheet
6. Operators Manual	7. State / City Crane License/Registration	8. All other required paperwork, equipment	9. Other:	

Check the Following:

10. Anti-two Block Operational	11. Overhaul Ball Capacity Marked	12. Wedge Socket/Becket Properly Installed	13. Backup alarm working	14. All warning placards in place
16. Boom Angle Indicator Functioning Properly	17. Boom High Limit Functioning Properly (lattice boom)	18. No broken or fogged glass	19. Boom light/beacon if boom is higher than 200'	20. FAA Permit Application/Approval
21. Slings and Rigging Inspected	22. All wire rope inspected	23. Chains and chain slings have capacity tags	24. All hooks inspected for wear and deformation	25. Safety Latches in Place
26. Dunnage/Blocking Available to Secure Loads	27. Demolition Plan Submitted and Reviewed (if applicable)	28. Bracing/ Temporary Supports Available for Use (will loads need to be secured during demolition?)	29. Wind Speed Meter	30. Other:

Be prepared to confirm the following additional items:

1. Crane Configuration in Compliance with Lift Plan	2. Maximum Radius Confirmed (MEASURED) Without Load	3. Maximum Load Confirmed Prior to Achieving Maximum Radius	4. All Pick Points Vertically Above Load Center of Gravity	5. Taglines to be Used
6. Outrigger Floats & Dunnage Installed (Minimum 3’X3’x4”) Size:	7. Copy of the Demolition Plan in the Cab of Crane (if applicable)	8. Lift Area and Equipment Inspected	9. Counterweight Swing Radius Barricaded	10. Load Swing Radius Barricaded
11. Outriggers Fully Extended Position: Computer Set at:	12. Lift Plan and Crane Permit in Cab of Crane	13. Lift Plan and Crane Permit Reviewed with Rigging, Erection or Demolition Crew	14. Other:	

1. In addition to this plan, a “Crane Use Permit” required by local codes and standards will be required for each set-up location.
2. A copy of the Daily Crane Use Permit is attached for your reference.
3. Non-compliance with any part of this plan or Crane Use Permit will be grounds for immediate cessation of work and possible permanent removal from the site.

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

Instructions/Guidance

1. Lifts requiring movement of the crane with the load, personnel platforms, upending loads, work over occupied facilities or work involving encroachment on public rights of way will also require a Plan.
2. For miscellaneous picks such as material and tool movement, panel work, etc., a Lift Plan will not be required where anticipated loads, including all rigging and manufacturer’s deducts, are **multiplied by a factor of two** and the sum does not exceed 75% of chart capacity for that crane at that radius.
3. Submit this plan at least 48 hours prior to mobilization. For those lifts not requiring a Lift Plan, a Crane Use Permit must still be executed prior to crane operations (day of use). Where a Lift Plan is not required due to, calculations in item 3 above, attached the calculations to the Crane Use Permit.
4. This Planning Process has three parts:
 - a. **In-Depth Lift Plan** (may not be required in all instances – see above)
 - b. **Crane Use Permit** (required EVERY TIME a crane is used)
 - c. **Daily Inspection Form (Crane Safety Review** if using Contractor form) (required EVERY DAY a crane is used)
5. Base the plan on “worst case” combination of load weight and lift radius for a specific crane configuration in a specific location.
6. The Lift Plan may be valid for more than one day, as long as the configuration, location, maximum expected load and maximum expected radius do *not* change. Crane Use Permits must be updated whenever configuration changes.
7. The Plan must be **COMPLETE** – see Section 6 for required Attachments. Sketches will be acceptable in many instances, and the required Elevation Plan may be sketched onto Crane Range Diagram for ease of preparation.
8. All rigging devices **MUST** be certified as to their capacity. Custom-fabricated devices (lifting beams, spreader bars, etc.) may be acceptable with proper PE stamp or proof testing as required by applicable standards. Capacities shall be marked and legible on all such devices.
9. Review work not anticipated in the plan that may arise due to site conditions (moving equipment, loading materials onto floors, etc.) with Contractor prior to hoisting.

SECTION 25: STEEL ERECTION

REFERENCES:

[29 CFR 1926 Subpart R and Appendix A thru H](#)
[29 CFR 1926 Subpart CC – Cranes and Derricks in Construction](#)
[29 CFR 1926.501 – Duty To Have Fall Protection](#)
[Standard Interpretations - Permissibility Of Guardrail Systems Other Than Safety Cables In Steel Erection](#)
[OSHA eTool – Steel Erection](#)
[OSHA Compliance Directive - Inspection Policy/Procedures For Steel Erection Standards For Construction](#)
[OSHA Publication #2202 – Construction Industry Digest](#)
[OSHA Publication #3146/Quick Card - Fall Protection in Construction](#)
[OSHA Construction Safety & Health Outreach Program – Steel Erection](#)
[OSHA Presentation – Steel Erection Overview](#)
[OSHA Fatal Fact #43 – Steel Erector Fall From Elevation](#)
[OSHA Fatal Fact #73 – Caught Between Steel During Equipment Staging](#)
[OSHA Standard Interpretations - Clarification of "Controlling Contractor" Duties](#)
[OSHA Standard Interpretations - Wire Rope Clips; Safety Latches on Large Crane Hooks; Assembly for Hanging Scaffolds; and Horizontal Lifeline Design](#)

1. The erection subcontractor shall develop a site-specific erection plan that includes the name of the qualified rigger, qualified signalperson and competent person. See crane requirements of this manual.
2. Conduct a preplanning meeting with the steel erector, crane operator and other subcontractors as necessary before the start of the job. Coordination of overhead loads is critical.
3. All ironwork activities to follow the six (6) foot rule with the use of hard barriers or personal fall arrest systems.
4. The steel erector is not to erect steel unless a written notification has been received indicating that the concrete in the footings, piers and walls or the mortar in the masonry piers and walls has attained either 75% of the intended minimum compressive design strength or sufficient strength to support the loads imposed during steel erections. Submit documentation to LF Driscoll project team in writing.
5. LF Driscoll is to ensure that adequate access roads and laydown areas are firm, properly graded, drained, and readily accessible for the safe storage and operation of erector's equipment.
6. Do not create overhead hazards.
7. Connect all pieces with a minimum of two bolts.
8. Metal decking will not be laid unless it is secured by the end of the day.
9. Hot work permits are required as necessary.
10. Install wire rope cable at the perimeter for top rail and midrail with high visibility flags every six (6) feet. Provide cables with turnbuckles at each elevation to facilitate maintenance. Two (2) cable clamps are required at each column and end of run.
11. Maintain wire rope cable used for guardrail system to meet at least 42" (+/- 3") above finished floor with 200 lbs. exerted in the downward direction.

Wire rope cable system:

 - i. Minimum ¼" cable, flagged every 6 feet, with top rail at 42" (+/-3") above finished floor.
 - ii. Maintain a deflection of less than 3 inches with posts located at intervals to maintain cable deflection requirements, if required.
 - iii. Install turnbuckles at regular intervals, at least one per change of direction and length of cable.
 - iv. Install cable clamps at each column to prevent a cable from loosening and deflected around the entire perimeter.
 - v. Install a minimum of two cable clamps at the end of each run.
 - vi. Posts or points of attachment to be at 42 (+/-3") inches above top of slab to compensate for over-pours, deflections or other discrepancies, which may lead the cable to be lower than 39 inches at any time.
 - vii. Do not use wire rope cable systems as anchorage points unless designed with tabulated data from a registered professional engineer and submitted to project team for review.

12. Subcontractor must provide training on OSHA Subpart R and for other activities such as scaffolds, ladders, excavations, etc.
13. Workers cannot climb or slide columns.
14. Install protect at all deck openings as decking installation is in progress.
15. Safety nets shall be tested and Inspected by the subcontractor as per OSHA with written documentation submitted to the project team.
16. Once steel erection of a floor/area is completed and the area scheduled for turnover to other trades such as the concrete contractor, the area is first inspected by the LF Driscoll project team to assure the fall protection is installed correctly; all debris and trip hazards have been removed. Following the inspection of the floor/area, a Custody of Fall Protection letter shall be drafted and sent to all contractors on the jobsite.
17. Subcontractor is responsible to inspect all work areas daily.
18. 1926 Subpart R, Appendix A, shall be required for crane erection and dismantling at the discretion of safety department.

NOTICE TO COMMENCE STEEL ERECTION

NOTICE TO COMMENCE STEEL ERECTION			
Project Number:		Date:	
Project Name:		Competent Person:	
Steel Erector Subcontractor:		Address:	
Contact Name:			

You are hereby authorized to commence steel erection activities with the following notifications:

Concrete in footings, piers, and walls, and mortar in masonry piers and walls has attained, based on the appropriate ASTM standard test for field cured samples either 75% of the intended minimum compressive strength, or sufficient strength to support the loads imposed during steel erection.	Name of testing agency: Attached testing reports:
Repairs or modifications were made to anchor rods/bolts: Yes <input type="checkbox"/> No <input type="checkbox"/> Locations of repairs/modifications:	Approval by: (Structural Engineer of Record): Approval in writing? <input type="checkbox"/> Yes <input type="checkbox"/> No (attach) Date approved: As built drawings available? <input type="checkbox"/> Yes <input type="checkbox"/> No

You are notified of your responsibility to: (initial each)

Indicate to what material laydown areas are needed, and intended routes of transferring materials. Only those designated laydown areas will be utilized, and responsibility to maintain laydown areas will be limited to those that are designated.	Initials:
Preplan all overhead hoisting operations to prevent traveling loads over other contractor personnel, and to coordinate hoisting activities with and other contractors to minimize impacts on other operations.	
Provide a written site-specific erection plan if any part of your operations will deviate from the published OSHA Standard.	
Conduct documented daily inspections of all cranes, forklifts, and other hoisting equipment utilized in steel erection activities.	
Designate a qualified trained rigger(s) to inspect all rigging equipment (Submit record of training) Name of qualified rigger:	
Maintain on the project written proof of training for all employees engaged in connecting, bolt- up, multiple lift rigging procedures, exposure to falls, equipment operation, and as required by any other specific standard.	
Assure that all columns are properly anchored.	
Maintain and require the use of fall protection equipment for all employees exposed to fall elevations of 4 feet or greater as directed in the project Incident Prevention Program.	
Maintain required fire protection/prevention equipment appropriate to the type of work operation and hazards involved.	
Meet all other requirements of the Project Safety Program, GE Safety Requirements, Published OSHA Standards, and the requirements of local regulations.	

 Project Manager/Superintendent

 Steel Erector Subcontractor

Date:

DECK TURNOVER FALL PROTECTION CUSTODY CHECKLIST

Location			
Job Number:		Date:	
Job Name:		Subcontractor:	
Address:		Competent Person:	

Item	Description	Results
1	All holes as defined by OSHA are covered with an OSHA compliant hole cover	Yes No N/A
2	Decking is free of trash and debris	Yes No N/A
3	All decking is fastened and ready for inspection	Yes No N/A
4	All pour stop is complete	Yes No N/A
5	Stud welding activities are complete on current floor and floor above	Yes No N/A
6	Access to floor installed by trade other than Iron Worker Have either:	Yes No N/A
6a	Extension ladder, 2 must be installed prior to 20 workers on the floor	Yes No N/A
6b	Double gang ladder	Yes No N/A
6c	Stairs with guardrail installed	Yes No N/A
6d	Scaffold stair tower	Yes No N/A
7	Wire Rope Guard Rail	Yes No N/A
7a	Minimum 1/4" cable with 3 clamps at each end with appropriate spacing, torq, and tail	Yes No N/A
7b	Top rail must be installed at 42" (+/- 3") above finished floor	Yes No N/A
7c	Maintain deflection of less than 2" with posts located at interval to maintain cable deflection requirements.	Yes No N/A
7d	Install turn buckles every 120' or 4 bays and not to exceed 1 change in direction	Yes No N/A
7e	Install 2 sets of turn buckles for every shaft opening larger than 30sft opening	Yes No N/A
7f	Install post kicker at every change in direction. Kicker to align with wire rope direction	Yes No N/A
7g	Flag top rail, at minimum, every 6'.	Yes No N/A
8	Shaft debris netting install within _____ floors	Yes No N/A
9	Loading Zone(s) is coordinated with turnbuckle placement	Yes No N/A
10	Other	

Steel Contractor Competent Person Signature	
--	--

FALL PROTECTION CUSTODY

CUSTODY OF FALL PROTECTION

Job Number:		Date:	
Job Name:		Subcontractor:	
Address:			

In accordance with 29 CFR 1926 OSHA Construction Standards, Subpart R, Steel Erection, 1926.760 (e) (1) (2) Fall protection provided by the steel erector shall remain in place where steel erection activity has been completed, to be used by other trades, only if the controlling contractor or its authorized representative inspects and accepts the area.

LF Driscoll or _____authorized representative has inspected and accepts control and responsibility of the Fall Protection installed/provided

By: (the steel erector) in the area of (the floor/area) and directs the above steel erector to leave the fall protection in place.

LF Driscoll and the steel erector have performed an inspection of the above area/floor and believe the area at the time of the inspection to be in compliance with the osha standards under subpart m and subpart r general specifications.

OTHER TRADES MAY NOW WORK ON THE FLOOR/AREA WITH THE FOLLOWING GUIDELINES:

1. Do not use the guardrail as an anchorage point for fall protection
2. Do not tie cords, hoses, welding lead, etc. to the guardrail
3. No subcontractor may remove, cut or manipulate the guardrail system at any time without the permission of LF Driscoll.
4. Use fall protection if working close to the perimeter and working on a ladder or other platform that puts the worker above the guardrail.
5. Work outside or through the guardrail system requires fall protection.



Lines of demarcation have been established to warn of leading edges not open to other trades during steel erection activities.

Do not enter.



Regardless of the construction manager's obligations set forth in subpart r, osha steel erection standards, the responsibility for continued compliance and proper maintenance of the guardrail system is in the scope of work set forth in (steel subcontractor) contract. Therefore, each entity has continuing contractual obligations. LF. Driscoll looks forward to working with you to ensure these requirements are met.

Sincerely,

LF Driscoll/Authorized Representative

SECTION 26: HOISTS AND ELEVATORS

REFERENCES:

[29 CFR 1926.552 – Material Hoist, Personal Hoist and Elevators](#)

1. GENERAL REQUIREMENTS

- a. Follow all manufacturer's specifications and recommendations in alignment with structural engineer's specifications regarding tie-back locations, etc.
- b. Inspect unit before transport to the site.
- c. Installation according to manufacturer's specifications.
- d. Post erection and subsequent frequent and regular inspections required.
- e. Operator should conduct a daily inspection using the manufacturer's checklist.
- f. Only qualified and specified personal permitted to run the hoist.
- g. Do not overload the cab.
- h. Fire extinguisher on each landing and hoist car.
- i. Do not use hoist in extreme weather. Check manufacturer's recommendations and local codes.
- j. Post warnings and rated load capacities in the cars and platforms.
- k. Smoking /vaping prohibited on hoists.
- l. Lockout/tagout procedures to be followed during maintenance.
- m. Gates shall be equipped with tamper proof latching device.
- n. The full height of the tower shall be enclosed on the side or sides adjacent to the building with ½ inch wire mesh of No. 14 U.S. Gauge wire or equivalent.
- o. Unused sides of the base of the tower shall be enclosed from ground level to a height 10 feet above the lowest landing.
- p. Roll off, or dock plates used on upper floors shall have a vertical projection attached to their bottom that will prevent the plate from sliding through the gap between the car and the floor landing.
- q. Inspections as required by local jurisdiction.
- r. Doors on each floor must be installed so that they can only be opened from inside the hoist.

2. MATERIAL HOISTS

- a. The rated load capacity and recommended operating speeds of the hoist shall be posted on the car and platform.
- b. The capacity of the hoist shall not be exceeded.
- c. Hoist way entrance shall be protected by substantial gates or bars across the full width of the landing entrance.
- d. Gates shall be equipped with a latching device protected from tampering.
- e. The number of the floor shall be conspicuously posted on each floor at the entrance to the hoist.
- f. A two-way communication system shall be provided between the operator's station and each hoist landing.
- g. An alarm or signal system shall be provided at the operator's station indicating whether or not the bar or gate at any floor landing is closed.
- h. The top of every material hoist cage or platform shall have overhead protection of 2-inch planking, ¾-inch plywood or other solid material of equivalent strength.
- i. The operator's station of a hoisting machine shall be provided with overhead protection of tight 2-inch planking or equivalent.
- j. Operating rules shall be established and posted at the operator's station.
- k. Car arresting devices shall be installed to function in case of rope failure.

3. PERSONNEL HOISTS

- a. Cars shall be permanently enclosed on all sides and the top, except sides used for entrance and exit, which have car doors or gates.
- b. Hoist way doors or gates shall be installed at each floor landing and shall be not less than 6 feet 6 inches high, provided with mechanical locks that cannot be operated from the landing side, and shall be accessible only to persons on the car.
- c. Overhead protection shall be provided.
- d. Car doors or gates shall be provided with electric contacts that do not allow movement of the hoist when door or gate is open.
- e. Cars shall be provided with a capacity sign posted conspicuously on the car.
- f. A call system for the car shall be provided at each landing and the floor number shall be posted at each landing.
- g. Hoist tower shall be anchored to the building or structure at intervals not exceeding 25 feet. In addition to tie-ins, a series of guys shall be installed in compliance with the manufacturer's and structural engineer's specifications.
- h. An emergency stop switch shall be provided in the car and marked "STOP".
- i. A competent person shall inspect and test all hoist functions and safety devices before the hoist is put in service, and at three (3) month intervals thereafter. Written records of such tests shall be maintained at the jobsite.

4. OVERHEAD HOISTS

- a. Overhead hoists of all types shall be securely fastened and tied back to the supporting structures on which they are mounted in compliance with the manufacturer's and structural engineer's specifications.
- b. Use of counterweights alone to secure hoists is not permitted.

HOIST PRE-ERECTION CHECKLIST

Construction Hoist Pre-Erection Safety Meeting Checklist

Location			
Job Number:		City:	
Job Name:		Address:	
Subcontractors			
Name:		Phone:	
Email:		Fax:	
Name:		Phone:	
Email:		Fax:	
Name:		Phone:	
Email:		Fax:	
Name:		Phone:	
Email:		Fax:	
Individuals listed below should attend this meeting and be responsible for items discussed			
<input type="checkbox"/> Truck Company Rep	<input type="checkbox"/> Hoist Erector Rep.	<input type="checkbox"/> Crane Operator	<input type="checkbox"/> RP Engineer
<input type="checkbox"/> Project Superintendent	<input type="checkbox"/> Site Engineer	<input type="checkbox"/> Labor Foreman	<input type="checkbox"/> Project Manager
<input type="checkbox"/> Safety Manager	<input type="checkbox"/> Traffic Control Rep	<input type="checkbox"/> Electrical Rep	<input type="checkbox"/> Safety Department
<input type="checkbox"/> Hoist Lessor	<input type="checkbox"/> Hoist foundation cont.	<input type="checkbox"/> Crane Rep	<input type="checkbox"/> Other
All Parties			
<input type="checkbox"/> Obtain emergency contacts for all parties, who do we contact in case of an accident <input type="checkbox"/> Ensure that all employees attend the site orientation and have the required training (i.e. fall protection, flagger Certification, etc.) <input type="checkbox"/> Discourage the use of cell phones when critical tasks are being performed. <input type="checkbox"/> Consider if after hour security is needed for laydown area to protect against theft. <input type="checkbox"/> Review site plan to be sure no underground services interfere with the area selected to position the erection crew. <input type="checkbox"/> Hold a brief Safety Meeting at the area the hoist is to be erected and share all information with the erection crew. Review your emergency plan during this meeting.			
Hoist Erector			
<input type="checkbox"/> Review erection sequence. <input type="checkbox"/> Inform Crane operator of all load weights and check for adequate load chart on erection crane. <input type="checkbox"/> Provide critical lift plan (>75% capacity) and reviewed by safety manager. <input type="checkbox"/> If mobile Cranes are used check Mobile Crane outrigger footing (plate as necessary). <input type="checkbox"/> Erection zone barricaded with "danger tape and sign" to prevent unauthorized personnel entry. <input type="checkbox"/> Fall Protection Plan is in place. Identify and approve appropriate tie off points. <input type="checkbox"/> Erectors should make sure that all connection points are tight, and that entire machine is in good working order and properly working according to manufacturer's specification. <input type="checkbox"/> All workers must wear hard-hats, reflective vests, and shoes adequate for construction site. <input type="checkbox"/> Fire prevention measures should be in place in case of hot work such as welding, cutting, etc. <input type="checkbox"/> Use approved method to get onto or off of trucks while rigging loads. Use ladder, steps and etc, (Do Not Jump) <input type="checkbox"/> Hoist Post Erection Certification.			

Truck Erector

- Drivers must wear hard-hats, reflective vests, and shoes adequate for construction sited.
- Move trucks into position for unloading, remove tie downs and stay away from truck until it's unloaded.
- Any potential traffic restrictions (time of day, day of week, local activities such as holidays, embargo, etc.)
- Review the trucking route (sharp corners, public interruptions, staging, etc.)
- All special permits in place

Crane Representative

- Ensure the ground is safe for crane setup: underground (e.g. water lines) and overhead conditions (e.g. power lines). Plate outriggers as necessary (mark areas to place outriggers)
- Engineer sign off or City sign off required
- Check weight of each lift against lad charts.
- Notify competent person of clear area needed to assemble erection crane. Discussion should cover crane certifications and inspection records: operator, riggers, signal personnel certifications; overhead or underground utilities (e.g., overhead power lines); ground conditions (e.g., soft soil); coordination with other trades working in the area; outrigger placement; crane positioning with respect to the erection area; outrigger placement; pinch points with counterweights; access to trucks to unload crane components; and area congestion
- Inform the crane operator and oiler that they are responsible for ensuring that all involved in assembly/disassembly of the erection crane use all PPE and adhere to all safety precautions.
- Discuss the type of rigging that will be used, rigging owner, rigger and signaler qualification, and related topics.

All Parties

- Pedestrian Safety
- Ensure that the hoist foundation is poured and finished per design, and has attained its required strength before hoist installation.
- Locate a travel path for trucks to give them the best route to/from the work area.
- Ensure that electrical disconnect and power are available before work commences.
- Verify that the connection points between the hoist and the building are installed per the structural engineer's approved design.
- When erection team is finished, make sure all safeguards are working, including all floor intercoms and floor door limit switches. Subcontractor to verify that all safety devices are installed and checked for proper operation.
- Conduct a final pre-operation walkthrough with all parties involved to ensure safe operation of the hoist. Look for items such as hoistway protection, gaps between landing area and floors, and related issues.
- Ensure that bolt re torque is scheduled per manufacturer specifications.
- Provide a make-/model-specific self-inspection checklist.
- Verify make/model operator training, including that for back-up operators (during breaks).

Notes

Blank area for notes.

SECTION 27: FALL PROTECTION

REFERENCES:

- [OSHA Publication - Fall Protection in Construction](#)
- [OSHA Interpretations and Clarifications Subpart M - Fall Protection \(29 CFR 1926.500-503\)](#)
- [Training Requirements in OSHA Standards and Training Guidelines](#)
- [29 CFR 1926.502 - Fall Protection Systems Criteria and Practices](#)
- [29 CFR 1926.760 – Steel Erection/Fall Protection](#)
- [OSHA Sample Fall Protection Plan/Non-Mandatory Guidelines for Complying with 1926.502\(k\)](#)
- [29 CFR 1910.66 Appendix C - Personal Fall Arrest System](#)
- [OSHA - Fall Protection for Construction/A Survival Guide](#)

2. LF Driscoll, as a leader in safety, has instituted a six (6) foot rule for all fall protection issues namely hard barricades or personal fall arrest systems.
3. **The use of controlled access/decking zones, warning/control lines and safety monitors are not permitted unless the subcontractor provides complete documentation and training as per the OSHA standard. The plan and documents should be submitted to LF. Driscoll for review.**
4. The Project Team through contracts and purchase orders shall assign responsibilities for the installation, maintenance and daily inspections of fall protection systems to the appropriate parties and enforce their compliance. Emphasis shall be placed on areas of high activity or rapidly changing conditions, multiple trades and where the need for installation and maintenance is most critical.
5. The Project Team shall coordinate fall protection continuity throughout the phases of the project.
6. Subcontractor employees are not to work in unprotected areas without proper fall protection such as the use of a personal fall arrest system.
7. A site-specific fall protection plan should be developed by each subcontractor before employees are exposed to a fall hazard. Plan should include a list of anticipated exposures and anticipated protective systems for each phase of construction.
8. Protect every floor opening measuring more than 2 inch in its least dimension in any floor, roof or platform with a cover or a standard guardrail.
9. All hole covers to support two times the anticipated load, be secured from accidental displacement and be marked "HOLE" or painted a specified color.
10. Conventional guardrail systems shall meet the OSHA standards.
 - a. Wood guardrail system with 2x4 top rail at 42 above finished floor, midrail at 21-1/2" and 3 1/2" toeboard with a wooden post every 8 feet.
 - b. Wire rope cable system:
 - i. Minimum 1/4" cable, minimum flagged every 6 feet, with top rail at 45" above finished floor.
 - ii. Maintain a deflection of less than 3 inches with posts located at intervals to maintain cable deflection requirements, if required.
 - iii. Install turnbuckles at regular intervals, at least one per change of direction not to exceed 120 feet or four bays.
 - iv. Install cable clamps at each column to prevent a cable from being loosened and deflected around the entire perimeter.
 - v. Install a minimum of two cable clamps at the end of each run.
 - vi. Do not use wire rope cable systems as anchorage points unless designed with tabulated data from a registered professional engineer.

- c. Personal Fall Arrest System to include:
 - i. Full body harness with shock absorbing lanyard.
 - ii. 100% tie-off may require the use of a double lanyard.
 - iii. A retractable lanyard may be required in areas where the use of beam straps or other secure anchorage is not easily located.
 - 1. When using a retractable lanyard, a shock-absorbing lanyard is not permitted.
 - 2. Retractable lanyards used in the horizontal position must be designed for that use.
 - 3. A retractable is a good alternative at fall distances of 18 feet or less.
 - iv. Anchorage points to support 5000 pounds per person or twice the intended load, unless a system is designed by a registered professional engineer.
 - v. Inspect equipment and anchorage points daily by the subcontractor whose employees are using the fall protection system.
 - vi. Knots are prohibited in lifelines. Use termination bars for eye splice with thimble.
 - vii. Mousing all shackles.
 - viii. Fall arrest equipment must be inspected and logged annually.
- 11. All Subcontractors shall maintain Fall Protection Training Documentation as specified by OSHA and be available upon request:
- 12. The use of field designed and field fabricated horizontal lifelines systems are not to be used as anchorage points unless designed with tabulated data from a registered professional engineer and installed under the supervision of a qualified person. Proof of such design and proper installation must be furnished upon request. The system shall be designed as a whole system, not just the capacities of its component parts. An initial inspection and re inspection procedure shall be developed by the subcontractor and submitted to LF Driscoll for review.
- 13. The use of Pre-Engineered/Pre-Manufactured horizontal lifeline systems must be installed and used in accordance with manufacturer's instructions. Design data and written verification of proper installation must be furnished upon request.
- 14. Guard every stairway opening, ladder way opening or ladder platform on all exposed sides by a standard guardrail and use offsets or gates at the ladder access opening.
- 15. Every opening for manholes, pits, hatches, trapdoors, chutes, and skylights shall be guarded by a hole cover or standard guardrail.
- 16. Every wall opening from which there is a drop of more than 6 feet, and the bottom of the opening is less than 39 inches above the floor shall be guarded by a standard guard rail.
- 17. For dedicated/designated Loading Zones which require the removal of any type of fall protection (wooden or cable guardrail systems, windows, and wall panels, etc.):
 - a. The immediate area around the loading zone must have a hard barricade in place that meets the requirements of a standard guardrail system to prevent other trades working in the area and/or on that floor from being exposed to a fall hazard.
 - b. Removal of any type of fall protection, such as a guardrail system, must be replaced with approved personal fall protection.
 - c. Workers in loading zones shall be required to use a full body harness that they continue to wear and remain hooked until they are on the inside of the guardrail system which provides protection from a fall.
 - d. Temporary loading zones may use temporary barriers, which restrict the access of workers not engaged in that loading activity.
 - e. A 4"x 6" toeboard may be required when the possibility exists for motorized equipment to be driven off the edge.
 - f. Loading zones are to have the ability to be locked and controlled by LF Driscoll.
 - g. The guardrail disruption policy shall be enforced per site requirements.

18. Every flight of stairs having four (4) or more risers shall be equipped with stair railings or handrails as specified below:
 - a. A stair railing on each open side of the stairway.
 - b. At least one handrail.
 - c. Enclosed stairways less than 44 inches wide shall have at least one handrail. Enclosed stairways more than 44 inches wide shall have a handrail on each side.
 - d. Risers and treads on temporary stairs shall be of uniform height and width.
 - e. Permanent steel or metal stairways and landings with hollow pan type treads that are to be filled with concrete or other materials, when used during construction, and filled to the level of the nosing with solid materials.
19. Where Fall Protection must be removed to facilitate the work in progress, the Guardrail Disruption Permit shall be used. See forms section in this manual.
20. Perimeter guardrail systems shall concurrently follow the installation of completed sides and openings of decks and concrete formwork of all types.
21. Perimeter cable shall be installed concurrently as completed sides of decking are installed.
22. Temporary planked or temporary metal-decked floors shall be covered all openings.
23. All unused openings shall be covered with plank or metal deck and secured against accidental displacement.
24. An incomplete or leading edge of any temporary floor whether of planking, metal deck or concrete formwork shall not be left unguarded or unattended for extended periods of time due to delay or interruption of the completed installation. In such cases, access to the open end of the floor shall be closed to employees by wire rope cable or hard barricades.
25. Where subcontractors install fall protection on floors under their control, such fall protection may be left in place to service the long-term needs for Fall Protection of the project, providing that it meets all of the requirements of this Section of the Manual.
26. Any work beyond guard rail requires tool tether.

a. GUARDRAIL DISRUPTION PERMIT PROCEDURE

1. Subcontractor foreman to physically review area of upcoming work.
2. Upon determination that the guardrail system needs to be removed or altered, the subcontractor foreman will obtain and complete a Guardrail Disruption Permit to be submitted 24 hours in advance of work to LF Driscoll Superintendent.
3. When the subcontractor is permitted (by the LF Driscoll Superintendent), they are to remove or alter the existing guardrail system. If not approved or unable, a team of designated guardrail system workers will appear at the designated time to remove or alter the existing guardrail system. Site-specific requirements will prevail.
4. Before the existing guardrail system is removed or altered, a temporary hard barricade must be in place.
5. Before subcontractor workforce enters the newly defined work zone, the workers shall be tied off to an appropriate pre-identified anchorage point, with a personal fall arrest system.
6. If the subcontractor is permitted by the LF Driscoll Superintendent, they are to replace guardrail system to its specifications. If not approved, a team of designated guardrail system workers will appear at the designated time to remove or alter the existing guardrail system.
7. Subcontractor will contact LF Driscoll Superintendent when subcontractor work is completed so that a verification inspection can be conducted.
8. The hard barricades shall stay in place until the guardrail system is replaced and verified by a LF Driscoll appointed individual who will sign-off on the permit.
9. Permits will be posted at the worksite and maintained in the LF Driscoll Superintendent or Safety Manager office.
10. Review all permits to verify accuracy.
11. Anyone who is observed in an unprotected area without proper fall arrest or found in an unprotected area will be immediately removed from the job site.
12. Anyone tampering with the guardrail system without approval and an approved permit will be immediately removed from the job site.
13. Failure to follow the Guardrail Disruption Procedures is a Zero Tolerance Issue.

Guardrail Disruption Permit

GUARDRAIL DISRUPTION PERMIT			
Job Number:		FLOOR:	
Job Name:		Superintendent:	
Address:		City:	
Requesting date /time of disruption:		Subcontractor Requesting Permit:	
Anticipated date/time of completion of work		Foreman requesting Permit:	
Anticipated duration of disruption:		<u>PERMIT CLOSURE</u> <i>Date/Time Verification</i> <i>Name of LF. Driscoll Verified by (Sign below)</i>	
Approved by: (Print)			
Date Approved:			

Anyone that alters or removes any part of any guardrail system **MUST FIRST OBTAIN AUTHORIZATION FROM THE LF DRISCOLL SUPERINTENDENT**. This is a ZERO TOLERANCE POLICY and will result in immediate removal from the job.

Purpose for removing, altering or changing the guardrail system:
Location of the guardrail system to be adjusted:
Elevation: <input type="checkbox"/> North <input type="checkbox"/> South <input type="checkbox"/> East <input type="checkbox"/> West
Column line coordinates:
Name of subcontractor competent person who is trained & competent in the provisions of support in cfr 26 1926:
Identify appropriate anchorage point:
Check boxes that apply and complete separate checklist forms:
Beam clamp <input type="checkbox"/> beam strap <input type="checkbox"/> lanyard <input type="checkbox"/> harness <input type="checkbox"/> self-retractable <input type="checkbox"/> lanyard <input type="checkbox"/>
Anyone removing, repairing, or replacing the guardrail system must be fall protected the entire time by wearing a full body harness with proper anchorage before entering the exposed area. Before the guardrail system is removed, fall protection for all other workers in the area must be provided by a hard barricade.
What type of alternative temporary fall protection or warning line system is provided by the subcontractor?
Garlock system <input type="checkbox"/> wooden guardrail system <input type="checkbox"/> danger line system <input type="checkbox"/> other <input type="checkbox"/>
Once the disruption is completed, the guardrail system must be re-installed by an approved sub-contractor and inspected by subcontractor competent person:
Name of subcontractor competent person who inspected the re-installed guardrail:
Print name:
Signature:
Name of fall protection trained personnel to be working in the disrupted area:
Review Date:
By:

b. CABLE REWORK PROCEDURE

The removal or alteration of wire rope cable used for guardrail fall protection systems must be done only by qualified trade worker. The following is a guideline on reworking the cable.

1. Before any work on the guardrail system, guardrail disruption permit must be filled out and acknowledged by LF Driscoll.
2. Protect area with temporary hard barricades.
3. Set up the personal fall arrest system to a proper anchorage attachment.
4. Be sure to connect the lanyard or retractable hook to body harness before entering the “restricted work area”.
5. Dog off wire rope cable guardrail to maintain cable tension in areas not affected by the rework.
6. Once the area being reworked is isolated with a cable clamp beyond the closest upright to prevent the guardrail cable from dropping on the entire floor; bring cable back on itself (form a new loop) with 2 cable clamps attached with the saddle on the live end of the wire rope.
7. Rework cable using a cable dog and come-along.
8. After rework, tighten cable clamps.
9. Harness can now be disconnected from retractable.
10. Remove temporary hard barricades.

c. MAINTENANCE OF SAFETY INSTALLATIONS

1. Maintenance of all safety systems and installations are to be included in the contract documents and assigned to the appropriate trade.
2. Safety rules and regulations established for the project site require certain safety installations to be provided by LF Driscoll and/or its subcontractors. Such installations may include, but not be limited to the following:
 - a. Guardrails, toeboards and stair rails
 - b. Covers for floor holes and openings
 - c. Safety Nets, both horizontal and vertical
 - d. Overhead protection
 - e. Temporary fire protection systems
 - f. Signs and Posters
 - g. Temporary lighting
 - h. Rubbish Containers
 - i. Communication systems, signals and alarms
 - j. Gates and Bars
 - k. Toilets
3. Subcontractors and their workers shall respect all such installations and fully cooperate in their maintenance. Where an employer must remove or relocate safety installations to facilitate the work, the employer shall provide an alternate means of protection for its employees during the work.
4. Where safety installations must be removed or relocated on a large scale, or for extended periods, or permanently, or the subcontractor does not have the means of reinstallation, the subcontractor shall make advanced arrangements for coordination with LF Driscoll. All subcontractors shall instruct their workers on this requirement.

SECTION 28: ELECTRICAL SAFETY

REFERENCES:

- [29 CFR 1926 Subpart K – Electrical Safety Requirements](#)
- [29 CFR 1926.405 – Wiring Methods, Components, And Equipment For General Use](#)
- [29 CFR 1910 Subpart S – Electrical \(29 CFR 1910.301 thru 29 CFR 1910.399 and Appendix](#)
- [OSHA eTool - Electrical Circuits and Distribution Boards](#)
- [OSHA Publication #3120 – Control of Hazardous Energy; Lockout/Tagout](#)
- [OSHA Publication #3075 – Controlling Electrical Hazards](#)
- [OSHA Safety and Health Topics - Control of Hazardous Energy \(Lockout/Tagout\)](#)
- [OSHA Construction Outreach Program – Electrical Standards For Construction](#)
- [OSHA Construction Outreach Program – Hazardous \(Classified\) Locations](#)
- [OSHA Construction Outreach Programs - Ground-Fault Protection on Construction Sites](#)
- [29 CFR 1926.56 - Illumination](#)
- National Electrical Code (NFPA 70)**
- NFPA 70 E - Standard for Electrical Safety in the Workplace**

The following planning considerations are not all-inclusive as it pertains to the scope of work in the contract; nevertheless, they highlight important safety considerations that must be observed in the performance and execution of the contract. In all cases, adhere to State and Federal requirements. As a minimum, the items listed below must be done when performing electrical work and using electrical power.

1. All electrical work installation and wire capacities, both temporary and permanent, shall be in accordance with the pertinent provisions of the current edition of the National Electrical Code, NFPA, and OSHA 29 CFR 1926 Electrical Standards for Construction, Underwriter's Laboratory and local codes if applicable. Only trained and qualified personnel shall be permitted to work on electrical / mechanical equipment and installations.
2. All extension, power tool and temporary lighting cords are required to be designed for hard or extra hard usage. Cord sets made from Romex, flat cord, lamp cord or other similar cord types are not permitted.
3. Employees shall check the test and re-set functions of GFCI receptacles and/or listed portable GFCI devices where permanent building power is utilized at the start of each shift.
4. All temporary power will be GFCI protected and in compliance with the latest edition of the NEC, OSHA, and other applicable codes, including subcontractor/ owner requirements. This includes all cord and plug appliances/devices. This is not limited to 120 V circuits. Assured Equipment Grounding Conductor Program may be used in place of GFCI circuits.
5. GFCI pigtails are required when plugging into permanent power and must be plugged in at the receptacle.
6. Temporary lighting requires a fully jacketed cable assembly, and all wiring/baskets shall be properly supported by the basket.
7. Tri-plex and Quadra-plex installations for temporary power are not permitted.
8. In areas where temporary GFCI receptacles are not available (i.e., renovations), all subcontractors shall use listed portable GFCI devices.
9. Each contractor or subcontractor shall implement their own written Lockout/Tagout program. The site-specific Lockout/Tagout Policy is to be used in addition to individual LOTO programs, for all utility interruptions.
10. A Shutdown/Disruption Request (Utility Interruption Request) is required in advance of the work. Use project or facilities forms and coordinate accordingly, otherwise use form found in this manual.
11. All cord and plug connections shall be listed for the purpose when exposed to wet locations or other measures must be taken to prevent exposure.
12. Repairs to extension and tool cords are not permitted except for the replacement of cord caps by a qualified electrician.
13. The use of UL listed specification grade hard or extra hard duty cord caps is required when replacing the original pre-molded assembly.
14. Trouble lights shall not be used as extension cords.
15. All temporary power panels and disconnects shall be labeled, capable of being locked out and

- properly rated for the circuit it protects, with no open knockouts.
16. A pre-planning meeting is required for all work near high voltage.
 17. Hang temporary electrical and lighting wiring with non-conductive material.
 18. When possible, extension cords shall be hung in walkways or corridor or protected.
 19. The electrical Subcontractor responsible for maintaining temporary power and lighting is also responsible to conduct monthly testing of all GFCI protected outlets.
 20. Label temporary electrical outlets to identify its circuit connection.
 21. Extension cord sets used with portable electric tools and appliances will be three-wire type, equipped with three pronged plugs, and will be designed for hard or extra hard usage. 12-gauge wire size is preferred for general use, and 14-gauge cords are the minimum size permitted for single tool use (i.e. a single screw gun). 16-gauge cords are never permitted. Do not use cords with worn, frayed or broken insulation or with loose plugs.
 22. All conductors used for temporary power that consist of a raceway of any type or any type of metal sheathed cable must have ALL splices in a box or conduit body. CFR 29 1926.405(a)(2)(ii)(H), NEC 590.4(G).
 23. Energizing and securing all circuits shall be coordinated with the owner, if applicable.
 24. Any contractor exposed to electrical hazard will implement the provisions of NFPA 70E (Standard for Electrical Safety in the Workplace) including:
 - a. All subcontractors engaged in electrical work i.e. elevator constructors, hoist erectors, etc. will be required to submit an Electrical Safe Work Practice Plan which includes the elements of NFPA 70E.
 - b. No workers will be allowed to work on energized equipment not outlined in NFPA 70E.
 - c. Any energized work which is justified in accordance with NFPA 70E shall be done with all personal protective equipment as specified in NFPA 70E.
 - d. Submit a written procedure; including the PPE matrix of NFPA 70E before energized work is approved.
 - e. Submit a written plan of Electrical Safe Work Practices before mobilization.
 - f. Submit a list of all qualified persons capable of performing energized work with a written certification of training.
 25. Failure to follow NFPA 70E is subject to the Zero Tolerance Policy.
 26. The electrical contractor must at all times keep electric closet door locked or when door cannot be locked, then panel must be locked with no access given to anyone except LF Driscoll and the building management. The electrical contractor will provide and install warning signs on the door to the electrical room as well as each energized panel within that shows the voltage present in each panel.
 27. Identify with a label or sign whether or not all electrical panels and equipment are energized.
 28. All splices for permanent wiring shall be enclosed in junction boxes, properly covered, and labeled before they are energized.
 29. All permanent and temporary panel boards/switch boards, motor control center, etc. shall have dead front covers in place before being energized.
 30. Do not suspend temporary lighting wiring from piping, such as sprinkler system, water system, or sanitary system.
 31. Temporary lights shall be equipped with guards to prevent accidental contact with the bulb or the socket.
 32. Outlets exposed to the elements must be rated and designed for the environment.
 33. UF, SE, or NM (Romex) cabling used for temporary electrical power or lighting will not be located in poured concrete. CFR 29 1926.403(b)(2).
 34. General Electrical Safety measures:
 - a. Assume all electrical wires are energized. If existing conditions contain exposed conductors or J-boxes without covers, correct these conditions before anything else.
 - b. Do not wear watches, chains, rings or other metallic objects, which could act as conductors of electricity around electrical circuits.
 - c. Before leaving the job at lunch or at the end of the shift, test covers, insulators, and equipment to ensure they are free from exposed energy sources.

- d. Ground all electrical equipment whether portable or fixed. Double insulated portable tools do need not be grounded, but they must be in good condition and inspected before each use by the tradesman. Damaged electrical tools and equipment are not permitted on site.
 - e. The Superintendent shall enforce the use of Ground Fault Circuit Interrupter Devices by LF Driscoll and subcontractor workers on all electrical tools and extension cords. Use Ground Fault Circuit Interrupters (GFCI) on all wiring systems.
35. The electrical contractor must have in place a LOTO procedure that must be submitted at the beginning of the job. All electrical workers will be trained in the LOTO procedures, and evidence of the training will be submitted available to LF Driscoll upon request.
36. Lockout/Tagout Guidelines:
- a. Notify all affected employees of the impending lockout situation, the reason for it, and estimated start and duration times.
 - b. Place the breaker or switch in the "Off" or "Safe" position.
 - c. Lockout and tagout all in-line points of control. In most cases, this may be more than one place or more than one lock if several people are working on the equipment.
 - d. Lockout verification:
 - i. Verify that the locked-out switch or control cannot be overridden.
 - ii. Test the equipment to be certain that the locked-out switch is de-energized and not simply malfunctioning.
 - iii. Press all start buttons to see if the equipment starts.
 - iv. Ensure the system you will be working on is the same one that has been locked out.
 - e. Leave all locks and tags in place until work is completely finished.
 - f. Do not remove a lock except by the person who placed it there.
 - g. Only immediate supervisors are to authorize emergency removal of a lock or tag.
 - h. Before restarting the equipment, verify the following:
 - i. Remove all tools and other items.
 - ii. All machine guards are in place.
 - iii. All electric systems are reconnected.
 - iv. All employees are clear of equipment.
37. Electric / Bus Room Safety Measures:
- a. Do not enter or work in the bus room / electrical closet alone.
 - b. Do not leave any electrical closet doors open or unattended.
 - c. Do not carry any tools or materials above your waist while in the bus room.
 - d. Unless grounded, do not work on any bus, bus structure, cable, or disconnect switch.
 - e. Turn the main switch to "OFF" before removing and replacing power fuses.
38. Assured Equipment Grounding Conductor Program: All branch circuits, other than those operating at 15/20 amperes 120 Volts nominal, which are not GFCI protected shall be in compliance with the Assured Equipment Grounding Conductor Program [29 CFR 1926.404 (b) (1) (iii)]. This includes all cord sets and receptacles, which are not a permanent part of the building, or structure and equipment connected by cord and plug which are available for use by employee. The requirements included but not limited to the following as detailed in 1926.404 (b) (1) (iii): which includes:
- a. a written description of the program
 - b. designated competent person
 - c. daily inspection
 - d. testing for continuity and correct attachment to be performed:
 - i. before first use
 - ii. after repairs
 - iii. after any incident which may have caused damage
 - iv. monthly
 - e. Color code tape to indicate quarterly verification of testing as follows:
 - Jan – Mar: White
 - Apr – June: Green
 - July – Sept: Red
 - Oct – Dec: Orange

Note: Complete and document testing two weeks prior to the start of the next quarter.

a. LOCKOUT/TAGOUT POLICY

1. Lockout/Tag-out is an OSHA Standard which requires the blocking of existing systems, which may cause injury or damage, by the use of locks and tags.
2. The responsibility to establish and maintain a site-specific lockout/tagout program belong to the subcontractor whose scope of work includes systems which could store or release harmful energy, including electrical, mechanical, elevator or escalator systems, etc.
3. Conduct a pre-planning meeting by LF Driscoll and subcontractor personnel and be coordinated with existing owner procedures. On large jobs, all electrical subcontractors will need to be included in these efforts.
4. Notify LF Driscoll superintendents on all shutdown and startup of all MEP equipment.
5. Use locks with tags identifying the person(s) as the primary means of impairment.
6. Craft foreman will verify impairment before work begins.
7. Owner representative will verify completion of work, and with LF Driscoll superintendent and craft foreman, jointly remove all locks and tags.
8. Each worker involved in work requiring the use of lockout/tagout procedures shall be trained in the site-specific elements of the program.
9. A lockout/tag-out log will be maintained by the subcontractor responsible for locking out the system.
10. When there is more than one electrical or mechanical subcontractor on site, only one subcontractor will have the responsibility to energize/turning on circuits or services. Coordination by the LF Driscoll Project Team and MEP coordinator will identify the responsible subcontractor.
11. Train all workers affected by lockout/tagout procedures.

GENERAL REQUIREMENTS

1. A competent person shall determine potential sources of energy for equipment or building services prior to starting work.
2. De-energized the equipment or building service from all energy sources as determined above. Physically secured the device(s) used to de-energize the equipment or service shall be in the "safe" position and a danger tag and lock affixed.
3. Check the equipment or service to verify a "zero energy state." Equipment or services shall not be re-energized until all affected personnel are notified and are cleared, and the system has been checked out by competent personnel.
4. *NOTE:* Energy source is defined to include electricity, compressed air (Pneumatic systems), hydraulic systems, and corrosive, flammable or toxic substances.

SPECIFIC REQUIREMENTS

1. **Notification:** Prior to commencing work, LF Driscoll's superintendent and all affected trade contractors shall be notified of any shutdown of equipment to buildings services.
2. **Determination of energy sources:** With due consideration to the scope of work, all potential energy sources to the area or work shall be determined in advance by competent supervisory personnel. Special caution must be given to:
 - a. Multiple energy sources
 - b. Residual energy
 - c. Remote startup of equipment

De-Energization and lock out

1. **Electrical:**
 - a. Service disconnects and switches to the equipment or line upon which work is to be performed shall be opened (switch off) then locked in this position to prevent accidental engagement.
 - b. Install a "Danger" tag and lock to the switch. This tag is to be dated and signed by the supervisor requesting the lock out.

- c. Where more than one crew or craft performs work on the system, each crew foreman shall affix a tag and lock on the disconnect.
- d. Use multiple lock out devices.
- e. Lock keys shall be in the safe possession of the individual using the lock.
- f. Do not use combination locks.

2. Mechanical:

- a. All electrical powered pumps, valves and control devices in the system upon which work is to be performed shall be placed in the "safe" condition, then locked out and tagged in accordance with the electrical tag out/lock out procedure above.
- b. Mechanical isolating devices should also be used;
- c. Valves shall be placed in the "safe" position, and tagged and locked in this position, where possible.
- d. Slip blinds ("pancakes") may be required on systems without mechanical valves.
- e. Where more than one crew or craft performs work on a system, each crew foreman shall affix a tag and a lock to the physical isolating device.
- f. A competent person to ensure a "Zero Energy State" shall check systems and equipment upon which work is to be performed.
- g. Drain process equipment, vessels and piping prior to penetration.
- h. Flush or purge systems that have contained corrosive, toxic or flammable substances prior to starting work.

Note: CAUTION! Before any work is performed, a competent person shall verify that the system is de-energized.

Release from Lock Out

- 1. No system shall be re-energized until all tags and locks are removed and the system has been inspected to ensure safe operation, locks and tags shall only be removed by authorized personnel.

Note: CAUTION! Before any work is performed, a competent person shall verify that the system is re-energized.

B NFPA 70 E ENERGIZED ELECTRICAL WORK PERMIT & CHECKLIST

Location			
Job Number:		City:	
Job Name:		Address:	

Subcontractors			
Name:		Phone:	
Email:		Fax:	
Name:		Phone:	
Email:		Fax:	

Part 1: To be completed by the requester	
1. Description of circuit/equipment /job location: 2. Description of work to be done: 3. Justification of why the circuit/equipment cannot be de energized until the next scheduled outage:	
Name of Requester:	Date:

Part 2: To be completed by the qualified personnel performing the work	
1. Description of the Safe Work Practices to be employed: 2. Determination of Shock Protection Boundaries: 3. Results of the Flash Hazard Analysis: 4. Determination of the Flash Protection Boundaries: 5. Necessary personal protective equipment to safely perform the assigned task: 6. Means employed to restrict the access of unqualified persons from the work area: 7. Describe the emergency procedure for the scope of work: 8. Completion of a Job Briefing including discussion of any job-related hazards: <input type="checkbox"/> Yes <input type="checkbox"/> No 9. Has the client / property manager been notified of the scope of work? <input type="checkbox"/> Yes <input type="checkbox"/> No 10. Proof of Training? <input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> Check box if a detailed job hazard analysis (JHA) been completed for the above detailed work?	
<input type="checkbox"/> Check box if you agree the above described work can be performed safety. If no, return to requester.	
Name of electrically qualified person:	Date:
Name of electrically qualified person:	Date:

Notes:

Part 3: Energized Work Checklist

To be reviewed by foreman prior to start of work. Only valid for named wiremen and day issued.

Date:	
Address:	
Maximum Voltage:	
Start Time:	
Completion Time:	
Panel Location:	
Other:	

Personal Protective Equipment (PPE)

<input type="checkbox"/> Hard Hat	<input type="checkbox"/> Safety Glasses
<input type="checkbox"/> Face Shield / Hood	<input type="checkbox"/> Flash Resistant Jacket
<input type="checkbox"/> Flash Resistant Bibs	<input type="checkbox"/> Insulated Gloves
<input type="checkbox"/> Insulated Mats	<input type="checkbox"/> Insulated Blankets
<input type="checkbox"/> Insulated Sleeves	<input type="checkbox"/> Hearing Protection
<input type="checkbox"/> Insulated Tools	<input type="checkbox"/> Matching Cal. PPE
<input type="checkbox"/> Additional Required PPE	<input type="checkbox"/> Other:

Identify:

<input type="checkbox"/> The hazards	<input type="checkbox"/> Number of people needed to do the job
<input type="checkbox"/> The voltage levels involved	<input type="checkbox"/> The shock protection boundaries
<input type="checkbox"/> Any "foreign" (secondary source) voltage source	<input type="checkbox"/> Potential for arc flash (flash- hazard analysis)
<input type="checkbox"/> Any unusual work conditions	<input type="checkbox"/> Flash protection boundary

Ask & Know:

<input type="checkbox"/> Understand scope of work?	<input type="checkbox"/> Can back feeds on the circuits be worked on?
<input type="checkbox"/> Can the equipment be de-energized?	<input type="checkbox"/> Who else needs to know? Communicate!

Review the Following:

<input type="checkbox"/> Job plans	<input type="checkbox"/> Safety procedures
<input type="checkbox"/> Single-line diagrams and vendor prints	<input type="checkbox"/> Workers involved are familiar with the scope
<input type="checkbox"/> Lock / Tag / Test Voltage / Try	<input type="checkbox"/> Use the right tools and equipment, Including PPE
<input type="checkbox"/> Install and remove grounds	<input type="checkbox"/> Install barriers and barricades

Prepare for an Emergency:

<input type="checkbox"/> How is the equipment shut down in an emergency?	<input type="checkbox"/> Where are the closest fire extinguishers?
<input type="checkbox"/> Are radio communication available?	<input type="checkbox"/> Where is the nearest phone?

All Parties:

<input type="checkbox"/> Has the electrical system been Meggered?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="checkbox"/> Have reports been sent to the engineer for approval?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Note: All persons engaged in the performance of the work described herein must comply with OSHA (occupational safety and health administration) electrical safety related work practices (29 CFR part 1910.331 through .335), all other OSHA workplace safety regulations, state and local laws, codes, and regulations applicable to the work (including but not limited to those published by the National Safety Council and National Fire Protection Association), and all safety requirements of the building owner and its agents and/or representatives.

Name of electrically qualified person:		Date:	
Name of electrically qualified person:		Date:	

b. UTILITY SHUT DOWN PROCEDURES

1. Utilities include all mechanical, plumbing, or electrical services within a facility and incoming services to a facility. Examples are electrical, HVAC systems, natural gas, medical gas and vacuum system, laboratory gas supply systems, sewer, storm water plumbing, domestic and fire protection water supply, fire suppression systems, elevator service, nurse call systems, fire detection systems, intercom and telephone systems.
2. Submit all shut down requests in writing using the Request Form, or the owner request form, as specified by the jobsite superintendent.
3. Follow owner shutdown procedures which will take precedence, if applicable.
4. After the utilities are shut down, proper lockout/tagout procedures are to be followed. (See Lockout/Tagout section of this manual).
5. In occupied buildings or partially turned over buildings where securing or energizing utilities will affect the occupied areas, no utilities can be secured or energized without authorization of the owner. In most cases, the owner's representatives are responsible to complete the actual shut down and/or the energizing of utilities.
6. Remember, the owner owns his own systems.
7. We need to locate and test all isolation valves in advance. In occupied buildings, this process should be scheduled for after hours
8. Prior to any work, that may accidentally interrupt live systems, (mechanical, electrical, sewerage, hydraulic, pneumatic, etc.); the Project Superintendent shall review and coordinate the work with the representative utility company, authority or Local Municipal Agency and with trades doing the work. Implement proper safeguards as required to prevent accidental interruption of such systems. Work requiring review and safeguards may include demolition and any blind penetration of floors, walls and ceilings.
9. Identify, locate and verify all live systems whether they are mechanical, electrical, sewerage, hydraulic, pneumatic, etc.
10. Follow LO/TO procedures for re-energization.

UTILITY SHUT DOWN REQUEST FORM

Revise this form, as jobsite condition require.

Location			
Job Number:		Date:	
Job Name:		Subcontractor:	
Address:		Sent To:	

ALL SHUTDOWNS SHOULD HAVE AT LEAST A 10-DAY NOTICE EXCEPT FOR EMERGENCIES. APPROVAL OR DISAPPROVAL SHOULD BE RETURNED SIGNED AND EITHER APPROVED OR DISAPPROVED MARKED ON IT WITHIN (48) HOURS.	
<input type="checkbox"/> Emergency	<input type="checkbox"/> Routine
<input type="checkbox"/> Warning Line	<input type="checkbox"/> Safety Monitor
Distribution:	
FLOORS, AREAS OR BUILDINGS EFFECTED BY THIS SHUT DOWN (INDICATE ROOM NUMBER PER PLANS:	
Date of Shutdown:	Start Time:
Date of Completion:	Back on at:
Reason for Shutdown:	
OPERATIONS & MAINTENANCE	
Facilities Notified:	<input type="checkbox"/> Verbal <input type="checkbox"/> Written
Comments:	
Approved by:	Date:

SECTION 29: FIRE PREVENTION AND PROTECTION

REFERENCES:

[29 CFR 1926.150 – Fire Protection](#)

[29 CFR 1926.152 – Flammable and Combustible Liquids](#)

[OSHA Standard Interpretations - Fire Equipment Training Requirements](#)

[29 CFR 1910.157 – Portable Fire Extinguishers](#)

[OSHA eTool – Evacuation Plan and Procedures/Portable Fire Extinguishers](#)

[OSHA Publication 2254 – Training Requirements In OSHA Standards and Training Guidelines](#)

[OSHA Publication - Overview For 1926 Subpart F/Fire Protection and Prevention](#)

[OSHA Training and Reference Material - Flammable and Combustible Liquids](#)

[OSHA Technical Manual – Section D Fire Prevention and Protection](#)

Subcontractors are responsible to follow the fire prevention and protection procedures when any hot work (including burning, welding, soldering, open-flame or spark producing) activities are taking place or any other conditions exist which could cause fire and/or smoke. Site Specific procedures developed as required.

1. LF Driscoll will provide ABC 20# fire extinguishers to be placed at each stair tower and/or distributed throughout the jobsite and be visible in corridors and/or at the entrance to smaller projects, or as required by local jurisdiction.
2. All areas and equipment where hot work is anticipated is to be reviewed in detail by the subcontractor with the LF Driscoll Superintendent or Safety Manager.
3. Cover all voids and openings with fire resistant materials to prevent sparks/smoke from migrating and light test where possible. All protective material shall be fire resistant in occupied facilities or where a potential for fire exists.
4. A 20# ABC fire extinguishers are to be provided by the subcontractor for their own hot work, inspected monthly and annually to make sure they are fully charged and kept where they are visible and readily available. A garden hose is to be used when feasible.
5. Subcontractor shall provide a fire watch person on duty at all times during burning/welding where combustibles are present. One-hour minimum fire watch is required after hot work is completed. Up to a 3-hour fire watch may be required in sensitive areas (such as historic buildings or healthcare facilities) as determined by contract. Each Subcontractor is responsible to notify LF Driscoll that the fire watch is complete. The protection will be commensurate with the hazard.
6. The fire watch person is to be trained as to their duties and responsibilities and have no other duties. Fire watch procedures are to be reviewed with the subcontractor by the LF Driscoll superintendent or safety manager and thereafter delivered to the fire watch person. Fire watch person should be on the opposite wall or floor below if spark migration is possible.
7. When working in or adjacent to occupied facilities, perform the following:
 - a. Review the equipment involved with LF Driscoll to establish its function or operation and safety requirements.
 - b. LF Driscoll Project Team to establish an emergency shutdown procedure in writing with the Owner.
 - c. Obtain written approval of all procedures by the Owner's representative prior to the start of work as required.
 - d. Review location of air supply intakes for smoke management.
8. See procedures for Handling of Flammables and Combustibles in this manual.
9. Smoke exhaust equipment shall be provided by the subcontractor in occupied buildings or where otherwise required. Exhaust duct to be coordinated with Owner by LF Driscoll project team.
10. A Respiratory Protection Program should be in place when respirators are required.
11. Hot Work Permits to be issued by LF Driscoll Superintendent and completed as required by the subcontractor, especially in occupied buildings or as the building is closed in. Coordinate hot work permit with owner facilities management if required. A monthly hot work permit may be established early in the job when fire hazards are minimal, increasing to weekly as the potential for fire increases, and eventually, daily as the finishes are in progress or in an occupied building.

12. In some jurisdictions the Fire Code requires fire extinguishers be attached to each burning cart or outfit in addition to a fire extinguisher at the burning location.
13. No open flame or spark producing activity should take place in a combustible atmosphere or where combustible vapors are present.
14. Inspect fire extinguishers monthly and annually to ensure accessibility and serviceability. Monthly inspections can be completed by field staff. Conduct annual inspections by a qualified inspection agency.
15. Construct temporary structures within buildings, such as shanties and storage rooms, of non-combustible material, such as drywall or fire treated plywood stamped "FRT".
16. Install a dry standpipe for use as a temporary fire connection in all new construction. The system shall be coordinated with the local fire department requirements, have easy access, proper signage, and be maintained to within the floor of the highest poured floor.
17. All tarps are required to use fire retardant material.
18. Fire alarm systems should remain operational in renovations to notify employees when evacuation is required.
19. Install a fire detection system when required by the owner or when working in occupied, historical or otherwise sensitive buildings.

a. HANDLING OF FLAMMABLES & COMBUSTIBLES

REFERENCES:

- [29 CFR 1926.152 – Flammable and Combustible Liquids](#)
- [29 CFR 1926.155 - Fire Protection and Prevention](#)
- [29 CFR 1910.106 – Flammable and Combustible Liquids](#)
- [29 CFR 1910.110 – Storage and Handling of Liquefied Petroleum Gases](#)
- [29 CFR 1910.1200 – Hazard Communication](#)
- [OSHA Standard Interpretations - Clarification of Requirements for 1000 Gallon Diesel Storage Tank](#)
- [OSHA Standard Interpretations - Storage of Flammable and/or Combustible Liquids](#)
- [OSHA Construction Industry Safety and Health Regulations Digest](#)
- [OSHA Training and Reference Material – Flammable and Combustible Liquids](#)
- [29 CFR 1926.21 – Safety Training and Education](#)
- [OSHA Standard Interpretations Requirements for labels in a language other than English](#)

1. Segregate non-compatible materials, which may create a fire hazard, with a fire barrier rated for at least one hour or separated by 20 feet.
2. Use approved metal safety cans for flammable liquids or materials.
3. Flammable or combustible liquids or materials shall not be stored in areas used for egress.
4. Storage or handling of flammable liquids or gases is prohibited in any location, that could jeopardize egress from the site.
5. Use only approved metal storage cabinets for flammable or combustible liquids or materials and label "Flammable - Keep Fire Away".
6. Vent flammable/combustible storage cabinets to the outdoors.
7. A portable fire extinguisher with a minimum of 20 - ABC rating must be located within ten (10) feet of storage area.
8. Do not refuel equipment indoors with liquids with flash points below 100 degrees (gasoline, propane).
9. Storage of LPG (Liquefied Petroleum Gas) is not permitted within buildings.
10. Use flammable liquids only where there are no open flames or other source of ignition within 50 feet of the operation.
11. Dispensing of flammable liquids requires bonded and grounded containers.
12. Label all containers.
13. All flammables/combustibles shall be stored in metal containers.
14. SDS sheets shall arrive with hazardous materials.
15. Disposal of hazardous materials shall comply with manufacturer's recommendations.
16. Remove flammable and combustible items including dirty rags from the job each day or stored in closed metal containers.
17. At the end of each workday, it will be the responsibility of each subcontractor to make sure all work areas are clean. Remove all trash and debris to dumpsters.
18. Bulk storage location of flammable and combustible gases and liquids is exclusively at the discretion of LF Driscoll and/or the Owner.
19. Bulk storage containers shall be stored with a catch basin for spill control.
20. The storage and use of flammables and combustibles shall follow NFPA 30.
21. No more than 5 gallons of flammable or combustible liquids shall be stored in a room outside of an approved storage cabinet. Storage locations must be approved before bringing onto site.
22. "No Smoking/vaping or Open Flame" signs required to be posted within Flammable storage areas.
23. Subcontractors storing and using flammable and combustible liquids at the project site shall review and comply with NFPA, Local Municipal Fire Department rules and OSHA regulations 1926.153 (a) and (g).
24. Subcontractors with bulk or large-scale storage needs shall consult in advance with LF Driscoll for assignment of safe storage space and instructions for safe storage.

25. LF Driscoll shall strictly enforce subcontractors' compliance with the following requirements:
- Use only approved U.L. safety cans for handling and storing flammable liquids. Once a drum of flammable liquid is opened, it must be provided with an U.L. ground and bond system, dispensing system and vent bung.
 - Provide adequate ventilation in areas where flammable and combustible liquids are stored or in use. Subcontractors shall comply with Local Municipal Fire Safety Codes and OSHA regulations [1926.55, \(a\) and \(c\)](#) and [1926.57 \(a\) through \(3\)](#).
 - Use U.L. approved fire extinguisher in areas where flammable and combustible liquids are stored or in use.
 - Keep all areas where flammable and combustible liquids are stored and used clear of debris and sources of ignition.

b. HOT WORK PERMIT PROCEDURE

The subcontractor shall request hot work permits using the form provided by LF Driscoll.

- LF Driscoll and Building Facilities will review the formal request and locations.
- A joint walkthrough shall be conducted by both LF Driscoll and the subcontractor foreman.
- Each fire guard will be picking up their own hot work permit based on the approved locations determined during the joint walk.
- Any modifications to permits not identified on the initial walkthrough / joint pre-inspection will be again jointly inspected by the performing subcontractor foreman, trade person performing hot work and LF Driscoll.
- All hot works will be documented on a general log and shall identify all subcontractor fire watch personnel, their location and the competent person in charge of said operation. The subcontractor shall be responsible for their specific trade permits.
- All hot works permits will identify the amount of subcontractor fire guards required for the operation. Once the operation starts, if the field conditions change, the competent person will clarify or change quantity of guards and names on actual permits during area reviews.
- The subcontractor competent person will conduct the initial inspection of hot works within the first hour of issuance of permit to confirm compliance. Additional area inspections of specific hot works shall be performed hourly.
- Visual confirmation of all sparks at all time will be demanded. Noncompliance will be severely penalized which can include removal from site.

Training

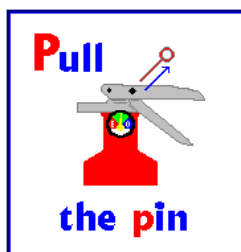
- All subcontractor personnel performing hot work must be trained documentation.
- If the LF Driscoll Hot Work Procedure is not being followed, immediately stand down all violating subcontractors and trade personnel performing hot work. Retraining will be performed by the subcontractor.
- A reorientation will be required for violating subcontractors performing hot work.

c. FIRE WATCH DUTIES

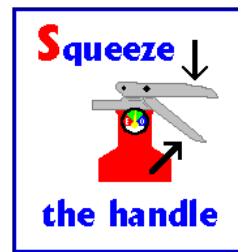
1. Be sure you have a Hot Work Permit before beginning any activity that could cause a fire or smoke incident. See the jobsite Superintendent in advance of burning, welding, etc.
2. A fire watch is required in or adjacent to occupied, completed or historical buildings where any spark producing, or open flame activity could result in a fire or smoke incident.
3. A fire watch should be sure to look at each level a spark might land before the hot work activity begins and take measures to prevent sparks from spreading. Use fire rated blankets, seal all areas and wet down or mist in advance if possible.
4. Be sure to look for air intakes to ensure that smoke will not enter an occupied building.
5. A garden hose is a preferred method of extinguishing a fire; however, a fire extinguisher should be readily available on each level where a spark could ignite a fire.



6. When the burning or welding begins, stand in a location where you are able to see sparks on multiple levels, or at the lowest level. Be sure that sparks do not continue down crevices or burn through tarps to lower elevations.
7. The fire watch person should have a radio or telephone to contact his/her foreman and LF Driscoll personnel immediately in the event of a fire.
8. Should smoke occur or small fires erupt, the fire watch should make an immediate effort to extinguish the fire while it is small or smoldering. Once fire spreads radio or telephone the Superintendent and notifies others to leave the area immediately.
9. Train the Fire Watch in the use of fire extinguishers, the above and other site-specific requirements, such as the closest Fire Alarm Pull Station.
10. Fire watch will continue after the completion of hot work for a minimum of one hour or as designed by building or local jurisdiction.



Aim at the base of the fire





WARNING!

HOT WORK IN PROGRESS. Watch for fire!

Part 2

Instructions

- Person performing Hot Work: Indicate time started and post permit at Hot Work Location. After Hot Work is completed, indicate time and leave permit posted for Fire Watch.
- Fire Watch: Watch area during hot work and for 60 min. after completion. Prior to leaving area, perform final inspection, sign, leave permit posted and notify firesafety supervisor.
- Monitor: Monitor area for additional three (3) hours. Perform final inspection, sign and return to firesafety supervisor.

HOT WORK BY

- Employee
 Contractor _____

Date _____ Job Number _____

Location/building and floor _____

Nature of job _____

Name (print) and signature of person performing hot work _____

I verify the above location has been examined, the precautions checked on the Required Precautions Checklist have been taken to prevent fire, and permission is authorized for this work.

Named (print) and signature of firesafety supervisor/operations supervisor _____

TIME STARTED	TIME FINISHED
a.m. p.m.	a.m. p.m.

Permit Expires	Date	Time	a.m. p.m.
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FIRE WATCH SIGNOFF:
 Work area and all adjacent areas to which sparks and heat might have spread were inspected during the watch period and were found firesafe.

Signed: _____

FINAL CHECKUP:
 Work area was monitored for three (3) hours following completion of the 60-min. fire watch and found firesafe.

Signed: _____

Required Precautions Checklist

- Control valves to water supply for sprinkler system are open.
- Hose streams and extinguishers are in service/operable.
- Hot work equipment in good working condition.

Requirements within 35ft. (11m) of hot work

- Flammable liquid, dust, lint and oily deposits removed.
- Explosive atmosphere in area eliminated.
- Floors swept clean.
- Combustible floors wet down, covered with damp sand or fire-resistive sheets.
- Remove other combustible material where possible. Otherwise, protect with FM approved welding pads, blankets and curtains, fire-resistive tarpaulins or metal shields.
- All wall and floor openings covered.
- FM approved welding pads, blankets and curtains installed under and around work.
- Protect or shut down ducts and conveyors that might carry sparks to distant combustible material.

Hot work on walls, ceilings or roofs

- Construction is noncombustible and without combustible covering or insulation.
- Combustible material on other side of walls, ceilings or roofs is moved away

Hot work on enclosed equipment

- Enclosed equipment cleaned for all combustible material.
- Containers purged of flammable liquid/vapor.
- Pressurized vessels, piping and equipment removed from service, isolated and vented.

Fire watch/hot work area monitoring

- Fire watch will be provided during and for 60 min. after work, including and break activity.
- Fire watch is supplied with suitable extinguishers, and where practical, a charged small hose.
- Fire watch is trained in use of equipment and in sounding alarm.
- Fire watch may be required in adjoining areas, above and below.
- Monitoring hot work area for to an additional three (3) hours after the 60-min. fire watch.

Other precautions taken:

- _____
- _____

d. HOT BITUMEN & KETTLE SAFETY

1. A pre-planning meeting is required. Submit a diagram of the location of the kettle and fire extinguishers. LF Driscoll needs to coordinate the location with entrances, delivery routes, and openings in the building. The convenience of the roofer should be way down the list of criteria.
2. Place the kettle so the lid opens away from the building so vapors will not enter the air ducts.
3. Light burners on a non-combustible surface and pointed away from equipment and material.
4. Always keep the kettle tubes covered with bitumen.
5. Always keep ABC rated fire extinguishers nearby.
6. Protect workers by face shield, long sleeve shirt, long pants, gloves, and over the ankle boots.
7. Inspect hoses, fittings and regulators daily before use.
8. Shut off burners prior to refueling the kettle engine.
9. Avoid direct contact with asphalt and pitch fumes. Use PPE if necessary.
10. Hot bitumen luggers or storage equipment shall be free of any water or ice before using.
11. Rope off kettle area when exposure to others exists.
12. At the end of hot bitumen operations each day:
 - a. Mop tubs and mini moppers shall be turned over and lugger lids closed to prevent the accumulation of ice and water.
 - b. Used mops shall be removed from the roof, spun out and placed on a non-combustible surface.
 - c. Kettle burners shall be locked up or removed from the jobsite.
 - d. In populated areas, the kettle lid and outlet valve shall be locked.
13. Do not leave unattended lit kettles.
14. Train all workers in equipment operation and submit training documentation at the pre-con meeting.
15. Calibrate kettle thermometer and verify working condition at all times.
16. Separate combustible materials to prevent spread of fire.
17. Keep kettle on the ground when possible.
18. Use and location of hot bitumen or kettle is exclusively the discretion of LF Driscoll and/or the owner.

e. LIQUIFIED PETROLEUM GAS (LPG)

REFERENCES:

[29 CFR 1926.153](#)

1. LPG is not to be stored inside any building.
2. Protect LPG containers from vehicular traffic.
3. A corral is required for LPG cylinder storage.
4. Storage area to be preferably paved, but level and free from combustible material including weeds and grass for a radius of 10 feet.
5. Concrete barriers are required if LPG is exposed to vehicular traffic.
6. Size piping and regulators according to NFPA 58 and Manufacturer's recommendations.
7. Support and protect all above ground piping from physical damage.
8. Test piping systems for leaks. Do not test with a flame.
9. Check with local regulations to determine if permit is required.

f. WELDING

REFERENCES:

[OSHA Publication 3151 – Personal Protective Equipment](#)

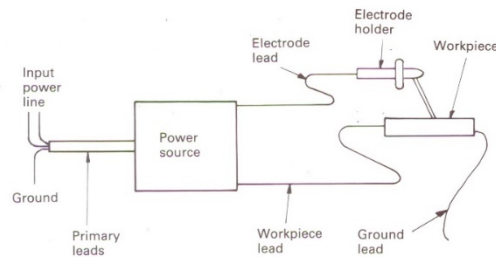
[OSHA eTool General Safety and Health – Hot Work/Welding](#)

[29 CFR 1910.253 – Oxygen-Fuel Gas Welding and Cutting](#)

[29 CFR 1926 – Subpart J, Welding and Cutting; 1926.350 through 1926.353](#)

This procedure establishes the practices and the equipment to be used when performing cutting and welding operations to adequately protect life and property are to be adequately protected. This procedure covers all electric welding, oxy-acetylene fusion welding and cutting, brazing, welding, electric resistance or induction welding, forge and flow welding. See Fire Prevention and Protection in this manual.

1. All welders must have hard hats with hoods attached directly to hard hats.
2. All grinding shields must be attached directly to hard hats.
3. No repairs are permitted in the last ten feet of a stinger.
4. All connections to the welding machine must be protected to prevent shock exposure.
5. All welding lead connections must be covered with electrical tape to prevent shock exposure.
6. Subcontractor is responsible to ensure proper ventilation and smoke exhaust/capture for work within closed-in buildings.
7. Work within occupied building, historical buildings, or areas requiring special attention will require a mandatory three (3) hour fire watch.
8. Prior to the start of welding within an occupied building, historical buildings, or areas requiring special attention, the areas must be inspected by the LF Driscoll Field staff and/or the Owner.
9. Pipelines containing gases or flammable liquids, or conduits containing electrical circuits, shall not be used as a ground return.
10. Welding screens shall be used to protect employees and other persons from the direct rays of the arc.
11. Fire extinguishing equipment shall be immediately available in the work area and shall be maintained in a state of readiness for instant use by the subcontractor.
12. A full-time fire watch is required for all welding activities in the presence of combustibles.
13. Prior to welding within a confined space, a preplanning meeting must be conducted and confined space requirements (in this manual) must be followed.
14. Welding surfaces with toxic coatings shall be stripped of all toxic coatings for a distance of at least 4 inches from the area of heat application, or the employees shall be protected by proper respiratory protection. Final determination of potential exposure will be determined after personal air sampling has been completed.
15. When inert-gas metal-arc welding is performed on stainless steel, adequate local exhaust ventilation as described above or airline respirators in accordance with the requirements of Subpart E shall be used to protect against dangerous concentrations of welding fumes and gases.
16. Welders and assistants performing any type of welding, cutting, or heating shall be protected by suitable eye protection equipment in accordance with the requirements of OSHA 1926 Subpart E.
17. All tarps used on the jobsite that may be exposed to sparks or open flames must be made of fire retardant/flame resistant material.
18. During welding operations, the welder shall report to their direct supervisor any unexpected fluctuations in current or loss of welding arc.
19. Subcontractor is responsible to inspect work piece and insure it is grounded prior to starting work. Grounded means work piece is directly connected to building steel via observable solid connection. If the work piece to structural steel is not visible, then a grounding cable will be utilized to create a visible source. Welding Machine has two (2) leads. The work lead shall be clamped to the work piece. The electrode lead shall hold the welding rod used for welding on work piece. The following graphic shows how an ARC welding job is to be setup.



Ground lead can be to the building steel or cable connecting work piece to building steel.

RESTRICTED AREAS:

1. Welding and cutting operations are prohibited in or near areas or equipment containing flammable vapors, dusts, or liquids, on or in closed tanks or other containers that have held flammable liquids until all fire and explosive hazards have been eliminated. Under no circumstances are welding or cutting operations to be performed in or on containers, drums, tanks, or other vessels containing combustible or flammable liquids, or other substances of a similar dangerous nature. When it is desired to use drums as trash containers, the head should be cut out with a drum cutter and never burned out.

SPRINKLER PROTECTION:

1. If the work to be performed is within a building equipped with an operative sprinkler system, the sprinkler system must not be made inoperative during cutting and welding operations unless specific permission is granted by superintendent, or his designated representative. Should sprinklers be within three feet of the welding torch, suitable protection by baffle or fire-retardant wrapping must be used to prevent fusing. A wet rag on the head is another option.

FLOOR AND MATERIAL PROTECTION:

- a. The basic precautions for fire protection in welding and cutting operations are: When practical, remove the object to be welded, or cut, to a safe location designated for such work. If the object to be welded or cut cannot be readily moved, all movable fire hazards in the vicinity shall be taken to a safe place at least thirty feet from the cutting or welding protection.
- b. If the object to be welded or cut cannot be moved and if all fire hazards cannot be removed then after the combustible floors have been swept clean, they should be protected by flame proof tarpaulins or the equivalent or, if practical, the area may be wet down.
- c. Wherever there are floor openings or cracks in the flooring that cannot be closed, an examination should be made to ascertain that there are no highly combustible materials on floors below which would be exposed to sparks that might drop through the floor. The same protection should be observed with regard to breaks or holes in walls, open doorways, and open or broken windows.
- d. In grassy areas, the vegetation shall be cropped closed to the ground and well wet before cutting and welding operations are completed.
- e. **CAUTION!** Ordinary waterproof tarpaulins must not be used. This type of tarpaulin would add to rather than retard a fire.

PERSONNEL AND THEIR PROTECTION:

1. In all cases, operators of welding and cutting equipment shall be competent personnel, certified by the local jurisdiction where applicable.
2. All equipment shall be placed so that it is clear of passageways, ladders, and stairways.
3. Helmets or hand shields shall be used during all arc welding or arc cutting operations and shall be arranged to protect the face, neck and ears from direct radiant energy from the arc.
4. Welder goggles or other suitable eye protection shall be used during all gas welding or cutting operations.

Welders' gauntlet gloves, sleeve protectors, and aprons shall likewise be used by the operator. Suitable barriers, protecting screens, and warning signs should be used to protect the public or others not involved in the welding or cutting operations.

g. TEMPORARY HEATING GUIDELINES

REFERENCES:

[29 CFR 1926.154](#)

1. Temporary heating devices shall be of an approved type. For example, an UL Listed appliance.
2. Electrical heaters are preferred.
3. For petroleum based operated heaters such as propane or LPG, fresh air shall be supplied in sufficient quantities to maintain the health and safety of employees. Determination of sufficient quantities of fresh air shall be done with air monitoring.
4. Kerosene heaters shall not be used.
5. Temporary heating devices shall be installed to provide clearance to combustible material not less than 36 inches to the rear and sides.
6. Heaters not intended by the manufacturer for use on wood floors shall not be set directly upon them or other combustible materials. When such heaters are used, they shall rest on suitable heat insulating material or at least 1-inch concrete, or equivalent. The insulating material shall extend beyond the heater 2 feet or more in all directions.
7. Heaters used near combustible tarpaulins, canvas, or similar coverings shall be located at least 10 feet from the coverings. All coverings shall be securely fastened to prevent action by the wind from displacing a loose covering and upsetting the heater or igniting the coverings.
8. Heaters, when in use, shall be set horizontally level, unless otherwise permitted by the manufacturer.
9. Flammable liquid-fired heaters shall be equipped with a primary safety control to stop the flow of fuel in the event of flame failure.
10. At least a 4A:60-B:C rated fire extinguisher (normally a 10lb fire extinguisher) shall be readily available for use when temporary heating devices are used.
11. Heaters with open flames shall not be used for temporary heating within shanties when personnel are not present. When you leave the shanty, turnoff the heater.
12. Carbon Monoxide (CO) monitoring shall occur inside buildings when open flame equipment is used to ensure appropriate air quality.

h. MATERIAL STORAGE

1. Subcontractors storing material on site shall consult in advance with LF Driscoll for assignment of storage space and instructions for safe delivery routes as well as storage.
2. LF Driscoll shall designate and assign safe locations for bulk storage of materials.
3. Separate and segregated areas for bulk storage of compressed fuel gases, flammable and combustible liquids shall be designated and assigned outside of buildings.
4. Subcontractors shall review and comply with Local Municipal Agency requirements and OSHA regulations 1926.151, (a) and (b) which are applicable to safe material storage.
5. Special consideration shall be given by subcontractors to those regulations for segregation, clearance and methods of storing and stacking materials.
6. LF Driscoll shall strictly enforce subcontractors' compliance with the following material storage requirements:
 - a. Material stored in buildings under construction shall not exceed the maximum safe load limits of floors.
 - b. All material shall be kept back at least 10 feet from the outer perimeter of open floors and at least 6 feet back from interior floor openings and open shafts.
 - c. Material shall not be stored in aisles and passageways, on loading docks or in such a way as to block exits. Material shall be kept well back from the entry to hoists.

- d. Materials stored in tiers shall be stacked, racked, blocked, interlocked or otherwise secured to prevent sliding, falling or collapse.
- e. Cylindrical material such as pipe, unless in racks, shall be stacked and blocked to prevent falling or spreading of the stack.
- f. Materials shall not be stored on scaffolds in excess of that needed for immediate use.
- g. Materials shall not be stored on top of any overhead protection.
- h. Materials shall not be piled or leaned against guardrails. Materials stored adjacent to guard rails shall not be piled higher than the guardrails.

i. HOUSEKEEPING

REFERENCES:

[29 CFR 1926.25, Housekeeping](#)

[OSHA Standard Interpretations "Protection of Impalement Hazards: Rebar and Other Hazards"](#)

[OSHA Ergonomics eTool; Electrical, Materials Handling: Staging and Housekeeping](#)

[29 CFR 1926.1101, Asbestos](#)

[29 CFR 1910, Subpart E, Exit Routes, Emergency Action Plans, and Fire Prevention Plans](#)

[29 CFR 1910.141, Sanitation](#)

[29 CFR 1926.250, General Requirements for Storage](#)

[29 CFR 1910.179, Handling materials - General](#)

[OSHA Woodworking eTool, Procedural and Administrative Controls](#)

[29 CFR 1926.56, Illumination, Table D-3](#)

1. Poor housekeeping on construction projects creates unsafe walking and working conditions due to tripping hazards and is an ever-present fire hazard due to the flammable and combustible nature of most construction **debris should be removed daily**.
2. The Superintendent shall develop a housekeeping program at the start of the project and assign responsibilities for cleanup and removal of debris as required.
3. The following housekeeping rules shall be enforced:
 - a. Make certain that subcontractors understand their contractual obligations for cleanup and removal of their debris. Enforce contractual requirements.
 - b. Plan and set up schedules for prompt emptying of rubbish containers.
 - c. Full containers shall be removed promptly and replaced with empty containers.
 - d. Allow sufficient time in elevator schedules for rubbish removal.
 - e. Hoses, extension cords, welding leads, etc., shall not be laid on the floor in occupied areas outside of construction areas. All such lines shall be hung overhead.
 - f. Combustible or flammable debris shall be cleaned up and removed on a daily basis. Accumulations of this type of debris are prohibited.
 - g. Construction debris shall be cleaned up **as the work progresses** and shall not be permitted to accumulate or remain scattered and strewn about.
4. In no case shall construction debris be permitted to become strewn or accumulated in occupied areas outside of construction areas.
5. Debris produced from construction activities in such areas shall be cleaned up and removed as it is produced.
6. The following areas shall be kept clear of debris at all times:
 - a. Walkways
 - b. Aisles
 - c. Stairways
 - d. Ladder ways
 - e. Ramps
 - f. Loading docks
 - g. Elevator lobbies and landings
 - h. Entrances to the project
7. **Containers for debris shall be provided at the following locations:**
 - a. Employee lunch areas

- b. Shanties
 - c. Storerooms
 - d. Field offices
 - e. Entrances to project
 - f. Lower landing of elevator
8. Where containers for debris are not readily available, the debris shall be put into isolated piles ready for removal and not left scattered and strewn about.
 9. Debris shall not be dropped from heights over 20 feet unless through a chute enclosed on all sides.
 10. When debris is dropped through holes or openings in a floor without the use of chutes, the area onto which the debris is dropped shall be completely enclosed with barricades not less than 42 inches high and not less than 6 feet back from the projected edge of the opening above.
 11. Employees shall not enter the area while debris is being dropped.
 12. All debris shall be kept back at least 10 feet from the open sides of floors and at least 6 feet back from the edges of floor openings until cleaned up and removed.
 13. Nails may not be left protruding from lumber. Protruding nails shall be pulled, backed out or bent over.
 14. Oil and grease spills shall be cleaned up at once.
 15. Where sweeping of debris from floors may create dusty atmospheres, sweeping compound shall be used or the floors sprinkled with water, whichever is required to reduce dust in the atmosphere to acceptable levels.
 16. Workers shall wear the appropriate Personal Protective Equipment (PPE) such as dust masks, and if necessary eye protection when sweeping.
 17. Where openings to rubbish chutes may permit materials to ricochet or fly out of the openings or where the openings present a falling hazard to employees, the opening shall be equipped with a cover of 3/4 inch plywood or its equivalent or with a 2" x 4" bar across the opening.
 18. Covers or bars shall be kept in place when the opening is not in use.
 19. Where the openings are large enough to admit a wheelbarrow, a substantial wheel stop shall be installed on the floor in front of the openings.
 20. Where employees may be required to enter into chutes or under the bottom discharge of chutes to clear blockages, make repairs to the chute, arrange debris in containers or switch containers, etc., an adequate warning system shall be provided to prevent others from dumping debris down the chute onto employees below.
 21. In no case shall the bottom discharge of a chute be left in such a condition as to permit employees to inadvertently walk or enter under the open end. When there is no rubbish container under the chute, the area under the discharge shall be barricaded.
 22. Where construction activities take place in occupied areas, outside of regular construction areas, and the work cannot be isolated, only such tools, equipment and materials as may be immediately used shall be permitted. One employee shall serve as flagger to warn occupants of the hazards and direct them away from or around the work.
 23. Construction materials and equipment shall not be stored in occupied areas outside of construction areas.
 24. Where construction materials, tools, supplies and equipment must be moved through occupied areas, one employee shall serve as flagman to warn occupants of the hazards and direct them away from or around the move.
 25. When required, lights shall be installed on chutes. Red for do not dump and green for good to dump.

j. COMPRESSED GAS CYLINDERS

1. See Liquefied Petroleum Gas in this manual if appropriate.
2. Keep valve protection cap in place at all times when a cylinder is not in use.
3. When cylinders are hoisted, secure them on a cradle, slingboard or pallet.
4. Move cylinders by tilting and rolling on their bottom edges. Care in handling is required. Do not drag cylinders.
5. Use carriers or carts provided for that purpose when cylinders are in use.
6. "In use" cylinders are ones that are "ready" to be used with regulators attached.
7. When "in storage", maintain a distance of at least 20 feet or provide a one-hour fire rated, non-combustible barrier at least five feet high separating fuel/gas cylinders from oxygen cylinders. This applies to indoor and outdoor storage. Cylinders in storage must have caps in place and secured.
8. Compressed gas cylinders, secured in an approved cart, may be stored overnight if local jurisdictions permits.
9. Propane must be stored outside of buildings in a corral.
10. In some jurisdictions the Fire Code requires fire extinguishers be attached to each burning cart or outfit in addition to a fire extinguisher at the burning location.
11. Keep cylinders away from vehicular traffic.
12. Keep cylinders out of stair towers and egress paths.
13. The LF Driscoll superintendent or safety manager will designate:
 - a. Well-ventilated storage areas for cylinders inside buildings.
 - b. Take care to keep storage areas out of traffic areas or other situations where they could be knocked over, damaged or tampered with.
 - c. Locations for fuel gas and oxygen manifolds in well-ventilated areas.
14. All compressed gas cylinders, whether full or empty, in use or in storage, or during transport, shall be secured in an upright position at all times.
15. The storage of propane cylinders inside buildings is prohibited. Cylinders not hooked up for use are considered to be in storage.
16. Propane cylinders hooked up for use need not be secured providing that they stand on a firm, level and stable footing.
17. Valve protection caps shall not be used for hoisting cylinders from one vertical position to another.
18. Prior to raising cylinders from a horizontal to a vertical position, the valve cap must be made hand tight. The cylinders should then be raised by grasping the cap.
19. Cylinder valves shall be closed before moving the cylinder, when the torch is not in active use and at the termination of work.
20. Valves on empty cylinders shall be closed.
21. Cylinders shall be kept far enough away from the actual cutting and welding operations so that sparks, hot slag and flame will not endanger them.
22. Empty cylinders shall be treated as if they were full, with proper storage and identification.
23. Regulators must be removed when cylinders are not used within a 24-hour period or as local jurisdiction permits.
24. Torch back flow preventor and an antflash back valve is required at the regulator.

K. WORKING IN OR AROUND OCCUPIED BUILDINGS

1. All construction activities taking place in or close to occupied structures create special safety hazards.
2. LF Driscoll project teams must be aware that occupants are unfamiliar with construction processes and that special controls are required for the safety of the structure and its occupants.
3. LF Driscoll project teams shall review in advance all construction work in occupied structures that may create safety hazards for the occupants or the structure with the facility manager.
4. LF Driscoll project teams will coordinate work controls and sequencing with facilities management so that occupants can be notified to minimize hazards and disruptions to operations.
5. Where subcontractors perform work in occupied structures that may require any of the controls set forth below, the work shall not proceed without approval of the Superintendent at least 24 hours in advance of the work.
6. Superintendents shall implement the following controls as required:
 - a. Environmental Controls:
 - i. Where occupants may be exposed to excessive noise and vibration, alternate methods and equipment may be employed.
 - ii. Tools, machinery and other construction equipment with special mufflers and sound silencing accessories are available for use in such circumstances.
 - iii. Where feasible, the work may be scheduled to off hours so that occupants are not adversely affected by the work.
 - iv. Where occupants may be exposed to welding flashes, laser beams, or other forms of radiation, the work shall be screened.
 - v. Where occupants may be exposed to contaminated atmospheres due to gases, vapors, fumes, dusts, mists, or odors, the work shall be isolated from occupied areas by temporary closures or the affected areas ventilated by natural or mechanical means as required to reduce the exposure.
 - vi. Where occupants of the structure may be exposed to the build-up of flammable or combustible atmospheres, natural or mechanical ventilation shall be employed to reduce the exposure.
 - vii. Sources of ignition in the affected areas shall be eliminated.
 - viii. See section Fire Prevention and Protection for other requirements.
 - ix. The use of equipment powered by internal combustion engines inside of closed structures is prohibited.
7. Where fire or smoke alarms may be set off due to construction activities, the LF Driscoll project team shall coordinate the work with the building management to prevent false alarms. Coordination may require the temporary isolation or shutting down of alarm systems. Where smoke, fumes, odors, etc. from construction activities may be dispersed into occupied areas through air intakes, air handling systems, etc., the LF Driscoll project team shall coordinate such activities with the facilities management to control the hazard. Coordination may require the closing of intakes or shutting down air handling systems
8. Closures and Barricades:
 - a. Construction areas and activities in occupied structures shall be isolated from occupied areas by the installation of temporary partitions, fences, barricades or other means as required to prevent unauthorized or inadvertent entry by occupants.
 - b. All temporary closures shall be free of projections that may present tripping hazards to occupants, or upon which they may become snagged, impaled or bumped into.
 - c. Install doors equipped with locking devices at all points of entry to construction areas and keep closed and locked during non-working hours.
 - d. Keep gates closed at the point of entry to construction areas or control areas by a flagger.

SECTION 30: LADDER SAFETY

REFERENCES:

- [29 CFR 1926.1053 - Ladders](#)
- [29 CFR 1926.1051 – General Requirements/Ladders](#)
- [OSHA Construction eTool – Ladder Safety](#)
- [OSHA Construction eTool – Misuse of Portable Ladders](#)
- [OSHA Publication 3124 – Stairways and Ladders](#)
- [29 CFR 1910.25 – Portable Wood Ladders](#)
- [29 CFR 1910.26 – Portable Metal Ladders](#)
- [OSHA Quick Card – Portable Ladder Safety Tips](#)

1. Do not use ladders with broken/dented or missing steps or rungs, broken or split side rails or other defects.
2. Do not paint any ladders.
3. Do not repair or alter manufactured ladders.
4. Subcontractors should have their name on their ladders.
5. Workers are to use only their employer's ladders.
6. Use A-frame ladders only in the open position.
7. Secure straight ladders to avoid accidental displacement.
8. Straight ladders on smooth surfaces must have slip resistant feet.
9. Follow the manufacturer's recommendations.
10. A competent person shall inspect ladders for defects.
11. Train all workers in ladders as specified by OSHA.
12. Ladders should be stored in a secure position.
13. Do not separate extension ladders and use them as two ladders.
14. Do not use aluminum ladders.
15. Ladders shall extend at least three feet above the exit level.
16. Use only rated portable ladders, at a minimum, Type 1 (Heavy Duty).
17. Fall protection is required when working on a ladder placed closer to a guardrail than the height of the ladder. For an example, a ten (10) foot ladder used closer than ten (10) feet from a guardrail will require fall protection in the form of a personal fall arrest system with appropriate anchorage.
18. Do not use ladders in the horizontal position as platforms, runways or scaffolds.
19. Do not use planks and ladders to make a scaffold.
20. Exit from a working area for 25 or more employees or simultaneous two-way traffic requires a double ladder.
21. Side rails of job made ladders shall extend not less than 36 inches above the top landing level, and the space between the side rails at the top 36 inches shall be free of rungs or other obstructions to permit employees to enter or leave the ladder between the side rails.
22. The pitch of the ladder shall be such that the horizontal distance from the top support to the foot of the ladder is about 1/4 of the length of the ladder between the top support and the base.
23. Job made ladders are to comply with ANSI 14.4 standards or designed by a registered professional engineer.
24. Ladder labels must be fully legible.

SECTION 31: SCAFFOLD SAFETY

REFERENCES:

- [29 CFR 1926 – Subpart L/Scaffold](#)
- [29 CFR 1926.454 – Scaffold Training Requirement](#)
- [29 CFR 1910.28 – Safety Requirements For Scaffolding](#)
- [29 CFR 1926 – Subpart L Appendix A thru E](#)
- [OSHA Standard Interpretations - Storage Of Materials On A Scaffold For More Than One Shift's Work](#)
- [OSHA Standard Interpretations - The Difference Between Maintenance & Construction; Scaffold Inspection Requirements; And Definition Of Periodic Scaffold Inspection](#)
- [OSHA Safety and Health Topics - Scaffolding](#)
- [OSHA eTool - Scaffolding](#)
- [OSHA Publication #3150 - A Guide to Scaffold Use In the Construction Industry](#)
- [OSHA Publication #3252 – Worker Safety Series, Construction](#)
- [OSHA Slide Presentation – 1926.450 Subpart L, Scaffold](#)
- [OSHA Quick Card – Supported Scaffold Inspection Tips](#)
- [Standard Interpretations - Training Qualifications For The Competent Person Inspecting Scaffolds](#)

General Requirements:

1. All components of a scaffold system shall be from a single manufacturer.
2. Review major scaffolding projects involving multiple trades for proper buy-out, including inspections, alterations and trainings.
3. Trades using LF Driscoll scaffolding require waivers. Subcontractors will otherwise manage their own waivers. See Scaffolding Release Form in this manual.
4. Pre-planning may be required for scaffold usage, depending on the size and complexity of the scaffold.
5. Training is required for all trades working on scaffolding in the elements specific to that scaffold. Competent person training, erector training, and user training will be required per task.
6. Erectors shall be trained and competent in scaffold erection.
7. Subcontractors shall submit in writing a feasibility assessment for providing fall protection during erection and dismantlement.
8. A competent person must inspect scaffolds daily. Written verification is required.
9. Use ladders to access scaffolds not designed for climbing.
10. Scaffold erection for pedestrian protection shall be designed and inspected by a Registered Professional Engineer and shall demonstrate adequate design capability to protect the public from anticipated overhead hazards.
11. Scaffolds designed by RPE shall be inspected by same to verify scaffold was built as per design and specifications. Additional/periodic inspections and/or scaffold modification as required.
12. Fully plank all working levels.
13. Guardrail systems should be in place for scaffold exceeding 6'-0 or PFAS is required.
14. A guardrail system shall consist of the following:
 - a. Handrail at 42" or X-bracing placed at 38"- 48" above work platform
 - b. Midrail at 21" or X-bracing placed at 20"- 30" above work platform
 - c. Toe boards are required.
15. Protect scaffolds from electrical hazards. Ground scaffolds as required.
16. When erecting scaffolding within 20 feet of energized electrical lines, a pre-planning meeting with a JHA is required. Erect no scaffold within 10' of un-insulated power lines OR only after the utility company has notification that the lines have been de-energized, relocated or insulated.

Uninsulated Line Voltage	Minimum Distance
300v to 50kv	3 feet
More than 50kv	10 feet plus .25 inches or each 1 kv over 50kv

17. The use of a tagging system is required on all scaffolds above one frame.

18. The tagging system shall indicate green for fully compliant scaffolding; yellow for scaffolding that is non-compliant in identified areas and may require additional fall protection. Do not use scaffolding tagged red.
19. When required, stair scaffold systems shall be engineered and stamped by a registered professional engineer. Examples are: Multiple trades, or when the stairs to be moved by a crane.

Supported Scaffolds:

1. Bear scaffold on mudsills and base plates.
2. Per Scaffold Industry Association (SIA) Standards, feet are required on all scaffolds.
3. Guy and brace scaffold at a 4:1 ratio where horizontal members support both inner and outer legs.
4. Shall be erected plumb, level and square.

Rolling / Baker Scaffolds:

1. To prevent racking, install horizontal diagonal bracing (except baker scaffolds).
2. Apply wheel brakes when being used.
3. Rolling scaffolds shall be securely pinned together and should always be fitted with horizontal diagonal bracing as recommended by the manufacturer.
4. Scaffolds with working platforms above 6 feet in height shall have guardrails on all open sides and ends of the platform as specified by OSHA
5. Scaffolds on stairs or in stairwells shall have leveling base plates installed.
6. Scaffolds with the working platform above 6 feet shall use a self-supporting ladder for worker access and shall have a gate.
7. Scaffolds shall use outriggers when height of the working platform exceeds 4 times the base.
8. Fully plank working platforms.
9. Do not use spackle buckets or a ladder on top of a scaffold.
10. Baker type scaffolding with locking type picks is preferred.
11. Subcontractors' personnel shall not be permitted to ride scaffolds unless the floor remains clear of trash, material, debris, is free of floor openings and meets CFR 1926.451(e)(7)(I)(ii)(iii)(iv).

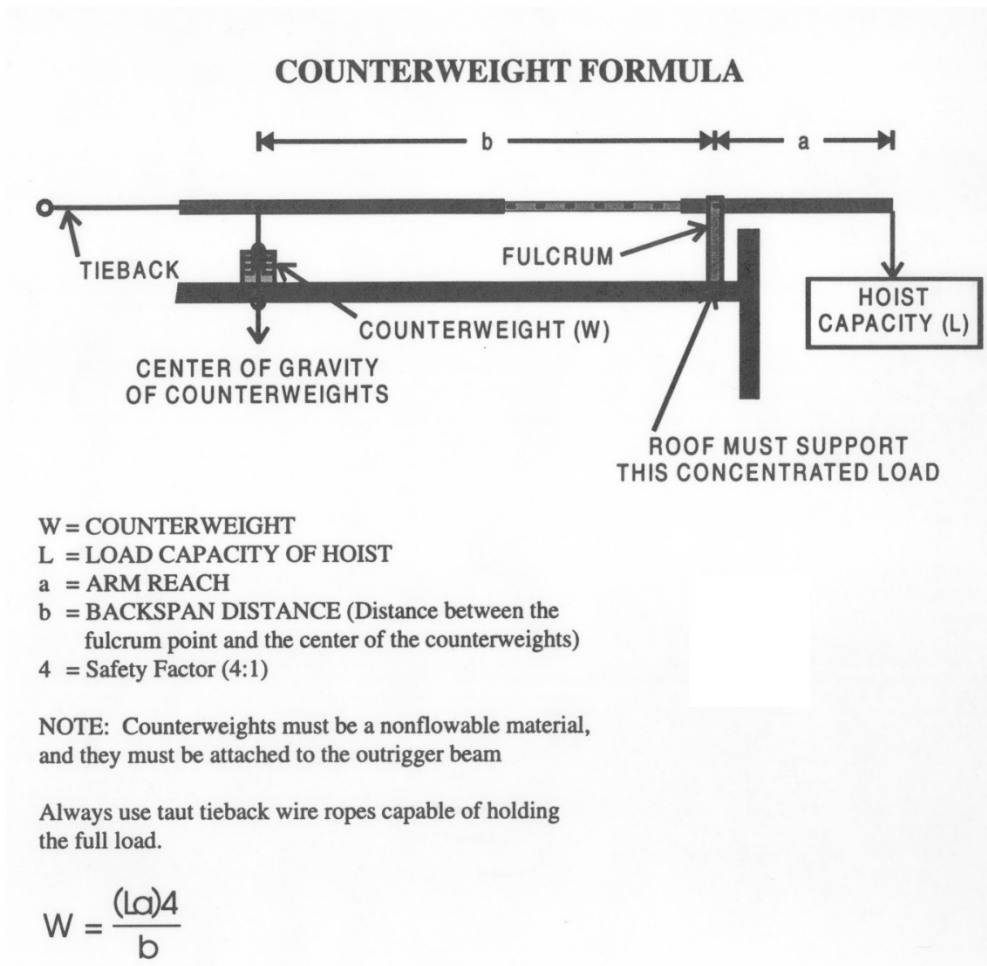
Suspension Scaffolds or Swing Scaffolds:

1. Preplanning is required to determine the roof capacity, installation, counterweight formula, anchorage capacity, access and other relevant issues. Written documentation is required.
2. Before use, a competent person shall evaluate all direct connections.
3. Counterweights shall be non-flowable and secured by a mechanical means to prevent displacement.
4. Install tiebacks perpendicular to the face of the wall otherwise, two tiebacks are required.
5. Secure tiebacks to structural elements, which have been determined to withstand the dynamic load of the scaffold upon slippage.
6. Inspect wire rope daily for damage.
7. A minimum of three double fisted/unisex wire rope clips shall be used according to the manufacturer's recommendations and re-tightened to the manufacturer's recommendations after the initial loading. Daily inspections required.
8. Protect all wires and lifelines from damage and abrasion.
9. Personal Fall Arrest System with vertical lifeline and rope grab system required at all times, unless another equivalent system is used. Do not use shock-absorbing lanyards with rope grabs.

a. SWING SCAFFOLD PREPLANNING AGENDA

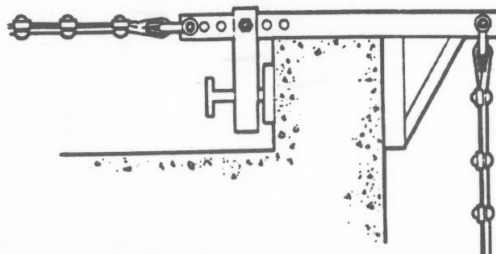
- 1. Location or elevation for setup:**
 - a. Type of scaffold:
 - b. Manufacturer:
 - c. Roof Conditions:
 - d. Parapet structurally sound:
 - e. roof protection required:
 - f. type:
- 2. Swing Setup:**
 - a. method for loading materials:
 - b. crane:
 - c. fall protection required on roof:
 - d. details:
- 3. Swing Configuration:**
 - a. stabilization by:
 - b. cornice hooks, parapet clamps, etc. with engineer stamp approval of parapet wall required
 - c. use blocking
 - d. Outrigger beams:
 - i. load rating label required
 - e. tie backs anchored to:
 - f. use "J" style twin base saddle clamps ("Fist Grips")
 - g. do not use "U" style cable clips
 - h. hoist motor rating
 - i. motor load label required
- 4. Counterweights:**
 - a. type:
 - b. secured from accidental displacement by:
 - c. load formula:
 - d. required counterweight load:
 - e. maximum intended load:
- 5. Fall Protection:**
 - a. full body harness:
 - b. anchorage points:
 - c. method of attachment:
 - d. protect lifeline from abrasion by:
 - e. type of rope for lifeline:
 - f. rope grab:
- 6. Assured equipment grounding conductor program required for other than 120V per OSHA**
- 7. Inspection required before each shift:**
- 8. Access to Scaffold:**
- 9. Training:**
- 10. Competent Person:**

b. SWING STAGE SCAFFOLD COUNTERWEIGHT FORMULA



PARAPET CLAMPS

Parapet clamps grip the parapet. The parapet holds the total weight of the suspended and the support systems and therefore can only be used with a parapet strong enough to take the load and large enough to fit the clamp.



c. AERIAL/SCISSOR LIFTS

REFERENCES:

[OSHA Publication - Construction Industry Digest](#)

[OSHA Publication - Aerial Lifts Safety Tips](#)

[29 CFR 1926.453 – Aerial Lifts](#)

[29 CFR 1910.67 - Vehicle-mounted Elevating and Rotating Work Platforms](#)

1. Pre-plan all activities, including adequacy of equipment for the task.
2. Training of users is required upon delivery. Subcontractor must obtain written verification of training and maintain for 3 years.
3. Inspection of equipment is required before each use and every 3 months or 150 hours of use.
4. Manual must be with equipment.
5. Inspect floor area for obstructions, floor openings, hole covers and levelness before use.
6. If clearance or visibility is limited, provide a spotter to assist.
7. Do not run equipment over hole covers without explicit written confirmation that the cover will support two times the intended load.
8. Inspect overhead clearances, especially for electrical hazards before use
9. When raising the lift, ensure hands are inside the railings and be aware of overhead obstructions.
10. Labels shall be posted.
11. Familiarize yourself with the controls before use.
12. Fasten all gates and chains before use.
13. Travel in fully lowered position for distances over 10'-0".
14. Do not travel in lifts while elevated unless permitted by the lift manufacturer.
15. Avoid running over or closing lift on electrical cords or lines.
16. Do not stand on the handrails, or use ladders or planks. Platform should be able to be raised to the required work level. On scissors type lifts, if the workers feet are not on the platform deck fall protection must be worn.
17. If using fall protection harnesses and lanyards inside the lifts, the lanyard (even if self-retracting) cannot exceed 6 feet in length. This OSHA requirement is to prevent workers from climbing out of the lifts.
18. Do not use the lift as a crane. Tools, equipment or material must be in the basket and cannot exceed load rating of platform.
19. Dismount lift via built-in ladder.
20. Use outriggers as required.
21. If the possibility exists for roll away, chock the wheels.
22. Alteration of equipment requires manufacturer's written approval.
23. Accident reporting
24. (full-body harness) in boom lift only, or as specified in scissors lifts.
25. Use LF Driscoll Aerial Lift Permit. LF Driscoll, to create and monitor Aerial Lift Log as required. LF Driscoll Aerial Lift Permits are available from the Corporate Safety Department. On an interim basis, use the Aerial Lift Permit in the Forms section of this manual.
26. Aerial lifts include aerial devices to elevate employees above the ground and may include extendible boom platforms, aerial ladders, articulating boom platforms, vertical towers and a combination of any of these.
27. Only authorized, trained persons shall operate an aerial lift.
28. Workers in lifts with manufactured anchorage points are required to use a full body harness and tie-off.
29. Ensure JHA's are comprehensive and include scissor lift use and review with workers.

d. AERIAL LIFT PERMIT

Location			
Job Number:		Date:	
Job Name:		Subcontractor:	
Address:		Competent Person:	

Information	
Type of lift: <input type="checkbox"/> Scissor <input type="checkbox"/> Boom	Permit #
Location of Lift	
Floor:	Location:
Rental Agency:	Rental contact numbers:
Manufacturer:	Model:
Weight of the unit:	Serial #:
Last Inspection:	Next Inspection Due:
Checklist	
<input type="checkbox"/> Pre-Planning	<input type="checkbox"/> Proof of Training
<input type="checkbox"/> Unit Manual with Machine	<input type="checkbox"/> Test Controls before each use
<input type="checkbox"/> Warning labels posted on machine	<input type="checkbox"/> All Handrails in Place
<input type="checkbox"/> Full body Harness for Boom Lifts & Scissor Lifts	<input type="checkbox"/> Proximity of Electrical Hazards
<input type="checkbox"/> Path of Travel Clear of Debris & Floor Holes	<input type="checkbox"/> Full body harness required with appropriate tie off point:
<input type="checkbox"/> Other:	

SECTION 32: CONFINED SPACE ENTRY PROCEDURE (CSEP)

1. Introduction

The purpose of this program is to protect our employees and assist other employers protect their employers with regard to confined spaces that exist in the workplace or may come to exist through construction work activity. This program sets out procedures consistent with the United States Department of Labor's Occupational Safety and Health Administration (OSHA) standards Title 29 CFR 1926.1200 Subpart AA.

Construction sites are continually evolving, with the number and characteristics of confined spaces changing as work progresses. Occasionally, the materials we work with or the work activities we perform can create dangerous conditions that would classify our working environment into a confined space or worse a permit required confined space. This new OSHA rule emphasizes the necessity of training as well as continuous worksite evaluations and communication. The standard also holds various entities accountable for our worksites including controlling contractors, hosts and owners. These entities are required by OSHA to share information of known or foreseeable confined space hazards that we may encounter while at work.

2. Applicable Definitions

- a. **Acceptable entry conditions:** The conditions that must exist in a permit space, before an employee may enter that space, to ensure that employees can safely enter into, and safely work within, the space.
- b. **Attendant:** An individual stationed outside one or more permit spaces who assesses the status of authorized entrants and who must perform the duties specified in §1926.1209.
- c. **Authorized entrant:** An employee authorized by the entry supervisor to enter a permit space.
- d. **Barrier:** means a physical obstruction that blocks or limits access.
- e. **Blanking or blinding:** The absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.
- f. **Competent person:** One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them.
- g. **Confined space:** A space that:
 - i. Is large enough and so configured that an employee can bodily enter it;
 - ii. Has limited or restricted means for entry and exit; and
 - iii. Is not designed for continuous employee occupancy.
- h. **Control:** The action taken to reduce the level of any hazard inside a confined space using engineering methods (for example, by ventilation), and then using these methods to maintain the reduced hazard level. Control also refers to the engineering methods used for this purpose. Personal protective equipment is not a control.
- i. **Controlling Contractor:** The employer that has overall responsibility for construction at the worksite. Note. If the controlling contractor owns or manages the property, then it is both a controlling employer and a host employer.
- j. **Double block and bleed:** The closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.
- k. **Early-warning system:** The method used to alert authorized entrants and attendants that an engulfment hazard may be developing. Examples of early-warning systems include but are not limited to: alarms activated by remote sensors; and lookouts with equipment for immediately communicating with the authorized entrants and attendants.
- l. **Emergency:** Any occurrence (including any failure of power, hazard control or monitoring equipment) or event, internal or external, to the permit space that could endanger entrants.

- m. **Engulfment:** The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, crushing, or suffocation.
- n. **Entry:** The action by which any part of a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space, whether or not such action is intentional or any work activities are actually performed in the space.
- o. **Entry Employer:** Any employer who decides that an employee it directs will enter a permit space.
- p. **Entry permit (permit):** The written or printed document that is provided by the employer who designated the space a permit space to allow and control entry into a permit space and that contains the information specified in §1926.1206 of this standard.
- q. **Entry rescue:** This occurs when a rescue service enters a permit space to rescue one or more employees.
- r. **Entry supervisor:** The qualified person (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this standard. Note. An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this standard for each role he or she fills. Also, the duties of entry supervisor may be passed from one individual to another during the course of an entry operation.
- s. **Hazard:** A physical hazard or hazardous atmosphere. See definitions below.
- t. **Hazardous atmosphere:** An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:
 - i. Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);
 - ii. Airborne combustible dust at a concentration that meets or exceeds its LFL; Note: This concentration may be approximated as a condition in which the combustible dust obscures vision at a distance of 5 feet (1.52 meters) or less.
 - iii. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
 - iv. Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart D—Occupational Health and Environmental Control, or in Subpart Z—Toxic and Hazardous Substances, of this part and which could result in employee exposure in excess of its dose or permissible exposure limit; Note. An atmospheric concentration of any substance that is not capable of causing death, incapacitation, and impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this definition.
 - v. Any other atmospheric condition that is immediately dangerous to life or health. Note. For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Safety Data Sheets that comply with the Hazard Communication Program.
- u. **Host employer:** The employer that owns or manages the property where the construction work is taking place.
- v. **Hot work:** Operations capable of providing a source of ignition (for example, riveting, welding, cutting, burning, and heating).
- w. **Immediately dangerous to life or health (IDLH):** Any condition that would interfere with an individual's ability to escape unaided from a permit space and that poses a threat to life or that would cause irreversible adverse health effects.
- x. **Inerting:** Displacing the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.
- y. **Isolate or isolation:** The process by which employees in a confined space are completely protected against the release of energy and material into the space, and contact with a physical hazard, by such means as: blanking or blinding; misaligning or removing sections of lines, pipes,

- or ducts; a double block and bleed system; lockout or tagout of all sources of energy; blocking or disconnecting all mechanical linkages; or placement of barriers to eliminate the potential for employee contact with a physical hazard.
- z. **Limited or restricted:** For entry or exit means a condition that has a potential to impede an employee's movement into or out of a confined space. Such conditions include, but are not limited to, trip hazards, poor illumination, slippery floors, inclining surfaces and ladders.
 - aa. **Line breaking:** The intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.
 - bb. **Lockout:** The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.
 - cc. **Lower - flammable limit or lower explosive limit:** The minimum concentration of a substance in air needed for an ignition source to cause a flame or explosion.
 - dd. **Monitor or monitoring:** The process used to identify and evaluate the hazards after an authorized entrant enters the space. This is a process of checking for changes that is performed in a periodic or continuous manner after the completion of the initial testing or evaluation of that space.
 - ee. **Non-entry rescue:** Occurs when a rescue service, usually the attendant, retrieves employees in a permit space without entering the permit space.
 - ff. **Non-permit confined space:** A confined space that meets the definition of a confined space but does not meet the requirements for a permit-required confined space, as defined in this subpart.
 - gg. **Oxygen deficient atmosphere:** An atmosphere containing less than 19.5 percent oxygen by volume.
 - hh. **Oxygen enriched atmosphere:** An atmosphere containing more than 23.5 percent oxygen by volume.
 - ii. **Permit-required confined space (permit space):** A confined space that has one or more of the following characteristics: (1) Contains or has a potential to contain a hazardous atmosphere; (2) Contains a material that has the potential for engulfing an entrant; (3) Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or (4) Contains any other recognized serious safety or health hazard.
 - jj. **Permit-required confined space program (permit space program):** The employer's overall program for controlling, and, where appropriate, for protecting employees from, permit space hazards and for regulating employee entry into permit spaces.
 - kk. **Physical hazard:** An existing or potential hazard that can cause death or serious physical damage. Examples include, but are not limited to: explosives (as defined by paragraph (n) of §1926.914, definition of "explosive"); mechanical, electrical, hydraulic and pneumatic energy; radiation; temperature extremes; engulfment; noise; and inwardly converging surfaces. Physical hazard also includes chemicals that can cause death or serious physical damage through skin or eye contact (rather than through inhalation).
 - ll. **Prohibited condition:** Any condition in a permit space that is not allowed by the permit during the period when entry is authorized. A hazardous atmosphere is a prohibited condition unless the employer can demonstrate that personal protective equipment (PPE) will provide effective protection for each employee in the permit space and provides the appropriate PPE to each employee.
 - mm. **Qualified person:** 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.
 - nn. **Representative-permit space:** A mock-up of a confined space that has entrance openings that are similar to, and is of similar size, configuration, and accessibility to, the permit space that authorized entrants enter.

- oo. **Rescue:** Retrieving, and providing medical assistance to, one or more employees who are in a permit space.
- pp. **Rescue service:** The personnel designated to rescue employees from permit spaces.
- qq. **Retrieval system:** The equipment (including a retrieval line, chest or full body harness, wristlets or anklets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.
- rr. **Serious physical damage:** An impairment or illness in which a body part is made functionally useless or is substantially reduced in efficiency. Such impairment or illness may be permanent or temporary and includes, but is not limited to, loss of consciousness, disorientation, or other immediate and substantial reduction in mental efficiency. Injuries involving such impairment would usually require treatment by a physician or other licensed health-care professional.
- ss. **Tagout:**
 - i. Placement of a tagout device on a circuit or equipment that has been deenergized, in accordance with an established procedure, to indicate that the circuit or equipment being controlled may not be operated until the tagout device is removed; and
 - ii. The employer ensures that the tagout provides equivalent protection to lockout, or that lockout is infeasible and the employer has relieved, disconnected, restrained and otherwise rendered safe stored (residual) energy.
- tt. **Test or testing:** The process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.
- uu. **Ventilate or ventilation:** Controlling a hazardous atmosphere using continuous forced-air mechanical systems that meet the requirements of §1926.57—Ventilation.

3. Procedures Before Work Begins

Before work at a worksite begins our competent person, working with the owner, host employer and or controlling contractor will identify all confined spaces in which one or more of our employees may work or may be affected and inform employees accordingly. If there are permit required confined spaces present within the workplace our competent person will assure:

- a. That there is a means of effectively warning employee of the existence, location and the dangers posed by, each permit space. A sign reading “DANGER -- PERMIT- REQUIRED CONFINED SPACE, DO NOT ENTER” or using other similar language would satisfy this requirement but training on the nature of the existing or potential permitted spaces MUST be presented.
- b. That there exist effective measures to prevent unauthorized employees from entering that permit space.
- c. That a certificate is produced affirming that employees have been effectively made aware of existing spaces and fully understand the respective hazards of each space.

4. Awareness-level Confined Space Training & Certification

Before workers enter a worksite where confined spaces exist or could potentially come into existence due to construction activity, our employees will receive awareness level training for confined spaces and permit required confined spaces. The competent person will ensure that the trained employees possess the understanding, knowledge, and skills concerning confined spaces in general. If it becomes evident that an employee does not understand the information that was previously presented, the competent person will ensure retraining occurs immediately upon recognition of such a deficit.

A Certificate of Confined Space Inventory & Employee Awareness form will be completed by our Competent Person designated to the worksite who will continually monitor workplace for changes that may create new confined spaces and permit required confined spaces.

If employees must enter a permit required confined space we will make use of the procedures outlined in the written permit space portion of this program.

5. Procedures for Entry

When confronted with a necessary entry into a permit required confined space we will always utilize our safety director and staff and seek to reclassify the space to a Non-permit required confined space. Our actions will always be performed with the cooperation of the owner/host and or the controlling contractor

representative. **ALL PERMIT-REQUIRED CONFINED SPACE ENTRIES WILL BE PERFORMED WITH A FULL SPACE-SPECIFIC HAZARD ASSESSMENT PROVIDING CONTROLS AND METHODS OF PROCEDURES.** We will always first seek the following controls to reclassify a permit required confined space before entry is attempted under permit:

- a. Eliminate all physical hazards in the space through isolating engineering controls.
- b. Supply continuous forced air ventilation to maintain that permit space safe for entry, and that, in the event the ventilation system stops working, entrants can exit the space safely.
- c. Provide monitoring and inspection data that supports the purpose of entry.
- d. Provide documentation that employees are aware and trained for the site specific details of the entry.
- e. All conditions making it unsafe to remove an entrance cover are eliminated before the cover is removed.
- f. When entrance is opened, the area around the work must be guarded by a railing, temporary covers, or other temporary barriers that will prevent an accidental fall through the opening and that will protect each employee working in the space from being struck-by objects entering or falling into the space.
- g. Internal atmosphere are tested, with a calibrated direct-reading instrument, for oxygen content, for flammable gases and vapors, and for potential toxic air contaminants, in that order. Any employee who enters the space, or that employee's authorized representative, must be provided an opportunity to observe the pre-entry testing required by this paragraph.
- h. Continuous monitoring of atmospheric hazards with monitoring equipment that has an alarm that will notify all entrants if a specified atmospheric threshold is achieved, or that an employee will check the monitor with sufficient frequency to ensure that entrants have adequate time to escape.
- i. All authorized representatives and entry team members are briefed and provided with an opportunity to observe the testing procedures.
- j. All authorized representatives and entry team members are trained in emergency rescue.
- k. All authorized representatives and entry team members are trained in space-specific symptoms of exposure to the space according to data from host employer and data collected by LF Driscoll's Competent Person.
- l. Certification of permit will be reviewed by all team members and the host employer. This certification contains the date, the location of the space, and the signature of the person providing the certification. The certification must be made before entry and must be made available to each employee entering the space or to that employee's authorized representative and a copy posted adjacent to the space.
- m. Supply and train employees in personal protective equipment insofar as feasible engineering and work-practice controls do not adequately protect employees.
- n. Provide adequate lighting equipment that meets minimum applicable illumination requirements that are approved for the ignitable or combustible properties of the specific gas, vapor, dust, or fiber that will be present, and that is sufficient to enable employees to see well enough to work safely and to exit the space quickly in an emergency.
- o. Provide proper well-maintained equipment, such as ladders, needed for safe ingress and egress by authorized entrants and rescue and emergency equipment.
- p. Develop and implement a system for the preparation, issuance, use, and cancellation of entry permits and the safe termination of entry operations under both planned and emergency conditions.
- q. In coordination with controlling contractor and emergency response team members develop and implement procedures to coordinate extrication rescue.
- r. Develop and implement a communication system.
- s. Review annually review all entries performed in such spaces.
- t. Incorporate all affected employee into the process.

6. Competent Person Continuous Monitoring

LF Driscoll will provide confined space Competent Persons who are on site and monitoring throughout their work activities the presence and the spontaneous developments of confined spaces and permit

required confined spaces. When there are changes in the use or configuration of a non-permit confined space that might increase the hazards to entrants, or some indication that the initial evaluation of the space may not have been adequate the competent person will reevaluate that space and, if necessary, reclassify it as a permit- required confined space. Again it is LF Driscoll's policy to always seek to reclassify a permit required space into a non-permit required confined space.

7. Permit Space Entry Communication and Coordination

Before work begins, the host employer must provide the following information, if it has it, to the controlling contractor and to LF Driscoll's Competent Person who will memorialize this communication with an LF Driscoll Certificate of Confined Space Inventory & Employee Awareness (see above). This information will contain:

- a. The location of each known permit space;
- b. The hazards or potential hazards in each space or the reason it is a permit space; and
- c. Any precautions that the host employer or any previous controlling contractor or entry employer implemented for the protection of employees in the permit space.
- d. Before entry operations begin, the controlling contractor will obtain the host employer's information about the permit space hazards and previous historic entry operations to the space so the new entry team and evaluate previous entries, and provide to LF Driscoll all information received from the host employer and any additional information the controlling contractor has about the space. The responsibilities of the controlling contractor are vital to the continued safety of LF Driscoll employees and other trades affected by our work. In addition to general conditions, the confined space responsibilities include:
 - a. Coordination of entry operations when more than one entity performs permit space entry at the same time; or permit space entry is performed at the same time that any activities that could foreseeably result in a hazard in the permit space are performed.
 - b. The controlling contractor must debrief each entity that entered a permit space regarding the permit space program followed and any hazards confronted or created in the permit space(s) during entry operations and make a record of these findings to present to the host employer.
 - c. The controlling contractor must apprise the host employer of the information exchanged with the entry entities pursuant to this subparagraph. (3) Communications equipment necessary for compliance with paragraphs §1926.1208(c) and §1926.1209(e), including any necessary electronic communication equipment for attendants assessing entrants' status in multiple spaces;

8. Permitting Process Including Suspension and Cancellation of Entry Procedures

If a hazard is detected during entry all LF Driscoll entrants will leave the space immediately and the space re-evaluated to determine how the hazard developed. From this evaluation, LF Driscoll's competent person and supervisory staff must contact Safety Director to implement measures to control hazards and protect employees from the hazard before any subsequent entry takes place. The occurrence of hazards into the space will be treated as an incident or accident and investigated fully to find the root cause of the omission. If we use a hoisting system, only of which is designed and manufactured for personnel hoisting for extrication, we will re-inspect the equipment before new entry occurs. The Process will include the following sequence of activities:

- a. Document the completion of hazards, and measures of control with a full hazard assessment analysis and prepare an entry permit.
- b. Before entry begins, the entry supervisor on the permit must sign the entry permit to authorize entry.
- c. Post the completed permit so that the entrants can confirm that pre-entry preparations have been completed.
- d. Respect the time allotted for entry so as not exceed such permitted time or assigned tasks.
- e. The entry supervisor must terminate entry and take the following action when any of the following apply:
 1. Cancel the entry permit when the entry operations covered by the entry permit have been completed; or

2. Suspend or cancel the entry permit and fully reassess the space before allowing reentry when a condition that is not allowed under the entry permit arises in or near the permit space and that condition is temporary in nature and does not change the configuration of the space or create any new hazards within.
3. LF Driscoll will retain each canceled entry permit for at least 1 year to facilitate the review of the permit-required confined space program.

a. CONFINED SPACE DUTIES

1. Entry-Level Training

LF Driscoll will train employees to possess the understanding, knowledge, and skills necessary for the safe performance of the duties assigned to enter confined spaces and permit-required confined spaces. This training will result in an understanding of the hazards in the permit space and the methods used to isolate, control or in other ways protect employees from these hazards, and for those employees not authorized to perform entry rescues, in the dangers of attempting such rescues. Training required by this section must be provided to each affected employee:

- a. In both a language and vocabulary that the employee can understand;
- b. Before the employee is first assigned duties under this standard;
- c. Before there is a change in assigned duties;
- d. Whenever there is a change in permit space entry operations that presents a hazard about which an employee has not previously been trained; and
- e. Whenever there is any evidence of a deviation from the permit space entry procedures.
- f. The training must establish employee proficiency in the duties

2. Duties of Authorized Entrants

LF Driscoll will ensure that all authorized entrants:

- a. Are familiar with and understand the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- b. Properly use equipment.
- c. Communicate with the attendant as necessary to enable the attendant to assess entrant status and to enable the attendant to alert entrants of the need to evacuate the space if it becomes necessary.
- d. Alert the attendant whenever there is any warning sign or symptom of exposure to a dangerous situation; or the entrant detects a prohibited condition;
- e. Know how to exit from the permit space as quickly as possible whenever an order to evacuate is given by the attendant or the entry supervisor or there is any warning sign or symptom of exposure to a dangerous situation or the entrant detects a prohibited condition or an evacuation alarm is activated.

3. Duties of Attendants

LF Driscoll will ensure that all authorized attendants:

- a. Are familiar with and understands the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
- b. Are aware of possible behavioral effects of hazard exposure in authorized entrants;
- c. Continuously maintain an accurate count of authorized entrants in the permit space and ensures that the means used to identify authorized entrants accurately identifies who is in the permit space;
- d. Remains outside the permit space during entry operations until relieved by another attendant;
- e. Communicates with authorized entrants as necessary to assess entrant status and to alert entrants of the need to evacuate the space when it becomes necessary.
- f. Assesses activities and conditions inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space immediately under any of the following conditions:
 - I. If there is a prohibited condition;
 - II. If the behavioral effects of hazard exposure are apparent in an authorized entrant;
 - III. If there is a situation outside the space that could endanger the authorized entrants; or
 - IV. If the attendant cannot effectively and safely perform all the duties required under §1926.1209 of this standard;
- g. Summons rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards;
- h. Takes the following actions when unauthorized persons approach or enter a permit space while entry is underway:
 - I. Warns the unauthorized persons that they must stay away from the permit space.

- II. Advises the unauthorized persons that they must exit immediately if they have entered the permit space; and
- III. Informs the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space;
 - i. Performs non-entry rescues as specified by the employer's rescue procedure; and
 - j. Performs no duties that might interfere with the attendant's primary duty to assess and protect the authorized entrants.

4. Duties of Entry Supervisors

LF Driscoll will ensure that all authorized entry supervisor:

- a. Is familiar with and understands the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
- b. Verifies, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin;
- c. Terminates the entry and cancels or suspends the permit as required by paragraph 1926.1205(e) of this standard;
- d. Verifies that rescue services are available and that the means for summoning them are operable, and that the employer will be notified as soon as the services become unavailable;
- e. Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations; and
- f. Determines, whenever responsibility for a permit space entry operation is transferred, and at intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

5. Rescue and Emergency Services

Working with controlling contractor LF Driscoll's Competent Person and Authorized Supervisor will evaluate prospective rescuer's ability to respond to a rescue summons in a timely manner, considering the hazard(s) identified by the written **FULL SPACE-SPECIFIC HAZARD ASSESSMENT, CONTROLS AND METHODS OF PROCEDURES**. We will be consider timely will vary according to the specific hazards involved in each entry but no time will exceed five minutes response. LF Driscoll will ensure the rescued team:

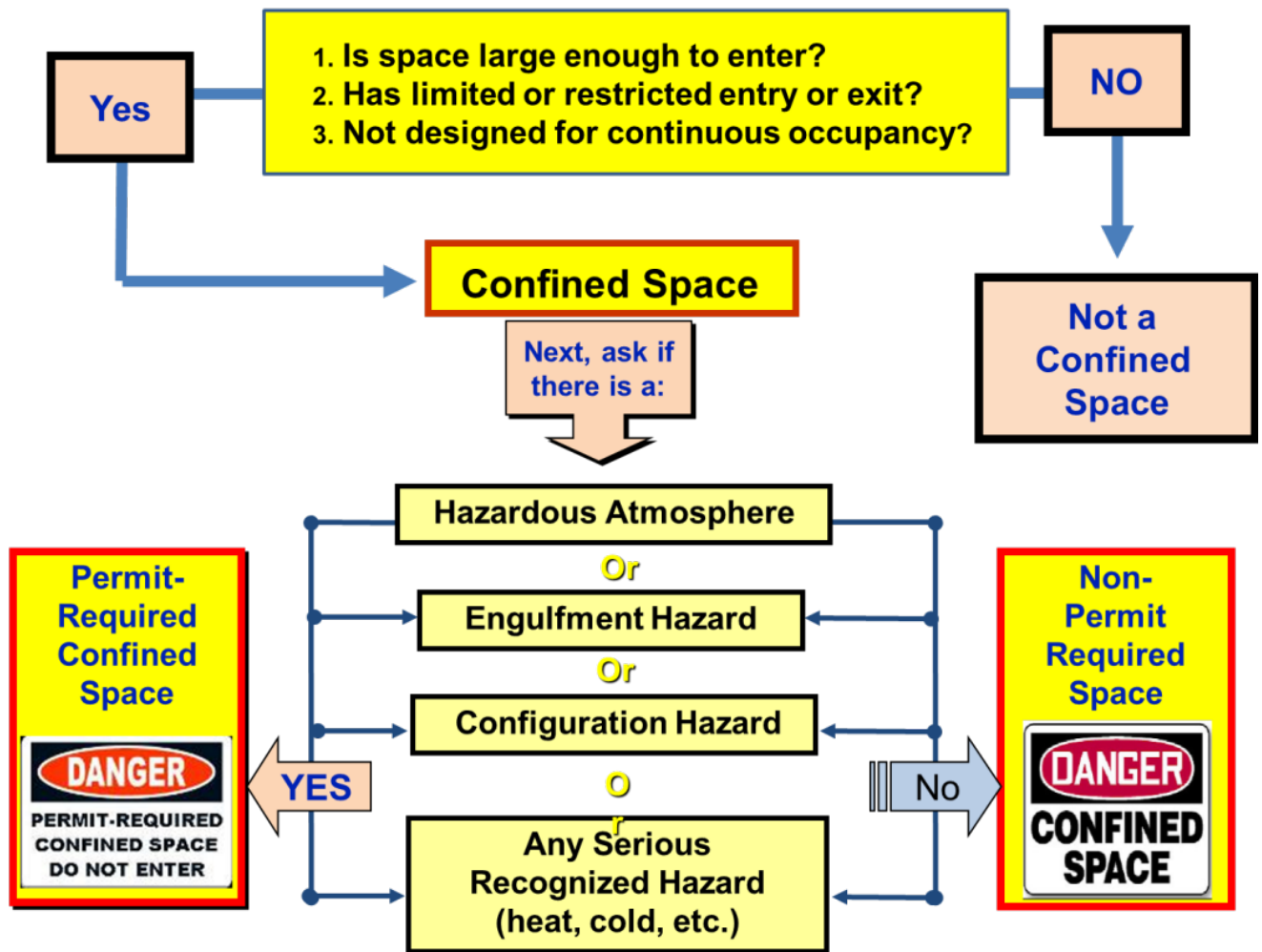
- a. Is equipped for, and proficient in, performing the needed rescue services;
- b. Agrees to notify the employer immediately in the event that the rescue service becomes unavailable;
- c. Inform each rescue team or service of the hazards they may confront when called on to perform rescue at the site; and
- d. Provide the rescue team or service selected with access to all permit spaces from which rescue may be necessary so that the rescue team or service can develop appropriate rescue plans and practice rescue operations.

6. Employee Participation

LF Driscoll maintains an "open door" policy but in the case of confined spaces we will have constant communication with affected employees and their authorized representatives on the development and implementation of all aspects of the permit space program and ongoing efforts thereof. We will make available to each affected employee and his/her authorized representatives all information required to be developed by our program and actively involved them in a **FULL SPACE-SPECIFIC HAZARD ASSESSMENT** and the controls and method of procedures that are created.

b. PERMIT REQUIRED CONFINED SPACE DECISION FLOW CHART

Confined Space Identification Flow Chart



CONFINED SPACE TRAINING ACKNOWLEDGEMENT

CONFINED SPACE TRAINING ACKNOWLEDGEMENT	
Job Number:	Date:
Job Name:	Name:
Address:	Contractor:
Entrant Training: <input type="checkbox"/>	Attendant Training: <input type="checkbox"/>

ENTRANT: (Do not enter until the following are in compliance)

1. Space is flushed and cleaned	<input type="checkbox"/>
2. Space is isolated and locked out properly	<input type="checkbox"/>
3. Space is atmospherically tested for proper oxygen levels	<input type="checkbox"/>
4. Space is atmospherically tested for presence of flammable gases and toxins	<input type="checkbox"/>
5. All electronic equipment is inspected and ground fault protected	<input type="checkbox"/>
6. All personnel entering vessel must be logged into and out of the vessel on the entry permit	<input type="checkbox"/>
7. All cords, power cables etc. are to be kept neat and off from vessel bottom	<input type="checkbox"/>
8. Atmospheric "sniff tests" to be performed at least once per shift	<input type="checkbox"/>
9. No entry into vessel unless fresh air ventilation is present a. Keep all flammable material in proper container. (i.e. cups, rags, wood, etc.) b. Hole watch attendant to be present at all times c. Have continuous contact with attendant d. Remove cutting torches, hoses and rose buds from vessel when not in use	<input type="checkbox"/>
10. Keep fire extinguisher inside vessel	<input type="checkbox"/>
11. If you sense a problem, exit the vessel at once	<input type="checkbox"/>
12. Aware of any potential hazards of space	<input type="checkbox"/>

ATTENDANT: (Do not enter until the following are in compliance)

1. Stay at designated hole watch location	<input type="checkbox"/>
2. Keep vessel entry log and air testing equipment	<input type="checkbox"/>
3. Know the emergency phone number for your location	<input type="checkbox"/>
4. If a problem arises, call for help first. Do not enter space	<input type="checkbox"/>
5. Maintain visual contact if possible	<input type="checkbox"/>
6. Listen/watch for any potential problems in vessel	<input type="checkbox"/>
7. Maintain continuous communication	<input type="checkbox"/>
8. Be sure vessel is kept clean of flammable debris	<input type="checkbox"/>
9. Have fire hose/extinguisher present near entry location	<input type="checkbox"/>
10. Only allow authorized personnel to enter vessel	<input type="checkbox"/>
11. Know how to disconnect power entering vessel	<input type="checkbox"/>
12. Keep a properly working flashlight	<input type="checkbox"/>
13. Warn all unauthorized persons not to enter	<input type="checkbox"/>

ACKNOWLEDGEMENT OF TRAINING:

I have been trained on the proper procedures for confined space vessel entry and outside attendant duties.

Entrant/Attendant Signature:	Date:
Confined Space Authorizing Supervisor:	Name:

CONFINED SPACE ENTRY PERMIT

CONFINED SPACE ENTRY PERMIT (Page 1 of 3)			
Job Number:		CONFINED SPACE DAILY PRE-ENTRY CHECKLIST COMPLETED:	<input type="checkbox"/>
Project Address:			
Subcontractor:			
SUB LOCATION Confined Space:			
Permit Issued Date:		Time (24 hour clock):	
Permit Expiration Date:		Time (24 hour clock):	
Reason For Entry/Job Description:			
Equipment/Unit Entered:			
Material Last contained / within space:			
PERMIT SPACE HAZARDS (CHECK YES or NO)			
TYPE OF HAZARD	YES	NO	
Oxygen deficiency (>19.5%)	<input type="checkbox"/>	<input type="checkbox"/>	
Oxygen enrichment (<23.5%)	<input type="checkbox"/>	<input type="checkbox"/>	
Flammable gases or vapors (10% of LEL)	<input type="checkbox"/>	<input type="checkbox"/>	
Airborne combustible dust (meets or exceeds LEL)	<input type="checkbox"/>	<input type="checkbox"/>	
Toxic gases or vapors (greater than PEL)	<input type="checkbox"/>	<input type="checkbox"/>	
Mechanical hazards	<input type="checkbox"/>	<input type="checkbox"/>	
Electrical shock	<input type="checkbox"/>	<input type="checkbox"/>	
Materials harmful to skin	<input type="checkbox"/>	<input type="checkbox"/>	
Other (Please list):	<input type="checkbox"/>	<input type="checkbox"/>	
Personal Protective Equipment:			
Respiratory Protection:			
Atmospheric Testing / Monitoring:			
Engulfment Communication:			
Rescue Equipment:			
Other:			

CONFINED SPACE ENTRY PERMIT (Page 2 of 3)

ADDITIONAL ITEMS REQUIRED (SPECIFY AS REQUIRED)

<input type="checkbox"/> NOTIFICATION OF SERVICE INTERRUPTION	<input type="checkbox"/> LOCK-OUT/TAG-OUT	<input type="checkbox"/> AFTER HOUR WORK PERMIT	<input type="checkbox"/> SUPPORTED SCAFFOLD
<input type="checkbox"/> HOT WORKS	<input type="checkbox"/> SMOKE DETECTOR	<input type="checkbox"/> FIRE ALARM	<input type="checkbox"/> SUSPENDED SCAFFOLD
<input type="checkbox"/> FIRE WATCH	<input type="checkbox"/> CONF SPACE TRAINING	<input type="checkbox"/> SPRINKLER	<input type="checkbox"/> SCAFFOLD TRAINING
<input type="checkbox"/> OSHA 10 OR 30		<input type="checkbox"/> EQUIP/TOOL/MON/TRANING	

COMMUNICATION PROCEDURES

Describe the communication procedures to be used by entrants and attendants

EMERGENCY ACTION PROCEDURES

AUTHORIZED ENTRANTS (List by name or attach roster)

Name:		Signature:		Date:	
Name:		Signature:		Date:	
Name:		Signature:		Date:	
Name:		Signature:		Date:	

AUTHORIZED ATTENDANTS (List by name or attach roster)

Name:		Signature:		Date:	
Name:		Signature:		Date:	
Name:		Signature:		Date:	
Name:		Signature:		Date:	

OTHER

CONFINED SPACE ENTRY PERMIT (Page 3 of 3)

Job Number:		CONFINED SPACE DAILY PRE-ENTRY CHECKLIST COMPLETED:				<input type="checkbox"/>	
Project Address:							
Subcontractor:							
Sub Location/Confined Space:							
Permit Issued Date:		Time (24 hour clock):	24:00	Fire Watch:	YES <input type="checkbox"/> NO <input type="checkbox"/>	Area Inspected:	YES <input type="checkbox"/> NO <input type="checkbox"/>
Permit Expiration Date:		Time (24 hour clock):		Fire Watch Name:			
Fire Protection:	<input type="checkbox"/> Dry Chemical Ext <input type="checkbox"/> Charged Hose Line <input type="checkbox"/> Hydrant Inspected			Monitoring:	<input type="checkbox"/> Periodic Track Frequency below <input type="checkbox"/> Continuous		
Reason For Entry/Job Description:							
Equipment/Unit Entered:							
Material Last contained / within space:							

ENTRY SUPERVISOR		SUPERVISOR SIGNATURE	
OWNER REPRESENTATIVE		OWNER REP SIGNATURE	
ISSUER NAME		ISSUER SIGNATURE	
OWNER PHONE NUMBER		SUPERVISOR PHONE	

TESTING RECORD

	Acceptable Conditions	Initial	Result	Result	Result	Result	Result
Time							
Oxygen-min	>19.5%						
Oxygen-max	<23.5%						
Flammability	<10% LEF/LFL						
H2S	<10 PPM						
CL2	<0.5 PPM						
CO	<35 PPM						
SO2	<2 PPM						
HEAT	FAHRENHEIT						
OTHER							

CONFINED SPACE DAILY PRE ENTRY CHECKLIST

CONFINED SPACE TRAINING ACKNOWLEDGEMENT

Job Number:		Date:	
Job Name:		Name:	
Address:		Sub Contractor:	
Competent Person:		STI Superintendent:	

BEFORE THIS PERMIT CAN BE SIGNED THE FOLLOWING RULES MUST BE SATISFACTORILY COMPLIED WITH. EACH ITEM SHOULD BE INITIALED TO INDICATE "YES" OR INDICATE WITH "N/A" THAT THE ITEM IS NOT APPLICABLE TO THE SPECIFIC CONFINED SPACE ENTRY.

NO LINE IS TO BE LEFT BLANK.

Initial	Scope of Work:
	Permits Obtained: <input type="checkbox"/> Work <input type="checkbox"/> Confined Space Entry <input type="checkbox"/> Hot Work <small>Must be checked off Must be checked off As needed</small>
	Personnel are trained for the assigned tasks, have read, and understand expected/identified hazards for their operation.
	Proper isolation, blanking, and/or blinding of confined space facility completed.
	All fuses or safety jacks pulled. Breakers and switches locked out and tagged. De-energizing of confined space facility completed.
	Space cleaned, washed and purged.
	Ventilation systems operational.
	Confined space entry operation is protected from pedestrians, traffic, and other operations.
	Proper retrieval lines or equivalents are secured and prepared.
	Wash water tested for neutrality.
	Proper calibration of direct reading atmospheric monitoring instrument(s) within 30 days.
	Atmosphere tested for oxygen concentration.
	Atmosphere tested for flammable concentration.
	Atmosphere tested for toxic concentration.
	Attendant assigned and instructed.
	Personnel in immediate area alerted to help if needed.
	Rescue harness provided and worn.
	Tripod (retrieval device) emergency escape unit prepared.
	Fire extinguisher is appropriate and within certification.
	Lighting and electric setup approved. (Ground fault interrupter in place)
	Respiratory protection need identified and met.
	Protective clothing needs identified and met.
	Rescue plan approved.
	Evacuation plan approved.
	Emergency warning system identified and known by all parties.
	Communication system in place.
Pre-entry checklist prepared by:	
Date: (must be same as permit)	

SECTION 33: RESPIRATORY PROTECTION

REFERENCES:

- [29 CFR 1910.134 – Respiratory Protection and Appendices](#)
- [29 CFR 1940.134 Appendix C - Respirator Medical Evaluation Questionnaire \(Mandatory\)](#)
- [OSHA eTool – Respiratory Protection](#)
- [OSHA Publication #3352 - Assigned Protection Factors \(APFs\)/Maximum Use Concentrations \(MUCs\)](#)
- [OSHA Publication #3079 – Respiratory Protection](#)
- [OSHA Training/Reference Materials Library - Major Requirements of Respiratory Protection Standard](#)
- [CDC/NIOSH Safety and Health Topic: Respirators](#)
- [OSHA Safety and Health Topics – Respiratory Protection Additional Information](#)
- [OSHA eTool – Respiratory Protection Change Out Schedule Flow Charts](#)
- [OSHA Construction Safety/Health Outreach Program - Personal Protective and Life Saving Equipment](#)
- [OSHA Construction Safety and Health Outreach Program - Welding Health Hazards](#)

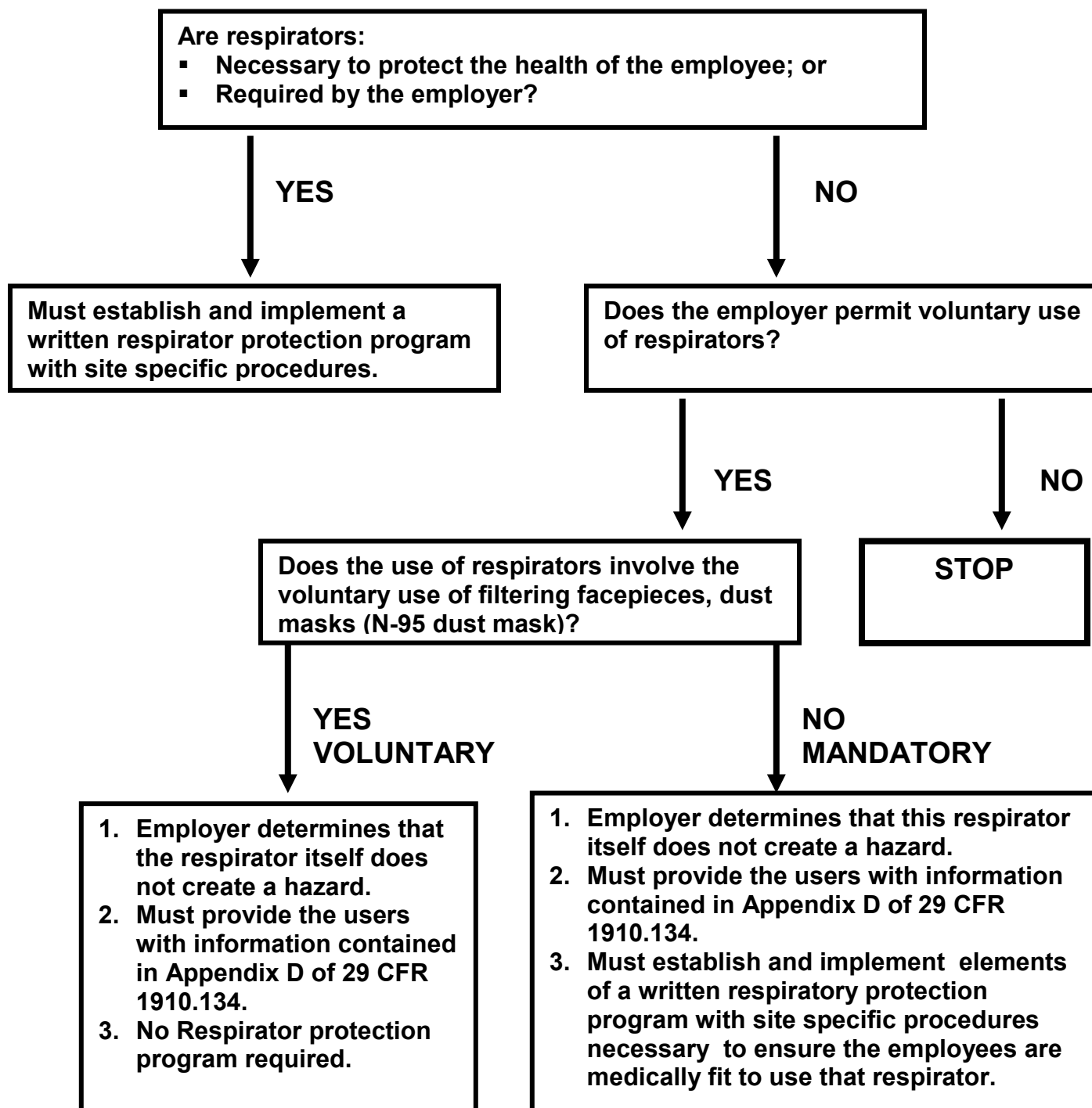
LF Driscoll Personnel

1. Selection of Respirators: Each jobsite in conjunction with the LF Driscoll Safety Department will determine the need for respiratory protection, by reviewing the tasks to be performed, the possible contaminate(s), and the level of engineering or administrative controls. Once the need for respiratory protection is determined, the LF Driscoll Safety Department shall determine the selection of the proper respiratory protection based on the potential exposure.
2. Medical Clearance for Respirator Use: Any employee, who wears respiratory protection, required or voluntarily, shall be required to complete a respiratory questionnaire. A physician or other licensed health care professional will review the questionnaire (PLHCP). Only employees who receive approval of a PLHCP can wear a respirator. Questionnaires are available from the LF Driscoll Safety Department.
3. Training and Fit Testing: The LF Driscoll Safety Department shall coordinate training on the use, maintenance, and limitations of respirators to all employees required to wear respiratory protection. Perform a fit testing prior to the start of the task requiring respiratory protection.
4. Record Keeping: The LF Driscoll Safety Department shall maintain fit testing and training records for each employee.

Subcontractors

1. Subcontractors are to submit a site specific written program.
2. A preplanning meeting is required prior to the start of work. Subcontractors who must engage in activities requiring respiratory protection must comply with OSHA regulations, including pulmonary function test, fit test, air monitoring, etc. Provide documentation to LF Driscoll upon request.
3. Avoid exposure to lead fumes by lead abatement prior to hot work when possible; otherwise, respond appropriately. Exposure to lead dust requires containment and respirators. See Lead in this manual.
4. Subcontractors issuing NIOSH-approved dust masks (N-95) on a voluntary bases for nuisance dust, must establish and implement the portions of the plan that assure that the person is medically fit to use the respirator and provide training. The respirator shall be clean, stored and maintained in a manner that does not create a health hazard to the user. In addition, provide Appendix D of the OSHA Respiratory Protection Standard to all users. See Respiratory-Use Requirements Flow Chart.

a. RESPIRATOR USE REQUIREMENTS FLOW CHART
[29 CFR 1910.134\(c\)](#)



b. RESPIRATOR PROTECTION PROGRAM OUTLINE
Feasible engineering controls must be applied before respirators are used.

1. A RESPIRATORY PROTECTION PROGRAM WILL INCLUDE:

- a. Written program
- b. Respirator selection procedures
- c. Medical evaluations
- d. Fit testing procedures
- e. Emergency procedures
- f. Training
- g. Program Evaluation

2. WRITTEN PROGRAM:

- a. Each written program must be tailored to site specific conditions.
- b. Subcontractors must document all relevant information pertaining to their hazardous atmospheres including monitoring results.

3. NON-MANDATORY USE:

- a. If respirators are not required, but their voluntary use is permitted, LF Driscoll must implement those elements of a respirator program to ensure safe use (e.g., medical evaluation, worker training)

4. “DUST” MASKS:

- a. OSHA has determined there are no medical limitations on the use of these respirators. Subcontractors only need to provide a copy of Appendix D of the standard to employees voluntarily using dust masks.

5. PROGRAM ADMINISTRATION:

- a. The employer must designate a program administrator who is qualified by appropriate training or experience that is commensurate with the complexity of the program.
- b. Administrator to oversee program and conduct required evaluations of program effectiveness.

6. RESPIRATOR SELECTION:

- a. Respirators must be selected based on hazard.
- b. Respirators must be certified by NIOSH and used within the limitations of that certification.
- c. Respirators must be acceptable to and fit the users.
- d. Work conditions (e.g., heat, physical exertion) must be taken into account.
- e. Communication needs should be considered.

7. EXPOSURE EVALUATION:

- a. Respirator hazards must be identified and evaluated by air monitoring.
- b. Subcontractors must make “a reasonable estimate” of the employee exposures anticipated to occur, including those likely to result in reasonably foreseeable emergencies.
- c. Where an evaluation is not possible, IDLH conditions must be assumed.

8. FOR GASSES AND VAPORS:

- a. Sole reliance and “warning properties” is no longer permitted as a basis for determining canister/cartridge changes.
- b. Canister/cartridge changes must be based on available information and data that describe the service life of the sorbent elements against the contaminant present.

9. MEDICAL EVALUATION:

- a. Questionnaire or medical examination.
- b. Before an employee begins work a fit tested is required to use the respirator in the workplace.
- c. Note: Medical evaluations/examinations are no longer required on a periodic schedule, but on:
- d. The appearance of medical signs or symptoms.
- e. A change in workplace conditions.
- f. The recommendation of program administrator or PLHCP.

10. What is a PLHCP?:

- a. A Physician or other Licensed Health Care Professional authorized to evaluate an individual's medical ability.

11. FIT TESTING:

- a. Annually and prior to initial use .
- b. Whenever a different size, style, model or make of respirator is used.
- c. Changes in physical condition that could affect respirator fit.

12. MAINTENANCE AND CARE OF RESPIRATORS:

- a. LF Driscoll is required to provide for the cleaning, disinfecting, storage, inspection and repair of respirators used by employees.

13. BREATHING AIR QUALITY AND USE:

- a. Type 1 Grade D breathing air.

14. IDENTIFICATION OF FILTERS, CARTRIDGES AND CANISTER:

- a. All filters, cartridges and canisters must be labeled and color-coded with the NIOSH approved label.
- b. The label must not be removed and must remain legible.

15. TRAINING AND INFORMATION:

- a. Comprehensive and conducted annually
- b. Training Program
 - i. Why the respirator is necessary
 - ii. How improper fit, usage or maintenance can adversely affect respirator fit
 - iii. Respirator limitations and capabilities
 - iv. Emergency use
 - v. Respirator donning
 - vi. Respirator seal check
 - vii. Respirator maintenance and storage
 - viii. How to recognize medical signs or symptoms that may limit or prevent the effective use of respirators
 - ix. Provisions of the respirator standard

16. PROGRAM EVALUATION:

- a. Employers must conduct evaluations of the workplace to ensure the written program is being properly implemented and ensure employees are using the respirators properly.
- b. The evaluations are to be conducted as often "as necessary".
- c. Employers must audit respirator use in the workplace with sufficient frequency to ensure that continuous successful implementation of all written respirator program elements is being achieved.

17. RECORDKEEPING:

- a. Medical records (1910.1020), fit testing until next fit test and current written respirator program.

OSHA REGULATIONS (29 CFR 1926.103) REQUIRES ANYONE WHO USES A RESPIRATOR OR A DUST MASK WHEN IT IS NOT REQUIRED UNDER THE STANDARD TO READ THE FOLLOWING:

Appendix D, Section 1910.134 (Non-Mandatory) Information for Using Respirators When Not Required Under the Standard.

Respirators are an effective method of protection against designated hazards when the correct respirator is 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, improper use or unclean respirators 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.

Employees should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care and warnings regarding the respirator's limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging identifying respirator designation and protection factor.
3. Wear the correct respirator for atmospheres containing contaminants. 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.

I have read, acknowledge and understand the above and will comply with the requirements.

Name:	
Signature:	

SECTION 34: SILICA EXPOSURE PREVENTION PROGRAM

[Occupational Safety & Health Administration](#)
[NIOSH Construction Safety and Health](#)

1. Purpose and Scope:

a. Purpose:

The purpose of this document is to define the LF Driscoll Organization's occupational health and safety program toward minimizing construction worker exposure to respirable crystalline silica (RCS) dust. Exposure to crystalline silica dust must be kept below the permissible exposure limit (PEL) of 50 micrograms per cubic meter of air (50 µg/m³) as an 8-hour time-weighted average (TWA) and procedures for common silica related work. The action level (AL) requires the measurement of silica dust when unprotected worker exposure to silica dust levels may reasonably be anticipated to exceed 25 µg/m³ as an 8-hour TWA.

b. Key Elements:

- 1) Reduce the permissible exposure limit (PEL) for respirable crystalline silica below 50 micrograms per cubic meter of air, averaged over an 8-hour shift.
 - 2) Requires employers to: use engineering controls (such as water, filtration and/or ventilation) to limit worker exposure below the PEL; provide appropriate respirators when engineering controls cannot adequately limit exposure; limit worker access to high exposure areas; develop a written exposure control plan, offer medical exams to highly exposed workers, and train workers on silica risks and how to limit exposures.
 - 3) Provide for medical exams, chest x-rays and a **pulmonary function test** to monitor highly exposed employees.
2. Crystalline silica is a basic component of soil, sand, granite and many other minerals. Quartz is the most common form of crystalline silica. All materials containing silica can result in the presence of respirable silica particles when chipping, cutting, drilling or grinding takes place. Silica exposure occurs through inhalation of silica containing particles and occurs through many construction and general industry methods. The most severe exposures generally occur during abrasive blasting with sand to remove paint and rust from bridges, tanks, concrete structures and other surfaces. Other activities that may result in severe silica exposure include sand blasting, jack hammering, grinding, rock/well drilling, concrete mixing, and crushing/drilling/cutting concrete, brick, block and mortar. Exposure to excessive silica dust over long periods of time can result in silicosis.

3. Definitions:

- **Action level (AL):** The point at which concentration of airborne respirable crystalline silica may exceed **25µg/m³** calculated as an 8-hour TWA. When the amount of silica unprotected workers are exposed to may exceed this "action level", the employer must measure the level of silica dust.
- **Alternate Methods of Compliance (AMC):** When tasks to be conducted are not listed in Table 1 or engineering controls, work practices or respirators described in Table 1 cannot be fully implemented, alternate methods of compliance must be utilized to assess and limit exposure and finally, assign respiratory protection when necessary.
- **Authorized person:** An employee who has received proper training and exposure monitoring to safely work with silica containing materials.

- **Competent person:** An individual who is capable of identifying and evaluating situations where overexposure to respirable crystalline silica may be occurring and who has authorization and knowledge to take prompt corrective measures to control that exposure.
- **Crystalline silica:** Naturally occurring component in earth soils, sand, granite and many other minerals resulting in many building materials containing silica.
- **Employee exposure:** The exposure to airborne respirable crystalline silica that would occur if the employee were not using a respirator.
- **High-efficiency particulate air (HEPA):** A filtering system capable of trapping and retaining at least 99.97% of all particles of 0.3 microns in diameter and larger.
- **Permissible Exposure Limit (PEL):** The OSHA limit for silica dust exposure. It is set at **50µg/m³** averaged over an 8-hour workday, as a TWA.
- **Respirable Crystalline Silica (RCS):** Crystalline silica particles that are small enough and light enough to become airborne and inhaled into the lungs.
- **Silica containing material:** Any material, which has the potential to contain silica at levels, which may pose a hazard to employees when the material is manipulated to create airborne particles
- **Silicosis:** A lung disease caused by inhalation of silica dust. Silica dust can cause fluid buildup and scar tissue in the lungs that cuts down the ability for the lungs to fully function. The disease is not curable, but can be prevented.
- **Table 1:** A table of 18 of the most common tasks they would be performing that involved RCS. It contains very specific directions on exactly how to best protect workers during those tasks.
- **Written Exposure Control Plan (WECP):** Developed by all employers (including Table 1 operations) listing tasks employees perform that could expose them to RCS dust, a description of engineering controls, work practices, and respiratory protection used to limit employee exposure, a description of the housekeeping, and procedures to restrict access to protected work areas and employees exposed. Include exposures generated by other employers.

4. Responsibilities:

a. Employer Responsibilities:

1. Fully and properly implement the engineering controls, work practices, and respiratory protection specified for the tasks listed in Table 1.
2. Assess the exposure of each employee who is or may reasonably be expected to be exposed to respirable crystalline silica at or above the action level (25 µg/m³).
3. Assess the 8-hour TWA exposure for each employee by performing initial monitoring for a sampling of employees who are expected to have the highest exposure to respirable crystalline silica.
4. Reassess exposures whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional

exposures at or above the action level.

5. Ensure that all samples taken evaluated by a laboratory that analyzes air samples for respirable crystalline silica.
6. Notify each affected employee of the results after completing an exposure assessment.
7. Use engineering and work practice controls to reduce and maintain employee exposure to respirable crystalline silica at or below the PEL.
8. Provide each employee a respirator that complies with 29 CFR 1910.134 where engineering and work practice controls alone are not enough to ensure exposures remain below 50 µg/m³.
9. **Do Not** allow dry sweeping or dry brushing where such activity could contribute to employee exposure to respirable crystalline silica - unless wet sweeping, HEPA-filtered vacuuming or other methods that minimize the likelihood of exposure are not feasible.
10. **Do Not** allow compressed air to be used to clean clothing or surfaces. Activity could contribute to employee exposure to respirable crystalline silica.
11. Establish and implement a Written Exposure Control plan (WECPP).
12. Make medical surveillance available at no cost to our employee who will be required to use a respirator for 30 or more days per year.
13. Make available an initial (baseline) medical examination within 30 days after initial assignment.
14. Ensure that the Health Care Professional explains to the employee the results of the medical examination and provides each employee with a written medical report within 30 days.
15. Obtain a written medical opinion from the Health Care Professional. Make available a medical examination by a specialist, if the Health Care Professional's written medical opinion indicates that an employee should be examined by a specialist.
16. Include respirable crystalline silica in the program established to comply with the hazard communication standard (HCS). (29 CFR 1910.1200).
17. Ensure that each employee can demonstrate knowledge and understanding of health hazards associated with RCS; specific tasks in the workplace that could result in exposure to RCS; specific measures to protect employees from exposure, including engineering controls, work practices, and respirators to be used; the identity of the competent person; the purpose and a description of the medical surveillance program; and provide a copy of this program.
18. Make and maintain an accurate record of all exposure measurements taken to assess employee exposure and all objective evidence relied upon to comply with the program.
19. Make and maintain an accurate record for each employee covered by medical surveillance

b. Employee Responsibilities:

1. Undergo training to understand the requirements of this program.

2. Consider the impact of inhalation hazards and undertake risk assessments to evaluate the possibility of actionable ($25\mu\text{g}/\text{m}^3$) respirable crystalline silica exposure in the work area.

5. Specified Exposure Control Methods:

a. Implementation Approach by Employer:

For each employee engaged in a task identified on Table 1 in Appendix A, the employer shall fully and properly implement the engineering controls, work practices, and respiratory protection specified for the task on Table 1, unless the employer assesses and limits the exposure of the employee to respirable crystalline silica in accordance with section 6.

b. Implementing Control Measures:

When implementing the control measures specified in Table 1, each employer shall:

1. For tasks performed indoors or in enclosed areas, provide a means of exhaust as needed to minimize the accumulation of visible airborne dust;
2. For tasks performed using wet methods, apply water at flow rates sufficient to minimize release of visible dust;
3. For measures implemented that include an enclosed area ensure that the enclosure:
 - a. Is maintained as free as practicable from settled dust;
 - b. Has door seals and closing mechanisms that work properly;
 - c. Has gaskets and seals that are in good condition;
 - d. Is under positive pressure maintained through continuous delivery of fresh air;

c. Task Duration:

Where an employee performs more than one task on Table 1 during the course of a shift, and the total duration of all tasks combined is more than four hours, the required respiratory protection for each task is the respiratory protection specified for more than four hours per shift. If the total duration of all tasks on Table 1 combined is less than four hours, the required respiratory protection for each task is the respiratory protection specified for less than four hours per shift.

6. Alternative Exposure Control Methods:

a. Permissible Exposure Limit (PEL):

The employer shall ensure that no employee is exposed to an airborne concentration of respirable crystalline silica in excess of $50\mu\text{g}/\text{m}^3$, as calculated as an 8-hour TWA.

b. Exposure Assessment:

1. General. The employer shall assess the exposure of each employee who is or may reasonably be expected to be exposed to respirable crystalline silica at or above the action level in accordance with either the performance option or the scheduled monitoring option below.
2. Performance option. The employer shall assess the 8-hour TWA exposure for each employee on the basis of any combination of air monitoring data or objective data sufficient to accurately characterize employee exposures to respirable crystalline silica.
3. Scheduled Monitoring option:
 - a. The employer shall perform initial monitoring to assess the 8-hour TWA exposure for each employee on the basis of one or more personal breathing zone air

samples that reflect the exposures of employees on each shift. Where several employees perform similar work, the employer may sample a representative fraction of these employees in order to meet this requirement. In representative sampling, the employer shall sample the employee(s) who are expected to have the highest exposure to respirable crystalline silica.

- b. If initial monitoring indicates that employee exposures are below the action level, the employer may discontinue monitoring for those employees whose exposures are represented by such monitoring.
 - c. Where the most recent exposure monitoring indicates that employee exposures are at or above the action level but at or below the PEL, the employer shall repeat such monitoring within six months.
 - d. Where the most recent exposure monitoring indicates that employee exposures are above the PEL, the employer shall repeat such monitoring within three months of the most recent monitoring.
 - e. Where the most recent (non-initial) exposure monitoring indicates that employee exposures are below the action level, the employer shall repeat such monitoring within six months of the most recent monitoring until two consecutive measurements, taken seven or more days apart, are below the action level, at which time the employer may discontinue monitoring for those employees whose exposures are represented by such monitoring, except as otherwise provided in Section 6.
4. Reassessment of exposures. The employer shall reassess exposures whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional exposures at or above the action level.
 5. Methods of sample analysis. The employer shall ensure that all samples taken to satisfy the monitoring requirements of Section 6 are evaluated by a laboratory that analyzes air samples for respirable crystalline silica in accordance with the procedures in Appendix A.
 6. Employee notification of assessment results.
 - a. Within five working days after completing an exposure assessment, the employer shall notify affected employees of the results of that assessment or post the results in an appropriate location accessible to all affected employees.
 - b. Whenever an exposure assessment indicates that employee exposure is above the PEL, the employer shall describe in the written notification the corrective action being taken to reduce employee exposure to or below the PEL.

c. Methods of Compliance:

1. Engineering and work practice controls. The employer shall use engineering and work practice controls to reduce and maintain employee exposure to respirable crystalline silica to or below the PEL, unless the employer can demonstrate that such controls are not feasible. Wherever such feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the PEL, the employer shall nonetheless use them to reduce employee exposure to the lowest feasible level and shall supplement them with the use of respiratory protection that complies with the requirements of Respiratory protection.
2. Abrasive blasting. In addition to engineering and work practice controls, the employer shall

comply with other OSHA standards, when applicable, such as 29 CFR 1926.57 (Ventilation), where abrasive blasting is conducted using crystalline silica-containing blasting agents, or where abrasive blasting is conducted on substrates that contain crystalline silica.

7. Respiratory Protection:

a. General:

1. Where respiratory protection is required by this section, the employer must provide each employee an appropriate respirator that complies with the requirements of this section and 29 CFR 1910.134. Respiratory protection is required:
2. For tasks not listed in Table 1, or where the employer does not fully and properly implement the engineering controls, work practices, and respiratory protection described in Table 1:
 - a. Where exposures exceed the PEL during periods necessary to install or implement feasible engineering and work practice controls;
 - b. Where exposures exceed the PEL during tasks, such as certain maintenance and repair tasks, for which engineering and work practice controls are not feasible; and
 - c. During tasks for which an employer has implemented all feasible engineering and work practice controls and such controls are not sufficient to reduce exposures to or below the PEL.

b. Respirator Protection Program:

Where respirator use is required by this section, the employer shall institute a respiratory protection program in accordance with 29 CFR 1910.134.

c. Specified Exposure Control Methods:

For the tasks listed in Table 1, if the employer fully and properly implements the engineering controls, work practices, and respiratory protection described in Table 1, the employer shall be considered to be in compliance and the requirements for selection of respirators in 29 CFR 1910.134(d)(1)(iii) and with regard to exposure to respirable crystalline silica.

d. Housekeeping:

1. The employer shall not allow dry sweeping or dry brushing where such activity could contribute to employee exposure to respirable crystalline silica unless wet sweeping, HEPA-filtered vacuuming or other methods that minimize the likelihood of exposure are not feasible.
2. The employer shall not allow compressed air to be used to clean clothing or surfaces where such activity could contribute to employee exposure to respirable crystalline silica unless:
 - The compressed air is used in conjunction with a ventilation system that effectively captures the dust cloud created by the compressed air; or
 - No alternative method is feasible.

8. Written Exposure Control Plan:

- a. The employer shall establish and implement a written exposure control plan that contains at least the following elements:
 1. A description of the tasks in the workplace that involve exposure to respirable crystalline silica;
 2. A description of the engineering controls, work practices, and respiratory protection used to limit employee exposure to respirable crystalline silica for each task;

3. A description of the housekeeping measures used to limit employee exposure to respirable crystalline silica; and
- b. A description of the procedures used to restrict access to work areas, when necessary, to minimize the number of employees exposed to respirable crystalline silica and their level of exposure, including exposures generated by other employers or sole proprietors.
- c. The employer shall review and evaluate the effectiveness of the written exposure control plan at least annually and update it as necessary.
- d. The employer shall make the written exposure control plan readily available for examination and copying, upon request, to each employee covered by this section, and their designated representatives. It shall be made available to OSHA inspectors upon request.
- e. The employer shall designate a competent person to make frequent and regular inspections of job sites, materials, and equipment to implement the written exposure control plan.

9. Medical Surveillance:

a. General:

The employer shall make medical surveillance available at no cost to the employee, and at a reasonable time and place, for each employee who will be required under this section to use a respirator for 30 or more days per year.

b. Initial Examination:

1. The employer shall make available an initial (baseline) medical examination within 30 days after initial assignment, unless the employee has received a medical examination that meets the requirements of this section within the last three years. The examination shall consist of:

- a. A medical and work history, with emphasis on: past, present, and anticipated exposure to respirable crystalline silica, dust, and other agents affecting the respiratory system; any history of respiratory system dysfunction, including signs and symptoms of respiratory disease (e.g., shortness of breath, cough, wheezing); history of tuberculosis; and smoking/vaping status and history;
- b. A physical examination with special emphasis on the respiratory system;
- c. A chest x-ray read by a certified class "B" reader (*certified competency level*).
- d. A pulmonary function test (PFT) performed at the physician's discretion.
- e. Testing for latent tuberculosis infection; and

c. Periodic Examinations:

The employer shall make available medical examinations that include the procedures described in this section at least every three years, or more frequently if recommended by the Health Care Professional.

A chest x-ray should be performed when the employee's employment ends.

d. Information Provided to the Health Care Professional:

1. The employer shall provide the examining Health Care Professional with the following information:

- a. The reason for the medical examination.
- b. A description of the affected employee's duties as they relate to the employee's exposure.
- c. The results of any employee's exposure measurements (if available) and the employee's anticipated or estimated exposure level.
- d. A description of any personal protective equipment used or to be used by the employee.

e. Health Care Professional's Written Medical Report:

The Health Care Professional shall explain to the employee the results of the medical examination and provide the employee and employer a copy of the medical report following the examination. The written report shall contain:

1. The physician's opinion as to whether the employee has any medical condition which would place the employee at increased risk from exposure to silica or would aggravate any medical condition.
2. A report on the findings of the chest x-ray and PFT test.
3. The signs or symptoms of silica exposure displayed by the employee.
4. Any recommended limitation upon the employee's exposure to silica or upon the use of PPE and respirators.
5. A statement that the employee has been informed by the physician of any medical condition which requires further examination or treatment.

10. Communication of Respirable Crystalline Silica Hazards to Employees:

a. Hazard Communication:

The employer shall include respirable crystalline silica in the program established to comply with the hazard communication standard (HCS) (29 CFR 1910.1200). The employer shall ensure that each employee has access to labels on containers of crystalline silica and safety data sheets, and is trained in accordance with the provisions of HCS. The employer shall ensure that at least the following hazards are addressed: Cancer, lung effects, immune system effects, and kidney effects.

b. Employee Information and Training:

1. The employer shall ensure that each employee can demonstrate knowledge and understanding of at least the following:
 - The health hazards associated with exposure to respirable crystalline silica;
 - Specific workplace tasks that could result in exposure to respirable crystalline silica;
 - Specific measures the employer has implemented to protect employees from exposure to respirable crystalline silica, including engineering controls, work practices, and respirators to be used;
 - The identity of the competent person designated by the employer; and
 - The purpose and a description of the medical surveillance program
2. The employer shall make a copy of this section readily available without cost to each employee covered.

11. Recordkeeping:

a. Air monitoring data:

1. The employer shall make and maintain an accurate record of all exposure measurements taken to assess employee exposure to respirable crystalline silica.
2. This record shall include the following information:
 - a. The date of measurement for each sample taken;
 - b. The task monitored;
 - c. Sampling and analytical methods used;
 - d. Number, duration, and results of samples taken;
 - e. Identity of the laboratory that performed the analysis;
 - f. Type of personal protective equipment, such as respirators, worn by the employees during monitoring; and
 - g. Name and job classification to identify all employees who were personally monitored.
3. The employer shall ensure that exposure records are maintained and made available in accordance with 29 CFR 1910.1020.

b. Objective Data:

1. The employer shall make and maintain an accurate record of all objective data relied upon to comply with the requirements of this section.
2. This record shall include at least the following information:
 - a. The crystalline silica-containing material in question;
 - b. The source of the objective data;
 - c. The testing protocol and results of testing;
 - d. A description of the process, task, or activity on which the objective data were based;
 - e. Other data relevant to the process, task, activity, material, or exposures on which the objective data were based.
3. The employer shall ensure that objective data are maintained and made available in accordance with 29 CFR 1910.1020.

c. Medical Surveillance:

1. The employer shall keep a record for each employee covered by medical surveillance under this section.
2. The record shall include the following information about the employee:
 - a. Name and social security number;
 - b. A copy of the Health Care Professional's and specialists' written medical opinions; and
3. The employer shall ensure that medical records are maintained and made available in accordance with 29 CFR 1910.1020.

Appendix A: Table 1: Specified Exposure Control Methods when Working with Materials Containing Crystalline Silica

1926.1153 Respirable crystalline silica			
Table 1: Specified exposure control methods when working with materials containing crystalline silica			
Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤4 hr/shift	>4 hr/shift
Stationary Masonry Saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
Handheld power saws (any blade diameter)	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. – When used outdoors. – When used indoors or in an enclosed area	None APF 10	None APF 10
Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less)	For tasks performed outdoors only: Use saw equipped with commercially available dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.	None	None
Walk-behind Saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. – When used outdoors. – When used indoors or in an enclosed area	None APF 10	None APF 10
Drivable Saws	For tasks performed outdoors only: Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
Rig Mounted core saws or drills	Use tool equipped with integrated water delivery system that supplies water to cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
Handheld and stand-mounted drills (including impact and rotary hammer drills)	Use drill equipped with commercially available shroud or cowling with dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or	None	None

1926.1153 Respirable crystalline silica
Table 1: Specified exposure control methods when working with materials containing crystalline silica

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤4 hr/shift	>4 hr/shift
	greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.		
Dowel drilling rigs for concrete	For tasks performed outdoors only: Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	APF 10	APF 10
Vehicle-mounted drilling rigs for rock and concrete	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector. OR Operate from within an enclosed cab and use water for dust suppression on drill bit.	None None	None None
Jackhammers and handheld powered chipping tools	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact. – When used outdoors. – When used indoors or in an enclosed area. OR Use tool equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. – When used outdoors. – When used indoors or in an enclosed area	None APF 10 None APF 10	APF 10 APF 10 APF 10 APF 10
Handheld grinders for mortar removal (i.e., tuckpointing)	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	APF 10	APF 25
Handheld grinders for uses other than mortar removal	For tasks performed outdoors only: Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. Operate and maintain tool in accordance with manufacturer's	None	None

1926.1153 Respirable crystalline silica			
Table 1: Specified exposure control methods when working with materials containing crystalline silica			
Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤4 hr/shift	>4 hr/shift
	<p>instructions to minimize dust emissions.</p> <p>OR</p> <p>Use grinder equipped with commercially available shroud and dust collection system.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p> <p>Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.</p> <p>– When used outdoors.</p> <p>– When used indoors or in an enclosed area.</p>	None	None
		None	APF 10
Walk-behind milling machines and floor grinders	<p>Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p> <p>OR</p> <p>Use machine equipped with dust collection system recommended by the manufacturer.</p> <p>Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.</p> <p>Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.</p> <p>When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.</p>	None	None
		None	None
Small drivable milling machines (less than half-lane)	<p>Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant.</p> <p>Operate and maintain machine to minimize dust emissions.</p>	None	None
Large drivable milling machines (half-lane and larger)	<p>For cuts of any depth on asphalt only:</p> <p>Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust.</p> <p>Operate and maintain machine to minimize dust emissions.</p> <p>For cuts of four inches in depth or less on any substrate:</p> <p>Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust.</p>	None	None
		None	None

1926.1153 Respirable crystalline silica
 Table 1: Specified exposure control methods when working with materials containing crystalline silica

Equipment/task	Engineering and work practice control methods	Required respiratory protection and minimum assigned protection factor (APF)	
		≤4 hr/shift	>4 hr/shift
	Operate and maintain machine to minimize dust emissions. OR Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None	None
Crushing Machines	Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points). Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions. Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station.	None	None
Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	Operate equipment from within an enclosed cab.	None	None
	When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.	None	None
Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: demolishing, abrading, or fracturing silica-containing materials	Apply water and/or dust suppressants as necessary to minimize dust emissions.	None	None
	OR When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.	None	None

Where an employee performs more than one task on Table 1 during the course of a shift, and the total duration of all tasks combined is more than four hours, the required respiratory protection for each task is the respiratory protection specified for more than four hours per shift. If the total duration of all tasks on Table 1 combined is less than four hours, the required respiratory protection for each task is the respiratory protection specified for less than four hours per shift.

When implementing the control measures specified in Table 1, the employer shall:

For tasks performed indoors or in enclosed areas, provide a means of exhaust as needed to minimize the accumulation of visible airborne dust.

For tasks performed using wet methods, apply water at flow rates sufficient to minimize release of visible dust.

For measured implemented that include an enclosed cab or booth, ensure that the enclosed cab or booth :

- Is maintained as free as practicable from settled dust.
- Has door seals and closing mechanisms that work properly.
- Has gaskets and seals that are in good condition and working properly.
- Is under positive pressure maintained through continuous delivery of fresh air.
- Has intake are that is filtered through a filter that is 95% efficient in the 0.3-10.0 µm range (e.g., MERV-16 or better)
- Has heating and cooling capabilities.

SECTION 35: INFECTION CONTROL RISK ASSESSMENT (ICRA)

1. Infection Control Risk Assessment (ICRA) is a system used within Healthcare facilities to help reduce the risk of the effects of construction projects on patients. As the Construction Manager on Healthcare Projects both the field and project management should be involved in the planning and the implementation of the ICRA plan developed by the owner and assure accepted procedures are executed by our employees and our subcontractors.
2. Under the *Guidelines for Design and Construction of Hospital and Health Care Facilities* of the American Institute of Architects, Infection Control Risk Assessment (ICRA) must be part of every health care construction project. An ICRA plan should address at least:
 - a. the impact of disrupting essential services to patients and employees
 - b. patient placement or relocation
 - c. effective barriers to protect susceptible patients from airborne dust contaminants such as Aspergillus' species
 - d. air handling and ventilation needs in surgical services and other key areas
 - e. the domestic water system to limit Legionella and waterborne opportunistic pathogens
 - f. protection of patients from demolition, ventilation, and water intrusion following power outages, movement of debris, traffic flow, cleanup, and certification.
3. The process for developing the ICRA plan ideally starts at the early design and planning stages of a project. The owner of the facility is ultimately responsible for the ICRA program. One of the ways an owner can assure that each project has a well thought out plan is by assembling a team with the infection control practitioner, project designer, safety, facilities managers, and the construction manager. The team will then address the impact the particular construction project will have on the patient population. The owner is responsible to direct LF Driscoll's implementation of the program.
4. The plan adopted by the ICRA team is a living document and updated through each phase of the project. During the actual construction, the panel should meet on a regular basis to update the ICRA plan and to assess the risk as construction progresses. The same team approach is required to assure the success of the infection control plan for construction projects.
5. The following is an example of an Infection Control Risk Assessment Matrix of Precautions for Construction & Renovation. The matrix will help determine the level of control needed on each job.
6. During construction and renovation projects, the primary concern of risk managers normally is fire prevention, with secondary emphasis on general safety and exposure to chemicals. Often overlooked is the threat of construction induced air pollution. In hospital and other health-care environments, where the compromised immune status of some patients leaves them more susceptible to infection, this oversight can have dire consequences. Construction procedures that can heighten infection risk in health-care environments include demolition using inadequate barriers, exterior-wall removal and core drilling. Water leakage with mold growth, poor ventilation, and utility outages also can increase risk. No building under construction or being renovated is immune to hazardous conditions, including construction induced air pollution. That is why a risk assessment is important for all projects. Avoiding hazardous conditions requires a formal approach during the pre-construction stages of a project. The risk assessment tool should serve only as a model for developing site-specific assessments. The degree of development depends on the building and the scope of the project. In health care, the ICRA considers the patients and procedures affected, as well as sterile supply storage, laundry services, the loading dock, the air intakes, and other factors that may impact the risk to patients.

7. For all projects, especially those related to health care, the risks of construction-induced infection should be assessed. A risk assessment should take into consideration:
 - a. The patient population
 - b. The extent of the project
 - c. The duration of the project
 - d. The impact of the project on mechanical systems
 - e. Whether the space will remain occupied during the project

8. A risk assessment should be started during the concept-planning phase of a project, when scope, location, equipment size, etc. are determined. The internal and external impacts of the project should be considered during the design and development phase, coinciding with space planning and the determination of equipment location and traffic-flow patterns. During the bid process, value-engineering decisions must be carefully examined regarding the potential for fungal growth and indoor-air-quality problems. Although preventive maintenance arising from a risk assessment may be costly, it often is substantially less so than problems related to building acceptance and litigation over water-damage issues. During the implementation phase of a project, amid demolition, reconstruction, cleanup, etc., problems can be minimized in part by providing break areas and bathroom facilities for workers. Commissioning criteria should include the prevention of the installation of water-damaged materials, as well as predetermined ventilation parameters. Identify and communicate the responsibility for project monitoring that includes infection control concerns and risks. The ICRA may be modified throughout the project. Revisions must be communicated to the Project Manager.

9. The following is an ICRA matrix that should be used as a model to evaluate risk.

ICRA Matrix of Precautions for Construction & Renovation

Step 1:

Using the following table, *identify the Type of Construction Project Activity (Type A-D)*

TYPE A	<p>Inspection and Non-Invasive Activities. Includes, but is not limited to:</p> <ol style="list-style-type: none"> 1. Removal of ceiling tiles for visual inspection limited to 1 tile per 50 square feet 2. Painting (but not sanding) 3. Wall covering, electrical trim work, minor plumbing, and activities which do not generate dust or require cutting of walls or access to ceilings other than for visual inspection.
TYPE B	<p>Small scale, short duration activities which create minimal dust Includes, but is not limited to:</p> <ol style="list-style-type: none"> 1. Installation of telephone and computer cabling 2. Access to chase spaces 3. Cutting of walls or ceiling where dust migration can be controlled.
TYPE C	<p>Work that generates a moderate to high level of dust or requires demolition or removal of any fixed building components or assemblies Includes, but is not limited to:</p> <ol style="list-style-type: none"> 1. Sanding of walls for painting or wall covering 2. Removal of floor coverings, ceiling tiles and casework 3. New wall construction 4. Minor duct work or electrical work above ceilings 5. Major cabling activities 6. Any activity, which cannot be completed within a single work shift.
TYPE D	<p>Major demolition and construction projects Includes, but is not limited to:</p> <ol style="list-style-type: none"> 1. Activities which require consecutive work shifts 2. Requires heavy demolition or removal of a complete cabling system 3. New construction

Step 2:

Using the following table, *identify* the **Patient Risk Groups** that will be affected. If more than one risk group will be affected, select the higher risk group:

Low Risk	Medium Risk	High Risk	Highest Risk
1. Office areas	1. Cardiology 2. Echocardiography 3. Endoscopy 4. Nuclear Medicine 5. Physical Therapy 6. Radiology/MRI 7. Respiratory Therapy	1. CCU 2. Emergency Room 3. Labor & Delivery 4. Laboratories (specimen) 5. Newborn Nursery 6. Outpatient Surgery 7. Pediatrics 8. Pharmacy 9. Post Anesthesia Care Unit 10. Surgical Units	1. Any area caring for immune compromised patients 2. Burn Unit 3. Cardiac Lab 4. Central Sterile Supply 5. Intensive Care Units 6. Medical Unit 7. Negative pressure isolation rooms 8. Oncology 9. Operating rooms including C-section rooms

Step 3: Match the:

Patient Risk Group (Low, Medium, High, Highest) with the planned **Construction Project Type (A, B, C, D)** on the following matrix, to find the **Class of Precautions (I, II, III or IV)** or level of infection control activities required.

Class I-IV or Color-Coded Precautions are delineated on the following:

IC Matrix Class of Precautions: Construction Project by Patient Risk

Patient Risk Group	Construction Project Type			
	TYPE A	TYPE B	TYPE C	TYPE D
LOW Risk Group	I	II	II	III/IV
MEDIUM Risk Group	I	II	III	IV
HIGH Risk Group	I	II	III/IV	IV
HIGHEST Risk Group	II	III/IV	III/IV	IV

Note: Infection Control approval will be required when the Construction Activity and Risk Level indicate that **Class III** or **Class IV** control procedures are necessary.

Description of Required Infection Control Precautions by Class

During Construction Project:

Upon Completion: Project

CLASS I	<ol style="list-style-type: none"> 1. Execute work by methods to minimize raising dust from construction operations. 2. Immediately replace a ceiling tile displaced for visual inspection 	<ol style="list-style-type: none"> 1. Clean work area upon completion of task.
CLASS II	<ol style="list-style-type: none"> 1. Provide active means to prevent airborne dust from dispersing into atmosphere. 2. Water mist work surfaces to control dust while cutting. 3. Seal unused doors with duct tape. 4. Block off and seal air vents. 5. Place dust mat at entrance and exit of work area 6. Remove or isolate HVAC system in areas where work is being performed. 	<ol style="list-style-type: none"> 1. Wipe work surfaces with disinfectant. 2. Contain construction waste before transport in tightly covered containers. 3. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area. 4. Remove isolation of HVAC system in areas where work is being performed.
CLASS III	<ol style="list-style-type: none"> 1. Remove or Isolate HVAC system in area where work is being done to prevent contamination of duct system. 2. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. 3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 4. Contain construction waste before transport in tightly covered containers. 5. Cover transport receptacles or carts. Tape covering unless solid lid. 	<ol style="list-style-type: none"> 1. Do not remove barriers from work area until completed project is inspected by the owner's Safety Department and Infection Control Department and thoroughly cleaned by the owner's Environmental Services Department. 2. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 3. Vacuum work area with HEPA filtered vacuums. 4. Wet mop area with disinfectant. 5. Remove isolation of HVAC system in areas where work is being performed.
CLASS IV	<ol style="list-style-type: none"> 1. Isolate HVAC system in area where work is being done to prevent contamination of duct system. 2. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. 3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 4. Seal holes, pipes, conduits, and punctures. 5. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave work site. 6. All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area. 7. Do not remove barriers from work area until completed project is inspected by the owner's Safety Department and Infection Control Department and thoroughly cleaned by the owner's Environmental Services Dept. 	<ol style="list-style-type: none"> 1. Remove barrier material carefully to minimize spreading of dirt and debris associated with construction. 2. Contain construction waste before transport in tightly covered containers. 3. Cover transport receptacles or carts. Tape covering unless solid lid 4. Vacuum work area with HEPA filtered vacuums. 5. Wet mop area with disinfectant. 6. Remove isolation of HVAC system in areas where work is being performed.

Step 4:

Identify the areas surrounding the project area, assessing potential impact.

Unit Below	Unit Above	Lateral	Lateral	Behind	Front
Risk Group	Risk Group	Risk Group	Risk Group	Risk Group	Risk Group

Step 5:

1. Identify specific site of activity e.g. patient rooms, medication room, etc.
2. Identify issues related to:
 - a. Ventilation (outages, airflow direction, clean to dirty, etc.).
 - b. Plumbing (outages, hand-washing access, work area, flushing, etc.).
 - c. Electricity (outages for critical equipment in special-ventilation areas, monitoring, etc.).

Step 6:

Identify issues related to: ventilation, plumbing, electrical in terms of the occurrence of probable outages.

Step 7:

1. Identify containment measures, using prior assessment. What types of barriers (e.g., solid-wall barriers) are there? Will HEPA filtration be required? (Note: Renovation/construction areas should be isolated from occupied areas during construction and provide clean-to-dirty airflow with respect to surrounding areas).
2. Identify containment measures, using prior assessment. What types of barriers? (E.g., solids wall barriers); Will HEPA filtration is required?

Step 8: Take into consideration the following:

Work hours: Can or will work occur during non-patient care hours? Contact the nursing supervisor before workers begin to determine the most sensitive patients and coordinate the progress of the project.

1. Do plans allow for adequate number of isolation/negative airflow rooms?
2. Do the plans allow for the required number and type of hand-washing sinks?
3. Does the infection control staff agree with the minimum number of sinks for this project?
4. Does the infection control staff agree with the plans relative to clean and soiled utility rooms?
5. Plan to discuss the following containment issues with the project team such as traffic flow, housekeeping and debris removal (how and when).
6. Potential risk of water damage: Is there a risk due to compromising structural integrity (wall, ceiling, and roof)?

Description of Required Infection Control Precautions by Class

Infection Control Construction Permit		Permit No:	
Location of Construction:		Project Start Date:	
Project Coordinator:		Estimated Duration:	
Contractor Performing Work		Permit Expiration Date:	
Supervisor:		Telephone:	
CONSTRUCTION ACTIVITY		INFECTION CONTROL RISK GROUP	
	TYPE A: Inspection, non-invasive activity		GROUP 1: Low Risk
	TYPE B: Small scale, short duration, moderate to high levels		GROUP 2: Medium Risk
	TYPE C: Activity generates moderate to high levels of dust, requires greater one (1) work shift for completion		GROUP 3: Medium/High Risk
	TYPE D: Major duration and construction activities requiring consecutive work shifts		GROUP 4: Highest Risk

During Construction Project

Upon Completion of Project

Class I	<ol style="list-style-type: none"> 1. Execute work by methods to minimize raising dust from construction operations. 2. Immediately replace a ceiling tile displaced for visual inspection 	
Class II	<ol style="list-style-type: none"> 1. Provide active means to prevent airborne dust from dispersing into atmosphere. 2. Water mist work surfaces to control dust while cutting. 3. Seal unused doors with duct tape. 4. Block off and seal air vents/exhaust. 5. Place dust mat at entrance and exit of work area 6. Remove or isolate HVAC system in areas where work is being performed. 	<ol style="list-style-type: none"> 1. Wipe work surfaces with disinfectant. 2. Contain construction waste before transport in tightly covered containers. 3. Wet mop and/or vacuum with HEPA filter vacuum before leaving work area. 4. Remove isolation of HVAC system in areas where work is being performed.
Class III	<ol style="list-style-type: none"> 1. Remove or isolate HVAC system in area where work is being done to prevent contamination of duct system. 2. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. 3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 4. Contain construction waste before transport in tightly covered containers. 5. Cover transport receptacles or carts. Tape covering unless solid lid. 	<ol style="list-style-type: none"> 1. Do not remove barriers from work area until completed project is inspected by the Ower's Safety Department and Infection Control Department and thoroughly cleaned by the Ower's Environmental Services Department. 2. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 3. Vacuum work area with HEPA filtered vacuums. 4. Wet mop area with disinfectant. 5. Remove isolation of HVAC system in areas where work is being performed.
Class IV	<ol style="list-style-type: none"> 1. Isolate HVAC exhaust system in area where work is being performed to prevent contamination of duct system. 2. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. 3. Critical barriers shall be erected from slab to slab 4. A pre-barrier shall be erected from floor to ceiling with poly to build the permanent critical barrier. 5. Construct an Ante-Room. 6. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 7. Seal holes, pipes, conduits, and punctures appropriately. 8. Construct ante-room and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave the work site. 9. All personnel entering work site are required to wear shoe covers. Shoe covers shall be changed each time the worker exits the work area. 10. During dusty and dirty operations, such as demo, workers may be required to wear Tyvek suits. 	<ol style="list-style-type: none"> 1. Do not remove barriers from work area until completed project is inspected by the Ower's Safety Department and Infection Control Department and thoroughly cleaned by the Ower's Environmental Services Department. 2. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 3. Contain construction waste before transport in tightly covered containers. 4. Cover transport receptacles or carts. Tape covering unless solid lid. 5. Vacuum work area with HEPA filtered vacuums. 6. Wet mop area with disinfectant. 7. Remove isolation of HVAC system in areas where work is being performed. 8. See note 3).

- | | | |
|--|---|--|
| | 11. Contain dusty or smoky operations with local exhaust such as smoke eaters and/or control measures such as misting material during demo. | |
|--|---|--|

a. WORKING WITHIN LABORATORY AREAS

SUPERVISOR/MANAGEMENT RESPONSIBILITIES

1. A pre-planning meeting is mandatory.
2. The LF Driscoll Superintendent will be responsible for contacting the Administrator and/or the Lab Manager each day/night before work commences in order to inform them on the following items:
 - a. Nature of the work
 - b. Areas where the work will be conducted for that period and any special protection required
 - c. Review clean-up procedures
3. The LF Driscoll staff and the Lab Manager will contact the facility's Safety Department to conduct a walk-through and identify potentially hazardous materials, request for any necessary environmental clearance, and identify any areas that will be prohibited for entrance by employees during the course of the work.
4. Environmental Clearances must be issued by the facility's Safety Department.
5. LF Driscoll, the facility's Safety Department and the Lab Manager will be responsible for identifying the following items before the job commences:
 - a. Areas where tools will be stored until the end of the project
 - b. Location of an area to store an emergency spill cart
 - c. Identify protection procedures for equipment

SAFETY PROCEDURES FOR WORK IN A LABORATORY

1. Inform all employees of the hazards associated within the areas they will be working in and notified them of the restricted areas.
2. All areas within a laboratory are to be considered contaminated; therefore, these procedures will be followed at all times:
 - a. Use a designate cart of tools used only for that job. They will be stored in a designated spot within the lab until the end of the project.
 - b. Personal Protective Equipment requirements will be determined on a case-by-case basis. Once the required personal protective equipment has been determined, all workers must be provided with and be required to wear the PPE.
 - c. Personal protective equipment will be put on before entrance into a lab area. If you must leave the lab area (room where work is in progress) during the work day/night, then the tyvek suit can be taken off and hung in the room, but the gloves and mask should be discarded in a designated wastebasket located in the lab.
 - d. When re-entering the lab, PPE shall be put on before entering the worksite. The tyvek suit will be put on last after entrance into the worksite.
 - e. All personal protective equipment must be changed when moving between rooms. Suits and gloves cannot be worn in the hallways or into other areas without changing.
 - f. At the end of the shift, all tools must be wiped down with alcohol or 10% bleach solution and returned to the designated storage area.
 - g. While working in the laboratory, all personnel will use the buddy system in case of an accidental spill or other emergency (see Section III for procedures).
 - h. Apply protective plastic to any countertop before tools are set down.

EMERGENCY SPILL PROCEDURES

1. There are three types of hazards associated with working in a laboratory: biological, chemical and radioactive. The following steps should be taken in case of an emergency spill while you are working in the areas:
 - a. **BIOLOGICAL:** In case of a spill involving biological hazards, the following steps should be taken:
 - i. If the potentially hazardous material did not contaminate your clothing, then one employee will wait outside the door while the other reports the incident immediately to the facility's Emergency Phone Number.
 - ii. The hospital and or facility personnel will be responsible for cleanup and clearance of the area.
 - iii. If the material has contaminated your clothing, then the contaminated outerwear should be removed (use gloved hands). The hospital and or facility personnel will assess the situation and determine further decontamination procedures if necessary.
 - b. **CHEMICAL:** In case of a spill involving a chemical, the following steps should be taken:
 - i. If the potentially hazardous material did not contaminate your clothing, then one employee will wait outside the door while the other reports the incident to the facility's Emergency Phone Number.
 - ii. The hospital and or facility personnel will be responsible for cleanup and clearance of the area.
 - iii. If the material has contaminated your clothing, then remove your equipment and immediately flush the area with copious amounts of water for at least 15 minutes. Report the incident immediately to your Supervisor.
 - iv. If the incident has caused injury, the facility and/or LF Driscoll shall obtain the SDS sheet and escort the employee to the Emergency Room.
 - c. **RADIATION:** In case of a spill involving radioactive materials, the following steps should be taken:
 - i. If the material has not contaminated your clothing or shoes, then one employee will wait outside while the other immediately reports the incident to the facility's Emergency Phone Number.
 - ii. If clothing or shoes have been splashed, remove affected items using gloves and immediately wash any splashed skin with soap and water. **Do not leave the area.** The other employee not involved in the splash will immediately report the incident to the facility's Emergency Phone Number.

GENERAL RULES:

1. DO NOT TAKE PERSONAL ITEMS INTO THE LAB AREA; I.E., RADIO, IPOD, MP3 PLAYER.
2. DO NOT USE ANY TELEPHONE WITHIN THE LAB.
3. DO NOT SIT AT ANYONE'S DESK.
4. DO NOT EAT IN THE LAB AND DO NOT BRING FOOD IN THE LAB.
5. DO NOT ENTER ANY ROOM WITHOUT AUTHORIZATION TO WORK AT THAT TIME.
6. DO NOT TOUCH ITEMS OR MATERIALS ON THE LAB COUNTER.

b. WORKING WITHIN STERILE ENVIRONMENTS

This includes work adjacent to sterile areas, including the floor above or below, when there are penetrations through the area.

GOALS:

1. Eliminate the exposure to infection created by construction dust, dirt and debris, and workers entering the existing sterile environment.
2. Reduce construction impact on sterile environments.

OBJECTIVES:

1. Adhere to the facility's Infection Control Procedures by isolating demolition and construction from the active sterile environment (including ventilation - negative pressure). This can be done by strictly following ICRA guidelines.
2. Maintain dust free passage of construction personnel, material and equipment through the active sterile environment.
3. Minimize the impact of a construction zone inside the active sterile environment including the effects of noise, vibration and odors.
4. Comply strictly with the standards of acceptable behavior in the hospital environment and enforcement thereof.

REQUIREMENTS:

1. Train all workers in the Facility's Infection Control Policies. As part of that training, the following points will be explained and emphasized:
 - a. Germs carried in and on our persons are far more dangerous to individuals involved in surgery (and immunocompromised patients) than anything we can encounter there ourselves.
 - b. Surgical suites are STERILE, we are not.
2. **AS A PRECAUTION**, CDC's Bloodborne Pathogen guidelines for Body Substance Isolation (BSI) protection will be in effect for any trades workers involved in demolition or connection of new systems to existing systems, which could cause exposure to any body fluids. When working on existing facility's sanitary piping, waste lines, or medical vacuum lines workers must assume all fluids are contaminated and wear proper personal protection equipment.
3. All equipment, materials and personnel, including tools and carts, will be treated as if they are infected entering a sterile environment. All workers will gown according to Facility policies. All equipment and materials must be dust-free and covered before entering restricted sterile areas.
4. Before carts enter or leave the sterile environment, they will be wiped down and/or vacuumed off with a HEPA vacuum cleaner including the wheels, to prevent the introduction of airborne contaminants into sterile areas.
5. Workers must adhere to the facility's infection control procedures for gowning up prior to entering sterile areas such as wearing bunny suits and/or scrubs, shoe cover or booties, hair covers, and possibly surgical mask.
6. Workers must re-gown, including clean booties, when exiting the construction area and entering the sterile environment.
7. At the completion of the work within sterile areas, all material must be cleaned and removed from the area cleaned. Following the cleaning process, notify the facility to complete a terminal cleaning of the space.

c. BLOODBORNE PATHOGEN EXPOSURE CONTROL PLAN

REFERENCES:

[29 CFR 1910.1030 – Blood borne Pathogen and Appendix A](#)
[OSHA retool – Healthcare Wide Hazards/Blood-Borne Pathogens](#)
[OSHA’s PowerPoint Presentations - Revised Blood-Borne Pathogens Standard](#)
[OSHA’S Training Video - Workplace Precautions Against Blood-Borne Pathogens](#)
[OSHA’S Safety and Health Topics - Biological Agents](#)
[OSHA Standard Interpretations - OSHA Requirements For Providing Training For First Aid, CPR, And BBP For Prompt Treatment Of Injured Employees At Various Workplaces.](#)

This bloodborne pathogen exposure control plan provides precautions to use when occupationally exposed to blood, bodily fluids and other potentially infectious materials. These materials may cause diseases such as hepatitis B (HBV) and human immunodeficiency virus (HIV).

1. DEFINITIONS:

- a. **Blood:** Human blood, human blood components, and products made from human blood.
- b. **Bloodborne Pathogens:** Pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).
- c. **Contaminated:** The presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.
- d. **Contaminated Laundry:** Laundry soiled with blood or other potentially infectious materials or may contain sharps.
- e. **Contaminated Sharps:** Any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.
- f. **Decontamination:** The use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.
- g. **Engineering Controls:** Controls that isolate or remove the bloodborne pathogens hazard.
- h. **Exposure Incident:** A specific eye, mouth, other mucous membrane, non-intact skin, or potential contact with blood or other potentially infectious materials that results from the performance of an employee's duties.
- i. **Hand Washing Facilities:** A facility providing an adequate supply of running potable water, soap and single use towels or hot air drying machines.
- j. **HBV:** Hepatitis B virus.
- k. **HIV:** Human immunodeficiency virus.
- l. **Occupational Exposure:** Reasonably anticipated skin, eye, mucous membrane, or potential contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.
- m. **Other Potentially Infectious Materials:** (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; (2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and (3) HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.
- n. **Parenteral:** Piercing mucous membranes or the skin barrier through such events as needle sticks, human bites, cuts, and abrasions.
- o. **Personal Protective Equipment:** Specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) not intended to function as protection against a hazard is not personal protective equipment.

- p. **Regulated Waste:** Liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.
- q. **Sterilize:** The use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.
- r. **Universal Precautions:** An approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.
- s. **Work Practice Controls:** Controls that reduce the likelihood of exposure by altering the manner in which a task is performed.

2. METHODS OF COMPLIANCE

- a. Observe universal precautions to prevent contact with blood or other potentially infectious materials.
- b. Consider all body fluids potentially infectious materials.
- c. Any injured employee will report to their supervisor and provided with the first-aid materials, i.e. cleansing solution, Band-Aid, aspirin, etc., for minor injuries. In the event, an injured person requires assistance for treatment of the minor injury, the person rendering aid shall wear a pair of rubber medical-type gloves. (Rubber medical-type gloves are a required item of inventory of the first-aid kit) Upon completing treatment of any injury, both the person providing assistance/treatment and the injured person will wash thoroughly with soap and water to remove all traces of blood or other body fluids from their skin.
- d. If clothing is contaminated with blood or body fluids, it shall be removed prior to continuing work to minimize the potential of contaminating other persons, materials, tools, etc. Place soiled clothing in a plastic bag. Discard clothing if contaminated with another person's blood. It shall be at the discretion and responsibility of the individual whose clothing was/is contaminated with their own blood to either clean or dispose of the clothing, as they deem appropriate.
- e. Should a serious injury be incurred to an employee on the job site, which results in extensive bleeding, and another employee comes to assistance of the injured party (Good Samaritan) and is contaminated with the blood of the injured party, their employer will also offer this employee the hepatitis B vaccination free of charge.
- f. Any tool, material, or equipment contaminated with human blood or other body fluids shall be cleaned/decontaminated prior to being put back into service. Any soil, material or other items, which cannot be cleaned or decontaminated, shall be disposed of in an appropriate approved manner.
- g. A simple disinfectant decontamination solution may be made of 1 part household Bleach and 10 parts of water.

3. COMMUNICATION OF HAZARDOUS MATERIAL

- a. Affix the universal biohazard symbol to containers of regulated waste. They must be in fluorescent orange or orange-red in color. Do not substitute red bags or red containers for red labels.

4. HEPATITIS B VACCINATIONS

- a. The Hepatitis B vaccine and vaccination are required by law to be available to employees, who have the potential for occupational exposure to bloodborne pathogens.
- b. If any employee becomes exposed to bloodborne pathogens that have not received the Hepatitis B vaccine, it must be made available to them within 24 hours of exposure.
- c. The HBV vaccination series is provided at no cost to the employee and are provided by a licensed physician as specified by their employer.
- d. Employees exposed to bloodborne pathogens will have medical evaluation at the time of the exposure and be placed on post-exposure follow up by a licensed physician as specified by their employer.

- e. The employee may decline Hepatitis B vaccinations. The employee must sign a mandatory Hepatitis B vaccination declination statement. The employee may receive the vaccination at a later date if they desire.
- f. If routine boosters of the Hepatitis vaccine are recommended by the U.S. department of Public Health, the booster shots will also be available to the employee at no cost and administered by a licensed physician as specified by their employer.

5. SAFE WORK PRACTICES

- a. Observe universal precautions at all times when working with bodily fluids.
- b. Wash hands with soap and water and/or a disinfectant solution immediately after removing gloves.
- c. Mouth pieces/barriers shall be available in the project first aid kits for performing CPR.
- d. Keep a Bloodborne Pathogen spill kit on each project.
- e. Cleaned immediately with a bleach solution areas and equipment contaminated with blood or body fluids. Prepare the bleach solution freshly made at the time of the spill. The concentration should be a 10% bleach solution or other approved anti-microbial.
- f. For large areas of contamination, use the Universal Precaution Spill Kit kept with every First Aid kit. Wearing the personal protective equipment included in the kit, (i.e. gloves, face shield with mask, and gown) sprinkle the provided powder over spilled area. Allow solidifying to a gel. Remove gelled material with the scoop and scraper provided. Carefully place material in bag provided. Clean away remaining solids and disinfect with the bleach solution or the enclosed germicidal (germ killing) cloth in kit.
- g. Place all contaminated articles including gloves in the red plastic bag. Seal the red bag and contact the local Health Department for proper disposal.
- h. Promptly wash hands with soap and water. If antiseptic hand cleaners or towelettes are used, wash hands with running water as soon as possible.

6. HOUSEKEEPING PROCEDURES

- a. If an area is contaminated with blood or body fluids, report the situation immediately to the Project Manager or Superintendent.
- b. Do not proceed into the area of possible exposure.
- c. Never pick up contaminated broken glass directly with the hands, even if wearing gloves.
- d. Use a brush and dustpan to clean up broken glass.
- e. Discarded in the designated sharps container all contaminated sharps (i.e. broken glass, needles, or any other sharp object).
- f. These containers will be on those job sites where there is potential for exposure to sharps. The sharps containers are to be closeable, puncture resistant, leak proof, red in color or appropriately labeled with a biohazard tag.
- g. Discard any material contaminated with potentially hazardous material or regulated waste according to federal, state and local regulations. Decontaminate all equipment and work surfaces after contact with blood or other potentially infectious materials.
- h. Clean all work surfaces with a disinfectant (Bleach solution), wearing gloves, or whatever other personal protective equipment is necessary.
- i. The personal protective equipment is in the universal spill kit with the first aid kit.
- j. Clean up the spilled fluids as follows:
 - i. Put on protective gloves.
 - ii. Spread the absorbent material on the spilled body fluids, e.g., paper towels.
 - iii. Neutralize the potential pathogens with a 10% bleach-with-water solution. Cover the spill for 15 minutes or as required.
 - iv. Use paper towels to pick up material as best possible. Place all potentially contaminated materials in a *leak-proof* plastic bag.
 - v. Sweep/mop-up additional neutralized/absorbed fluids and place residue in the leak-proof bag.
 - vi. Clean sweep/mop materials with hot, soapy water. Lastly, remove gloves from inside out and place in the bag.

- vii. Secure the bag and discard it as other trash.
- viii. Wash hands thoroughly in hot, soapy water.

7. POST EXPOSURE DOCUMENTATION

- a. Complete an incident report as soon as possible after the exposure. Exposure means direct contact with blood or body fluids without protective equipment or not covered by protective equipment.
- b. Complete a personal injury form by the superintendent or designee. LF Driscoll will keep all exposure reports for the duration of employment, plus thirty years. Make available all medical records to anyone having the written consent of the subject employee or OSHA representatives.

8. BLOODBORNE PATHOGENS TRAINING

- a. Employees shall receive training to make them aware of the standard and the hazards associated with Bloodborne Pathogens.
- b. Provide training to employees and will cover all topics as specified in Bloodborne pathogens standards. Training shall include, but not be limited to:
 - i. OSHA Standard 29 CFR 1910.1030, Occupational Exposure to Bloodborne Pathogens.
 - ii. Explanation of what Bloodborne Pathogens are.
 - iii. Modes of Transmission.
 - iv. Company Compliance Program.
 - v. How to Handle Exposure Incidents.
 - vi. Use of Personal Protective Equipment
 - vii. Availability of vaccination if exposed to Bloodborne Pathogens.
 - viii. Eligibility of a Follow-up Program after an Exposure Incident.
 - ix. Personal Hygiene.

9. POST-EXPOSURE and FOLLOW-UP

- a. If the project team knows that a person who had received first-aid medical treatment on the project was confirmed to be infected with HIV or HBV, then the person(s) involved in that incident shall be provided the prescribed follow-up treatment by their employer. Management shall make immediately available to the exposed employee a confidential medical evaluation and follow-up, including at least the following:
 - i. Documentation of the route(s) of exposure, and circumstances under which exposure occurred.
 - ii. Identification of the source individual, if feasible.
 - iii. Source individual's blood to be tested and the results made available to the exposed employee, if consented. Refer to Federal, State and Local Laws regarding obtaining consent and confidentiality for testing of blood.
 - iv. Exposed employee's blood to be tested for HBV and HIV serological status.
 - v. Offer HBV vaccination series to the exposed employee.
 - vi. Provide counseling and a written opinion in accordance with 29 CFR 1910.130(f)(5).

10. GENERAL RULES

- a. Workers are to follow the procedures outlined above.
- b. Subcontractors are responsible to establish an exposure control plan for their employees.
- c. Each subcontractor is directly responsible for the clean-up and decontamination of material that could contain bloodborne pathogens associated with their work.
- d. Exposure Incident means a specific eye, mouth, other mucous membrane, non-intact skin, and contact with blood or other potentially infectious materials that result from the performance of an employee's duties.

SECTION 36: SMALL UNMANNED AIRCRAFT VEHICLE/SYSTEM (UAV) & (UAS) DRONES

<https://www.faa.gov/uas/>

https://www.faa.gov/uas/media/Part_107_Summary.pdf

<https://jrupprechtlaw.com/faas-new-far-part-107-drone-operators-need-know>

Introduction:

The construction industry is utilizing Drones for various capacities including project observation & video; security, surveying, and aerial photography. In conjunction with cameras, GPS, laser measuring systems and thermal imaging devices, aerial drones can serve all aspects of construction from site surveys to construction progress. Drones are increasingly being utilized to provide project owners with aerial photography and can also be utilized for post-accident investigations. However, construction companies must balance the use of a Drone with regulatory requirements, privacy concerns, risk management and legal issues.

Technically, Aerial Drones are referred to in Federal Aviation Administration (FAA) regulations as Unmanned Aircraft Vehicles or Unmanned Aircraft Systems (“UAV”). Private operators must abide by all applicable FAA regulations, as set forth in FAA Regulations Part 107, as well as all applicable state/local privacy laws, particularly those laws specifically addressing aerial drone operation.

LF Driscoll Policy:

UAV’s can be utilized at a project site upon request of an Owner or Subcontractor. When requested by a Subcontractor, the request must be approved by the Project Executive and the subcontractor must follow the requirements outlined in this policy – including providing evidence of insurance.

- (A) **Purpose:** The LF Driscoll Policy establishes guidelines which must be followed when considering the use & operation of a Drone on a project site.
1. Full compliance with FAA Regulation, Part 107, and any additional applicable state or local laws and regulations must be followed
 2. Pilots and aircraft must be registered with LF Driscoll Corporate Risk Management
 3. Pilots must be fully licensed with an FAA Remote Pilots Airman Certificate
 4. The operation of a drone must account for privacy concerns, camera’s shall always be directed towards the appropriate subject matter
 5. Compliance with data security and retention must follow standard LF Driscoll guidelines, as well as all Customer/Client requirements
 6. Carefully tailoring the use of the Drone for a particular project
 7. Many customers/clients are sensitive to how the drone photography/video is utilized – The Project must coordinate how and with whom all data can be shared.
- (B) **Who may operate the UVA:**
1. All pilots must be at least 16 years of age
 2. Pilots must hold a Remote Pilot Airman Certificate with small UAV rating from the FAA
 3. Pilots must pass applicable Transportation Security Administration (TSA) protocols
 4. Pilots must have 5 hours of documented experience operating the aircraft make & model being utilized
- (C) **Description of Activities:**
- (a) All flights must undergo a pre-flight check prior to operating, including observing the proposed flight path of the aircraft
 - (b) A Visual Observer (VO) should be utilized in conjunction with each flight. The VO will predominantly be a member of the Project Team who will assist the Pilot in Command during flight operations

ensuring that the UAV operates correctly and does not fly over unintended areas, structures, personnel, or vehicles.

- (c) All flights must remain below 400 feet above ground level
- (d) Aircraft cannot exceed 100 miles per hour
- (e) Aircraft must be operated between daylight hours (30 minutes after sunrise/30 minutes prior to sunset) * Waivers must be obtained if the intent is to operate the drone outside of these hours.
- (f) Aircraft must maintain visual contact at times – by the Pilot in Command (“PIC”) or the Visual Observer (“VO”)
- (g) Drones must yield the right of way to all other aircraft
- (h) Drone must weigh less than 55 pounds (inclusive of any additional equipment)

(D) Regulations

The Federal Aviation Administration (FAA) regulates the aviation airspace over the United States. Prior to operating a UAV for commercial use, regulations set forth by the FAA, state and local governments must be reviewed and complied with at all times.

As a civil operator of a UAV, there is a requirement to register the drone online as long as the vehicle weighs 55 pounds or less, inclusive of any additional equipment. Commercial users of UAV’s must follow the FAA requirements found in Small UAS Rule 107.

The pilot of the UAV must hold a remote pilot airman certificate with a small UAS rating or be under the direct supervision of a pilot who does hold the proper certification. The FAA provides guidance, maps, and Smartphone Apps that can be used to indicate where you can and cannot operate the drone on their website: https://www.faa.gov/uas/where_to_fly/airspace_restrictions.

(E) FAA Small UAS Rule Part 107

- The maximum altitude for UAV operations is 400 feet above ground level. If a contractor flies higher than 400 feet above ground level, (for example; to review a high rise building under construction) they must remain within a 400 foot radius of the structure and not fly 400 feet above its immediate uppermost limit.
- The remote Pilot in Command (“PIC”) must keep the UAV in a visual line of sight, without the aid of binoculars or camera.
- The remote PIC is responsible for ensuring that the UAV remains clear of and yield right of way to any other aircraft
- Flight hours are restricted (see above)
- UAV’s are not allowed to fly over people who are not directly involved with the UAV operation – the PIC and/or other safety crew members
- Commercial UAV accidents involving serious injury or property damage must be reported to the FAA

(F) Risk Management & Insurance:

1. LF Driscoll maintains a Corporate Aviation Policy which provides \$10M of Liability coverage when an approved LF Driscoll Pilot operates a UAV.
2. Prior to the use/operation of a UAV on any project site, Corporate Risk Management, Safety or Legal must be notified.
3. Subject to the requirements set forth below, Third-Party Vendors/Subcontractors may be utilized to provide the requested aerial services associated with UAV operations
4. Project Subcontractors will only be allowed to operate a UAV at the project site if
 - the request is made by our owner/customer and
 - such request is submitted and approved by the LF Driscoll Project Team, including both Corporate Risk Management and Legal (Project Team must provide an outline/request from our Customer/Client prior to any drone operations)
 - they meet all requirements set forth in this document

(G) Subcontractor Vendors / Subcontractors

- (i) Must adhere to all the requirements of the LF Driscoll UAV Policy
- (j) Must provide evidence of Insurance limits of a minimum of \$3M of aviation coverage
 - Aviation coverage may be added to the Commercial General Liability policy by endorsement

LF Driscoll must be added as and Additional Insured on all such insurance, and we must also obtain a Waiver of Subrogation

- (k) All vendors / subcontractors must submit evidence and documentation to Risk Management prior to the commencement of any flight operations –

Required documentation is to include:

- Proper Insurance certificate showing proper limits and additional insured wording
- Proper Pilot identification including an approved FAA Remote Pilots Airman Certificate

(H) LF Driscoll (Business Units) Purchase or Lease of a UAV

- (a) ALL purchased or leased UAV's must be reported to Risk Management
 - We require: Make / Model / Serial Number of each aircraft
- (b) The Command Pilot (employee) must be identified and Risk Management must be provided a copy of the appropriate FAA Remote Pilots License
- (c) All additional guidelines in the LF Driscoll UAV Policy must be followed and adhered to

(I) Safety Requirements

- Compliance with all FAA Regulations
- Remain at least 25 feet away from individuals and any adjoining property or vehicles
- Do not operate the Drone within 5 miles of any airport and contact the airport/control tower in the event that this is necessary
- Do not fly in adverse weather conditions
- Ensure full compliance with Pilot in Commands rules and regulations
- Do not operate near or over sensitive properties – power stations, roadways, etc.
- Do not video or photograph persons or properties that are not within the scope of the project boundaries
- Obtain permission prior to operating the drone near or above any adjacent property

(J) Responsibility & Authority:

1. **Project Manager / Project Executive** - Define the scope of operation for the UAV. Determine if the operations will be self-performed or provided by a Third-Party. In either instance the PM or PE is responsible for notifying Corporate Risk Management and/or Legal.
2. **Project Superintendent** - Will most likely be the designated Visual Observer during the operation of the UAV. As such the Superintendent should be familiar with the LF Driscoll Policy regarding the use and operation of a UAV on the project site
3. **Corporate Risk Management & Legal** - are responsible for ensuring that all appropriate documentation is in place, proper insurance is obtained and all Pilot Licensing documented.

PLEASE SEE THE ATTACHED OUTLINE FOR QUICK REFERENCE

	Self-Performed	Subcontractor
Prior to Arrival	<ul style="list-style-type: none"> Select vendor for data processing and analysis if required (talk to your geography expert or PIC) PIC Remote Pilot Certificate # logged in the national register on SmartSheet sUAS Registration # logged in the national register on SmartSheet Project Superintendent notified 24 hours in advance of flight Site-specific orientation records for all persons at the project site on file (including consent to participate in sUAS operations) Obtain Air Traffic Control (ATC) permission for Class B, C, D and E airspace 	<ul style="list-style-type: none"> Select vendor for data processing and analysis if required (talk to your geography expert or PIC) Executed subcontract on file w/ PIC Remote Pilot Certificate # and sUAS Registration # Valid insurance certificate on file Project Superintendent notified 24 hours in advance of flight Site-specific orientation records for all persons at the project site on file (including consent to participate in sUAS operations)
Preflight	<ul style="list-style-type: none"> Complete preflight checklist in SmartSheet using your mobile device 	<ul style="list-style-type: none"> Notify Project Superintendent upon arrival on site
Flight Operations	<ul style="list-style-type: none"> Maintain Visual Line of Sight (VLOS) by PIC Comply with airspace restrictions Comply with FAA requirements and sUAS manufacturer's operating instructions No flights over active roads No flights over people not inside a structure or a stationary vehicle 	<ul style="list-style-type: none"> Maintain Visual Line of Sight (VLOS) by PIC Comply with airspace restrictions Comply with FAA requirements and sUAS manufacturer's operating instructions No flights over active roads No flights over people not inside a structure or a stationary vehicle
Post-flight	<ul style="list-style-type: none"> Complete flight log Upload captured data for processing and analysis Upload raw data and log files to project storage of record 	<ul style="list-style-type: none"> Upload captured data for processing and analysis Upload raw data and log files to project storage of record