Safety and Health Manual Index

Section 1 - Drug and Alcohol Policy

A. Drug and Alcohol Policy

1. The Company strictly prohibits the manufacture, use, sale, purchase, transfer, possession, or use of illegal drugs, controlled substances or alcohol, or being under the influence thereof at work or while on Company business. There may be circumstances in which alcohol is served at Company events or business-related gatherings. If that is the case, then employees may consume alcohol only to the extent it does not lead to impairment of performance, result in inappropriate behavior, endanger the safety of the employee or any other person or otherwise violate the law. Employees are expected to consume alcohol responsibly. Employees are also expected to conform their behavior to this standard to represent the Company in a positive light in their community and have the ability to report to work in a timely manner and perform all job duties safely and effectively. The use or abuse of alcohol off the job prohibited from reporting to work with alcohol in their system. The Company also prohibits the improper use and/or abuse of therapeutic drugs, as defined below.

2. When circumstances warrant, the Company reserves the right under this Policy to require an employee, his foreman and his superintendent to undergo a blood test and/or urinalysis to determine the presence of alcohol or drugs in the system. This screening will be on Company time and Company expense and will be mandatory.

3. Circumstances which could warrant testing are as follows:

    a) Whenever, in the sole judgement of the Company, there is reasonable cause to believe that an employee in under the influence of drugs and alcohol. "Reasonable Cause" is defined as facts and circumstances which would lead a reasonable person to suspect that an employee is under the influence of drugs or alcohol.
    b) Whenever the employee sustains a job-related injury requiring professional medical treatment and it's reasonable to suspect drug use may have contributed to impairment.
    c) Whenever in the sole judgement of the Company, the employee's conduct is a contributing factor to an accident which results in injury to another or damage to property.
    d) To remain in compliance with Federal D.O.T. standards and the regulations of any other governing Federal or State agency.

4. Employees who test positive for drugs or alcohol, those who refuse to consent to a drug test, or who are otherwise found in violation of this policy, will be subject to disciplinary actions, up to and including discharge.

5. Definitions:

    Alcohol - means the intoxicating agent in beverage alcohol, ethyl alcohol, or other low molecular weight alcohols including methyl and isopropyl alcohol. This would include any beverage, mixture, or preparation, including any medication, containing alcohol.

    Therapeutic drug - means any substance, including any prescription drug, prescribed for the individual consuming it by a licensed medical practitioner, or any over-the-counter drug used by the employee.

    Illegal drug - means any drug or controlled substance that is unlawful or controlled by federal, state or local laws, regulations, or judicial decisions, including amphetamines, marijuana, cocaine, opiates, and phencyclidine. For purposes of this Policy, use of an illegal drug shall have the same meaning as use of "controlled substances," and the terms may be used interchangeably.

6. Pre-Employment Testing:

    a) The company requires all employees or potential employees, unless covered by a collective bargaining agreement that contradicts this Policy or provides more stringent requirements, to undergo post-offer pre-employment testing for illegal drugs and alcohol.

7. Conditions for Testing:

    a) Consistent with applicable laws and subject to any applicable collective bargaining agreement, the Company reserves the right under this Policy to require employees to undergo testing for alcohol and/or illegal drugs as described below. This mandatory testing will be on Company time and at Company's expense.

8. Circumstances which could warrant testing for alcohol and/or illegal drugs are as follows:

    a) Whenever, in the sole judgment of the Company, there is reasonable suspicion to believe that an employee is under the influence of illegal drugs or alcohol. For purposes of this policy, "reasonable suspicion" is defined as specific, contemporaneous, articulable facts, circumstances, and experience, and reasonable inferences drawn from facts and experience, that would lead a reasonable person to suspect that an employee is under the influence of illegal drugs or alcohol. Such facts and inferences may be based upon, but are not limited to, the following:

        (1) Observable phenomena while at work, such as direct observation of substance abuse or of the physical symptoms or manifestations of being impaired due to substance abuse;
        (2) Abnormal conduct or erratic behavior while at work or a significant deterioration in work performance; or
        (3) Evidence that an employee has used, possessed, sold, solicited, or transferred illegal drugs while working or while on the Company's premises or while operating the Company's vehicle, machinery, or equipment.

    b) Whenever an employee sustains a job-related injury. Testing as a result of a job related injury should be conducted on the same day of the injury.

    c) Whenever, in the sole judgment of the Company, an employee's conduct is a contributing factor to an accident/incident, which results in injury to another or damage to equipment or property.

    d) To remain in compliance with United States Department of Transportation ("U.S.D.O.T.") standards and the regulations of any other governing Federal or State agency.

    e) To meet lawful contractual requirements of a project owner, project insurance requirements, or the lawful provisions of a collective bargaining agreement.

9. Illegal drug and/or alcohol drug testing procedures, methods, and cut-off levels shall conform to this policy. Employees who test positive for illegal drugs or alcohol, refuse to consent to a drug test, or are otherwise found in violation of this Policy may be subject to disciplinary action, up to and including discharge.

10. Employees who test positive for illegal drugs or alcohol, or are otherwise found in violation of this policy, may, at the sole discretion of the Company, be referred to the Employee Assistance Program (EAP). Where available, an employee referred to the EAP following a positive test will not be permitted to return to work until he/she successfully completes a medically supervised rehabilitation program approved by the Company or a medical professional determines that the employee may safely return to work and has negative results on a return-to-duty illegal drug and/or alcohol test. Follow-up tests may occur for the period Management determines is necessary, will be unannounced, and may occur at any time for a time period management considers reasonable. If the employee fails the follow-up test, he/she may be terminated.

11. Employees discharged for violation of this policy will not be eligible for rehire for a period of time determined by the Company. Eligibility for rehire will only be considered after the employee satisfies the following criteria:

    a) The employee can show proof that he/she has received formal professional counseling concerning drugs and/or alcohol;

    b) The worker successfully passes a return to work illegal drug and/or alcohol screen;

    c) The worker agrees to alcohol and/or illegal drug testing for a period of one year;

    d) Availability of a position for which the employee is qualified; and

    e) A determination by the appropriate company representative that re-employment is appropriate under the circumstances.

12. An employee who adulterates, attempts to adulterate, substitutes a testing specimen, or otherwise manipulates or attempts to manipulate the testing process, will be subject to discipline, up to and including termination to the extent permitted by applicable law or collective bargaining agreement.

B. Therapeutic Drugs

1. This policy does not prohibit the use of a therapeutic drug unless such therapeutic drug affects the employee's capacity to properly perform job duties or creates a danger to him/her or to others in the work place. "Therapeutic drugs" include legally obtained prescription drugs, controlled substances, and over-the-counter drugs used in accordance with the employee's related prescription and/or directions.

2. Any employee whose use of any therapeutic drug(s) may affect his/her capacity to properly and safely perform job duties or may create a danger to himself/herself or to others in the work place should report the therapeutic drug use to his/her supervisor. The Company will handle the matter as confidentially as practical under the circumstances. An employee may be allowed to continue to work, even though under the influence of a therapeutic drug, if the Company has determined, after consultation, that the employee does not pose a threat to his/her own safety or health or the safety or health of other employees, and the employee's job performance is not significantly, detrimentally affected by the therapeutic drug. Otherwise, the employee may be required to take a leave of absence in accordance with company policy or comply with other appropriate action determined by the Company.

C. Company Policy Concerning a Drug-Free Workplace (as required by the Drug-Free Workplace Act of 1988)

1. Employees are prohibited from manufacturing, using, selling, purchasing, transferring, possessing, or being under the influence of illegal drugs, controlled substances, or alcohol during working hours or on any work location of the Company. The legal use of therapeutic drugs is permitted on the job only if it does not impair an employee's ability to perform the essential functions of the job effectively and in a safe manner.

2. Under the Drug-Free Workplace Act, any employee convicted of violating a criminal drug statute based on conduct occurring on Company paid time or on Company premises or work locations is required to notify the Company of such conviction. The notification must be made to the employee's supervisor within five (5) days of the conviction.

    a) Employees must consent to abide by this statement as a condition of employment.

3. Any violation of the Drug-Free Workplace policy will result in discipline, up to and including discharge, in accordance with Company policy.

D. The Role of the Supervisor

1. Company supervisors should be able to recognize signs of illegal drug or alcohol use and be able to respond to them accordingly. Supervisors should be prepared to handle employees at the very moment they appear impaired and know where to send an employee for help.

2. Supervisors know employees' job skills, abilities, and performance history. Supervisors are in positions to note changes in job performance that are indicative of problems that could be related to illegal drug or alcohol use.

3. To assist with the recognition of signs of illegal drug or alcohol use, the Company will provide supervisors and management personnel with training to assist their recognition of behavior and other observable facts that indicate possible illegal drug and/or alcohol use and training in how to respond to suspected illegal drug and/or alcohol use.

E. Employee Assistance Program (EAP)

1. The Company has contracted with a confidential Employee Assistance Program ("EAP") to counsel employees (and/or their immediate family members) regarding drug and/or alcohol related issues. The Company has selected Saint Luke's Health System as its Employee Assistance Program (EAP) provider. Saint Luke's EAP offers confidential assessment, short term counseling, referral, and follow up to help employees deal with a wide range of personal issues including alcohol or drug dependence, before they negatively affect job performance. The EAP offers services across the United States and has more than 1,400 locations.

2. The Company encourages employees who suspect they have a problem – even an early-stage problem – to seek voluntary assistance on a confidential basis before his or her safety, health, or position with the Company is jeopardized. Employees may contact Saint Luke's by calling their office at 816-931-3073 or 800-EAP-1223 to arrange a confidential consultation. When an employee contacts the EAP on their own, the only feedback provided to the Company is aggregate, statistical information; names are never mentioned. Employees may also request assistance from their supervisors, human resources or safety department.

F. Drug and Alcohol Sampling and Test Procedures

1. **Trade Partners on DCIP projects where JE Dunn holds the Worker's Compensation Insurance, should refer to the DCIP Manual for drug and alcohol testing requirements**.

2. Alcohol Testing: Alcohol testing will be conducted consistent with the requirements of the medical clinic conducting the testing, and with the requirements of this section, except where the requirements conflict with the requirements of applicable law. Where conflicts exist, applicable law will control.

3. Breath alcohol testing will be conducted by a medical clinic that uses only certified equipment. Breath alcohol concentrations exceeding .04 percent will be considered a verified positive result. A second confirmatory breath test will be conducted to confirm any initial positive test result. Breath alcohol testing may also be performed consistent with any alternative testing procedures approved and recognized by the U.S.D.O.T.

4. Controlled Substances (Illegal Drug) Testing: All specimens collected for purposes of a drug screen under this policy will be handled using strict chain of custody procedures which are outlined below. They are designed to insure the integrity of the specimen from the time of collection through the performance of all requested tests, until the specimen is ultimately discarded. They are also designed to document the details of the specimen collection, identification, transportation, receipt of, and custody of that specimen.

5. Specimens submitted under the chain of custody protocol will be collected and processed as follows:

   a) The employee who submits to a drug screen must produce some type of valid photo identification, (i.e., driver's license).

   b) Normally, a non-observed collection procedure will be used. The sample will be checked for temperature and PH content to ensure its validity.

   c) Precautions will be taken by the use of double seal, tamperproof containers and chain of custody documentation that accompany the sample through collection, transportation, testing, and storage. These precautions will help assure the test results are accurate and are returned on the correct individual.

6. Positive samples will be frozen and retained for a minimum of one year.

7. A urine sample will be taken for the purposes of drug testing. However, a blood sample may be taken, where consistent with applicable law, in the event that an employee is injured and a urine sample is not available.

8. The drug screen includes qualitative analysis using the latest technologies to test for the presence of the groups of drugs listed in Table A. Positive screens are confirmed for all drugs present by Gas Chromatography/Mass Spectrometry (GCMS). GCMS will be the only method of confirmatory testing where required by state or local law. Drug testing may also be performed consistent with any procedures approved and recognized by the U.S.D.O.T.

9. Where the results of a test indicate a "dilute" or is otherwise inconclusive, the Company reserves the right under this Policy to require the employee to undergo a follow up test or be retested for alcohol and/or drugs as described herein. All rights, remedies and procedures under this Policy also apply to any follow up test or retest required by the Company. This mandatory testing will be on Company time and at the Company's expense.

G. Substance Testing and Cutoff Levels

Table A: Substance Name and Cutoff Levels

Drug Name	Type of Drug	Initial Test	Confirmatory Test
Amphetamine		1000 NG/ML	500 NG/ML
Methamphetamine	Amphetamine	1000 NG/ML	500 NG/ML
Ecstasy, X or XTC	Amphetamine	1000 NG/ML	500 NG/ML
Barbituates		300 NG/ML	300 NG/ML

Benzodiazephene		300 NG/ML	300 NG/ML
Cocaine		300 NG/ML	150 NG/ML
Morphine	Opiate	2000 NG/ML	2000 NG/ML
Codeine	Opiate	2000 NG/ML	2000 NG/ML
Heroine	Opiate	2000 NG/ML	2000 NG/ML
PCP	Phencyclidine	25 NG/ML	25 NG/ML
Darvon	Propoxyphene	300 NG/ML	300 NG/ML
Methadone		300 NG/ML	300 NG/ML
Marijuana	THC	50 NG/ML	15 NG/ML

The cutoff levels established by the Department of Health and Human Services ("DHHS") will be used in both initial and confirmatory testing.

H. Authorization for Substance Abuse Testing

1. If a supervisor determines that a reasonable suspicion drug screen is warranted, he or she must first contact the local or National Safety Director. The local or National Safety Director with the Human Resources Director will review the circumstances and make a determination whether testing is warranted and/or necessary.

2. In the case of a union employee, the terms of the applicable collective bargaining agreement should be reviewed before rendering a decision to test.

I. What Supervisors Should Not Do

1. A supervisor should never, under any circumstances, do the following, as these actions could create legal liabilities, safety hazards, or costly errors:

   a) Supervisors should never attempt to diagnose a drug or alcohol problem.

   b) Supervisors should not discuss suspicions with unauthorized persons. If supervisors suspect a drug or alcohol problem, they should only discuss it with their immediate supervisor or other persons authorized in the Company.

   c) Supervisors should never put suspicions regarding drug or alcohol use in writing. Supervisors should document facts on worker performance, not suspicion.

   d) Supervisors should not attempt to obtain a confession. A discussion with an employee regarding poor performance is one of the most difficult tasks a supervisor will ever have. It is even more difficult when supervisors suspect a drug or alcohol problem is a contributing factor.

   e) Supervisors should not ask the employee if he/she has a drug problem. Instead, supervisors should base any discussion on poor work performance. Hold the meeting in private and ask the employee if there is anything that can be done to help him/her solve the problem. If the problem is severe enough to warrant further action, the supervisor may want to refer him/her to the Employee Assistance Program or contact the Safety or Field Operation departments for authorization for a possible drug and alcohol test.

f) Supervisors should not play favorites or make a subjective evaluation of an employee. Supervisors must treat all workers on the project the same. For example, a supervisor may have a close friend or longtime co-worker that shows signs of poor work performance that warrants action, but choose to ignore the symptoms due to the long term relationship with this employee. If a supervisor initiates action on another employee because of age, color, or dislike for him/her, the supervisor runs the risk of subjecting the Company and/or themselves to a lawsuit for discrimination for failure to treat all workers equally.

2. To summarize, in trying to control drug or alcohol abuse in the Company a supervisor must never:

a) Try to diagnose any employee's problem as that of drug/alcohol abuse.
b) Discuss their suspicions with unauthorized employees.
c) Put suspicions of drug or alcohol use in writing.
d) Confront employees or try to get a confession of drug/alcohol abuse.
e) Play favorites.

J. What Supervisors Should Do

1. Whenever an employee's work, attendance, or behavior falls below the acceptable standard, the supervisor needs to take action. There are positive steps a supervisor can take in the face of suspected employee problems.

a) **Keep good records.** To deal with a drug or alcohol problem, the supervisor must have accurate, objective, written records. Symptoms and job performance should be listed. No subjective remarks should be listed. Document facts, not suspicions.

b) **Act on poor performance.** Document poor performance and meet with that employee to discuss his/her performance. Require improvement and make it clear that other measures will be taken if necessary. Provide the employee an Employee Assistance Program brochure and explain that he/she may use this service confidentially if needed.

c) **Follow through.** If the employee performance does not improve, document this fact. Contact the Director of Field Operations or safety departments for further assistance.

2. All these actions may sound easy, but they are not. It is very difficult to confront chemical abuse problems. Front line supervisors are in a good position to help control drug abuse in the Company. It is imperative to know what can or cannot be done. A successful program could reduce losses caused by low productivity, accidents, high workers' compensation costs, poor morale, and theft. The success of this program is directly dependent on supervisors who understand the program and are prepared to enforce it when required.

K. Additional Legal Considerations

1. Disgruntled employees sometimes raise claims against a manager in his or her individual capacity, as well as against a company in its corporate capacity as employer. Defamation and privacy claims are the most likely ones to be raised. Defamation, for these purposes, means falsely labeling or characterizing an employee in a way that reflects adversely on the employee's character. Simply confine comments to objective, observable behavior.

2. An individual's right to privacy may be violated if: (1) an employer publicly discloses private facts about the employee (e.g., positive test results); (2) an employer has intruded, uninvited, into the employee's private activities (e.g., off duty activity); or (3) an employer discloses inaccurate information that places the employee in a false light in the public eye.

3. Supervisors are free to communicate objective observations to those in management with a need to know. Be discreet in terms of all communications, whether oral or written, concerning such matters. Any discussions or correspondence with employees experiencing drug or alcohol problems should be kept in the strictest confidence. Discussions with employees should take place only in a private setting.

Section 2 - Preplanning for Safety

Responsibility

2.1 RESPONSIBILITIES

1. It is the responsibility of the Project Manager and Superintendent to develop and implement a Project Specific Safety Plan. Responsibilities also include providing the necessary planning, supervision, training, and documentation to execute the plan effectively. The safety department shall review the plan to ensure all potential hazards are addressed. They shall also be responsible to monitor the plan to ensure changes are made to reflect changed conditions or statutes.
2. The Safety Department shall audit the project on a frequent basis to further assist the Project Manager and Superintendent in achieving the safety goals and objectives for the project.
3. In addition to the in-house safety audits, projects greater than $25M will require quarterly 3rd party safety oversight. The Regional Safety Department is responsible for scheduling these audits. This can be accomplished through our insurance carrier, broker, JE Dunn Risk Management Department or a 3rd party vendor.
4. Safe operating practices and procedures apply to all contractors and employees on site regardless of the nature of their duties. Every new hire is required to attend safety orientation training. A copy of the Safety Procedures Booklet shall be given to each company new hire during their orientation. These procedures must be-re-emphasized during toolbox meetings and strictly enforced in day to day contact with employees.

Requirements

2.2 SITE SPECIFIC SAFETY PROGRAM COMPONENTS

1. The key components of a site specific safety program include but are not limited to:
    1. Project pre-planning safety meeting to address site specific requirements of the project (See Section 2.3).
    2. Assignment of contractor safety responsibilities.(Safety Assignment Matrix)
    3. Project safety plan
    4. Scope of work pre-install planning meetings with key contractors.
    5. Safety orientations scheduling.
    6. Completing Job Hazard Analysis for new tasks or processes.
    7. Scheduling of safety audits.
    8. Frequent reviews of the site specific program to address changed conditions and.
    9. Development of an emergency action plan (see Section 8).

2.3 PLANNING PRIOR TO THE START OF THE PROJECT

1. Preparation of the Estimate
    1. Include realistic funds for safety and staff requirements in accordance with conditions, company safety policies, Federal and State Safety and Health Regulations, owner, and other regulatory agency specifications.
    2. Full time safety person requirements are as follows:
        1. One person for projects between 60-150 million dollars
        2. Two safety persons for projects between 150-250 million dollars
    3. Additional safety personnel, a dedicated administrative assistant, or a full-time field engineer is required on projects greater than 250 million dollars.

These requirements may vary and are dependent on the project scope and/or schedule. Final staffing requirements shall be discussed and approved with the Corporate Safety Director.

2. Pre-planning safety meeting
    1. An in-house preplanning safety meeting shall be conducted with a representative of the safety department to discuss company safety policies, project specific and/or owner mandated safety requirements, and local issues or concerns that may affect overall safety of the project. The meeting can be incorporated into the normal pre-planning meeting held by Project Management.
    2. Responsibilities and target action dates shall be determined for various construction activities.
    3. Project safety plan and safety assignment matrix shall be established prior to the meeting.
    4. These assignments and target dates should be reviewed during the meeting and at regular intervals thereafter to make adjustments for changed responsibilities and/or conditions.
3. Purchase of Safety Equipment and Supplies
    1. Ensure that adequate safety equipment is available before the need exists. Seek assistance from the Safety Department when ordering equipment to ensure the equipment will afford the adequate protection required. List safety features required when ordering new equipment. Ensure an ample supply will be available for anticipated needs.

2.4 PLANNING AT THE START OF MAJOR SCOPES OR TASKS

1. Project team review of the Site Specific Safety and Health Program
    1. Check status of safety equipment ordered.
    2. Investigate changed conditions and their effect on safety requirements.
    3. Confirm that notifications to utility companies, railroads, airports, and other government authorities are completed. (See Section 36).
    4. Identify project industrial clinic and hospital for emergencies.
2. Safety Inspection of Equipment
    1. All safety deficiencies of Company owned equipment shall be corrected by the logistics center before equipment is sent to the project. Third party rental equipment shall be inspected and certified before delivery to the project. An inspection must be performed on all equipment upon delivery to ensure all company safety requirements are met.
3. Pre-Installation/Construction Meetings
    1. To ensure that all subcontractors are familiar with project safety requirements, the superintendent shall conduct a pre-installation safety meeting for all major scopes of work.
    2. The Preconstruction checklist should be used for each particular trade to review:
        1. The scope and the type of work that the contractor will be performing.
        2. The methods the contractor will be using to accomplish their work as it relates to safety.
        3. The work environment or existing conditions that may affect safe work practices.
        4. Tools and equipment that will be used.
        5. Discussion of any safety concerns due to staging and/or work overlap.

3. Pre-installation checklists are available to be used as meeting guidelines for the following scopes:
    1. Blasting
    2. Demolition
    3. Sheetrock/Drywall
    4. EIFS
    5. Electrical
    6. Excavation
    7. Generic checklist (to be used on other scopes not listed)
    8. Horizontal Formwork
    9. Masonry
    10. Pier Drilling
    11. Plumbing
    12. Precast
    13. Roofing
    14. Steel Erection
    15. Vertical Formwork
    16. Wood Framing
4. Protective measures should be discussed for each of the above to ensure the safety of both the site workers and the general public. These discussions should be documented on the preconstruction checklist.
5. Subcontractors should have a jobsite Foreman and Project Manager present at the preconstruction meeting. The foreman is responsible for ensuring compliance with all applicable Federal, State and local safety and health regulations on the project as well as full compliance with the JE Dunn safety program. In cases where a lower tier Subcontractor is involved, a field rep should be in attendance and/or all minutes from the preconstruction meeting should be forwarded to the lower tier Subcontractor. The primary Subcontractor's Foreman is responsible for the compliance of all lower tier Subcontractors.
6. The Company Safety representative or Superintendent should review the company safety requirements as outlined in the first section of the Pre installation Checklists. Checklists for several scopes of work are available on the safety section of the portal. Additional site specific requirements and conditions should be discussed and documented on the checklist form.
7. The completed pre installation checklist should be scanned and filed in the jobsite file.

4. Job Hazard Analysis
    1. A Job Safety Analysis (JSA) shall be completed for all job activities and must be done "daily". The JSA shall be submitted to JE Dunn supervision for review before the start of the activity.
5. Public Contacts
    1. Contact owner safety representative to explain our Safety and Health program and our interest in accident prevention.
    2. Contact the local law enforcement agencies to acquaint them with our schedule. Solicit their help in project security and traffic control.
    3. Contact the local fire department to discuss project schedule and inform them of hazardous materials stored on site and point out temporary standpipe connections available to them during construction. Encourage them to visit the project as conditions change.
    4. Contact the designated medical facilities to explain the type of work being done, the size of the work force, and provide any additional information that will aid them in the event of a medical emergency.

5. Reassure adjacent property owners about access and our efforts to keep inconvenience at a minimum. Ask help in keeping children away from the project. Printed information may be desirable.
6. Local newspapers provide information about detours, speed limits, etc. Published articles of the right kind can reduce our exposure.

6. Contact with the Insurance Carrier
    1. The Safety Department will notify claims and loss control offices of the project start date. Secure forms, posters, training literature, and a list of approved doctors for medical treatment. Arrange for loss control visits including a pre job visits to study plans and make recommendations.

2.5 ENGINEERING/CONSULTATION/PEER REVIEWS

1. Adequate factors of safety shall be included when designing/selecting temporary structures, rigging, cranes, material hoists, derricks, and other devices. (Refer to the manufacturer's recommendations and Federal, State Safety and Health Regulations for specific requirements). Consult manufacturer literature for load limits.
2. Engineers shall be consulted to review/approve:
    1. The use of equipment or material placements on temporary or partially completed structures.
    2. Allowing equipment to work next to adjacent buildings or structures.
    3. When system design may be affected by environmental conditions.

2.6 PUBLIC AND PROPERTY PROTECTION

1. Only authorized persons shall be allowed on the jobsite. Signage must be in accordance with Section 2.7 of this manual. Visitors must sign in at the project office. Any authorized visitor that is not contractually tied to the project must sign a release of liability statement before being allowed access to the project. Visitors must wear a visitor's pass (if required) and be provided adequate personal protective equipment to wear during the visit.
2. A third party preliminary survey of the property is highly recommended to document existing conditions of structures and surrounding area. Photographs or videotapes should be taken to clearly establish the pre-existing conditions.
3. A temporary construction security fence shall be installed. The determinations and location of this requirement shall be made by the project superintendent, project manager, and safety director at the beginning of the project.
4. Requirement for offsite protection of public property and pedestrians shall be in accordance with ANSI A10.34 Protection of the Public on or Adjacent to Construction Sites.
5. Onsite parking shall be limited to authorized vehicles and shall be done at the vehicle owners' risk.

2.7 REQUIRED SIGNAGE AND POSTINGS

1. All projects shall have posted the following signs:
    1. No Trespassing and Keep Out – Construction Area.
    2. Hard Hat Area.
    3. Visitors Must Check in at the Designated Trailer.
        - These signs must be installed at every gate. No trespassing signs shall be also posted every 100 feet on the perimeter fencing around

the project. Due to the location of the project, bilingual warning signs may be required to be posted.

2. Entering the Work Zone Signage
    1. Entering the Work Zone signs shall be placed at the entry gate and in prominent locations throughout the project. Large signs shall be posted at the main gate. Smaller signs are available for other areas of the project. These signs are available at all Logistics locations.
3. The following posters and/or information are mandatory and shall be placed in a prominent location where it will be seen by all workers. When environment dictates, bilingual signage may be required.
    1. Emergency Phone Numbers (Fire, Police, Hospital)
    2. OSHA Poster
    3. EEOCC Poster
    4. Minimum Wage Poster
    5. State Workers Comp Information
    6. Americans with Disabilities Act (ADA) Poster
    7. Unemployment Poster
    8. Family Leave Act Poster
    9. Polygraph Act Poster
    10. EAP Program Poster
    11. Hazcom Poster
    12. Drug and Alcohol Testing Poster
    13. MSDS Info
    14. Applicant Log
    15. OSHA 300 Log (between February 1st through March 31st)
    16. Key supervisor after hours contact information
    17. JE Dunn Ethics hotline poster

All relevant State, Federal and JE Dunn posters are available on the safety section of the JE Dunn Portal. Each Regional Safety Department shall ensure that relevant posters are obtained from the portal and provided at the startup of all new projects.

2.8 SECURITY

1. During the estimate phase, a determination shall be made on the type and level of security that will be required on the project. Input shall be received from the Safety Director.
2. Watchman and security requirements shall be reviewed on an individual basis by the superintendent, project manager, and safety director at the beginning of each project.
3. Decisions and budget requirements should be based on:
    1. The location of the project (good/bad).
    2. Public exposure.
    3. Proximity to housing with children.
    4. Remoteness of the project.
    5. Amount of materials and/or equipment that will be stored on the project.
    6. Pedestrian and automobile traffic patterns.
4. Mandatory requirements on each project shall include:
    1. Security system – a monitored security system tailored to the project should be installed in the project office, tool storage room or trailer, meeting area, etc. The security system shall have both visual and audible alarms as well as being tied into a monitoring service. The alarm shall also have a device or

option to secure small equipment such as Skid-steer loaders, welders, finish machines, etc.
    2. Project lighting – Lights shall be installed to illuminate the building, project trailers, equipment, and materials.
    3. Project fencing – Six-foot chain link fence or the equivalent should encompass the project. If the area is too large for perimeter fencing, and no public nuisance exposure is present, with approval from the safety director, the fencing can be limited to an area around the project trailer and material storage area. If full project fencing is not used, all entrances to the project shall be secured by gate or cable during non-work hours. Orange fencing will not be acceptable as a security fence. The use of this type of fence should be limited to utilizing it as a warning or barricade fence around open excavations, holes or other hazards.
    4. Storage trailers – All tool lock-ups such as company trailers or tool rooms that are inside the building shall have covered locking devices installed. Hasps exposing the locks are not acceptable. Backing plates shall be installed on the through-bolts to prevent pull through.
    5. Gang-boxes – Gang boxes fitted with a double lock security device shall have both locks used. No gang boxes with an exposed lock can be used unless it is inside a trailer or room protected by a covered locking device.
    6. Office trailers – All outside windows of trailers shall be covered with bars or wire mesh. Air conditioners shall be secured to prevent removal for access.
    7. Small machines – Small machines such as finish machines, generators, welders, etc., should be locked up in the storage trailer when possible. If this cannot be accomplished, wire rope chokers and large case hardened padlocks shall be used to secure this equipment or connected to the security system.
    8. Cranes/Hoists – Security and storage of cranes and hoists shall be in accordance with the Crane and Hoist Manual.
    9. Police – the local police should be contacted to inform their office of our presence in the area and to authorize them to enter the areas as needed.
5. Other options or combinations thereof may be required depending on the location, size of project, etc., and are as follows:
    1. Security Guard – A uniformed, unarmed guard may be assigned to the project as conditions dictate. This guard shall be on site on all non-work hours both weekdays and weekends. During inclement weather, either shelter or access to the building shall be provided. Heat shall also be provided in cold weather. A phone shall be available for emergency use. A clock with keypunches or equivalent shall be utilized to ensure the guard is making proper rounds hourly. It is the responsibility of the superintendent to check the device daily to ensure the security force is making their assigned rounds.
    2. Random Tours – A security service may be contracted to perform drive by observations of the project(s).
    3. Live Video Monitoring – Live feed video monitoring by a third party may be utilized to supplement security on site. If used, placement of the device shall be reviewed to ensure that adequate coverage is maintained.

Site security must also be reviewed on a regular basis. Conditions do change on the project that may warrant a review of the security needs. This should be a topic in the quarterly progress meeting.

Section 3 - Medical and First Aid

Responsibility

3.1 RESPONSIBILITIES

The Regional Safety Department is responsible for the requirements listed in this section.

Requirements

3.2 MEDICAL FACILITY SETUP

1. At the start of a project, the superintendent will contact the Regional Safety Department with the start date and location of the project. The Regional Safety Department shall conduct a search of available qualified industrial clinics in the area. Once the clinics are identified, a member of the Regional Safety Department or his designee will tour and interview clinic representatives.
2. Selection criteria shall be, but is not limited to:
    1. Distance from the project
    2. Business hours of the clinic
    3. Ease of access (parking, location)
    4. Whether in-clinic bi-lingual services are available
    5. Average wait time (amount of time the injured employee waits to be seen)
    6. Average turnaround time (Total amount of time spent at the clinic)
    7. Condition/cleanliness of the clinic
    8. Type of services offered
    9. Qualifications of the physicians
    10. Number of physicians on duty
    11. Types of drug testing available
    12. Discounts extended to the client
    13. Whether the clinic is approved by the insurer
    14. References provided
3. Once a clinic is selected, the Regional Safety Department representative shall meet with the clinic to set up written protocols to follow for drug testing and treatment of injured workers. The protocols shall cover:
    1. Instructions for sending work ability reports (both method and contacts)
    2. Contact information for representatives of the project, company, insurer, and agency.
    3. Referral authorization information
    4. Billing information
    5. Drug testing protocols
    6. Fees associated with treatment and drug testing
    7. Listing authorized individuals for receiving confidential information
    8. Restricted work availability
    9. PT and returning visit scheduling instructions
    10. Any other special instruction needed to provide direction to the clinic on the treatment of the injured worker

4. Contact should be made with the hospital and ambulance services.
    1. Make arrangements for services.
    2. Provide the job location, best route and any special instructions.
5. The Safety Department shall ensure that all emergency numbers and any other state workers compensation required postings are posted in a conspicuous area of the project and next to the project phone.

3.3 FIRST AID/AED DEVICE

1. A doctor approved first aid kit and eye wash station for treatment of minor injuries shall be placed on the project. The kits shall be sized for the project. Contents of the kits should be determined by the exposure. Other than aspirin, no other over the counter or prescription medication shall be stocked in the kits.
2. In cases where work is a considerable distance from the project office, smaller kits shall be provided for gang boxes. The kits should be inspected on a regular basis. Kits should be restocked or replenished as needed.
3. An AED device shall be available on all projects that have a full time on-site safety person assigned.
4. Ensure that at least one worker on each shift is certified in First Aid/CPR/AED by the American Red Cross or equivalent.
5. The Safety Department shall host annual First Aid/ CPR training to ensure that all supervisors are currently certified.
6. Establish a policy for transportation of injured workers to doctors or hospitals. (See section 3.5.)
7. During supervisory and toolbox meetings, educate workers in the basic procedures for handling the injured.

3.4 REPORTING OF INJURIES

1. **All** injuries/illnesses must be reported to the Regional Safety Department. An accident report must be completed and sent to the Regional Safety Director the day of the incident. In cases of severe injury or catastrophic events, the Regional Safety Department must be contacted immediately.

3.5 TREATMENT OF ON-THE-JOB INJURIES

1. To manage claims properly, it is important that all accidents requiring medical attention are handled quickly and consistently. Below are a few examples of how they should be handled:
2. Employee sustains a serious injury requiring an ambulance. Call 911 or the emergency number for your job location. The ambulance should be directed to take the employee to the designated hospital listed on your emergency numbers poster. This is normally the hospital located closest to your project. There are, however, serious, life-threatening cases where the ambulance attendant will suggest we take the employee to the nearest trauma center. In these cases, we should follow the recommendations of the attendant. Under no circumstances should a worker be transported across town or to a hometown hospital as a matter of individual preference. Notify the Regional Safety Department immediately. Conduct an accident investigation, complete an accident report and send a copy to the Regional Safety Department immediately.
3. Employee reports an on-the-job injury which requires medical attention but is not considered an emergency. The employee should be transported to the clinic

designated for that project. The injured party should be taken to the clinic by a Foreman, Superintendent or his designee. An injured employee shall not transport themselves to the clinic. An authorization slip for that clinic shall be completed and sent with that employee. Notify the clinic that an injured employee is on the way. Notify the Regional Safety Department immediately. Conduct an accident investigation, complete an accident report and send a copy to the Regional Safety Department immediately.

4. Employee sustains an injury but does not want to go to the doctor at that time. An accident report must be completed as a matter of record. The report can be marked DNLW (Did Not Leave Work) and will not be counted against the project accident status. Tell the employee that if the condition worsens and the employee feels that they should see a doctor, they must first contact a supervisor for permission to seek medical attention. No unauthorized doctor visits will be paid for by JE Dunn. The supervisor must fill out an authorization slip and the employee can then be sent to the approved clinic. Notify the Regional Safety Department of the status changes immediately. The accident report must be revised and sent to the Safety Department immediately.
5. If an employee sustains an injury or requests medical attention after normal workday hours and the clinic assigned to the project is closed, the employee, with his foreman's or superintendent's permission, can be sent to an after hours facility designated by the company.. The superintendent should call the clinic and provide verbal authorization.
6. It is imperative that the Regional Safety Department is contacted when sending an injured employee to a medical facility for treatment.

3.6 NON JOB RELATED INJURY

1. If an employee reports a non-job related injury to a supervisor, the supervisor should question the employee on the type of injury, when and how it happened and whether the employee is under a doctor's care. That information should be documented.
2. The supervisor should contact the Safety Department on guidance whether to allow the employee to work should be allowed to work with the condition.

3.7 PAY POLICY CONCERNING ON-THE-JOB INJURIES

1. When an employee sustains an on-the-job injury and leaves the job for treatment, the employee shall be paid in accordance with state statutes. If a union agreement requires more than state statute, the safety director shall address at a regional level.

3.8 RESTRICTED WORK ACTIVITIES

When an employee is placed on restricted work activity by the treating physician, the project shall accommodate and provide work for this employee under those restrictions. If the superintendent does not have work available for the employee under the restrictions, the superintendent shall make every effort to find this employee work at another project. **An employee that is placed on restricted work activity shall not be sent home, terminated or laid off without authorization from the Regional Safety Department.**

Section 4 - Safety Responsibilities

Responsibility

4.1 RESPONSIBILITY

1. Safety responsibilities follow the chain of command in the line organization, President/Chief Operating Officer; Regional Heads; Project Managers and Superintendents for their jobsites; foremen for their crews; and workers in the performance of their work. Acceptance of this responsibility is essential.

Requirements

4.2 SUPERINTENDENT AND PROJECT MANAGER SAFETY RESPONSIBILITIES

1. The Superintendent and Project Manager are responsible for:
    1. The overall safety process of the project
    2. Developing a site specific safety and health plan to address specific conditions that will be encountered on site which may not be covered in the corporate safety and health program
    3. Conducting pre-installation meetings with subcontractors
    4. Ensuring proper safety orientation is being conducted
    5. Assisting in the implementation and enforcement of all project safety programs
    6. Planning and executing work in compliance with company safety objectives
    7. Conducting weekly safety meetings
    8. Fostering the right safety culture on site
    9. Reviewing Job Safety Analysis(JSA)
    10. Enforcing contractor safety compliance
    11. Ensuring all SIMS open action items are closed out within the allotted abatement period
    12. Reinforcing good safe work habits

4.3 FOREMAN SAFETY RESPONSIBILITIES

1. Foremen are responsible for:
    1. The safety of their crews and immediate work area
    2. Requiring safe work as a condition of employment
    3. Enforcing the company safety and health rules
    4. Ensuring that their crews have the correct safety equipment available to use
    5. Providing the proper worker task training to perform their work in a safe and efficient manner
    6. Inspecting their work area to ensure that the area is safe for all workers
    7. Correcting any unsafe conditions encountered regardless of jurisdiction
    8. Empowering their crew to take safety responsibilities personally
    9. Conducting weekly tool box talks.
    10. Immediately reporting any worker injury to the superintendent

4.4 WORKER SAFETY RESPONSIBILITES

1. Workers are responsible for:
    1. Their own actions.

2. Performing work in a safe and proficient manner.
3. Following all safety and health rules and procedures.
4. Wearing and maintaining the required safety equipment.
5. Correcting any unsafe conditions encountered.
6. Notifying their foreman of any unsafe condition in which they cannot correct.
7. Immediately reporting any injury sustained in the performance of their work to their foreman.

4.5 SUBCONTRACTOR SAFETY RESPONSIBILITES

1. Subcontractors are responsible for:
    1. Providing the Company a copy of their written safety and health manual.
    2. Providing a safe and healthful working environment for its employees and for others persons at the project site who may be exposed to their work.
    3. Complying with all safety and health requirements of the company and owner as well as complying with all applicable laws codes, ordinances, rules, regulations,and lawful orders of all government authorities.
    4. Ensuring that its lower tier subcontractors comply with the safety requirements of the project.
    5. Ensuring project supervisors are trained in safety procedures and that designated “Competent Persons” meet all training and experience requirements necessary to comply with OSHA.
    6. Developing a Job Safety Analysis (JSA) that identifies safety hazards associated with a specific task before commencing each major phase or activity at the site.
    7. Identifying a qualified project safety representative that has the authority to stop work and/or correct unsafe acts or conditions related to both their work, as well as their lower tiered subcontractors.

Section 5 - Enforcement Program

Responsibility

5.1 RESPONSIBILITY

1. It is the field supervisor's responsibility to ensure all workers are performing their work safely in accordance with the rules and procedures outlined in this manual. When that fails, the supervisor shall utilize the enforcement procedures in section 5.2. The supervisor shall also retrain the worker to ensure that the employee understands the safety requirements of the task.
2. This policy is also utilized to track and trend safety issues by employee and company. This will assist the Safety Department in identifying issues that may need to be addressed or individuals that lack the safety training or culture required. By identifying these issues we can improve our overall safety by focusing our efforts on these issues.
3. We should not expect that each and every minor safety issue be documented and the full write-up policy implemented for each instance, it is expected that ALL safety issues likely to result in serious injury or death be addressed immediately and that this procedure is fully adhered to. Issues that are less severe but are occurring frequently need to be addressed to improve overall safety.

Requirements

5.2 ENFOREMENT PROCEDURES

1. Each worker will be placed under a three step enforcement program consisting of a verbal warning, written warning, and termination and/or suspension for failure to comply with company safety policies. Workers under the supervision of field supervisors that continue to violate safety and health procedures may result in both employee and supervisor write-ups.
    1. Verbal Warning
        1. When an employee is found violating a safety rule, it is important that the supervisor states the issue to the employee, shows the employee what steps need to be taken to correct the issue and get assurances from the employee that this issue will not happen again. The supervisor should make it clear to the individual that this is a verbal warning and the employee will be written up if it happens again.
    2. Written Warning
        1. If an employee is in violation of any policy of this manual for the second time, the employee will receive a written reprimand. The reprimand should show the nature of the violation and what the resulting actions would be if the employee violates the program the third time.
        2. The employee shall be required to re-attend project safety orientation training.
    3. Third Warning
        1. Upon the third reprimand of an employee, the superintendent should suspend or terminate the employee for violation of the safety policies. The severity of the penalty shall be adequate for the violation.

5.3 GROSS MISCONDUCT

1. Episodes of gross misconduct by an employee for any reason may result in immediate disciplinary action up to and including discharge. Any worker who is terminated for not following safety policy will not be eligible to work for the company for a minimum of 30 days.
2. Gross misconduct includes but is not limited to:
    1. Fighting
    2. Working at unprotected heights
    3. Safety violations where the resulting injury could cause death or serious injury
    4. Actions that could jeopardize the safety of another
    5. Any other action that would jeopardize the safety or security of the project

5.4 DOCUMENTATION OF ENFORCEMENT

1. Regardless of the level of warning given, the supervisor shall complete the Safety Violation Form. A copy shall be provided to the worker that violated the policy. The completed form shall be sent to the Regional Safety Department to be entered into the safety violation database.

5.5 ENFORCEMENT GUIDELINES

1. How you address the issues that arise is a critical part of the safety culture and performance expectation at the job site. If you choose to ignore or minimize the severity of a safety violation at the jobsite, that sets precedence for future safety performance not only for the individual but also the Foreman responsible. *The safety issue that is not properly addressed today is a missed opportunity to prevent an accident tomorrow.*
2. Enforcement should not be viewed as a disciplinary measure but rather an opportunity to identify a part of a safety program or process that can be improved to prevent accidents. Most safety violations can be attributed to a failure in a company's safety program or procedure. For instance a worker using a ladder improperly may:
    1. Not have been properly trained in the use of that ladder.
    2. Not have been provided with the proper equipment to perform his/her work in a safe manner.
    3. Not believe that working safely is a condition to work on JE Dunn construction sites.
    4. Have the wrong attitude towards following safety rules.
    5. Regardless of the reasons for a safety issue, steps need to be taken to not only correct the issue but find the cause and address it to prevent reoccurrence again. This method of process improvement looks at safety issues as opportunities to make a project safer and more productive. All disciplinary actions must be executed in a fair and consistent manner.
3. The following steps should be taken when a safety violation is identified:
    1. **STOP the violation immediately.** Allowing someone to continue to work unsafe is not acceptable. Furthermore, stopping the violation sets the precedence for others to be aware of the expectation to perform work in a safe manner. The worker should be instructed to get his/her foreman to develop and implement corrective measures.
    2. **SECURE the situation for safety.** The area must be made safe or the violation must be stopped.

3. **DISSCUS the issue with the worker.** Determine why it occurred. Usually the root causes will include one or more of the following:
    1. A lack of knowledge or training.
    2. Using the improper equipment.
    3. Employee misconduct.
4. **ADDRESS the violation.** Not only the incident, but in many cases the root causes should be addressed to improve safety at the project. Some corrective action may include the following:
    1. Tool box safety training given by the foreman with the crew or workers who may also be exposed. Documentation of training should be given to the JE Dunn Superintendent and forwarded to the safety department.
    2. Significant issues or issues which continue to repeat without resolution should be communicated to subcontractors' office for additional action.
    3. The safety violation form should be completed per this policy to document the violation and corresponding corrective measures.
    4. Foreman should be held accountable. Where a foreman has failed to ensure that the worker in violation was not properly trained or was not provided the proper equipment the foreman should receive the violation in lieu of or in conjunction with the worker as conditions warrant.
5. **FOLLOW-UP with the corrective action** to ensure that the actions taken were effective. All violations should be reviewed in the weekly foreman meetings with other contractors to again reinforce the safety expectation on the project and to give others the opportunity to learn from the issues.

Section 6 - Accident Investigation

Responsibility

6.1 RESPONSIBILITY

1. Accident investigations are conducted to determine their facts not faults. The information is used to determine if changes are needed in our processes, programs or training sessions. It may also be used to protect our interest in case of litigation. Once an accident investigation is complete, appropriate action can then take place to prevent its recurrance. The ultimate result of accidents or incidents are often a matter of chance. Consequently, **All** accidents and near misses must be reported and investigated.
2. Workers are responsible for reporting any injury or near miss incident to their foremen immeadiately.
3. The foreman is responsible for investigating accidents involving one of their crewmembers and for implementing the corrective measures necessary. The Safety Department, superintendent and others may assist.
4. The superintendent is responsible for accident investigations of a larger scale. They are also responsible for:
    1. Reviewing all accidents investigation results.
    2. Approving corrective measures instituted by the foreman or subcontractor.
    3. Ensuring that corrective measures required by others are put into effect.
    4. Following up to ensure that the measures implemented are sufficient to prevent recurrence.

Requirements

6.2 ACCIDENT/NEAR MISS REPORTS

1. All accidents/near misses must be reported immediately to the Regional Safety Department.
2. The Supervisor's Report of Injury or Illness must be completed and emailed to the Regional Safety Department immediately. Do not wait to submit the report while waiting for information. Additional information can be reported at a later date.
3. Report all automobile, public liability, fire, wind, flood, or property damage to the person designated within your region to take such reports. If you are in doubt, contact the Regional Safety Department for direction.

6.3 INVESTIGATION PROCEDURES

In addition to the required accident reports, additional information may be required.

1. Notify the proper authorities as required by regulations.
2. Document by photographs, diary notes, and measurements the physical conditions that may have had a bearing on the accident. Examples are: lack of guardrails, poor housekeeping, defective scaffolding, surface or road conditions, skid marks, weather conditions, time of accident, visibility/illumination, condition of equipment, etc.

3. Obtain contact information of eye witnesses.
4. Interview employees who witnessed or were involved in the accident. Obtain written statements in their own writing on their account of the incident.
5. Determine the amount of experience or knowledge the injured worker had in the type of work in which he/she was performing. Investigate whether hazards and safe practices related to the accident were covered in orientation, toolbox meetings, or job instructions.
6. Consider physical or mental issues that may be a contributing case of the incident. Issues such as loss of consciousness, heart attack, confusion, irrational behavior, attempting too much for size and physical strength, etc. should all be considered.

6.4 CORRECTION PROCEDURES

1. Determine the facts or causes. Usually accidents occur as the result of a combination of unsafe conditions and unsafe acts. If an unsafe act occurred, the employee shall be counseled on the proper way to perform the task. Ensure that the employee receives the proper re-training in the work he/she is required to perform.
2. Correct unsafe physical conditions or equipment deficiencies immediately. Tag out equipment until the equipment is cleared for use by the equipment supplier. Check similar equipment to ensure it does not have similar defects.
3. Place additional warning signs, barricades, warning lights if need is indicated, add illumination, etc.
4. Make improvements in maintenance and inspection procedures or provide means for better enforcement of existing procedures.
5. Review orientation, toolbox meetings, and on the job instructions to determine if additional information and/or training could prevent a recurrence.
6. Consider the need to transfer employee to new assignments or to reprimand the employee in accordance with our corporate enforcement program. If reprimands are issued, they should be in accordance with the company's enforcement policy.
7. Prepare a detailed report on findings and the corrective measures to be taken.
8. Institute any follow up procedures required ensuring compliance with changes made.
9. Use this as a "lessons learned" and discuss the incident at progress meetings and toolbox talks. Names and personal information about the incident should be left out of the training opportunity. Be sure and discuss steps taken to prevent the incident's recurrence.

6.5 MULTIPLE INJURIES/CATASTROPHES

1. In the event a project has a serious accident that results in either death and/or multiple serious injuries, severe property damage, any injury to the public, or any other occurrence that might get the attention of the news media and/or government officials, the following procedures shall be followed:
    1. The accident scene shall not be disturbed unless additional harm or damage could result.
    2. The superintendent shall immediately contact the Regional Safety Director.
    3. A determination shall be made at the time whether to secure the project, and only authorized people will be allowed into the project.

6.6 HANDLING THE PRESS OR PUBLIC

In the event of such a tragedy, the supervisor will follow the instructions found in the Company Crisis Communication Policy.

Section 7 - Employee Training

Responsibility

7.1 RESPONSIBILITY

1. A process must be implemented for training and communicating the Safety and Health program to all workers involved in the project. We should never assume the worker knows their task thoroughly regardless of their experience. To ensure a successful safety program, constant reinforcement of the program through training is required.
2. The superintendent is responsible for ensuring that the foreman requires all new workers to attend safety orientation and all workers receive task specific safety training.
3. The foreman is responsible for ensuring that all new employees within his crew receive proper safety orientation. A new employee is defined as any employee that is new to the company or has not worked for the company during the previous six months.

Requirements

7.2 ORIENTATION

1. Before a new employee starts work, they shall attend the new employee safety orientation which at a minimum require:
    1. The worker to view the JE Dunn Safety Orientation video which identifies safety requirements of the company.
    2. Supervision to instruct the worker on site specific rules and requirements of the project.
    3. Supervision to instruct the employee of what to do in the case of an announced emergency.
2. A copy of the companies Safety Procedures Handbook shall be given to every JE Dunn new hire prior to starting work at the project. The employee shall complete the emergency notification questionnaire located on the back page of the handbook in its entirety. The employee shall also sign the card state that they have received and will read and follow the requirements of the Safety Procedures Handbook. The emergency notification card shall be sent to the Regional Safety Department. During subcontractor employee orientation, they will be provided a summary sheet outlining our basic safety requirements as well as site specific requirements.
3. The employee may have attended a group safety orientation which covered basic safety; however, the foreman should discuss task specific safety requirements with the employee before being turned out to work.
4. New J.E. Dunn employees shall be initially assigned to work with a trusted seasoned employee until he/she can show that they understand the assigned task and can perform the task in a safe manner. These new employees will be identified by a green hardhat for the first sixty days of employment.
5. The foreman shall reinforce the accident reporting procedures with the employee and remind them that all accidents and/or injuries must be reported to the foreman immediately.

6. The foreman shall also make it clear that following safety rules is a condition of employment and employees will be held accountable if they fail to do so.

7.3 MEETINGS

1. Supervisory Safety Meetings
    1. The superintendent is responsible for conducting weekly supervisory safety meetings in conjunction with the foreman's meeting. Discussion topics are:
        1. Recent accidents or near misses
        2. Deficiencies noted during recent safety inspections
        3. Upcoming work starts or changed conditions
        4. Subcontractor nonperformance issues
        5. Issues requiring special emphasis at the toolbox meetings
2. Daily Safety Pre-task Planning Meetings
    1. The Foreman shall conduct daily pre-task planning meetings. The meetings shall be held at the start of the shift to discuss safety and daily work/task activities. The Job Safety Analysis can be reviewed and workers shall be reminded of any hazardous work activities taking place on the project that day and areas that are off limits due to that work. The foreman should also encourage safety related comments from the workers and to remind them to report any unsafe acts or conditions to the foreman immediately.
3. Toolbox Talks
    1. A weekly toolbox talk shall be conducted for all workers. Topics for the talk should be appropriate for the current work activities. The subject should be safety related and presented in a format in which all attendees can understand.
    2. Points to consider:
        1. Keep your groups to 25 or less. Larger groups are distracting and it is difficult to talk over more than 25 people under less than ideal conditions. Consider running concurrent talks in different areas with speakers that are fluent in the primary language of the workers.
        2. Schedule regular meetings for the same day and time each week.
        3. Start on time. Limit to 10 minutes.
        4. Keep control – concentrate on safety.
        5. Plan the meeting. Use notes on accidents that have occurred, unsafe practices noted during the week, and hazards for work ahead. Safety topics discussed must be pertinent for that stage of construction. Toolbox talk subject sheets are available on the company safety section of the portal.
        6. Encourage suggestions and discussion.
        7. Keep notes on items discussed and hazards reported.
        8. Follow up to ensure that reported hazards are addressed and recommendations are incorporated into the work process.
    3. All employees present at the meeting are required to sign the Safety Talks sign-in sheet. The original sheet should be placed in the job file. A copy shall be sent to the Regional Safety Department.
    4. Superintendents shall attend the weekly toolbox meeting to show management support for the Safety and Health program.

7.4 TRAINING PROGRAMS

1. Superintendent Training

    1. Superintendents are required to be certified in both Red Cross First Aid/CPR or equivalent and in the OSHA 30-hour Hazard Recognition Course.
    2. Hazard recognition training shall be revisited every 5 years.
2. Project Management
    1. Project managers shall be certified in the OSHA 10 hour Hazard Recognition Course.
    2. Hazard recognition training shall be revisited every 5 years.
3. Foreman Training
    1. All Foremen shall be certified in both Red Cross First Aid/CPR or equivalent and in the OSHA 10-hour Hazard Recognition Course.
    2. Hazard recognition training shall be revisited every 5 years.
4. Craft Training
    1. Workers must receive task specific training. The foreman should ensure that a worker is properly training in the tools and processes of the task. If a worker is not trained, the foreman shall train the worker before assigning the task. The foreman should also monitor the worker to ensure the work understood the training and can carry out the task safely.
5. Special Training Programs
    1. A worker may be required to obtain special training or certification before being allowed to perform a task or use a piece of equipment. Examples would be, but not limited to, crane signaling, rigging, respirator use, lifts, forklift, confined space or the utilization of any type of specialty equipment. Workers shall not be allowed to perform processes or utilize equipment before the appropriate training and/or licensing is obtained.

7.5 TRAINING METHODS

1. Workers have a wide degree of learning ability. Some are very quick to learn and understand while others may need additional help to understand and master a process. It is the foreman's responsibility to understand this and base the training to meet the level of the worker. The following guidelines should be used for training.
    1. Ensure that the employee speaks and understands English. If you do not feel that you are able to communicate with the employee, get help. Get someone that is bi-lingual to assist you in performing the training. Prepare the employee – put them at ease – find out how much they already know. Explain the importance of the assignment, why it must be performed correctly and safely and how it relates to other work. Point out hazards and incorporate company safety policies relating to the task.
    2. Present the operation – tell them, show them, illustrate, demonstrate, and ask questions to see if they understand. Cover one step at a time; make key points and safety points clear. Be patient, go slowly. Repeat the explanation and demonstration.
    3. Try out their performance – have him/her demonstrate the task a few times – correct their errors, be supportive – continue this process until you know they understand.
    4. Assign the task – tell them who to contact if they need help – encourage them to ask questions if in doubt.
    5. Follow up – check frequently at first – look for bad habits that may have developed, unnecessary moves, unsafe acts – point out mistakes, but don't take over – taper off to normal supervision when you are convinced they are competent.

Section 8 - Crisis/Emergency Response Plan

Responsibility

8.1 RESPONSIBILITY

1. The CRISIS EMERGENCY RESPONSE PLAN is designed to provide personnel at all JE Dunn project locations - nationwide - with basic policies and procedures for the response, recovery, restoration and return to operations after a severe disruption. The procedures are designed to provide clear, concise, and essential directions for organization/business interruptions and disasters such as fires, bomb threats, natural disasters, health issues, hazardous materials and the like.
2. The project manager and superintendent are responsible for:
    1. Developing a written site specific emergency response plan to review at the project pre-planning meeting. Click here to see

       Project Emergency Action Plan template.

    2. Maintaining the written plan as conditions change, including the following:
        1. *For New Additions update at a minimum*
            1. Project start-up
            2. After structure is 25% complete
            3. After structure top-out
            4. After structure enclosure
            5. After wall partitions are in place
            6. Any other project specific conditions significantly change
        2. *For Remodels update at a minimum*
            1. Project start-up
            2. After major demo work is complete
            3. After wall partitions are in place
            4. Any other project specific conditions significantly change
    3. Incorporating the plan into the site specific safety program;
    4. Designating the primary and alternate Site Incident Commander (SIC). **The site superintendent shall be the primary SIC**.
    5. Becoming familiar with the local public warning system;
    6. Selecting and training a sufficient number of Site Emergency Plan Coordinators (SEPC). Each SEPC shall have a SEPC designation on the back of their high visibility vest.
    7. Maintaining appropriate emergency equipment on-site including emergency notification signal/horn, weather radio, flashlights, spare batteries, and other equipment deemed appropriate given site location / conditions.
    8. Coordinating the emergency plan with building owner's or tenant emergency plan if applicable;

9. Developing and posting a 24 hour contact list for emergency responders, subcontractors, utilities and building facility managers as applicable. Click here to see

   Emergency Phone List template.

10. Notify the Regional Safety Director of any project emergency.

3. The Site Incident Commander (SIC) is responsible for:
   1. Coordinating worker training on the procedures for reporting emergencies, identifying the location of safe exits, and evacuation routes.
   2. Conducting drills to acquaint workers with emergency procedures and to judge the effectiveness of the plan.
   3. Conducting a weekly review of egress posting including necessary adjustments during the course of construction.
   4. Identifying appropriate internal and external shelter or evacuation areas.
4. The Regional Safety Director is responsible for reviewing the adequacy of the emergency response plan with the superintendent and project manager at the following:
   1. *For New Additions review at a minimum*
      1. Project start-up
      2. After structure is 25% complete
      3. After structure top-out
      4. After structure enclosure
      5. After wall partitions are in place
      6. Any other project specific conditions significantly change
   2. *For Remodels review at a minimum*
      1. Project start-up
      2. After major demo work is complete
      3. After wall partitions are in place
      4. Any other project specific conditions significantly change
5. All workers shall be familiar with and participate in the execution of this plan at the following:
   1. Orientation when workers arrive on the job site for the first time.
   2. Quarterly at Tool Box Talks, with the first week of each quarter Tool Box Talks topics to be focused solely on the emergency response plan.
   3. Any time project specific conditions significantly change the emergency response plan.

Requirements

8.2 REPORTING AN EMERGENCY

1. In the event of an on-site emergency, a worker shall immediately contact 9-1-1 as appropriate, followed by notification to a designated SEPC.
2. All workers shall be prepared to report the following information to emergency personnel and the SEPC:
   1. Type of emergency
   2. Location
   3. Severity
3. Emergency after hour contact information shall be posted in the front window of the job trailer.

8.3 MEDICAL INJURIES

1. All injuries, regardless of how minor, must be immediately reported to a foreman or superintendent. In the event a worker receives a minor injury, first aid may be rendered by a certified first aid provider.
2. Persons with injuries that are not life threatening but require the attention of a health care provider shall be taken to the designated health care provider clinic. The injured party shall be transported to a medical facility by a Foreman, Superintendent or SIC designee. An injured employee should not drive themselves to the clinic.
3. In the event of an **incapacitating or life threatening injury, immediately call 9-1-1** requesting an ambulance. Stay on the line until the dispatcher tells you to hang up. If in doubt, call 9-1-1. Reference the JE Dunn MEDICAL EMERGENCY CRISIS Reference Card for further information.
4. AED (Automated External Defibrillator) – All job sites that have full time JED safety personnel on site are required to have an AED on hand that the full time JED safety personnel are trained to use.

8.4 EMERGENCY NOTIFICATION SIGNAL

1. In the event of a crisis or emergency, the preferred method to signal an emergency situation is to use three (3) blasts from horn(s) at strategic locations on the job site to alert all workers. If the horn(s) are not able to be used, a siren or some other means will need to be used. The SIC shall notify the SEPC by radio or phone providing the details of the emergency and which action plan to initiate.

8.5 EVACUATION/ASSEMBLY AREA

1. Both a primary and secondary evacuation/assembly area should be designated on the project. The designated sites shall be located a sufficient distance from the construction area and not impede emergency vehicles from entering the site.
2. When the emergency notification signal is sounded, all employees shall immediately cease work, secure equipment, and proceed directly to the designated assembly area (Primary Evacuation Area and/or Secondary Evacuation Area), and report to their supervisor after reaching the assembly area. The SEPC shall coordinate employee count with the foreman or subcontractor supervisors. The SEPC shall notify the SIC of any unaccounted for workers.
3. Workers ***shall not*** leave the assembly area until directed to do so by a SEPC.
4. SEPCs will check to ensure all of their workers are safely out of the hazard zone.

8.6 FIRE

1. If the fire is small enough to be extinguished with an available fire extinguisher, and if the worker is trained in the use of such equipment, the worker may attempt to put out the fire. Fire extinguishers are provided throughout the site. All fires, regardless of size, shall be reported to a SEPC. The SEPC shall in turn notify the SIC.
2. If a worker has any doubt on their ability to extinguish the fire, **do not attempt to extinguish the fire**. The employee shall yell, "Fire" three (3) times and immediately vacate the area. Then, locate a SEPC to report the fire. Evacuate the building and proceed to the designated assembly area.
3. Reference the JE Dunn FIRE CRISIS Reference Card for further information.

8.7 EARTHQUAKE

1. Earthquakes are not common to all regions, however, if an earthquake occurs, immediately evacuate to the designated assembly area and report to your supervisor.
2. Reference the JE Dunn EARTHQUAKE CRISIS Reference Card for further information.

8.8 SEVERE THUNDER STORM/TOORNADO/LIGHTNING

1. In the case of a severe storm event, evacuation will be on a case by case basis. The SIC shall monitor the weather reports for worsening conditions and/or storm updates/warnings. If there is ample warning of an impending storm, steps should be taken to secure the area. In the event of a tornado, workers should be instructed to take shelter in the previously-identified designated shelter area.
2. If there is lightning in the area, the SIC, in conjunction with the Site Safety Specialist, will determine if work must be halted and whether evacuation is necessary for the safety of the workers.
3. Reference the JE Dunn SEVERE WEATHER CRISIS Reference Card for further information.

8.9 HURRICANE

1. In the event of a pending hurricane event, the project team shall follow the instructions of the regions hurricane preparedness policy.
2. Reference the JE Dunn portal link for the HURRICANE CRISIS Reference Card for further information.

8.10 STRUCTURAL/CRANE COLLAPSE

1. In the event of a catastrophic structural collapse or a crane failure, workers shall immediately evacuate to the designated assembly area and await further instruction from a SEPC.
2. Workers may assist an injured or trapped individual if doing so will not cause the situation to become worsened. If there is any doubt as to the condition of the individual or surrounding structure wait for rescue personnel to arrive and perform the rescue.

8.11 BOMB THREAT/SUSPICIOUS PACKAGE

1. If a suspicious package is discovered the worker shall move away from the package or substance. The Worker making shall immediately contact 9-1-1 and provide as much information as possible about the package, including any specific characteristics (color, texture, odor, smoke, etc.) followed by notification to a designated SEPC.
2. In addition:
    1. Do NOT use your cell phone within 100 feet of the package;
    2. Do NOT touch the package or move, shake, or attempt to open the package;
    3. Keep others out of the area
3. Reference the JE Dunn portal link for the BOMB THREAT / SUSPICIOUS PACKAGE / HAZARDOUS MATERIAL (HAZMAT) / TERRORIST ATTACK (TERROR) / WEAPONS OF MASS DESTRUCTION (WMD) CRISIS Reference Card for further information.

8.12 HAZARDOUS MATERIAL (HAZMAT)

1. If a HAZMAT release occurs the worker shall immediately move away for the area. The worker shall immediately contact the SIC and provide as much information as possible about the substance, including quantity of the material spilled.
2. ***Workers shall not attempt clean up or disposal of spilled hazardous materials unless directed by the SIC***. Only workers trained to use spill kits may attempt containment. The worker shall attempt to guard the area to prevent other workers from entering the area and becoming contaminated or tracking the chemical into other parts of the site.
3. Disposal of hazardous waste must be done in accordance with all federal, state and local regulations.
4. Reference the JE Dunn portal link for the BOMB THREAT / SUSPICIOUS PACKAGE / HAZARDOUS MATERIAL (HAZMAT) / TERRORIST ATTACK (TERROR) / WEAPONS OF MASS DESTRUCTION (WMD) CRISIS Reference Card for further information.

8.13 JE DUNN NATIONAL CRISIS EMERGENCY RESPONSE PLAN (C/ERP)

Please reference the JE Dunn portal link for the National Crisis C/ERP procedures that all are expected to follow.

Section 9 - Safety Smart Incentive Program

Requirements

9.1 SAFETY SMART INCENTIVE PROGRAM OBJECTIVE

1. JE Dunn Construction is committed to maintaining an accident free environment for all individuals working on our projects. Achieving an accident free environment requires individual workers to maintain a constant awareness of their surroundings and a willingness to participate as part of the solution by identifying and correcting un-safe conditions before they result in an accident.
2. The Safety Smart Incentive program is designed to encourage employees to actively participate in creating an accident free environment through proactive means, such as participating in safety training programs; early identification of un-safe conditions; participating in safety solutions, such as safety committees; and participation in pre-work activities, such as tool box talks. Eligible workers will receive safety voucher points for their participation in such programs and in turn those points can be redeemed for various incentives.
3. Commitment to this program shows JED considers no phase of operation of greater importance than safety measures for accident prevention. This program provides a three (3) prong approach for employees working on JED's projects to be proactive in safety efforts:
    1. Improving safety awareness by participating in safety planning and training exercises.
    2. Identifying and correcting un-safe actions to prevent accidents from occurring.
    3. Collaboratively encouraging employees to bring forth good safety ideas for implementing into our projects.
4. The slogan for this program is "Safety Smart", and this slogan will appear on JE Dunn hard hats, safety incentive gear, and other areas. This slogan is meant to remind all employees to continuously strive to gain safety knowledge, as JED is always looking to improve upon our safety efforts through planning, training, and keeping safety at the highest of importance while accomplishing daily tasks.

9.2 PROGRAM ELIGIBILITY

1. All JE Dunn Construction field employees (and DCIP WC/GL, a.k.a. large CIP projects, enrolled subcontractor employees) are eligible to participate in the program. Field employees for this policy will be defined as a worker that is physically on a project site full time, which may include, but not limited to: superintendents, foremen, trades-people, project management, project engineers, MEP, safety, quality personnel, and administrative staff that are on site full time.

9.3 HOW THE PROGRAM WORKS

1. The employee will participate in a safety program related activity, and be awarded a voucher or points to be used in the program.
2. The employee will be required to:

1. Enroll in the program via the Safety Smart incentive webpage.
   - OR
2. Complete the information on the back of the voucher and send it in by standard mail it to the address listed. It is recommended for participants to utilize the Safety Smart incentive webpage, and only use the standard mail option if they do not have access to the Internet.

9.4 POINTS AWARD

1. Points will be awarded or reduced for individual safety performance, including:

Category A awards:

a. Weekly tool box talk attendance (once per week)	**2 points per meeting**
b. Formal reporting of a near miss incident	**2 points**

Category B awards:

a. Sanctioned safety presentation attendance. This training shall be sponsored and/or approved by the Regional Safety Departments. This does not include required training for the employee's position done during normal work hours	**10 points per meeting**
b. Participation in project or Regional Safety Committee (once per month)	**5 points per meeting**

Category C awards:

a. Valid safety idea incorporated within the project	**10-50 points**
b. Nomination by peers for going above and beyond	**10-20 points**

2. The Risk Management Corporate Safety Director must approve and will direct deposit the category B and C awards

3. Near Miss Reporting - Once the superintendent and / or foreman receives a near miss notification, an investigation should take place. The results of that investigation should be discussed with the superintendent and changes should be implemented to prevent a reoccurrence. The "lesson learned" should also be discussed and documented during the next tool box talk and foremen's meeting.

4. All safety ideas should be entered on the Safety Smart incentive webpage.

5. Nomination by Peer - A worker can be nominated for going above and beyond their safety responsibilities to make the project safe. To nominate a worker, their supervisor shall send an email to the JE Dunn Regional Safety Department explaining why this worker should be recognized for going above and beyond. The JE Dunn Regional Safety Department shall then forward the nomination to the JE Dunn Corporate Safety Director.

9.5 DEPOSITING POINTS

1. Points can either be deposited immediately upon enrollment, used towards incentives, or can be allowed to accumulate in the employee's online account to be used for incentives at a later date.
2. Points are valid for two (2) years after award, and maximum point accumulation allowed is 200 points. Therefore, all points not used within two (2) years will be lost / un-redeemable, and all points accumulated beyond 200 points within two (2) years will be lost / un-redeemable.

9.6 POINTS DEDUCTION

1. Points will be deducted for violations of the safety policy, including failure to carry out assigned safety supervisory responsibilities.

Employee - below foreman:

a. Failure to timely report an accident/injury	**-25 points**
b. Major safety infraction* by an employee	**-50 points**

Employee - foreman or above:

a. Failure to timely report an accident/injury	**-50 points**
b. Major safety infraction* by an employee under the control of the foreman or above	**-50 points**

*A major safety infraction is defined as any act that has the potential of causing death or serious injury.

9.7 VOUCHER REDEMPTION

1. There are two methods of voucher redemption:
    1. Redeem Online - Employees will be required to go online to the Safety Smart incentive webpage and complete the enrollment form. Once the form is competed, employees will be provided a login and password. Once enrolled, the employee will be able to enter their vouchers by entering the voucher numbers off each individual voucher. This will enable the employee to bank their point for either immediate redemption for an incentive or save them for later use. Once that voucher is entered, it will be electronically voided and can be discarded.
    2. Redeem by Standard Mail - Employees will be able to participate by standard mail by following the mail-in instructions provided on the back of the voucher or brochure. To acquire incentives, the participants will complete an order form that is available at the project jobsite and mail that order form to the redemption address on the form. It is recommended for participants to utilize the Safety Smart incentive webpage, and only use the standard mail option if they do not have access to the Internet.

9.8 ORDERING INCENTIVES

1. Incentives can be viewed and purchased with points from the Safety Smart incentive webpage: www.jedunn.com/safetyincentives or ordered by standard mail using program forms posted at the job sites.

9.9 PROGRAM ADMINISTRATION

1. JE Dunn Risk Management Department - The program will be sponsored and managed by the JE Dunn Risk Management Department.
2. JE Dunn Regional Safety Departments - The JE Dunn Regional Safety Departments are responsible for the distribution and tracking of the vouchers.
3. JE Dunn Project Superintendents - The JE Dunn project superintendent is responsible for administering the program at the project level.
4. JE Dunn Foremen and participating Subcontractors - The superintendents and / or foremen are responsible for awarding vouchers at the crew level and ensuring the security of unused vouchers.
5. JE Dunn Safety Managers - On DCIP/WC projects where subcontractors are included in the incentive program, the JE Dunn safety personnel will be responsible for providing instruction to the subcontractors on how to participate in the program. Voucher booklets will be assigned to each subcontractor. The subcontractors will provide individual coupons to tool box participants. The JE Dunn safety manager will monitor subcontractor participation by occasionally attending subcontractor tool box talks, requiring submission of all subcontractor tool box attendance sheets, and comparing the signatures from the tool box attendance sheets to the number of coupons issued.
6. Participants Responsibility - Each participant is responsible for registering in the program for their membership, maintaining possession of their acquired vouchers, and redeeming the acquired vouchers at the Safety Smart incentive webpage or by standard mail. Lost or stolen vouchers will not be replaced.

9.10 DISCLAIMER

JE Dunn reserves the right to change, modify or terminate the safety incentive program, or any portion of it, at any time. Awards points have no cash value and may not be redeemed for other than the products offered. Vouchers or points may not be sold or traded and violation of this rule will result in voiding such vouchers or points.

Section 10 - OSHA Inspection Guidelines

Responsibility

10.1 RESPONSIBILITY

1. The superintendent is responsible for meeting with the OSHA inspector and accompanying the inspector throughout the process.

Requirements

10.2 PRE-INSPECTION

1. An OSHA compliance officer will enter the project and ask to see the superintendent. Normally, but not in all cases, they will go directly to the job trailer. If no one is in the job trailer, they will go out onto the construction project to try to find a contact. If an unaccompanied OSHA compliance officer is encountered on the project, they should be escorted back to the job trailer and asked to stay there until the superintendent can be located.
2. The superintendent shall introduce themselves, ask to see the compliance officer credentials and determine the intentions of the visit. Once the superintendent determines why they are there, they should respectfully tell the compliance officer that company policy requires the superintendent to notify the office of their presence. The superintendent shall then call the Regional Safety Department to notify them of the OSHA inspector. Obtain names and contact information of all the compliance officers present.
3. The Regional Safety Director should talk to the compliance officer to determine why they are there. The safety director should also ask the compliance officer if they will wait until they can get to the project before they start the physical walk around. They can perform the opening conference and document review while you are in route. If the travel time is less than two hours they will normally agree. However, this is at the discretion of the compliance officer.
4. If travel is not possible, the superintendent must accompany the compliance officer throughout the complete inspection process.

10.3 OPENING CONFERENCE

1. Once permission is given for the compliance officer to conduct an inspection, the compliance officer will conduct an opening conference. They may ask to have representatives of all subcontractors attend the opening conference. If they do, have the representatives come to the office. Do not offer to take the compliance officer to the subcontractors. The superintendent should maintain a sign-in sheet for all attendees of the opening conference.
    1. The compliance officer will inform you what type of inspection will be conducted. They are:
        1. General Schedule
        2. Complaint
        3. Special Emphasis
        4. Drive-by

5. Accident
6. Follow-up

2. The type of inspection is important because they will normally determine the scope of the inspection.

10.4 DOCUMENT REVIEW

1. The compliance officer will ask to see certain documents. These will be, but not limited to, the safety and health program, OSHA 300 log, Tool box talk signup sheets, MSDS materials, OSHA posters and in some cases, the OSHA 300 summary for the year. Do not provide any documents voluntarily. Only provide the compliance officer what he/she asks to see.

10.5 WALKAROUND INSPECTION

1. Before the walk around is conducted, ensure that the compliance office has the appropriate personal protective equipment for the exposure.
2. Do not lead the compliance officer. They will normally not look in every door or room.
3. Do not admit guilt or provide excuses. The more unsolicited info that you provide, the more evidence the compliance officer has to make his/her case.
4. Do not threaten or argue with the compliance officer.
5. Bring a note pad and camera. Do not rely on a cell phone camera. If the compliance officer takes a photo, a photo of the same condition should also be taken. More than one photo is advisable. Make note of the location and contractors exposed to the condition.
6. The compliance officer has a right to interview employees. A running list of all workers that the compliance officer interviewed should be kept.
7. If the compliance officer videotapes, be aware that whatever you say in the vicinity of the camera will be recorded. Also be aware that the compliance officer may continue taping when it appears that he/she is not taking video.
8. If the compliance officer points out an issue, correct it immediately. If the issue cannot be corrected, get the workers out of the exposure or shut the equipment and/or process down until the hazard is corrected.

10.6 CLOSING CONFERENCE

1. At the completion of an inspection, the compliance officer will hold a closing conference. The intention of the closing conference is to identify the issues found, assign abatement responsibility and agree on a reasonable time frame to have the issues corrected.
2. The superintendent should maintain a sign-in sheet for all attendees of the closing conference.
3. If the compliance officer holds a separate meeting with each sub, ask to attend. Take notes of the alleged violations and the abatement dates. Do not take responsibility for abatement.

10.7 AFTER THE INSPECTION

1. If the Regional Safety Director was not present, once the compliance officer leaves, call the Regional Safety Director to report the results of the inspection. The

superintendent will complete the OSHA post inspection form and submit it to the Regional safety department.

If citations are issues to JE Dunn, notify the Risk Management Department immediately of the formal notification.

Section 11 - Job Safety Analysis

Responsibility

11.1 RESPONSIBILITIES

1. The superintendent is responsible for ensuring that the JSA is written for every major scope of work and task.
2. The foreman is responsible for reviewing every work task and process to identify potential hazards and implement steps and/or training to eliminate or minimize the employee's exposure. The steps can be as simple as wearing proper personal protective equipment or changing the process to reduce the dangers of the process. This process shall be documented by using the Job Safety Analysis Form.
3. The frequency of this task is dependent on whether a particular task is changed or a new process is started. The JSA can be used again as long as the process has not changed or new hazards are encountered.
4. A job safety analysis is a proactive technique that focuses on job tasks as a way to identify hazards before they occur. It focuses on the relationship between the workers, the task, the tools, and the work environment. Ideally, after you identify potential hazards, you can take steps to eliminate or reduce them to an acceptable risk level before the task starts.

Requirements

11.2 JOB SAFETY ANALYSIS PROCESS

1. A JSA is a tool used to improve job safety through:
    1. Identifying the hazards or potential hazards associated with each step of a job and;
    2. Identifying effective control measures to prevent or eliminate exposure.
2. Identify the task or work activity to be analyzed:
    1. More than one JSA may be required for a single task. One member of the crews' responsibilities may be more hazardous than the other. Consequently, that process may be required to be rolled out and controls identified. Break the job into successive steps.

2. Describe concisely what is being done. List the steps/activities, processes and tools needed to perform the task.
3. Hazard Identification.
4. Identify the foreseeable hazards for each step/activity.

3. Identify the controls:
    1. Ultimately the best solution would be to eliminate the hazard. Find an effective way to eliminate the hazards and prevent a potential accident. The next best solution would be to find a better way to do the job. Start with the end result of the task and look for processes that are not only the safest, but the most economical and practical.
    2. Identify the planned protective measures to include appropriate protective devices and/or equipment as needed.
    3. Training.
    4. The completed JSA shall be signed by the author, submitted, reviewed and approved by the superintendent or his designee before the tasks start.
    5. Subcontractor shall provide JE Dunn copies of the JSA during the scope pre-task/phase (pre-install) meeting.

11.3 WORKER JSA TRAINING

1. Before a task is started, the JSA shall be reviewed with the crew to ensure the affected workers are aware of the potential hazard and protective measures controls described within the activity analysis. Workers training shall include the following concerns of the task.
    1. What can go wrong?
    2. What are the consequences?
    3. What is the worst that could happen?
    4. How could it happen?
    5. What are other contributing factors?
    6. How likely is it that the hazard will occur?
2. The process shall be reviewed, updated and retraining shall occur when;
    1. Immediately following any accident or near miss.
    2. When a safety violation is observed by a JED supervisor.
    3. Whenever the process, equipment, conditions or environment change.

When a new crew member is added

Section 12 - Aerial Work

Responsibility

12.1 GENERAL REQUIREMENTS

1. Only operators trained in inspection procedures, safe operating procedures, and maintenance procedures may operate lifts. The operator's manual must be available on site at all times. All operators must be familiar with the emergency controls and emergency operation of the lift.

Requirements

12.2 WORK AREA INSPECTION

1. An inspection of the workplace must be conducted to identify overhead hazards, surface hazards (holes, bumps, drop-offs, obstructions, mud, debris, and inadequate ground/floor support). Floor holes and drop offs shall be adequately covered or stop blocks installed to prevent the operator from driving into the hazards.
2. A structural engineer shall verify the loading capacity of an elevated deck/floor or roof before a lift is placed.

12.3 MACHINE INSPECTION

1. Prior to use, all lifts must be inspected per the manufacturer's recommendations. Any deficiencies must be corrected before the machine is put into service. Scissor lifts must be equipped with pothole protectors.
2. Scissor lifts must be equipped with pothole protectors

12.4 MACHINE OPERATION

1. The operator must be familiar with equipment capabilities and limitations.
2. Malfunctioning equipment must be taken out of service until repairs are made.
3. No equipment attachments/modifications are allowed without manufacturer's approval.
4. An aerial lift must never be used as a crane.
5. Safety devices and interlocks shall not be by-passed.
6. To prevent accidental movement of the lift, the emergency switch must be activated when to lift is placed in the working position.
7. A lookout must be provided when driving the lift when the operator's vision is obstructed.
8. Trash and excess material shall be removed from the lift daily.
9. Aerial lift operations must be shut down when wind conditions exceed the manufacturer's operating limits.
10. Fall protection must be provided and utilized when entering/exiting an elevated lift or aerial work platform.
11. Fall protection must be designed to prevent the occupants of the lift from an ejection hazard.

12. When working outside the confines of the guardrail, the lift shall not be used as an attachment point for fall protection.
13. Refer to the manufacture requirements for complete requirements.

12.5 TIPPING HAZARDS

1. Ground conditions must be adequate to support the equipment.
2. Allowable slope and grade conditions must not be exceeded.
3. Maximum working load must not be exceeded.

12.6 FALL AND CRUSHING HAZARDS

1. Operators must wear and utilize fall protection per the equipment manufacturer's recommendations or when a regulatory authority requires.
2. Aerial Lift workers are prohibited from tying off to adjacent structures.
3. All gates and rails must be secured in the proper position.
4. Using steps, planks or standing on guardrails to increase reach is prohibited.
5. Operators must be trained before operating that type and model piece of equipment.
6. Due to inadvertent engagement with operational controls, recommend protective devices such as shrouds and guards, crash bars, or time-out features be used.
7. Be aware of surroundings at all times and use spotters in tight spaces.

12.7 ELECTROCUTION HAZARDS

1. Safe clearance must be maintained from all electrical lines.

Minimum Safe Approach Distances

Voltage Range (phase to phase)	Minimum Safe Approach Distance (Feet/Meters)
0 to 50KV	10 (3)
Over 50KV to 200KV	15 (5)
Over 200KV to 350KV	20 (6)
Over 350KV to 500KV	25 (8)
Over 500KV to 750KV	35 (11)
Over 750KV to 1000KV	45 (14)

Section 13 - Asbestos

Responsibility

13.1 RESPONSIBILITES

1. Building Owners
    1. Prior to any demolition or renovation activities, the building owner is responsible for conducting an inspection for asbestos in the affected portion of the building.
    2. The owner must notify JE Dunn of the presence, location, and quantity of asbestos containing material in the building.
    3. Notification shall be in writing and must be accompanied by an asbestos survey.
    4. If asbestos abatement is conducted under the direction of the owner, JE Dunn will not allow work to commence until the owner provides JE Dunn a clean air report.
2. Project Managers
    1. Prior to any demolition or renovation activities, the project manager shall obtain from the building or facility owner a copy of the asbestos survey identifying the presence, location, and quantity of asbestos containing material in the affected area of the building.
    2. The project manager shall provide a copy of the asbestos survey to the superintendent and subcontractors prior to the start of any demolition or renovation activities.
    3. The project manager shall also review local codes and ensure that we are in compliance with any permitting or notification requirements of that locale.
3. Superintendents
    1. Prior to any demolition or renovation activities, the superintendent shall review the asbestos survey and become familiar with the location, type, and quantity of asbestos in all work areas.
    2. The asbestos survey shall be posted and made available to all workers on site.
    3. The results of the survey must be communicated to all JE Dunn field labor, subcontractor personnel, and any other affected party prior to the start of work.
    4. The superintendent shall ensure that all employees working on site have sufficient asbestos awareness training. The Regional Safety Department shall be contacted to determine the length and scope of the training required. Documentation of such training shall be kept on file and made available for review upon request.

Requirements

13.2 GENERAL REQUIREMENTS

JE Dunn does not and will not perform asbestos abatement related activities under any circumstances.

Under normal circumstances JE Dunn will not contract directly with a licensed asbestos abatement company, transporter or dumping facility. This policy will not be deviated from without written permission from the Risk Management Officer.

13.3 BUILDING INSPECTION/SURVEYS

1. All buildings (regardless of age) shall be inspected for asbestos prior to any demolition or renovation activities.
2. No building shall be considered exempt from the required asbestos inspection based on age or date of last renovation.
3. If during construction activities a suspect material is discovered that was not part of the original inspection, work must be stopped immediately. The area will be cordoned off until an inspection of the material can be completed by a qualified inspector.
4. Individuals engaged in the sampling of suspected asbestos containing material must meet minimum federal and state training requirements including (but not limited to) the possession of a valid Asbestos Inspector License.
5. If the inspection indicates the presence of asbestos-containing materials and these materials will be disturbed due to the demolition or renovation activities, then they shall be removed by a licensed asbestos abatement contractor.

13.4 EMERGENCY PROCEDURES

1. Every effort will be made to identify the presence and location of all asbestos containing material prior to demolition or renovation activities minimizing the chance of accidental disturbance. Upon identification or accidental release of asbestos containing material or the accidental release should occur, the following steps should be followed immediately:
    1. Stop work immediately, wet material, and vacate the area.
    2. Notify supervision of the disturbance.
    3. Isolate the area to prevent entry by others.
    4. Post danger signs to inform other personnel of hazard.
    5. Shut off or temporarily modify the air handling system to prevent the distribution of asbestos fibers to other areas.
    6. Do not attempt to clean up debris.
    7. Suspect material must be evaluated/tests immediately.
    8. Do not reenter the area until tests are confirmed.

13.5 TRAINING

1. All workers shall be trained on the hazards associated with asbestos and the procedures for safely working around asbestos materials without endangering themselves, their coworkers, or other building occupants.
2. This is regardless of the fact that the asbestos was already removed and we are in receipt of a clean building report.
3. The training will include:
    1. Health effects of asbestos
    2. The types, properties and uses of asbestos
    3. The hazards of asbestos fiber inhalation and ingestion

4. Locations, signs of damage and deterioration of asbestos-containing materials and presumed asbestos-containing materials
5. Types of activities which could release asbestos fibers
6. The proper response to fiber release episodes

The superintendent shall receive proof of training from all workers prior to the start of work. Documentation of such training shall be kept on file and made available for review upon request.

Section 14 - Blasting

Responsibility

14.1 RESPONSIBILITIES

1. Project Managers are responsible to ensure that the requirements of this policy are placed in the bid documents.
2. Superintendents are responsible for:
    1. Ensuring all requirements of this section are strictly followed.
    2. Verifying that safe work practices are followed and ensure that prompt corrective action of unsafe acts or conditions are made.
    3. Performing a pre-planning meeting with the blasting contractor to ensure they understand the Companies safety expectations in the execution of their work.
3. The blasting contractor is responsible for obtaining and maintaining all special permits and licensing for their scope. They shall perform their work in accordance with the submitted plan and in compliance with all federal, state and local laws and codes. They shall also be required to maintain a general liability insurance policy for not less than $ 5,000,000 per occurrence.

Requirements

14.2 BLASTING PLAN

1. The blasting contractor shall provide a blasting plan detailing the proposed blasting operations. During the blasting operations, the blasting plan shall be available to all personnel and maintained on site at all times.
2. The blasting plan shall contain the following minimum components;
    1. General Objectives
    2. Proposed dates, times, and all locations of blasting.
    3. A copy of the blasting permit obtained to conduct blasting on site.
    4. Rock Type and Characteristics
    5. Blaster-in-Charge must be identified and include written evidence of licensing, experience, and qualifications.
    6. List of other personnel involved with blasting operations including their qualifications and responsibilities.
    7. Copies of Permits, Licenses, Insurance Certificates
    8. Blast Procedures
3. The blasting contractor shall provide site specific details of the proposed blasting operations including the following for each separate blasting area:
    1. Explosive type and quantities
    2. Detonator type utilized
    3. Delay type, interval, and pattern
    4. Maximum drill hole depth and diameter.
    5. Maximum charge per hole.
    6. Maximum charge per delay.
    7. Drill hole spacing, burden, and orientation.
    8. Coordination details of evacuating personnel to safe zone.
    9. Blast area security.

10. Procedures for handling misfires.
11. Distance to nearest below-ground structures including existing buried pipelines.
12. Methods of matting or covering of blast area to prevent fly rock.
13. A list of instrumentation which the contractor proposes to use to monitor vibrations and air-blast overpressure levels along with documentation of most recent calibration.
14. Blast warning system procedures.
15. Emergency Action Plan

14.3 PRE-BLAST NOTIFICATIONS

1. The blasting contractor shall be responsible for all required notifications. This includes, at a minimum;
    1. Regulatory agencies.
    2. Law enforcement agencies.
    3. Emergency services.
    4. Onsite contractor personnel.
    5. Nearby building owners and residents.
2. At least 30 days before initiation of blasting, the blasting contractor or their agent shall notify, in writing, all residents or owners of dwellings or other structures located within proximity of the permit area of upcoming ongoing blasting operations. Resident/owner notifications shall include the following information:
    1. The blasting contractor's name, address and telephone number.
    2. That a pre-blast survey is available at no charge.
    3. The purpose of the pre-blast survey.
    4. That requests for a pre-blast survey must be made in writing and sent directly to the blasting contractor.
    5. A 24-hour notification of actual date and approximate time of blast is available before a blasting event.

14.4 SURVEY

1. Upon receipt of a request for a pre-blast survey, the blasting contractor or their agent shall complete a survey of all structures and improvements of adjoining properties subject to effects from the blasting operations.
2. The survey shall include visual inspection of structures and improvements in addition to recording of existing interior and exterior conditions by means of photographs and or video containing a date stamp. After completion of blasting, a post blast survey shall be performed to identify any changes to the adjacent properties.
3. An updated survey of any additions, modifications, or renovations shall be performed by the contractor if requested by the resident or owner.

14.5 BLAST SITE INSPECTIONS

1. The blasting contractor shall inspect the blast area for potential hazards. Inspected areas shall include but are not limited to;
    1. The immediate blast area.
    2. The geology of the rock to identify;
        1. Mud seams.
        2. Potential slide areas.
        3. Voids.

4. Loose rocks.
5. Any rock mass defects.

14.6 EMPLOYEE SAFETY MEETING

1. Before loading operations begin, the blaster-in-charge shall ensure that a safety meeting be held for all blasting contractor's employees on site. Information regarding the hazards observed during the pre-blast inspection as well as pertinent safety instructions shall be given to the workers. The Blaster-in-Charge shall issue directives and supervision to all blasting contractor's employees as to their responsibility and duties for the day. The blaster-in-charge shall be in-charge of the blast site. The Blaster-in-Charge shall assume all responsibilities and perform all duties as required under OSHA regulations.

14.7 BLAST SITE SECURITY PROCEDURES

1. The blast site shall be barricaded and/or designated as off-limits to personnel during loading operations. All access entry points onto the blast site shall be barricaded and monitored. Markers, barricades, signs and/or barrier tape shall be used to designate the blast site. Entry into the blast site by unauthorized personnel shall be prohibited. Only the Blaster-in-Charge or his agent shall have the authority to grant permission for entry onto the blast site.

14.8 METHODS FOR MONITORING/MEASURING SEISMIC READINGS

1. The use of seismographs at the nearest structures shall be used and monitored to ensure compliance with Federal, State, and local regulations.
2. In the event that a blast round result in ground vibrations or air-blasts overpressures which exceed the blasting limit criteria, the contractor shall, prior to detonating and subsequent rounds, revise the round design appropriately to reduce the vibrations and submit the revised round design to the engineer for approval prior to the continuation of blasting.

14.9 BLASTING CONTAINMENT TECHNIQUES

1. The blasting contractor shall take all necessary steps and use all available blasting techniques to limit the adverse effects of fly rock, misfires, ground vibration and air blast.

14.10 SPECIAL CONDITIONS

1. Weather – If a thunderstorm approaches, the handling or use of explosives shall be discontinued and all persons shall be moved to a place of safety until danger has passed.
2. Static - All parts of an electrical blasting circuit shall be effectively insulated or protected from grounds or short circuits and adequately separated from power source so as to prevent any possibility of electrical contact or entrance of stray current into the blast circuit.
3. Stray Radio Frequency – mobile transmitters shall not be energized near electrical caps or delays being handled or used.

14.11 EXPLOSIVE HANDLING PROCEDURES

1. The transporting, handling, storage, and use of explosives, blasting agents, and blasting equipment shall be directed and supervised by a qualified Blaster-in-Charge. The blasting contractor will notify the Contractor at least twenty-four (24) hours in advance of expected explosives delivery time.
2. The use and handling of all explosive materials shall be done by fully trained and experienced personnel. All blasters shall possess a current blasting license and be experienced blasting. All of the blasting contractor's employees must be trained in accordance with OSHA requirements and possess certification of such training.
3. The blasting contractor shall provide and maintain, on site, all required and necessary Material Safety Data Sheets for inspection and use in the event of an emergency.
4. All unused explosive materials shall be removed from the blast site at the end of shift and secured in proper storage facilities or properly removed from the premises.

14.12 STORAGE AND SECURING OF EXPLOSIVES

1. All explosive storage requirements shall be in accordance with all Federal, State and local regulations. All permits and licenses must be formally issued before storage shall be permitted. The blasting contractor shall be required to maintain a general liability insurance policy with limits of no less than $ 5,000,000 per occurrence.

14.13 EMERGENCY ACTION PLAN

1. The blasting contractor shall develop an emergency action plan. The plan shall be communicated to all affected contractors and maintained on site during all blasting operations. At a minimum the plan should include:
    1. Blasting Contractor Contacts.
    2. Local Emergency Contacts.
    3. Ambulance
    4. Fire
    5. Police
    6. Address and phone number to the nearest medical facility.

Address and phone number to the nearest hospital.

Section 15 - Blood Borne Pathogens

Responsibility

15.1 RESPONSIBILITY

1. This program's purpose is to eliminate and/or minimize employee occupational exposure to blood, other body fluids, and other potentially infectious materials. It is the policy of the company to protect employees who could be exposed, as part of their assigned duties, to human blood or other potentially infectious materials (OPIM) that may contain blood borne pathogens, infectious 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) commonly known as AIDS. Since no person is risk free, any employee who has occupational exposure to blood or other potentially infectious material shall be included within the scope of this policy.
2. The safety department is responsible for annually reviewing this program and its effectiveness, and for updating this program as needed.

15.2 DEFINITIONS

1. *Blood* – human blood, human blood components, and products made from human blood.
2. *Blood borne Pathogens* – infectious 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) commonly known as AIDS.
3. *Contaminated* – the presence of blood or other potentially infectious materials on an item or surface.
4. *Exposure Incident* – a specific incident in which an eye, mouth, other mucous membrane, skin, comes in contact with blood or other potentially infectious materials resulting from the performance of an employee's duties.
5. *Hand Washing Facilities* – a facility providing an adequate supply of running potable water, soap, and single use towelettes or hot air drying machines.
6. *Occupational Exposure* – reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of employees' duties.
7. *Other Potentially Infectious Materials* (OPIM) means human bodily fluids contaminated with blood and all bodily fluids where it is difficult or impossible to differentiate between body fluids. Includes, but is not limited to, blood cultures, organs, and other tissues.
8. *Personal Protective Equipment* –specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes not intended to function as protection against a hazard are not considered to be personal protective equipment.
9. *Source Individual* – any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to an employee.

10. *Universal Precautions* – an approach to infection control. According to the concepts of Universal Precautions, all human blood and certain body fluids are treated as if known to be infectious for HIV, HBV, and other blood borne pathogens.
11. *Work Practice Controls* – controls that reduce the likelihood of exposure by altering the manner in which a task is performed (i.e. wearing protective equipment).
12. *Engineering Controls* – controls (e.g. sharp disposal containers, self sheathing needles, or other equipment) that may isolate or remove blood borne pathogens from the workplace.

Requirements

15.3 EXPOSURE DETERMINATION

1. Employees covered by this policy include:
    1. Designated first aid personnel.
    2. Designated emergency response individuals.
2. Exposure determinations shall be made without regards to the use of personal protective equipment. All personnel exposed to blood borne pathogens must be tested after an incident.
3. Exposure in the construction industry is expected to be limited to emergency situations involving job related injuries. Employees should review the blood borne pathogen program.

15.4 WORK PRACTICE CONTROLS

1. Employees who may be exposed to blood borne pathogens are required to implement "universal precautions" or "body substance isolation". Control measures will be implemented in accordance with the requirements set forth during employee training in "work practice controls", whereby steps are taken by the employee and the company that shall reduce the likelihood of exposure to potentially infectious materials by altering the manner in which tests are performed. All exposure cases without regards to the use of PPE must be tested.
2. All employees assigned as a designated first aid person, infirmary personnel, and other emergency response personnel will be provided training in how to recognize and control blood borne exposure. Work practice controls, as outlined in this section, will be furnished to all affected employees and each employee will be trained in their use with updated implementation training to be given annually. The Regional Safety Director will maintain all training records.
3. Hepatitis B vaccinations are available to all employees who have occupational exposure as defined in this control program. The employee may elect to have vaccine administered any time after initial assignment. Employees who decline the vaccine will be asked to sign a statement to that effect; however, he or she may decide to accept the vaccination at a later date. In addition, all employees who have an exposure incident are entitled to a post exposure evaluation and follow up with a licensed healthcare professional (i.e. doctor or nurse). Vaccines, post exposure evaluations and follow ups will be provided at the company's expense. All medical records will remain confidential.
4. Immediately following the removal of PPE the employee is required to wash their hands and other potentially exposed skin with antiseptic hand wash or towelettes. The employee shall then wash their hands with soap and water as soon as possible thereafter.

5. Work surfaces and equipment that are contaminated with blood or OPIM shall be disinfected with an appropriate cleaner.

15.5 CONTROL PROCEDURES

1. Assess the Workplace Environment –
    1. Employees shall be trained to look for signs or labels that indicate the presence of infectious materials that are or may become present during the course of work operations. If the worker suspects there may be infectious materials present, they should contact their supervisor who will in turn call the safety director for guidance.
    2. In cases where we are performing work within a business or industry where there is a possibility of encountering this issue, a meeting shall be held with the building occupant's internal infection control person to discuss the possible exposure.
2. Use of Personal Protective Equipment (PPE) –
    1. All employees involved in an situation where it is reasonably anticipated that exposure to infectious materials is likely are required to wear PPE. PPE items are located in the first aid kit.
    2. PPE will be considered appropriate only if it does not permit blood or OPIM to contact the employee or the employee's clothing.
    3. Contaminated PPE shall be placed in a bag or container marked with the universal biohazard label and disposed of at the proper biohazard disposal facility.
    4. Immediately following the removal of PPE all employees are required to wash their hands and any other potentially exposed skin with antiseptic hand cleaner or towelettes. As soon as possible thereafter the employees shall wash the same areas with soap and water.
3. Work surfaces or equipment that is contaminated with blood or other OPIM shall be disinfected with an appropriate cleaner.

15.6 HAND WASHING FACILITIES

1. Employees shall be furnished with readily accessible hand washing facilities when feasible.
2. When hand washing facilities are not readily accessible to the employee, antiseptic towelettes provided in the first aid kit should be utilized. Should the use of antiseptic towelettes be necessary, employee shall wash hands with soap and running water as soon as feasible.
3. All employees must, without exception, wash hands and any other infected skin with soap and water, or flush mucous membranes with water immediately or as soon as feasible following contact of such body areas with blood or OPIM's.

15.7 POST EXPOSURE AND FOLLOW-UP

1. All exposure incidents shall be reported, investigated, and documented. When an employee incurs an exposure incident, it shall be reported immediately to the company's safety department.
2. Following a report of an exposure incident, the exposed employee shall immediately receive a confidential medical evaluation and follow up, including at least the following elements:

1. Documentation of the route of exposure, and the circumstances under which the exposure incident occurred;
2. Identification and documentation of the source individual.
3. The source individual's blood shall be tested as soon as feasible, after consent is obtained in order to determine HBV and HIV infectivity. When law does not require the source individual's consent, the source individual's blood, if available, shall be tested and the results documented.
4. Results of the source individual's testing shall be made available to the exposed employee, and the employee shall be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

3. Collection and testing of blood for HBV and HIV serological status will comply with the following:
    1. The exposed employee's blood shall be collected as soon as feasible and tested after consent is obtained. The employee will be offered the option of having his/her blood collected for testing of the employee's HIV/HBV serological status. The blood sample will be preserved for up to 90 days to allow the employee to decide if the blood should be tested for HIV serological status.
    2. All employees who incur an exposure incident will be offered post exposure evaluation and follow up in accordance with the OSHA standard. All post exposure follow ups will be performed by a local designated Medical Center.

15.8 TRAINING

1. All employees with occupational exposure are required to be trained in requirements set forth in CFR 1910.1030 Blood borne pathogens. The training program will consist of the following elements:
    1. An accessible copy of the regulatory text of OSHA 1910.1030 and explanation of its contents.
    2. A copy of the blood borne pathogen program and hazard control plan.
    3. A general explanation of the epidemiology and symptoms of blood borne disease.
    4. An explanation of the modes of transmission of blood borne disease.
    5. A description of the hazard control plan.
    6. Information on how to recognize a potential hazard.
    7. An explanation of the use and limitations of the methods required to control exposure including engineering controls, work practices and personal protective equipment.
    8. Information on the types, proper uses, location, removal, handling, decontamination, and disposal of personal protective equipment.
    9. Information on the benefits, use and availability of the Hepatitis B vaccine.
    10. Appropriate action to take and persons to contact in the event of an emergency involving medical follow up.
    11. Information on post exposure evaluation and follow up that is required to be provided following an exposure incident.
    12. An opportunity for interactive questions and answers with the person conducting the training session.
    13. An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow up that will be made available.

15.9 RECORD KEEPING

1. The company shall maintain records of all exposure incidents, including the names of the source individual(s).

15.10 VACCINATIONS

Vaccinations shall be provided at no cost to the exposed employee. Employees that decline treatment shall sign and date the Declination Statement.

Section 16 - Compressed Gases

Requirements

16.1 GENERAL REQUIREMENTS

1. Fuel/Gas Cylinder content must be identified by visible readable labels. Cylinder colors shall not be used to identify the cylinder content.
2. Users of compressed gas cylinders must be trained in the proper use, storage and hazards associated with these cylinders.
3. Cylinders not in use shall be fitted with valve protection cap and secured in an upright position.
4. Do not tamper with or alter cylinders, valves or safety relief devices. Do not tighten connection or leaking fittings or attempt other repairs while the cylinder is under pressure.
5. Before connecting a regulator to a cylinder valve, the valve shall be opened monentarily and closed immediately. Note: This action is generally termed "cracking" and is intended to clear the valve of dust or dirt that might otherwise enter the regulator.

16.2 SAFE HANDLING

1. All fuel/gas cylinders shall be secured in an upright position at all times.
2. When cylinders are hoisted, always use proper carriers. Cylinders should never be choked or lifted by their valve protection cap.
3. Empty cylinders shall be not be treated any differently than full cylinders.
4. Never use oily or greasy hands, gloves or rags to handle oxygen cylinders.
5. Do not place cylinders next to a heat source or direct an open flame at any part of cylinder.
6. Oxygen shall not be used as a substitute for compressed air.
7. Oxygen shall not be used to dust clothing, to create pressure or to ventilate areas.
8. Jets of oxygen shall not be permitted to strike an oily surface or greasy clothes or to enter fuel oil or other storage tanks.
9. Cylinders shall not be dropped, struck or permitted to strike objects in a manner that may damage the cylinder, valve or safety device.
10. Acetylene cylinder valves shall not be opened more than 1-1/2 of a turn.

16.3 STORAGE

1. All flammable compressed gas cylinder storage areas shall be located outside of the building or structure.
2. Valve protection caps shall be placed on all cylinders when not in use.
3. Gauges shall be removed and cylinders capped at the end of the day.
4. Oxygen or fuel/ gas cylinder shall be used and stored in an upright position.
5. Different gases shall be stored at least 20 feet apart or separated by a 5 foot noncombustible firewall with a fire-resistance rating of at least one-half hour.
6. Storage areas shall be posted with No smoking or open flame signage.

16.4 LPG TANKS

1. All Liquid Propane Gas (LPG) supply hoses and connections must be installed per local codes and statutes.
2. All hoses and tanks must be protected from damage.
3. No more than three 100lb. propane tanks shall be manifolded together.
4. Portable tanks shall be fitted with a Hackney collar.
5. Large bulk tanks shall be located a minimum of 20 feet away from any buildings or structures and be protected by barricading. Jersey barriers or equivalent should be used when the bulk tanks are exposed to vehicle or equipment traffic.

Misuse of compressed gas cylinders can result in serious injuries.

16.5 WELDING AND CUTTING

1. Torches
    1. Boxes used for the storage of gas hose shall be ventilated.
    2. Hoses, cables, and other equipment shall be kept clear of passageways, ladders and stairs.
    3. Clogged torch tip openings shall be cleaned with suitable cleaning wires, drills, or other devices designed for such purpose.
    4. Flash arrestors must be provided on all torches and other similar devices where their presences does not constitute a hazard.
    5. Torches in use shall be inspected at the beginning of each working shift for leaking shutoff valves, hose couplings, and tip connections. Defective torches shall not be used.
    6. Torches shall be lighted by friction lighters or other approved devices, and not by matches or from hot work.
    7. Oxygen and fuel gas pressure regulators, including their related gauges, shall be in proper working order while in use.
    8. Oxygen cylinders and fittings shall be kept away from oil or grease. Cylinders, cylinder caps and valves, couplings, regulators, hose, and apparatus shall be kept free from oil or greasy substances and shall not be handled with oily hands or gloves. Oxygen shall not be directed at oily surfaces, greasy clothes, or within a fuel oil or other storage tank or vessel.
2. Arc Welding and Cutting
    1. Only manual electrode holders which are specifically designed for arc welding and cutting, and are of a capacity capable of safely handling the maximum rated current required by the electrodes, shall be used.
    2. Any current-carrying parts passing through the portion of the holder which the arc welder or cutter grips in his hand, and the outer surfaces of the jaws of the holder, shall be fully insulated against the maximum voltage encountered to ground.
    3. All arc welding and cutting cables shall be of the completely insulated, flexible type, capable of handling the maximum current requirements of the work in progress, taking into account the duty cycle under which the arc welder or cutter is working.
    4. Only cable free from repair or splices for a minimum distance of 10 feet from the cable end to which the electrode holder is connected shall be used, except that cables with standard insulated connectors or with splices whose insulating quality is equal to that of the cable are permitted.
    5. When it becomes necessary to connect or splice lengths of cable one to another, substantial insulated connectors of a capacity at least equivalent to that of the cable shall be used. If connections are effected by means of cable

lugs, they shall be securely fastened together to give good electrical contact, and the exposed metal parts of the lugs shall be completely insulated.

6. Cables in need of repair shall not be used. When a cable, other than the cable lead referred to in paragraph (B)(4) of this section, becomes worn to the extent of exposing bare conductors, the portion thus exposed shall be protected by means of rubber and friction tape or other equivalent insulation.
7. A ground return cable shall have a safe current carrying capacity equal to or exceeding the specified maximum output capacity of the arc welding or cutting unit which it services. When a single ground return cable services more than one unit, its safe current-carrying capacity shall equal or exceed the total specified maximum output capacities of all the units which it services.
8. Ventilation for welding and cutting operations shall comply with OSHA requirements.

16.6 HOTWORK PROCEEDURE AND PEMITS

1. Fire Prevention for hot work operations
    1. When practical, objects to be welded, cut, or heated shall be moved to a designated safe location or, if the objects to be welded, cut, or heated cannot be readily moved, all movable fire hazards in the vicinity shall be taken to a safe place, or otherwise protected.
    2. If the object to be welded, cut, or heated cannot be moved and if all the fire hazards cannot be removed, positive means shall be taken to confine the heat, sparks, and slag, and to protect the immovable fire hazards from them. Fire blankets and similar devices are required and must be installed to direct all potential slag to safe location free of combustible and flammable material.
    3. No welding, cutting, or heating shall be done where the application of flammable paints or the presence of other flammable compounds, or heavy dust concentrations creates a hazard.
    4. Suitable fire extinguishing equipment shall be immediately available in the work area and shall be maintained in a state of readiness for instant use.
    5. Fire Watch- When the welding, cutting, or heating operation is such that combustibles cannot be removed or slag and sparks cannot be completely contained, additional personnel shall be assigned to guard against fire while the actual hot work operation is being performed, and for a minimum of thirty minuets following the completion of the hotwork. Fire watch personnel shall:
        1. Be instructed as to the specific anticipated fire hazards, how the firefighting equipment provided is to be used and emergency procedures for the project.
        2. Be posted at the welding operation and on the other sides of walls, floors or any other space where sparks, slag or fire could travel.
        3. Have a fire extinguisher in each area.
        4. Take temperature readings (Infrared Thermometer or similar device) of materials adjacent to hot work operations during hot work and after to ensure that no hot spots or smoldering fires are present.
2. Hot Work Permit
    1. A Hot Work Permit is required for any operations involving work producing flames, sparks, or heat. Hot Work includes, but is not limited to: Cutting, welding, brazing, grinding, sowing, soldering, thawing frozen pipes, applying roof covering, sealing plastic shrink-wrap by torch, and using a plumber’s torch.

2. Hot work permits will not exceed one work shift.
3. Permits must be complete by the responsible supervisor and reviewed by A J.E. Dunn Superintendent.
4. A separate permit must be developed for each instance of hot work. Permits may not cover multiple hot work events or areas of the building.
5. Supervisors must review the permit with the work crew before the start of work. Each worker must sign the back of the permit.
6. A completed copy of the Hot Work Permits must be posted in the area where hot work is taking place.

Permits must be closed out each shift following the completing of the hot work and fire watch by the subervisor and J.E. Dunn Superintendent. Permits must be retained in the jobsite file.

4. Section 17 - Concrete and Masonry

Section 9: Responsibiilty

17.1 RESPONSIBILITIES

1. Project Managers are responsible to ensure that the JE Dunn Horizontal Perimeter Guardrail Specs are placed in the bid documents.
2. Superintendents are responsible for;
    1. Ensuring all requirements of this section are strictly followed.
    2. Performing a pre-planning meeting with the concrete subcontractor to ensure they understand the companies' safety expectations in the execution of their work.
    3. Performing all necessary inspections pursuant to this policy.

Section 10: Requirements

17.2 GENERAL REQUIREMENTS

1. Appropriate gloves shall be worn when handling concrete, concrete vibrators, acids, corrosives, and solvents.
2. Protective head and face equipment must be worn while applying cement, sand, and water mixture through pneumatichose.
3. Protective boots are required when working in concrete or water.
4. Riding concrete buckets or working under buckets while being elevated or lowered into position is strictly prohibited.
5. Elevated buckets must be routed so that the fewest possible employees are exposed to the overhead danger.
6. All exposed reinforcing steel must be capped with rebar caps or bent over to prevent impalement hazards or injury to workers.
7. Concrete pump hoses and air hoses must be secured to prevent separation of sections when pressurized.
8. To prevent potential problems with falling concrete, the hose on a concrete placement boom shall have a method of preventing concrete from falling out of the hose when changing positions.
9. Bull float handles must be constructed of nonconductive material while working near energized electrical conductors.
10. Construction loads must not be placed on a concrete structure unless it has been determined that the structure is capable of supporting the intended loads, based on information received from a person who is qualified in structural design.
11. No one should be permitted behind the jack during post-tensioning operations. Signs and barriers must be erected to limit worker access to the post-tensioning area during tensioning operations. Only those workers that are essential for the post-tensioning operation are allowed within the barricades.
12. Powered and rotating type concrete trowel machines that are manually guided shall be equipped with a control switch that will automatically shut off the power whenever the operator removes his hands from the equipment handles.
13. Sills used to support shoring shall be sound, rigid, and capable of carrying the maximum intended load.

14. Welded tubular frames used for shoring must not exceed the safe work load recommended by the manufacturer.

17.3 HORIZONTAL FORMWORK

1. Formwork Design
    1. Formwork shall be designed by a "Competent Person". A copy of the formwork shop drawings, stamped by the formwork design Engineer, shall be available on site. A copy of the design should be submitted to the Engineer of record to review and approve. These drawings must provide detailed specifications and instructions for:
        1. Erecting the formwork,
        2. Cross bracing and shoring requirements,
        3. Removal sequence of formwork, shoring and bracing,
        4. Re-shore plans
    2. The formwork design Engineer shall make periodic visits to the project to review all formwork design elements. Periodic visits include one prior to the first pour. Follow up visits are encouraged monthly.
2. Incomplete work
    1. The formwork Contractor shall secure all work before the end of the shift. All decking must be nailed down and surplus or loose materials secured.
    2. The JED Superintendent shall perform a pre-pour review of the formwork prior to each deck pour.
3. Pre-pour Inspection
    1. Before the placement of concrete, the JED and formwork Superintendent shall conduct an inspection of the formwork system to ensure that the formwork is placed, shored and braced pursuant to the formwork design drawings. Any questions or concerns regarding the formwork shall be addressed by the formwork supervisor and design Engineer prior to concrete placement.
    2. Shoring equipment found to be damaged or weakened after erection must be immediately reinforced.
    3. All shoring and reshoring equipment must be inspected prior to erection to ensure that the equipment meets the requirements specified in formwork drawings.
    4. All base plates, shore heads, extension devices, and adjustment screws must be in firm contact and secure with the foundation and form.
4. Placement of concrete
    1. The formwork contractor shall assign a representative to inspect the formwork during the placement of concrete. If a problem is identified, that person shall have the ability to communicate with the pour foreman.
5. Wrecking of formwork
    1. Formwork shall not be wrecked until the concrete has reached the strength designated by the structural Engineer of record. Concrete strength shall be measured by test specimen or method approved by the Project Engineer of record.
    2. The formwork Contractor shall have a wrecking plan that discusses how the Contractor will keep materials from falling off the building during the wrecking process. Regardless of the process, the Contractor should determine whether the situation dictates placing a person on the ground below the wrecking process to ensure people stay out of the area.
6. Reshores

1. The formwork Contractor shall adhere to the re-shore plan as prepared by the formwork Engineer of record.
2. Spring clips shall be installed on wood reshores to prevent displacement due to floor flex or vibration.
3. Shores capable of falling off the building, if accidentally displaced, shall be tied back to an inbound shore.
4. The Superintendent shall do periodic inspections to ensure the reshore plan is followed and no reshores are removed prematurely.

17.4 VERTICAL FORMWORK

1. Design
    1. Formwork shall be designed by a "Competent Person". A copy of the formwork drawings with detailed wall tie spacing requirements shall be available on site. These drawings must provide detailed specifications and instructions for:
        1. Erecting the formwork,
        2. Bracing requirements,
        3. Wind loading limitations
        4. Rigging attachment points
        5. Removal sequence of formwork
2. Formwork Placement
    1. Gang forms shall be fitted with approved lifting devices.
    2. Spreader beams shall be utilized when more than two picking points are required.
    3. Tag lines should be used on all loads.
    4. The crane shall not be cut loose until the formwork is secured.
3. Incomplete Work
    1. All formwork shall be secured before the end of the shift.
    2. Wall panels must be temporarily braced and or secured.
4. Pre-pour Inspection
    1. Before the placement of concrete, the Superintendent shall conduct an inspection of the formwork system to ensure that the formwork is placed, and braced pursuant to the formwork design.
    2. Adequacy of the bracing stakes, dead men, sills and anchor bolts shall be reviewed to ensure that they will withstand the anticipated loading.
    3. Pour rate and dynamic loading of the system shall be reviewed with the pour crew.
    4. Pour rate shall not be exceeded.
5. Concrete Placement
    1. The formwork contractor shall assign a representative to inspect the formwork during the placement of concrete. If a problem is identified, that person shall have the ability to communicate with the pour foreman.
    2. A pour platform consisting of a minimum of two scaffold planks installed side by side shall be used.
    3. Adequate fall protection for workers must be provided.
6. Wrecking of formwork
    1. Formwork shall not be wrecked until the concrete has reached the strength designated by the competent person.

17.5 PRECAST

1. Precast Erection
    1. A site specific precast erection plan shall be written to address specific issues or hazards associated with the erection of precast pieces. The plan shall contain:
        1. Fall protection requirements as it pertains to erection activities such as;
            1. Leading edge work
            2. Unprotected sides and edges
            3. Grouting and plumbing
        2. Identification of persons authorized to enter the erection zone
        3. Back welding requirements associated with:
            1. Releasing the crane from the load
            2. Setting of the adjacent precast panel
        4. Bracing requirements
        5. Identification of person(s) responsible for implementing the plan
2. Precast Meetings
    1. A series of meetings shall be conducted before any Precast Erection. (Refer to Precast Erection Packet / Standards - BMP)
    2. A preplanning meeting shall be scheduled before the start of work to discuss the erection plan and any other hazards or issues identified in the pre-planning checklist.
    3. Precast Erection pre-installation meeting must take place prior to commencement of work and be readily available on site for review.
    4. Before starting erection activities, a mobilization / start-up meeting must take place.
    5. Prior to the start of each work shift, a daily lift plan meeting with erection crew is expected to take place. A daily lift plan form (i.e. log) shall be completed by erection crew and available for review at the site.
3. General Requirements
    1. Precast concrete wall units, structural framing, and tilt-up wall panels must be adequately supported to prevent overturning and to prevent collapse until permanent connections are completed.
    2. Embedded lifting inserts must be capable of supporting at least twice the maximum intended load applied to them. Other lifting inserts must be capable of supporting at least four times the maximum intended load.
    3. Rebar shall not be used to fabricate embedded lifting devices.
    4. Lifting hardware must be capable of supporting at least five times the maximum intended load.
    5. Employees are not allowed under precast concrete members that are being lifted or tilted into position.
    6. Loads shall not be released from the crane until the piece is properly braced and/or welded in place.

17.6 MASONRY

1. A limited access zone must be established whenever a masonry wall is being constructed. The limited access zone must be established prior to the start of construction of the wall; must be equal to the height of the wall plus four feet; must run the entire length of the wall; and must be established on the side of the wall which does not have scaffold.
2. Only employees actively engaged in constructing the wall may be permitted to enter the limited access zone.

3. The limited access zone must remain in place until the wall is adequately supported.
4. Masonry walls over eight feet must be adequately braced to prevent overturning and to prevent collapse.
5. Bracing of masonry walls shall be designed by an engineer. This bracing plan should be designed for walls in progress and until final structural connections are made. This plan shall be specific to the existing conditions. Bracing should account for the type of structure, site soils and anticipated wind loads for the area. Existing conditions could be, but not limited to: the type of block, mortar, footing, beam, reinforcing steel, height and width of wall, construction joints, methods and anticipated wind load. The plan should be kept on site and made available upon request.
6. The bracing and the limited access zone must remain in place until permanent supports are in place or approved by a structural engineer.

Proper masonry scaffolding must be erected, maintained and inspected by a competent person.

Section 18 - Confined Space

Responsibility

18.1 OBJECTIVE

1. Protect all employees from injury and/or illness.
2. Identify and/or classify confined spaces before entering.
3. Develop techniques to analyze and control hazards associated with confined space.
4. Comply with 29 CFR 1926 Construction OSHA standards concerning confined spaces. Note, the new standard and requirements shall be duly enforced by each exposing and creating employer.

18.2 DEFINITIONS

1. *Acceptable Entry Conditions*- The conditions that must exist in a confined space to allow entry and to ensure that employees involved can safely enter into the space.
2. *Attendant*-A person designated to monitor a confined space and provide support or react as required.
3. *Confined Space*- Any space having limited means of egress which is not designed for occupancy. Confined spaces include but are not limited to: storage tanks, process vessels, bins, boilers, ventilation or exhaust ducts, sewers, underground utility vaults, tunnels, pipelines, and open top spaces more than 4 feet in depth such as trenches, pits, tubs, vaults and vessels.
4. *Hazard Evaluation*- A process to assess the severity of a known, real or potential hazard at or in the confined space.
5. *Hazardous Atmosphere*- An atmosphere that may render an employee unconscious, impaired, incapacitated, cause injury or illness from one or more of the following:
    1. Flammable gas, vapor or mist in excess of 10% of the lower flammability limit (LFL).
    2. Oxygen concentration below 19.5% or above 23.5%
    3. Exposure to a concentration of a toxic substance greater than the permissible exposure limit established by USDOL OSHA.
6. *Hot Work*- Work within a confined space that causes arcs, sparks, flame, heat or other sources of ignition.
7. *Non-Permit Confined Space*- A space in which, by definition, is a confined space but after evaluation does not contain nor has the potential to contain a hazardous atmosphere.
8. *Permitted Confined Space*- A confined space which after evaluation, has actual or potential hazards which have been determined to require written authorization for entry.
9. *Testing*- The process by which the hazards present in a confined space are identified and evaluated.
10. *Toxic Atmosphere*- An atmosphere containing a concentration of a substance above safe levels.

Requirements

18.3 TESTING, EVALUATION AND MONITORING

1. **No employee will be allowed to enter a confined space without the Regional Safety Department first determining whether the space is a permitted or not permitted entry.** The safety department will determine what steps shall be taken to provide safe entry for workers. Under no circumstances shall this policy be deviated from.
2. A qualified person shall test all confined spaces to determine whether the confined space atmosphere is safe. Tests shall be made by using a calibrated direct readout instrument. A test shall be performed for all known or suspected vapors, gases or mists. Minimum tests shall include oxygen, combustible gases, carbon monoxide and hydrogen sulfide. Gases and vapors have different characteristics. Some linger at the bottom of an enclosure, others may float to the top or midpoint therefore, and tests shall be made at several elevations in the confined space.
3. Oxygen Hazards
    1. Too much oxygen in the air increases the potential for fire at normal temperatures or when exposed to flames. More often the atmosphere may contain too little oxygen resulting in physical effects to workers in the space.
    2. The following are defined as high and low oxygen levels:
        1. 23.5% and above High levels
        2. 20.8% to 21% Normal levels
        3. 19.5% and below Low levels
    3. Effects of Oxygen Deficiencies:

% Oxygen	Effects
16-14%	Deep breathing, accelerated heartbest, impaired attention, thinking and coordination
14-10%	Faulty judgement, poor coordination, rapid fatigue, intermittent breathing
10% and below	Nausea, vomiting, unconsciousness followed by death
Less than 6%	Spasmodic breathing, convulsive movements, death in minutes

4. Flammability Hazards

    1. An atmosphere is flammable when there is oxygen in the air and there is flammable gas, vapor, or dust in the proper mixture. Different gases have different flammable ranges. OSHA considers an atmosphere to pose a serious fire or explosion hazard if a flammable gas or vapor is present at a concentration greater than 10% of its lower flammability limit.

5. Toxic Hazards

1. A toxic atmosphere is usually caused by the product that was stored in the space or from work being conducted such as cutting, welding, spraying, cleaning, etc. It could also be from other toxins in the area of the confined space that may have entered and settled into the space. An evaluation must be made on what chemicals or a combination of chemicals to sample.

18.4 CONTROL OF HAZARDS

1. Fresh air ventilation shall be pumped into the space at all times before and during entry. To ensure the makeup air is acceptable, oxygen and carbon monoxide testing should be performed.
2. Whenever possible, all piping, duct work, lines, etc., that could unexpectedly carry toxic materials, vapor, gases, etc., into the confined space should be blocked or blanked off. This can be accomplished by closing valves, removing piping or plugging the opening of the holes entering the space. All mechanical hazards such as augers, conveyors, blades, etc., must be turned off and locked in accordance to the company's lockout tag out program out policy.
3. No hot work shall be conducted in the space without the supervisor's permission and continuous monitoring with the direct readout instrumentation.

18.5 ENTRY

1. Once the safety department has evaluated the space and has identified all safety precautions that need to be taken before entry, the following rules apply:
    1. Only individuals authorized to enter into a confined space are allowed entry.
    2. All authorized individuals entering a confined space must wear the appropriate personal protective devices for the anticipated exposure.
    3. Individual not authorized must stay away from confined spaces.
    4. No authorized person may enter a permit required confined space until an entry supervisor has determined it safe to enter.
    5. The entry supervisor must issue a permit.
    6. No authorized personnel shall be allowed to enter a confined space without an attendant at the opening of the confined space.
    7. Any authorized personnel can serve as an attendant.
    8. When securing a confined space for entry, ensure that a lockout policy has been established.
    9. A Confined Space Entry Permit shall be posted at the entrance to the confined space

18.6 TRAINING

1. A toolbox talk shall be conducted with all parties associated with the task to discuss real and anticipated hazards associated with the space. Testing, ventilation and emergency exit procedures shall be discussed at that time.

If PPE is utilized, the supervisor shall ensure the worker is properly trained in the proper use and limitations of the equipment.

Re-training is required after any incident and when personnel lack proficiency in the subject matter.

Section 19 - Cranes, Hoisting and Rigging

Responsibility

19.1 SCOPE

1. This policy pertains to all hoisting equipment used on site regardless of the ownership and contractual relationship of all parties. This policy is limited to the operations of cranes hoists and derricks in the field. For more detailed crane requirements outside this scope, please refer to the Logistics Hoisting Policy Manual.

19.2 RESPONSIBILITY

1. Project Manager
    1. The PM is responsible to work with all parties to ensure that the proper size of crane is scoped for the project.
2. Superintendent
    1. The superintendent is responsible for:
        1. The safe management and daily usage of the crane.
        2. Allowing the operator the proper amount of time to perform daily checks and tests of the crane.
        3. Ensuring all required safety inspections are scheduled.
3. Foreman
    1. Foremen are responsible for ensuring that the signalmen are competent and qualified riggers are used to rig the loads.
4. Operators
    1. The operator is responsible for:
        1. The everyday safe operation of the equipment
        2. Performing daily safety checks
        3. Stopping operation due to improper rigging, setup or maintenance issues
        4. Notifying the superintendent of any issues that would affect the safe operation of the equipment.
5. Assembly/Disassembly Director
    1. The A/D director is responsible for:
        1. Coordinating the assembly/disassembly/jacking operations
        2. Inspection and use of all rigging equipment used in the above referenced operations.

Requirements

19.3 ACCIDENT AND INCIDENT REPORTING

1. The following shall apply to any accidents involving cranes that result in injury, property and/or equipment damage:
    1. The operator shall immediately stop all operation, secure equipment and notify the superintendent.
    2. The site shall be secured and emergency responders notified.(If needed)
    3. The superintendent shall notify the Project Manager, Safety Department and Logistics Crane Manager.
    4. No non-emergency movement of the equipment shall occur without the approval of the National Hoisting Manger and Safety Director.

5. Under no circumstances shall the crane be placed back in operation without the approval of the National Hoisting Manager.

19.4 CRANE INSPECTIONS

1. Cranes shall be inspected daily (frequent), every 300 hours or 4 week period (periodic), post erection, pre-disassembly, and after every incident in which a crane was involved.
    1. Daily inspections
        1. The operator will be responsible for the daily inspection of their equipment. The inspection shall be based on manufacturer's recommendations for frequent inspection. The inspection at a minimum shall include:
            1. A visual inspection of the entire unit including the boom, mast, jib, wire rope and load block.
            2. Verifying all safety devices are positioned and functioning including the horn, load limits, anti-two block devices, leveling devices.
            3. Verifying the condition of ground support and/or secondary support, including mats and cribbing.
            4. Swing radius protection
            5. Test weights shall be picked (if required) to check both load moment and load limit switches. If limits are out of adjustment which allows the lifting of loads beyond the maximum capacity, the crane shall be taken out of service until inspected by a hoisting technician.
            6. Daily inspections shall be documented by the operator
            7. Periodic
        2. Periodic inspections shall be conducted by a trained logistics crane technician or a qualified third party vendor.
        3. Periodic inspections shall be documented by the inspector.

19.5 EQUIPMENT MODIFICATION

1. Any modification or usage of the equipment outside the manufacturers' recommendations is strictly prohibited without written approval from the manufacturer and the national hoisting manager.

19.6 OPERATOR'S QUALIFICATIONS

1. There are several states and government agencies that require operators to be certified through a third party organization for the type of crane that they will be operating. After November 10, 2014 OSHA will require that all crane operators be certified. Although not mandatory at this time, it is the desire of the company to have certified operators on all cranes.

19.7 CRANE OPERATION (ALL CRANES)

1. The operator will be responsible for the safe setup and operation of the crane. The operator will notify the superintendent of any issue that may affect the safe operation of the crane.

2. The operator shall not use electronics such as a cellphone, pager, i-pod or similar devices while operating the crane.
3. Cranes shall not be operated in sustained wind speeds greater than 35 MPH or when the loads present a sail hazard to workers handling the load.
4. The operator has the final say whether a load can be picked safely or whether it is unsafe to operate the crane due to weather conditions.
5. If a signal is given that is not understood, the operator shall not react until the signal is completely understood.
6. Load charts shall be posted in the crane within the operator view.
7. Load charts shall be the primary means to determine capacity and shall be strictly adhered to.
8. Safety devices shall not be bypassed.
9. Taglines shall be used on all loads (exception would be when picking concrete buckets)
10. When operating in the vicinity of an overhead power line, the requirements of section 19.12-19.15 must be strictly followed.
11. Side loading by dragging a load or swinging too fast is prohibited.
12. Shock loading a crane by sudden stops and starts is prohibited
13. Hoisting loads over workers shall be avoided.
14. No load shall be hoisted over an occupied building.
15. No loads shall be hoisted over an open street, public sidewalk or covered walkway unless a flagman is present to direct pedestrians and traffic.
16. Any lift exceeding 75 percent of the cranes rated capacity, multiple lifts, utilization of personnel platforms, or lifts involving two or more cranes shall be considered a "Critical Lift". Please refer to "critical lift" section within this chapter.
17. When operating two or more cranes on a project, the superintendent shall develop a site plan to establish rules and guidelines designed to prevent contact and ensure a safe operating environment.
18. Cranes operating in close vicinity shall have two way radios on a dedicated channel for safe and uninterrupted communication.
19. Nextel radios or cellphones may not be used as the communication device.
20. Loads shall not be allowed to hang from the cranes overnight. All loads and rigging shall be removed and the hook raised to within 15% of the boom or jib height.

19.8 CRANE OPERATION (MOBILE SPECIFIC)

1. Superintendent shall ensure that cranes are set up on firm, properly graded and drained soil.
2. If supporting ground for the crane is not sufficient for supporting the anticipated crane loads, mats shall be utilized.
3. Underground hazards such as storm lines, culverts, cisterns, tanks, backfilled areas must be identified, marked and their locations communicated to the crane user and operator.
4. Mobile crane movement on site must be in accordance with manufacturer's recommendations.
5. Cranes must be within 1% level.
6. The swing radius of all cranes counterweights must be adequately protected to prevent workers from being struck, crushed or caught in the pinch point of a crane.
7. The interior of the crane cab must be clean and debris free at all times.
8. Mobile cranes are to be set up with outriggers fully extended and tires off the ground unless manufacturer's recommendations allow otherwise.
9. Outrigger floats must be secured to the outrigger.

10. Outriggers pads must be utilized, remain level at all times, and be of the appropriate size to safety handle the cranes lifting capacity. Pad sizes shall be of sufficient size to help distribute the crane load. A good rule of thumb for figuring minimum sizes is size of pad (in square feet) is crane capacity (in tons) divided by 5. (Example: 100T crane= 100/5=20 or a 4x5 crane pad).
11. Mobile crane outrigger pads / cribbing must consist of solid blocking. Skip blocking is prohibited due to the loss of support.
12. Blocking shall be level.
13. In cold climates, the operator should ensure that the outriggers or tracks do not freeze to the ground.

19.9 CRANE OPERATIONS (TOWER CRANE SPECIFIC)

1. When a tower crane is installed inside the confines of a building, the superintendent needs to prohibit anything from being within 24 inches of the tower.
2. To prevent unauthorized entry on the crane during off hours, a security enclosure with a lockable door shall be installed around the base of the crane. The construction requirements of the enclosure shall be agreed upon at the pre-erection meeting.
3. Unauthorized persons both within and outside the company are not permitted to climb the tower crane without first meeting the criteria set out in the Hoisting Policy Manual.
4. The operator shall climb up or down the entire tower of their assigned tower crane from base to turntable a minimum of once a day to visually inspect the mast. To ensure a proper visual, this should be conducted during a period with sufficient lighting.
5. The operator shall not access the crane by climbing outside the mast or utilizing and approved access platform.
6. When work requires the operator to access unprotected areas of the crane, personal fall arrest system must be worn and utilized.
7. No personal electronics or appliances are allowed without written approval of the hoisting manager.
8. All safety devices shall be checked for proper operation at the beginning of the shift.
9. Test weight shall be picked daily.
10. In cold work environments, steps shall be taken to prevent test weights from freezing to the ground.
11. The operator shall not adjust or tamper with limit devices on the crane.
12. If the limits are found not to be working properly and the operator can pick more than the test weights allow, the crane shall be shut down and the logistics crane manager be notified.
13. When shutting down the tower crane at the end of the shift, the following procedures shall be followed:
    1. The operator shall free up the slewing brakes to allow the jib to weathervane or follow the manufactures recommendations.
    2. All loads and rigging shall be removed, the trolley shall be brought to minimum radius and highest elevation.
    3. Power to the crane shall be turned off at the cabinet designated by the hoisting manager and locked out where possible.
14. When work is to be conducted on the crane which warrants a Lock out tag out procedure. The requirements of section 30 shall be followed.

19.10 CRITICAL LIFT PLAN

1. A critical lift plan must be developed whenever one or more of the following are evident:
    1. When the lift exceeds 75% of the crane capacity for that configuration;
    2. When two or more cranes are used to pick a single load;
    3. When lifts are made within the close proximity to power lines;
    4. When unique or specialized lifts are made utilizing complex rigging;
    5. When hoisting suspended work platform;
    6. When performing tower crane erection, jacking or dismantling.
2. The Superintendent shall complete a Critical Lift Plan Worksheet with input from the operator, crane manager and safety department (where applicable).
3. The plan shall address the following elements:
    1. Identify the designated rigger/lift director
    2. The crane capacity based on its lift configuration
    3. The total gross load of the lift which includes:
        1. The material/equipment being lifted
        2. The rigging used to rig the load
        3. Any other weights of apparatuses required to be included by the cranes load charts.
    4. Determine if the soil and subsurface is capable of supporting the crane and load. Identify the need for additional support such as cribbing or crane mats
    5. The actual measured radius from the center pin of the crane to the hook at the final setting point.
    6. Determine a location where the load can be safely set in the event the lift must be aborted
    7. Establish areas where personnel are prohibited during the lift.
    8. Designate flagmen to assist in policing the area
    9. Determine a communication plan including the type of communication that will be utilized for crane signals and who will be the designated signalperson.

19.11 OVERHEAD POWER LINES

1. Contact with overhead electrical lines account for more crane related fatalities than any other hazard in the construction industry. More often than not, the workers that are seriously injured or killed are the load handlers and riggers. With that in mind, it is important that all operators and field supervisors are aware of the potential hazard and take steps to prevent contact with overhead lines.
2. Overhead power lines must be considered energized until the utility owner confirms it is not energized and is visibly grounded.
3. Overhead power lines must also be considered un-insulated unless the utility owner or a registered engineer who is qualified with respect to electrical power transmission confirms that line are insulated.

19.12 EQUIPMENT OPERATIONS AROUND POWER LINES LESS THAN 350 KV

1. Before starting work with a piece of equipment that could make contact with a power line the Superintendent must:
    1. Identify the work zone be either;
        1. Demarcate boundaries with flagging, barricading, fencing ect. And prohibit the operator from operating the equipment past those boundaries.
        2. Define the work zone of the equipment as the area 360 degrees around the equipment, up to the equipment's maximum radius.

2. Determine if any part of the equipment, load line or load if operated at the maximum working radius in the work zone, could get closer than 20 feet to the power line. If so the superintendent must meet the requirements in one of the following options:
    1. Option 1- Have the utility owner de-energize and ground the line
    2. Option 2- Maintain a minimum of 20 foot clearance and implement encroachment/electrocution prevention measures in paragraph N.
    3. Option 3- Determine if any part of the equipment, load line or load if operated at the maximum working radius in the work zone, could get closer to the minimum approach distance specified in table A

Table A – Minimum Clearance Distances

Voltage Nominal KV	Min. Clerance Dist.
up to 50	10
over 50 to 200	15
over 200 to 350	20
over 350 to 500	25
over 500 to 750	35
over 750 to 1,000	45
over 1,000	contact utility

19.13 ENCROACHMENT/ELECTRICUTION PREVENTION

1. When power lines are not de-energized the following additional requirements must be met:
    1. Conduct a planning meeting with the operator and workers in the area to review the location of the power lines and the steps that will be implemented to prevent contact with the lines.
    2. If tag lines are used, they must be non-conductive.
    3. Erect and maintain an elevated warning line, barricade, or line of signs, in view of the operator, 20 feet from the power lines or at the minimum approach distance under table A. If the operator is unable to see the power lines, a dedicated spotter shall be utilized. The dedicated spotter must be:
        1. In continuous contact with the operator
        2. Be equipped with a visual aid such as a line painted on the ground , a line of cones or utilize a visual line-of- sight landmark to effectively be able to gauge the clearance distance between the equipment, load or load line and the power line.

For operating near power lines 350K and higher or needing to operate within 20 feet of a power line, the superintendent must set up a pre- planning meeting with the safety department before work can start.

19.14 TRAINING

1. Power line training
    1. Each operator and crew member assigned to work with the equipment must be trained in the following:
        1. Procedures to follow in the event of power line contact
        2. Powerlines are presumed to be live unless confirmed by the utility owner
        3. Power lines are presumed to be un-insulated unless confirmed by the utility owner
        4. The limitations of insulated links(if used)
        5. The procedures to follow to properly ground equipment
        6. Dedicated spotters must be provided training to enable them to effectively perform their task
2. Signal person training
    1. Each person designated as a signal person shall be certified. They must:
        1. Know and understand the type of signals used
        2. Be competent in the type of signals used
        3. Have a basic understanding of the equipment operations and limitations including crane dynamics when involved in swinging, hoisting and booming a load
        4. Demonstrate their knowledge through an oral or written test and practical exam
3. Riggers
    1. Designated riggers must be qualified in the type and scope of their work.

19.15 RIGGING

1. General
    1. Riggers must be designated and qualified in the type and scope of their work.
    2. Rigging equipment shall:
        1. Have permanently affixed and legible identification markings as prescribed by the manufacturer that indicates the recommended safe working load for typews of hitches and number of sling legs.
        2. Not be loaded in excess of its recommended safe working load as prescribed on the identification markings by the manufacturer.
        3. Never be overloaded in excess of the manufacturer's safe working load.
        4. Not be shortened with knots or bolts or other makeshift devices.
        5. Be padded or protected from the sharp edges of their loads.
        6. Not be shock-loaded.
        7. Not be pulled from under a load when the load is resting on the sling.
    3. Special designed hooks, clamps or other special rigging devices shall be marked with the maximum safe working load and be proof loaded to 125% of rated load.
    4. Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load.
    5. Sling legs shall no be kinked.
    6. Slings used in a basket hitch shall have the loads balanced to prevent slippage.
    7. Rigging equipment, when not in use, shall be removed from the immediate work area so as not to present a hazard to employees.

8. When utilizing four individual single legged lsings to rig a load, the total capacity of rigging shall be figured by only using three legs.
9. Rigging at angles greater than 30 degrees is prohibited unless approved by the qualified rigger.

2. Inspections
    1. Rigging equipment included fastenings devices and attachements shall be inspected before first use for damange or defects by a competent person.
    2. Any rigging that does not meet the minimum requirements of this manual shall be tagged and removed from service. If the rigging device is rendered not usable or not repairaable, the equipment shall be cut in half before discarding in the trash.
    3. Additional inspection criterial for chain slings are required under paragraph 5 of this section.
3. Synthetic slings
    1. Synthetic web slings shall be immediately removed from service if any of the following conditions are present:
        1. Snags, punctures, tears or cuts.
        2. Broken or worn stitches.
        3. Melting or charring of any part of the sling surface.
        4. Acid or caustic burns.
    2. When synthetic web slings are used, the following precautions shall be taken:
        1. Nylon, polyester, and polypropylene web slings shall not be used where fumes, vapors, sprays, mists or liquids of acids or phenolic are present.
        2. Synthetic web slings of polyester and nylon shall not be used at temperatures in excess of 180 deg. F (82.2 deg. C) Polypropylene web slings shall not be used at temperatures in excess of 200 deg. F (93.33 deg. C).
4. Wire rope slings
    1. Wire rope shall not be used if:
        1. In any length of eight diameters, the total number of visible broken wires exceeds 10 percent of the total number of wires.
        2. If there are more than 5 visible broken wires in one strand by a lay length or 10 broken wires in any part of the roape in one lay length.
        3. If the rope shows other signs of excessive wear, corrosion, or defect.
    2. Protruding ends of strands in splices on slings and bridles shall be covered or plunted.
    3. Wire roap shall not be secured by knots.
    4. Except for eye splices in the ends of wires and for endless rope slings, each wire rope used in hoisting or lowering, or in pulling loads, shall consist of one continuous piece without knot or splice.
    5. Eyes in wire rope bridles, slings, or bull wires shall not be formed by wire rope clips or knots.
5. Chain slings
    1. Only alloy type chain slings shall be used for hoisting a load. Load or log chains or any chain without a tag identifying its capcity as a hoisting chain shall ot be used.
    2. Employees must not use alloy steel-chain slings with loads in excess of the rated capacities (i.e., working load limits) indicated on the sling by permanently affixed and legible identification markings prescribed by the manufacturer.
    3. In addition to the inspection required by paragraph 2-1 of this section, a through periodic inspection of alloy steel chain slings, shall be made on a

regular basis, based on frequency of sling use, severity of service conditions, and nature of lifts being made. Such inspectons shall in no event be at intervals greater than once every 12 months. A record of the most recent month in which each alloy steel chain sling was thoroughly inspected shall be maintained and made available for examination.

4. Conditions to look for are:
    1. Benty or twisted or deformed links.
    2. Cracked links.
    3. Gouges, chips, or cuts.
    4. Small dents, peen marks, and bright polished surfaces which usually indicate fatigue.
    5. Severe corrosion, pitting resulting in material loss.
    6. Links wear at the point of link contact.
5. Whenever wear at any point of any chain link exceeds that shown in Table H, the assembly shall be removed from service.
6. Chains not meeting the inspection requirements of this section shall be tagged and removed from service.
7. Never weld on chain slings.

6. End attachments
    1. Welding of end attachments, except covers to thimbles, shall be performed prior to the assembly of the sling.
    2. All welded end attachments shall not be used unless proof tested by the manufactuer or equivalent entity at twice their rated capacity prior to initial use. The employer shall retain a certificate or proof test, and make it available for examination.
    3. Employers must not use shackles with loads in excess of the rated capacities (i.e., working load limits) indicated on the shackle.
7. Wire rope clips
    1. Where U-bolt wire rope clips are used to form eyes in wire rope, Table H-20 shall be used to determine the number and spacing of clips.
    2. When used for eye splices, the U-bolt shall be applied so that the "U" section is in contact with the dead end of the rope (never saddle a dead horse).
    3. The forming eyes in slings with wire rope clips is prohibited.

Table H - Maximum Allowable Wear at any Point of Link

Chain size (inches)	Maximum allowable wear (inch)
1/4	3/64
3/8	5/64
1/2	7/64
5/8	9/64
3/4	5/32
7/8	11/64

1	3/16
1-1/8	7/332
1-1/4	1/4
1-3/8	9/32
1-1/2	5/16
1-3/4	11/32

Section 20 - Demolition

Responsibility

Requirements

20.1 PREPARATORY OPERATIONS

1. Prior to start of major structural demolition operations, an engineering survey must be completed of the structure to determine the condition of the framing, floors, and walls, and possibility of unplanned collapse of any portion of the structure. This would include any adjacent structure that may be affected by the demolition. This survey must be completed and a copy of the plan maintained on site before start of work.
2. In addition to the structural survey, an environmental survey must be completed to identify any hazardous materials within the structure. When the presence of any such materials is apparent or suspected, testing shall be performed and the hazard eliminated before demolition is started.
3. All electric, gas, water, and other service lines shall be shut off, capped, or otherwise controlled, outside the building line before demolition work is started. In each case, any utility company which is involved shall be notified in advance.
4. Where a hazard exists from fragmentation of glass, such hazards shall be removed.
5. Where a hazard exists to employees falling through wall openings, the opening shall be protected to a height of approximately 42 inches.
6. All floor openings, not used as material drops, shall be covered over with material substantial enough to support the weight of any load which may be imposed. Such material shall be properly secured to prevent its accidental movement.
7. Employee entrances to multistory structures being demolished shall be completely protected by sidewalk sheds or canopies, or both, providing protection from the face of the building for a minimum of 8 feet. All such canopies shall be at least 2 feet wider than the building entrances or openings (1 foot wider on each side thereof), and shall be capable of sustaining a load of 150 pounds per square foot.
8. A determination shall be made on what method of dust control will be utilized.

20.2 STAIRS, PASSAGEWAYS,AND LADDERS

1. Only those stairways, passageways, and ladders, designated as means of access to the structure of a building, shall be used. Other access ways shall be entirely closed at all times.
2. In a multistory building, when a stairwell is being used, it shall be properly illuminated and completely covered not less than two floors below the floor on which demolition work is being performed.

20.3 CHUTES

1. Chutes shall be designed and constructed of such strength as to eliminate failure due to impact of materials or debris loaded therein.
2. No material shall be dropped to any point lying outside the exterior walls more than two floors and only if the area is effectively protected.
3. All materials chutes or sections thereof, at an angle of more than 45 deg. from the horizontal, shall be entirely enclosed, except for openings equipped with closures at or about floor level for the insertion of materials. The openings shall not exceed 48 inches in height measured along the wall of the chute. At all stories below the top floor, such openings shall be kept closed when not in use.
4. A substantial gate shall be installed in each chute at or near the discharge end. A competent employee shall be assigned to control the operation of the gate, and the backing and loading of trucks.
5. When operations are not in progress, the area surrounding the discharge end of a chute shall be securely closed off.
6. Any chute opening, into which workmen dump debris, shall be protected by a substantial guardrail approximately 42 inches above the floor or other surface on which the men stand to dump the material.
7. Where the material is dumped from mechanical equipment or wheelbarrows, a securely attached toe board or bumper, not less than 4 inches thick and 6 inches high, shall be provided at each chute opening.

20.4 REMOVAL OF MATERIAL THROUGH FLOOR OPENINGS

1. When debris is dropped through holes in the floor without the use of chutes, the area onto which the material 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. Signs, warning of the hazard of falling materials, shall be posted at each level. Removal shall not be permitted in this lower area until debris handling ceases above.

20.5 REMOVAL OF WALLS, MASONRY SECTIONS, AND CHIMNEYS

1. Masonry walls, or other sections of masonry, shall not be permitted to fall upon the floors of the building in such masses as to exceed the safe carrying capacities of the floors.
2. No wall section, which is more than one story in height, shall be permitted to stand alone without lateral bracing, unless such wall was originally designed and constructed to stand without such lateral support, and is in a condition safe enough to be self-supporting. All walls shall be left in a stable condition at the end of each shift.
3. Structural or load-supporting members on any floor shall not be cut or removed until all stories above such a floor have been demolished and removed.
4. Mechanical equipment shall not be used on floors or working surfaces unless such floors or surfaces are of sufficient strength to support the imposed load.
5. Floor openings shall have curbs or stop-logs to prevent equipment from running over the edge.
6. The storage of waste material and debris on any floor shall not exceed the allowable floor loads.

20.6 MECHANICAL DEMOLITION

1. No workers shall be permitted in any area which can be adversely affected by demolition operations, when balling or clamming is being performed. Only those workers necessary for the performance of the operations shall be permitted in this area at any other time.

During demolition, continuing inspections by a competent person shall be made as the work progresses to detect hazards resulting from weakened or deteriorated floors, or walls, or loosened material. No employee shall be permitted to work where such hazards exist until they are corrected by shoring, bracing, or other effective means.

Section 21 - Electrical Safety

Responsibility

21.1 RESPONSIBILITIES

1. Electrical hazards are a leading cause of injury and death in the construction industry. The purpose of this program is to establish the minimum requirements for the installation and use of temporary electrical panels, lighting and electrical hand and power tools.
2. This policy applies to all contractors, Subcontractors and vendors who perform work on JE Dunn Projects.
3. Each worker is responsible for a daily visual check of their tools and cords before first use. Damaged or defective tools or cords shall be tagged and removed from service immediately.
4. Each Foreman is responsible for ensuring that all electrical tools and equipment are suitable for their intended use.
5. The Electrical Contractor who installs and provides any temporary electrical installation is responsible for ensuring that each installation is in accordance with applicable state, local and federal regulations as well as the requirements in this program.

Requirements

21.2 GENERAL REQUIREMENTS

1. All temporary 120 volt, 15 or 20 amp receptacles used during the course of construction shall have a Ground Fault Circuit Interrupter (GFCI) installed for personnel protection.
2. During construction activities, if an extension cord is plugged into the existing buildings outlet; a portable ground fault circuit interrupter is required.
3. Ground fault circuit interrupters must be tested before each use. Testing can be achieved by pushing the “push to test” button available on the outlet. The electrician should be notified of any outlets that fail to trip during this test.
4. All electrical tools and equipment must be grounded or double insulated.
5. Temporary electrical cords must be covered or elevated in locations where they present a tripping hazard or may be subject to damage.
6. Energized wiring in outlets, switches, junction boxes, circuit breaker panels, etc., must be covered at all times to prevent unauthorized access to live parts.
7. Extension cords shall be three wire grounded type “heavy duty” with an S, SO, SJ,ST or SJO rating.
8. Flat extension cords are prohibited.
9. Power strips also known as surge protectors shall not be used unless they are approved for hard service.

21.3 TEMPORARY PANELS AND OUTLETS

1. All electrical devices and components must be UL listed for use in the conditions in which they are being installed.

2. All electrical installations, whether temporary or permanent, must be installed according to NEC, NFPA and all requirements of this program.
3. All temporary branch circuit panels and related electrical installations must be inspected by a qualified electrician monthly. These inspections should be documented and the documentation posted at each panel.
4. All circuit breakers must be labeled to properly identify what each breaker feeds.
5. The installation and alteration of all electrical systems must be accomplished under the direct supervision of a qualified electrician.
6. Holes in electrical boxes or panels must be covered with approved devices.
7. Gaps between breakers in branch circuit panels must be covered with approved blanks.
8. All splices must be contained in an electrical box.
9. Weather resistant boxes, cords and raceways are required in all applications where the structure is not dried in with a roof and building envelope.
10. All conductors that feed branch circuit boxes or temporary panels must be approved for that use and rated for hard or extra hard usage or must be completely encased in conduit. The use of exposed single conductor wires and triplex, Romex or similar conductors are not allowed.
11. All cords must be protected from damage from equipment.

21.4 ELECTRICAL ROOMS

1. Electrical installations in rooms, closets or vaults with live circuits shall be guarded from accidental contact by cabinets or other forms of enclosures. These enclosures should be accessible only by authorized employees.
2. Entrances to rooms and other guarded locations containing exposed live parts shall be marked with conspicuous warning signs prohibiting unauthorized access.
3. Doors with locks shall be installed to prevent unauthorized access.

21.5 TEMPORARY LIGHTING

1. Temporary lights shall consist of the molded light strands or be protected by conduit and electrical boxes as appropriate for site conditions. The use of exposed single conductor wires or Romex type light strings is not allowed.
2. Temporary lights must be suspended by their sockets.
3. Light strings shall not have an attachment plug at the end where someone could plug a tool or cord into.
4. Light stands are allowed for task lighting only and may not be used for temporary lighting.
5. All lights shall be provided with protective covers to prevent accidental contact.
6. The installing contractor is responsible for maintaining the temporary lighting.

Minimum illumination intensities in foot candles	
Foot candles (min.)	Area of Operation
5	General construction area lighting

3	General construction areas, concrete placement, excavation and waste areas, accessways, active storage areas, loading platforms, refueling, and field maintenance areas.
5	Indoors: wharehouses, corridors, hallways, and exitways.
5	Tunnels, shafts, and general underground work areas. (Exception: minimum of 10 foot-candles is required at tunnel and shaft heading during drilling, mucking, and scaling. Bureau of Mines approved cap lights shall be acceptable for use in the tunnel heading.)
10	General construction plant and shops (e.g., batch plants, screening plants, mechanical and electricla equipmetn rooms, carpenter shops, rigging lofts and active storerooms, barracks or living quarters, locker or dressing rooms, mess halls, and indoor toilets and workrooms).
30	First aid stations, infirmaries, and offices.

21.6 WORKING ON LIVE ELECTRICAL CIRCUITS (HOTWORK)

1. Whenever possible, electrical systems and components should be installed to allow circuits to be de-energized before opening electrical panels or otherwise working with conductors. Working on any energized circuits that expose workers to more than 50 volts is considered hot and must be avoided unless it has been determined by the electrical contractor, superintendent and safety director that there is no reasonable alternative course of action. If hot work is required, the following must be met:
    1. A pre-task planning meeting must be conducted with the subcontractor, superintendent and safety director.
    2. The subcontractor must provide a written hot work procedure.
    3. If the location or nature of the task that is being performed should change the pre-task planning meeting must be recreated.
    4. Proper PPE must be identified and used to protect workers from a potential shock. This equipment must be appropriate for the voltage, hazard and site conditions.
    5. Flame resistant clothing that is appropriate for the potential arc flash must be worn, per NFPA 70 E, at all times when live panels are open.
    6. The area that hotwork is taking place must be barricaded to prevent access to other workers who are not directly involved with the task.
    7. All persons associated with the work must receive hot work training.

21.7 ASSURED EQUIPMENT GROUNDING CONDUCTOR PROGRAM

1. This procedure describes the requirements to assure the installation and maintenance of equipment grounding conductors for temporary wiring on construction sites in accordance with Paragraph (b)(1)(iii) of Part 1926.404 of Safety and Health Regulations for Construction.
2. All receptacles, extension cords, and cord and plug connected equipment on site shall be tested on a regular basis for proper grounding and overall condition. The superintendent shall be responsible for complying with the requirements of this procedure.

3. Equipment grounding conductors shall be installed and maintained in accordance with this procedure.
4. Installations – equipment grounding conductors shall be installed as follows:
    1. All 120-volt, single-phase, 15- and 20- ampere receptacles shall be of the grounding type. Their contacts shall be grounded by connection to the equipment grounding conductor of the circuit supplying the receptacles in accordance with the applicable requirements of the National Electric Code.
    2. All 120-volt cord sets (extension cords) shall have an equipment grounding conductor which shall be connected to the grounding contacts of the connector(s) on each end of the cord.
    3. The exposed non-current-carrying metal parts of 120-volt cord and plug connected tools and equipment that are likely to become energized shall be grounded in accordance with the applicable requirements of the National Electric Code.
5. Visual Inspection - Employees shall be instructed to visually inspect receptacles, flexible cord sets extension cords (except those that are fixed and not exposed to damage), and equipment connected by cord and plug before each day's use for external defects such as deformed or missing grounding prongs or insulation damage and for indications of possible internal damage. Where there is evidence of damage, the damaged item shall be taken out of service until proper repairs have been made and the equipment has been retested.
6. Testing
    1. All 120-volt, single-phase, 15- and 20- ampere receptacles which are not a part of the permanent wiring of the building or structure, 120-volt flexible cord sets, and 120-volt cord and plug connected equipment required to be grounded shall be tested as follows:
        1. All equipment grounding conductors shall be tested for continuity and shall be electrically continuous.
        2. Each receptacle and attachment cap or plug shall be tested for correct attachment of the equipment grounding conductor. The equipment grounding conductor shall be connected to its proper terminal.
        3. Testing schedule - All required tests shall be performed:
            1. Before first use;
            2. Before equipment is returned to service following any repairs;
            3. Before equipment is used after any incident which can be reasonably suspected to have caused damage (i.e., when a cord set is run over); and
            4. At intervals not to exceed one month, except those cord sets and receptacles which are fixed and not exposed to damage can be tested at intervals not the exceed three months.
7. Test Record
    1. Test verification shall be by means of color coded marking tape on the receptacle, cord set or equipment to identify that it has passed the test and to indicate the date (month or quarter) in accordance with the bellow Coding Scheme. The person performing the test shall ensure that only the current months color code tape is visible on the cord. The log must be completed after each item has been tested and inspected. A copy of the test shall be posted at the project and a copy sent to the Safety Department by the fifth day of each month.

Color Coding Scheme

Month	Quarterly	Monthly
January	White	White
February		White & Yellow
March		White & Blue
April	Green	Green
May		Green & Yellow
June		Green & Blue
July	Red	Red
August		Red & Yellow
September		Red & Blue
October	Orange	Orange
November		Orange & Yellow
December		Orange & Blue

21.8 Overhead Power Lines

1. Whenever feasible overhead lines at or near the jobsite should be removed or de-energized and visibly grounded.
2. All overhead power lines at the jobsite or in close proximity to the jobsite must be identified as to the voltage by the owner of the lines before cranes, lifts, earth moving equipment, scaffolds or similar equipment is allowed to mobilize at the jobsite.
3. Safe distances from live power lines must be maintained at all times per Subpart CC (Cranes) Section 19 and Subpart K (Aerial Work) Section 12. If safe distances can not be maintained, operations must be coordinated with the owner of the power line to have the line removed, de-energized and grounded, insulated or otherwise protected as appropriate for the hazard and the operation being performed.

21.9 Lock-out / Tag-out

1. Each contractor who disconnects or de-energizes an electrical system shall have a lock-out tag-out program in place.
2. Contractors must ensure that other trades are familiar with their lock out tag out procedures when used.

JE Dunn Lock Out Tag Out Program is in Section 30 of this document.

Section 22 - Excavation and Trenching

Responsibility

22.1 RESPONSIBILITY

1. It is the responsibility of each contractor performing excavation and trenching work to adhere to the requirements in this program as well as OSHA, Federal, State and Local rules and regulations.
2. Each contractor is responsible for providing a "competent person" at the jobsite during all excavation work. The competent person is responsible for the safety of workers in the excavation and the safety of other trades affected by his/her excavation activities.
3. Each contractor performing excavation work is responsible for initiating and maintaining the One Call or other utility locates as required by local, state and federal entities.

Requirements

22.2 GENERAL REQUIREMENTS

1. All excavations must have a competent person regardless of type or depth. The competent person is responsible for determining what safety measures are required to ensure the safety of workers in the excavation.
2. Additional mandatory guidelines:
    1. All excavations 5 feet or more in depth must have an OSHA approved protective system installed. These may include:
        1. Trench Boxes
        2. Shoring
        3. Sloping
        4. Benching
        5. Combinations of the above
        6. Excavations designed by a registered Professional Engineer with expertise in soils and protective systems. (Note: This should be used only when other protective systems listed above are infeasible.)
3. The use of these systems must be accomplished in accordance with OSHA regulations CFR 1926 Subpart P and the manufactures tabulated data for manufactured systems. (Note: Tabulated data must be available at the jobsite while manufactured systems are being used)
4. Ladders or ramps must be provided when the depth of the excavation is 4 feet or more. Ladders or ramps must be within 25 feet of all workers in the excavation. Ladders must be located inside the trench box, shoring or other protective device when used.
5. Spoil piles must be kept at least 2 feet from the top edge of the excavation. Equipment and materials must be kept at least 2 feet from the edge of the excavation. Additional distance may be required to prevent surcharge at the top edge of the excavation.
6. All loose rock or soil must be removed from the sides or top of excavations before workers are allowed to enter an excavation.

7. All excavations must be barricaded for visibility. Barricades that are used for fall protection shall be at least 6 feet from the edge of excavations. Additional distance may be required depending on the depth and other site conditions at the discretion of the competent person, JE Dunn Supervisor or Safety Department.
8. Fall protection must be installed when workers are exposed to pier holes greater than six feet in depth. Guardrails, personal fall arrest and hole covers meeting the requirements of Section 23 may be used to meet these requirements.
9. Work in excavations with standing water or in excavations where water is accumulating is prohibited. Dewatering systems must be used as needed.
10. Workers are not allowed to work under suspended loads.
11. When mobile equipment is operated adjacent to an excavation, or when such equipment is required to approach the edge of an excavation, and the operator does not have a clear and direct view of the edge of the excavation, a warning system shall be utilized such as barricades, hand or mechanical signals, or stop logs. If possible, the grade should be away from the excavation.
12. When excavation work can affect footings, piers utility lines or other adjacent structures, the competent person must ensure that steps are taken to ensure the stability of the structures. The superintendent shall determine if a structural engineer should be hired to evaluate the stability of existing buildings or adjacent structures as needed.
13. An Excavation Checklist should be completed by the competent person and submitted to the JE Dunn Site supervision on a daily basis.

22.3 ONE CALL

1. Locates must be completed before the commencement of any excavation or dirt work. Locates must be maintained up-to-date during all excavation activities. All criteria in Section 36 Underground Utilities must be met.
2. All utilities that are uncovered during excavation work must be properly supported.

22.4 SOIL TESTING AND CLASSIFICATION

1. At least one manual and one visual test must be performed by the competent person to determine soil type. Based on these tests and site conditions the competent person shall classify the soil type as either B or C. The classification of type 'A' or "Stable Rock" must be documented by a soils engineer.
2. The competent person must test and classify excavations:
    1. Each Day or work shift before workers are allowed to enter the excavation.
    2. Following rain or other weather condition which may change the classification of the excavation.
    3. Following any other event that could change the safe working conditions of the excavation.

22.5 PROTECTIVE MEASURES

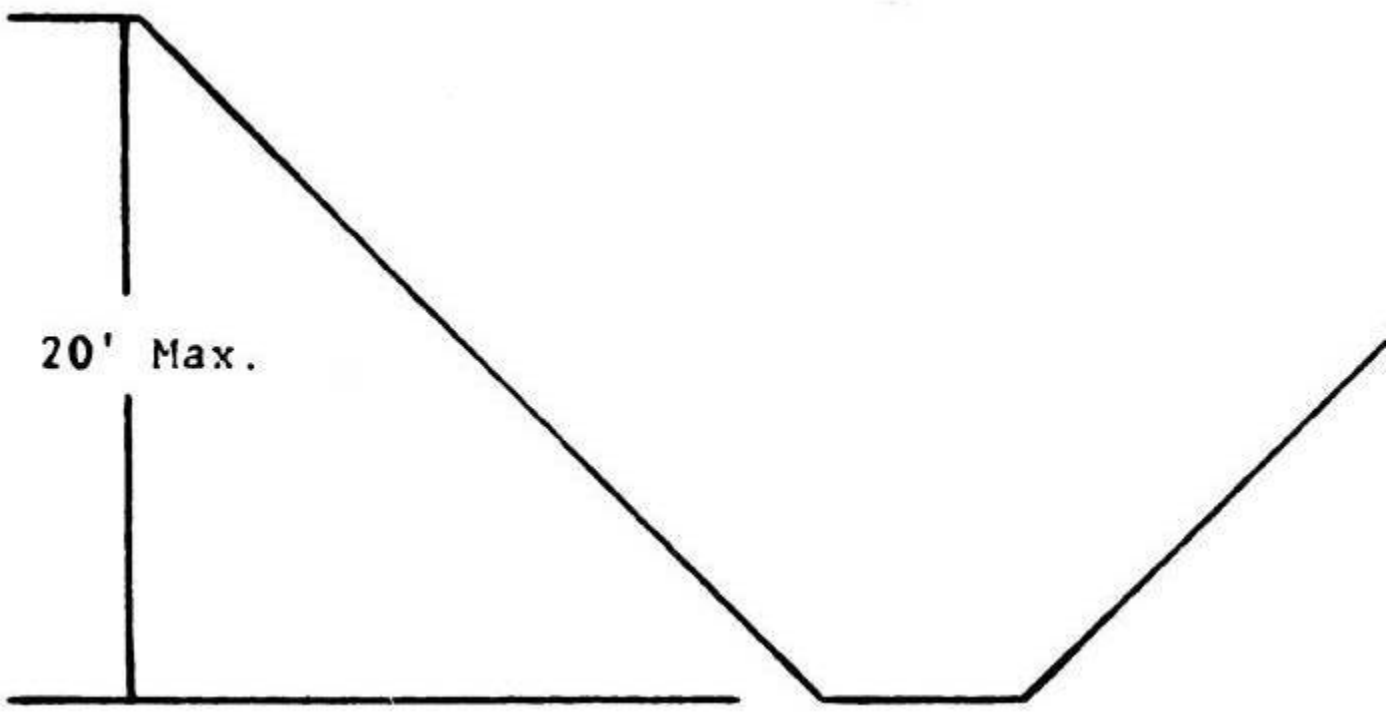
1. Sloping and Benching shall be accomplished in accordance with the following based on the soil type as determined by the competent person.

Maximum Allowable Slopes

Soil Type	Maximum Allowable Slopes (H:V) for Excavations Less than 20-Feet Deep
Type B	1:1 (45-degrees)
Type C	1 1/2 : 1 (34-degrees)

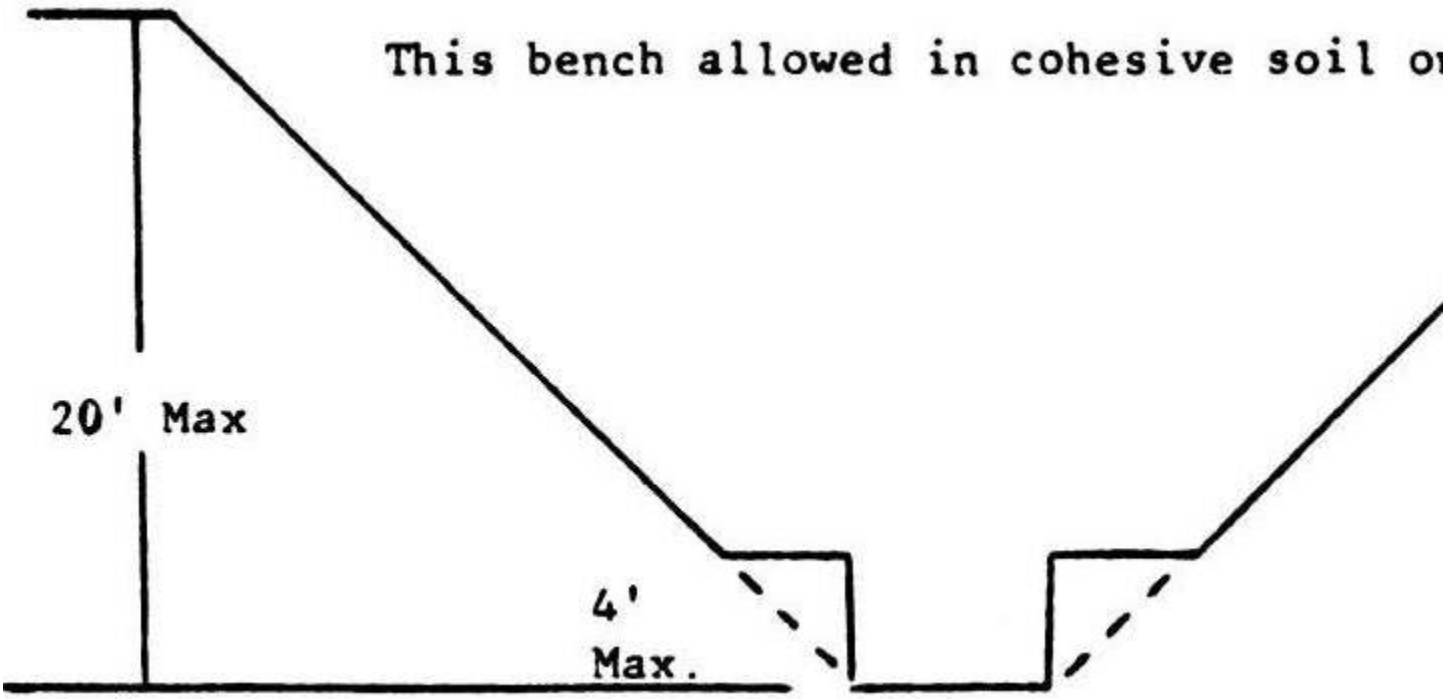
EXCAVATIONS MADE IN TYPE B SOIL

1. All simple excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1

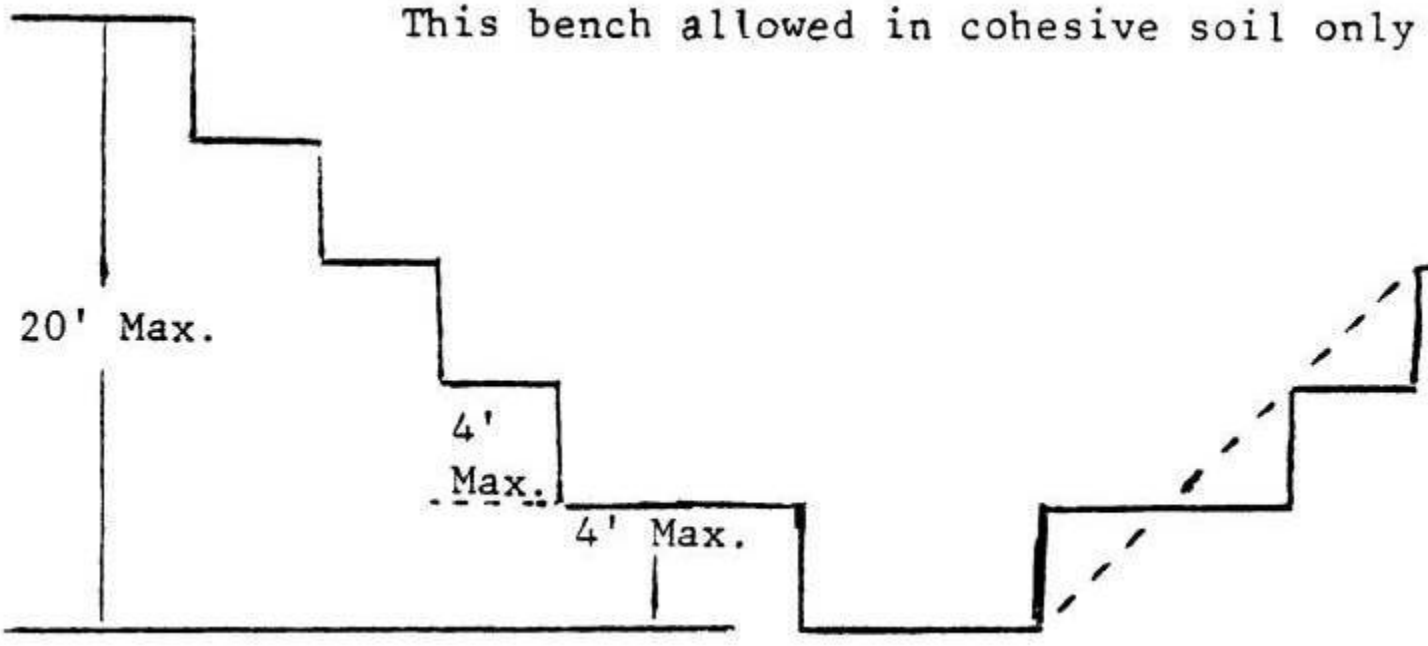


SIMPLE SLOPE

2. All benched excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1 and maximum bench dimensions as follows:



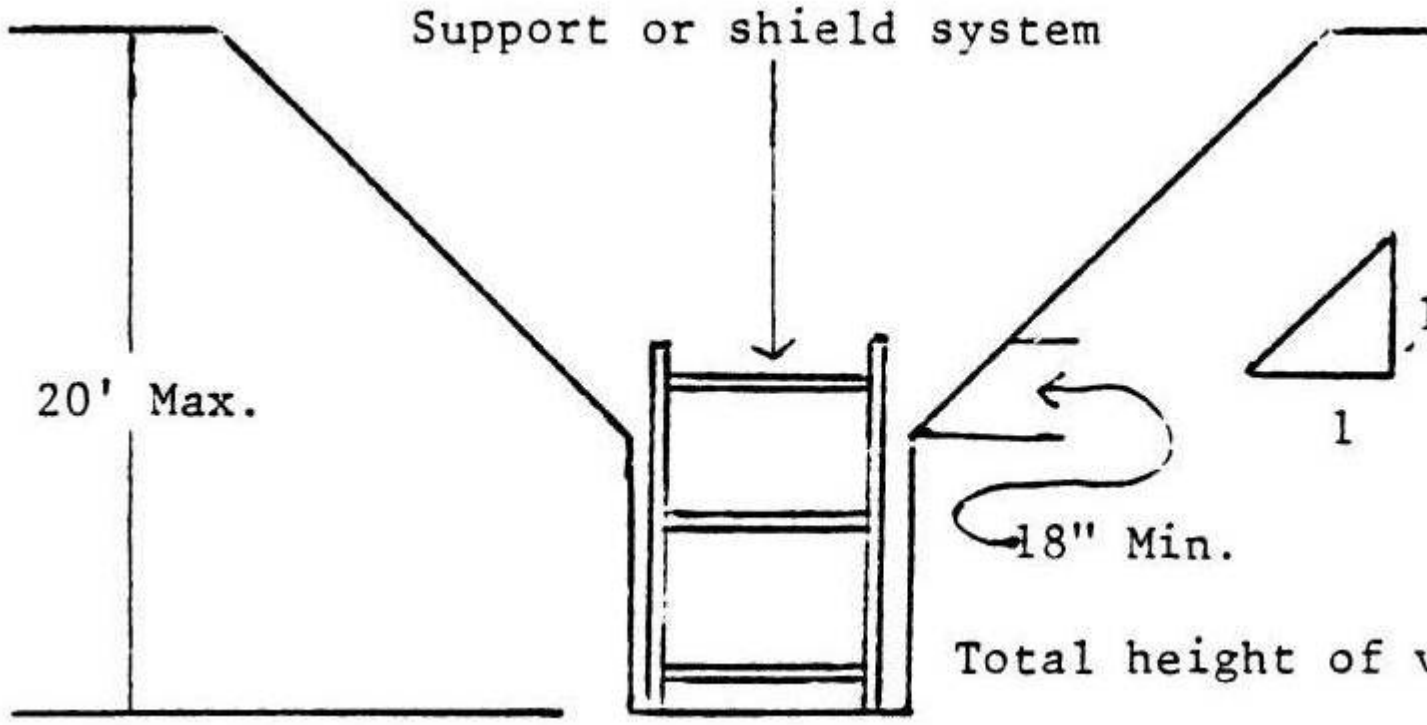
SINGLE



MULTIPLE BENCH

EXCAVATIONS MADE IN TYPE B SOIL (CONT.)

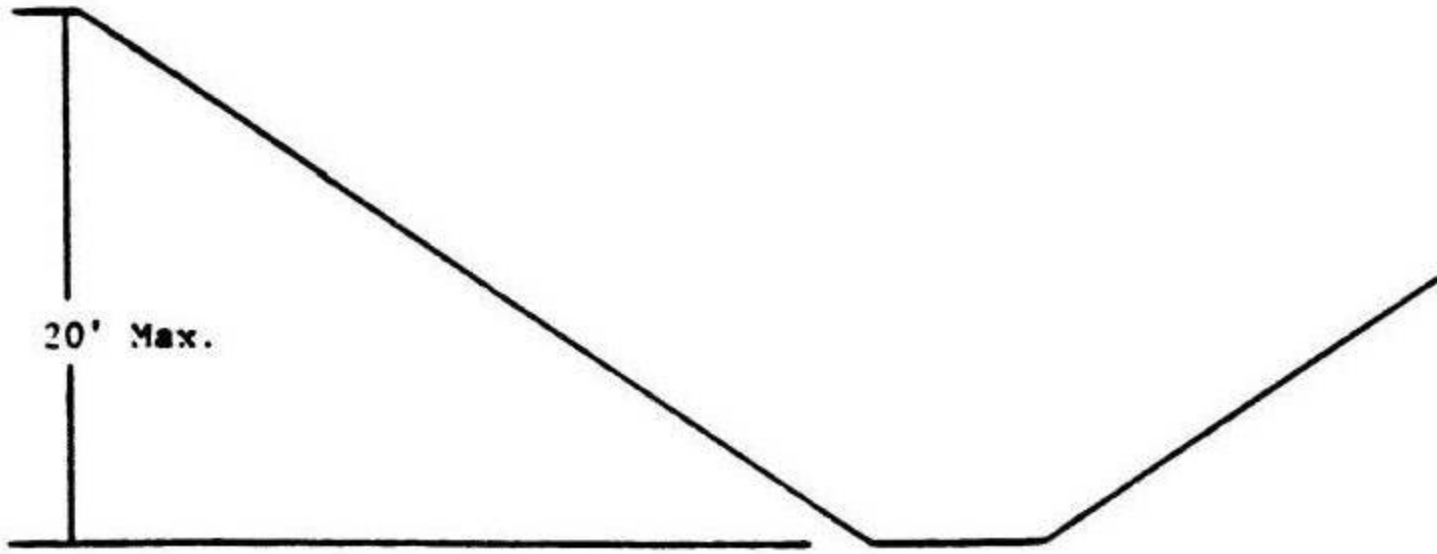
3. All excavations 20 feet or less in depth which have vertically sided lower portions shall be shielded or supported to a height at least 18 inches above the top of the vertical side. All such excavations shall have a maximum allowable slope of 1:1.



VERTICALLY SIDED LOWER PORTION

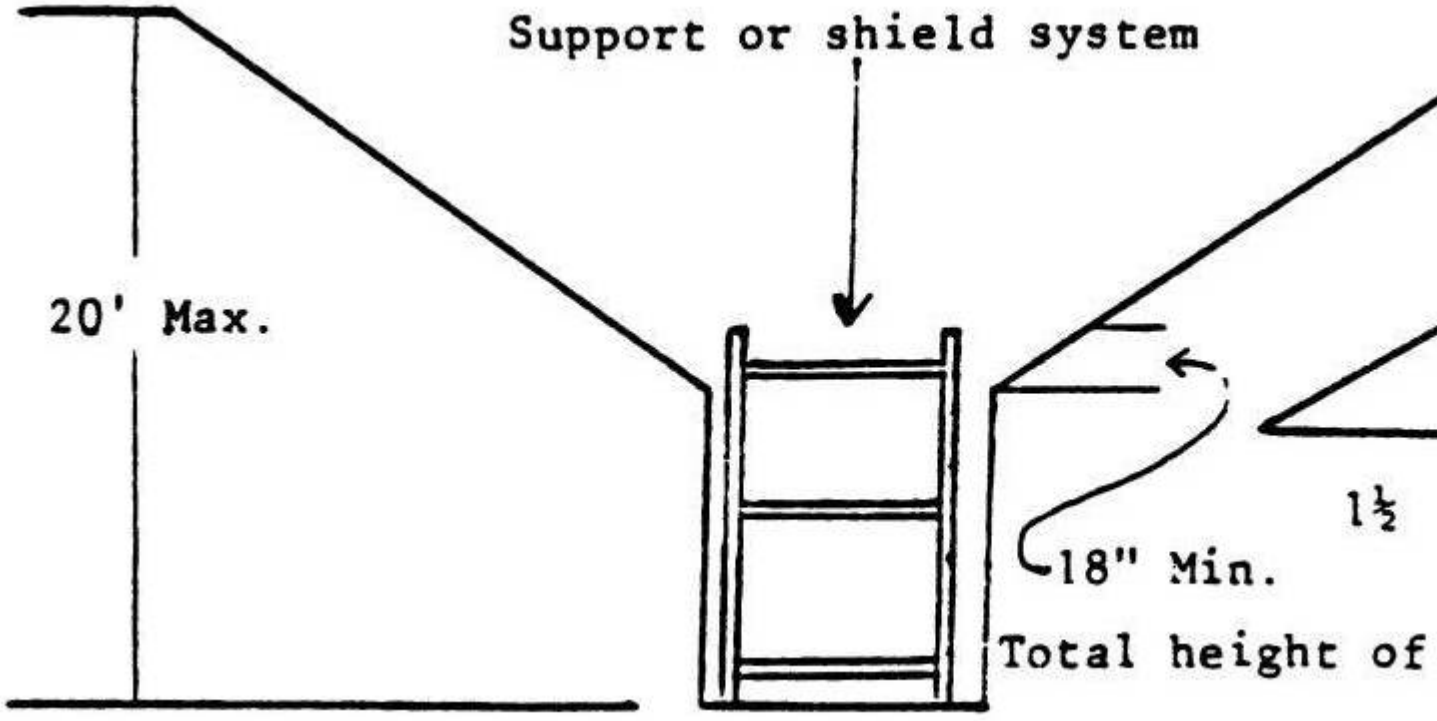
EXCAVATIONS MADE IN TYPE C SOIL

1. All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1½:1.



SIMPLE SLOPE

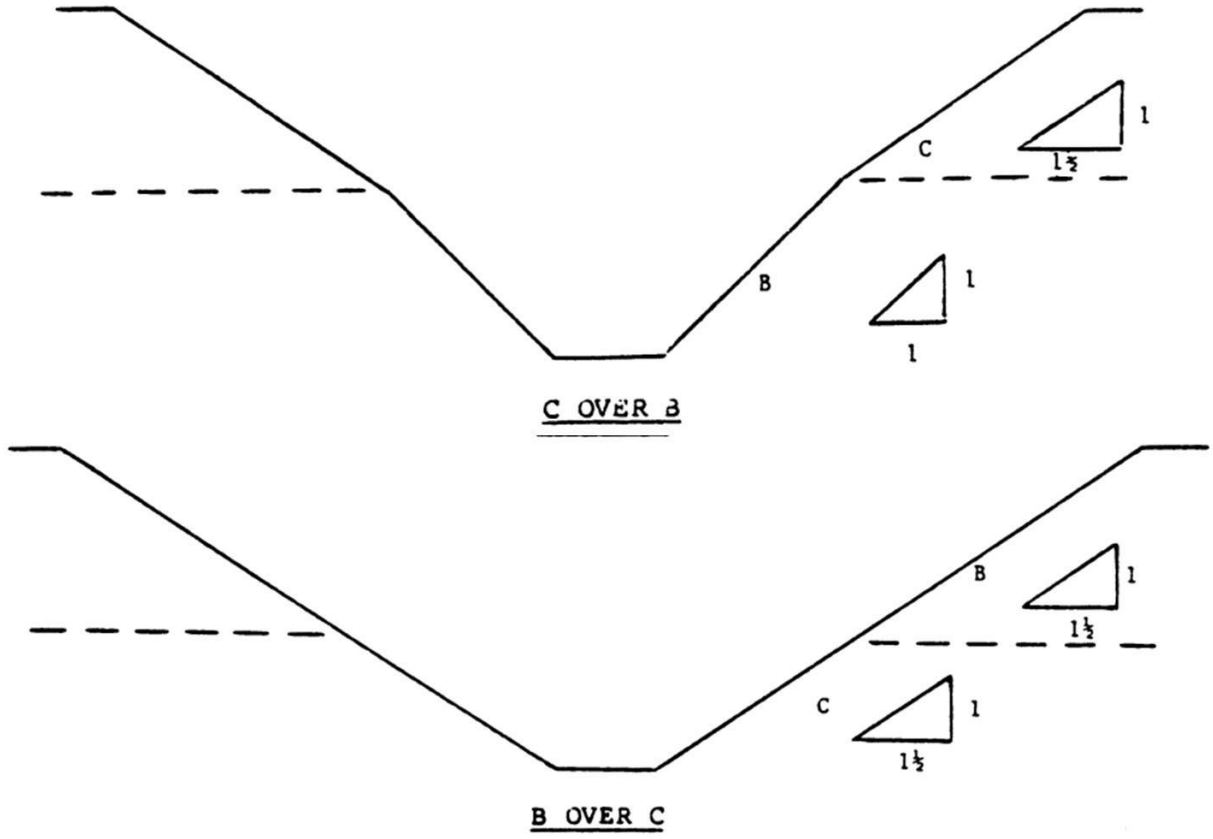
2. All excavations 20 feet or less in depth which have vertically sided lower portions shall be shielded or supported to a height at least 18 inches above the top of the vertical side. All such excavations shall have a maximum allowable slope of 1½:1.



VERTICAL SIDED LOWER PORTION

B-1.4 Excavations Made in Layered Soils

1. All excavations 20 feet or less in depth made in layered soils shall have a maximum allowable slope for each layer as set forth below.



22.6 PUBLIC PROTECTION

1. The Superintendent must notify the Safety Department when an excavation could expose the public to hazards associated with that work
2. Excavations that may expose the public must be protected by fencing/street plates/barricades and traffic barriers appropriate for the conditions and exposure.
3. All excavations that are not completely protected by a site fence must have sufficient protection installed around the excavation at the end of each workday or at all times when the public is exposed to excavation work.
4. Pedestrian Protection:
    1. Small excavations with limited exposure or no pedestrian traffic may be protected with 42 inch orange barrier fence placed at least 6 feet away from the edges of the excavation.
    2. Larger excavations or excavations in areas with significant pedestrian traffic must be enclosed with 8 foot tall chain link fence.
    3. Appropriate signage must be placed to warn the public of the hazards and to reroute pedestrian traffic as needed.

5. Vehicular Traffic:
    1. All signage and barricades installed to warn and re-route traffic away from the work area must be installed per the Manual of Uniform Traffic Control Devices.
    2. Small excavations that are exposed to minimal traffic may be protected by traffic delineators such as cones and barrels with appropriate traffic control signs.
6. Large excavations or those that are exposed to significant or high speed traffic must be protected by delineators and concrete barriers. Concrete barriers must be placed far enough away from the edge of the excavation to prevent surcharging the excavation but should never be closer than 2 feet from the excavation. Where this is not feasible an engineered excavation that includes these barriers must be provided.

22.7 PIER HOLE ENTRY PROCEEDURES

1. Entering pier holes should be avoided. If entrance is required, the following must be met.
    1. Pier holes that must be entered shall be cased. The casing shall extend a minimum of 18 inches above the elevation of the surrounding soil.
    2. Each company that allows workers to enter a pier hole must have a written confined space program.
    3. A competent person shall be designated to fulfill the requirements of the confined space program and to monitor the operation until the worker is removed from the pier hole.
    4. Before a worker enters and works within the confines of the pier, the following is required;
        1. Atmospheric conditions must be tested and monitored during the work. A four gas air monitor must be used to monitor the oxygen, combustible atmosphere, carbon monoxide and hydrogen sulfide levels at various elevations within the pier. When an extension hose is used on the testing equipment, the monitor must be allowed to run a sufficient time to allow the air to reach the sensors.
        2. Workers shall not be allowed to enter the pier until it can be established that all readings are within acceptable levels.
        3. Atmospheric condition testing must continue to be monitored at all times while occupied.
        4. Fresh air should be blown into the pier while occupied whenever feasible.
        5. If the atmosphere becomes hazardous the worker shall be removed from the pier immediately.
    5. Safe access must be provided. Whenever feasible a boatswains' chair should be used.
    6. Fall protection in the form of a positioning device, or personal fall arrest device must be used during entry. Anchoring to the hoist line may be allowed at the discretion of the competent person.
    7. The worker shall have an independent lifeline attached to their personal fall arrest equipment that can be used if retrieval is required. A method for retrieval must be readily available. This may be a tripod and winch or a second load line on the drilling equipment.

All workers involved in this operation must be trained in the entrance requirements, and retrieval methods before the start of pier hole entry work. Copies of this training must be provided to JE Dunn.

Section 23 - Fall Protection

Responsibility

23.1 PURPOSE

1. Falls continue to be the number one cause of deaths and serious injuries on construction sites. For this reason J.E. Dunn believes that additional requirements above and beyond OSHA requirements must be followed to reduce the likelihood of a serious injury or death resulting from a fall.
2. This program outlines the minimum fall protection procedures and regulations that apply to **all** work being performed on the project.

Requirements

23.2 GENERAL REQUIREMENTS

1. Fall protection is required when on a walking or working surface (vertical or horizontal surface) 6 feet or more above a lower level, regardless of the trade at work or the task being performed.
2. Fall protection systems, equipment and design must allow for 100% fall protection.
3. **The use of a Safety Monitor System and a Controlled Decking Zone as a primary means of fall protection is prohibited.**
4. All elevated floors, platforms, decks or formwork must be capable of supporting at least 2 times the maximum intended load.
5. A structural engineer must verify the safe capacity of the floor for any and all equipment that will be used on the floor.

23.3 RESPONSIBILITIES

1. The Superintendent is responsible for the implementation of the project fall protection program.
2. Contractors are to provide the appropriate equipment, training and supervision needed to accomplish fall protection at the jobsite.
3. Each Subcontractor's Foreman is responsible for:
    1. Providing and ensuring that the fall protection being used is appropriate for the particular application.
    2. Training each of his workers on the proper installation, use, maintenance, inspection and limitations of their fall protection equipment.
    3. Retraining immediately following an unsafe fall protection observation for his crew.

23.4 GUARDRAILS

1. All guardrails must be constructed to meet or exceed 29 CFR 1926 Subpart M requirements.
    1. Rail Construction Specifications
        1. All guardrails must consist of a toprail, midrail, and a toeboard

2. Toprails must be 42 inches from the working surface.
3. Toprails must be capable of supporting 200lbs. of force in a downward and outward direction.
4. Midrails must support 150 lbs.
5. Toeboards must be capable of resisting, without failure, 50 lbs of force without failure. (NOTE: See Falling Object Protection)
6. Wire rope guardrails should not be installed around interior floor openings and on stairs.
7. Ladder-ways with offset rails must be provided at all access / egress points.
8. Receiving bays should be designed and installed in at least one area at each level where hoisting will take place.

Receiving Bay Drawing

2. Wire rope Guardrail Requirements:
    1. Wire rope must have a minimum breaking strength of 5000lbs.
    2. Wire rope rails must not deflect more than 3 inches when 200lbs is applied.
    3. Wire rope rails should be terminated by wrapping around columns or other structural supports at each inside and outside corner (Pic 3x3x1/4 angle support with bracing drawing).
    4. Runs should not exceed 90 feet.
    5. Terminations should consist of three nonmalleable cable clamps or fist grips, installed per **manufactures' requirements**.
    6. Cables must be flagged with visible material every 6 feet. (Bright colored duct tape may be used to help maintain 6ft. distances.)
    7. Turnbuckles should be installed at each section to provide easy maintenance.
3. Wood Guardrails
    1. Structural support stanchions must be installed every 8 feet.
    2. Sixteen penny nails should be used to build wood rails. Duplex or form nails should not be used as they may pose a snagging hazard or may damage the lumber.

23.5 BARRICADES

1. Barricading tape can used for a short term identification of restricted areas. When using barricade tape to identify a hazard, the following should apply:
    1. Yellow Caution Tape –This tape shall be used to designate an area where persons recognize the hazard and have taken the appropriate measures to protect themselves from the hazard. The person can then enter the area. Yellow caution tape shall not be used to designate areas with hazards that could result in serious injuries.
    2. Red Danger Tape – This tape shall be used to designate an area where a significant hazard is present. Only workers involved in the operation may enter.

2. The contractor that installed the tape shall place their company name and the person responsible in legible ink on the back of the tape.
3. The installer shall be responsible for the installation/maintenance and removal/disposal of the barricading tape

23.6 PERSONAL FALL ARREST SYSTEMS (PFAS)

1. Personal fall arrest system (PFAS) must consist of a harness, shock-absorbing lanyard (our equivalent) and anchor point.
2. Equipment must be used according to manufactures' recommendations.
3. Anchor points for PFAS must be capable of supporting 5,000 lbs. per worker attached.
4. No shop made devices are allowed.
5. Horizontal lifelines must be designed by a qualified person. Those that are not manufactured and used as a unit or designed by a professional engineer shall be tested to ensure proper design strength.
6. All PFAS:
    1. Must be designed to accomplish 100% tie off.
    2. Must be installed, maintained and inspected by a competent person.
    3. Limit free fall distance to 6ft.
    4. Must not permit an employee to contact any object or structure below.
    5. Must have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet (1.8 m), or the free fall distance permitted by the system, whichever is less.
    6. All connection made with PFA equipment must be compatible in accordance with the manufacturers recommendations.
7. A Rebar Chain or other work positioning device is for hands free work positioning and may not be used as fall protection. A lanyard and other anchor point must be used in conjunction to accomplish fall protection.

23.7 FALL RESTRAINT SYSTEMS

1. Fall Restraint System (FRS) shall be installed per applicable ANSI standards.
2. A FRS must consist of a full body harness, a life line (capable of fall arrest) and anchorage point.
3. Anchor points for FRS must be capable of supporting 1,000 lbs. per worker attached.
4. Fall restraint systems may allow a worker to approach the edge or fall hazard, but at no time will it allow a worker to reach the edge or fall hazard.
5. Specialized training must be provided to use a Fall Restrain Systems. This training shall be documented and shall consist of the following:
    1. The installation, maintenance and limitation of the FRS and its components.
    2. The proper use of the FRS.
    3. Training must be documented and a copy provided to JE Dunn's Safety Department before use of this system.
    4. Retraining must be provided whenever the system, its components or the environment in which the system is being used changes.
    5. All workers using a FRS must be retrained if one worker is observed using the system in an unsafe manner.

23.8 SAFETY NETS

1. All Safety Nets must be installed according to OSHA 29 CFR1926.502 (c).

2. Safety nets shall be installed as close as practicable under the walking/working surface on which employees are working, but in no case more than 30 feet (9.1 m) below such level. When nets are used on bridges, the potential fall area from the walking/working surface to the net shall be unobstructed.
3. Safety nets shall be installed with sufficient clearance under them to prevent contact with the surface.
4. Safety nets shall extend outward from the outermost projection of the work surface as follows:

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

23.9 WARNING LINES

1. Warning lines may be used for roofing operations or any other situation where temporary fall protection must be provided for an unprotected side or edge.
2. Warning lines may not be utilized as a primary means of fall protection. They are used to keep unauthorized workers out of an area that is not protected by other means. Additional means of fall protection must be used when workers are located between the warning line and the unprotected roof edge or open sided floor. These systems may include:
    1. Personal Fall Arrest
    2. Guardrails
    3. Safety Nets
    4. Or combination of the above
3. Warning lines must encompass the entire work area on all sides.
4. Warning lines must be installed a minimum of 15 feet away from the roof edge or unprotected side or edge. (Note: A warning line may be erected 6 feet from the edge of a roof for hot tar roof applications only)
5. Points of access, materials handling areas, storage areas, and hoisting areas shall be connected to the work area by an access path formed by two warning lines.
6. Design and installation criteria for Warning Lines must meet OSHA requirements. 29 CFR 1926.502 (f)

23.10 CONTROLLED ACCESS ZONES

1. Controlled Access Zones (CAZ) primarily used for precast and decking operations may be used for leading edge work but shall not be utilized as a primary means of fall protection.
2. Other means of fall protection must be utilized when workers are located between the control line and the leading edge or other fall hazard.
3. These systems may include:
    1. Personal Fall Arrest

2. Guardrails
3. Safety Nets
4. Or combination of the above

4. Design and installation criteria for Controlled access zones must meet OSHA requirements. 29 CFR 1926.502 (g)

23.11 FLOOR HOLE COVERS

The purpose of this section is to establish minimum requirements for protecting the risk from one or both of the following types of falls in regards to **c**overs for Hole and Openings in floors, roofs, and other walking/working surfaces:

- Workers falling through openings
- Materials and objects falling through openings onto workers below

A. A. Definitions

Floor Hole - Any gap or void measuring 12" or less at its largest dimension, but more than 1" at its smallest dimension, in any floor, roof or platform (walking working surface) through which materials, but not persons may fall. Examples include: pipe opening, slot type opening, etc.

Floor Opening - Any gap or void measuring 12" or more at its smallest dimension in any roof, floor, or platform (+walking working surface) which a person could fall.

Floor Hole/Opening Covers - Floor hole/opening covers are used to protect holes and openings in floors, platforms and walking/working surfaces. These covers must be capable of supporting two times the potential load of which they may be subjected. The cover must completely overlay the hole/opening and be secured against accidental displacement. **Covers must be marked in hi-vis color (Orange).**

HOLE COVER – DO NOT REMOVE (CUBIERTA DE HOYA – NO REMOVER)

B. B. Standards for Floor Holes and Openings

1. 1. Cover or protect floor holes and openings immediately and / or as soon as they are created.
2.
3. 2. All floor holes greater than 1" must be covered or protected to prevent falling objects.
4.
5. 3. At a minimum, floor covers shall be constructed out of ¾ inch exterior grade plywood or the equivalent. Manufactured floor covers meeting the strength requirements of intended loads may be used.
6.
7. 4. Covers must completely cover the opening and be constructed so they will effectively support two times the weight of employees, equipment and materials that may be imposed on cover at any one time. Where floor covers cannot be constructed to accommodate such equipment or materials, curbs or bumpers of sufficient strength with a minimum of 3-1/2 inches in height shall be installed around the opening to prevent access.
8.
9. 5. All types of floor covers in excess of 1'x1' will extend a minimum of 4 inches over the edge of the floor opening being covered.

10. 6. Covers not supported on all sides, or intended for other than foot traffic shall be designed by a qualified person.
11.
12. 7. When equipment such as an aerial / scissor lift is operating near an opening or drop in floor elevation, a rail or bumper block of sufficient strength (i.e. min. bumper block: 2- 2x4's or equivalent) must be installed to prevent the equipment from accidentally driving off the edge.
13.
14. 8. Covers must be marked in hi-vis color (Orange).

HOLE COVER – DO NOT REMOVE (CUBIERTA DE HOYA – NO REMOVER)

C. C. 1'x1' Floor Hole or Less

1. 1. Must meet the General requirements, e.g. covered / protected and secured from accidental displacemen
   2. Floor cover must meet 2x intended load requirements.
   3.
4. 3. Floor hole covers smaller than 1'x1' or 144" can be secured by cleating the underside.
   5.
6. 4. Floor holes narrower than 6" in one direction may exceed the 144" rule.

D. D. Greater than 1'x1' / 144" and less than 40" Opening at narrowest dimension

1. 1. Floor openings greater than 1'x1' (144") must include a cover which is mechanically secured, anchored or fastened to avoid accidental displacement by use of sufficient bracing nails or screws. (Do not use double headed nails.)
   2.
3. 2. In cases where the floor opening is greater than 12", but equal to or less than 24" at its narrowest dimension, only one support brace will be required to extend the entire length of the floor opening cover.
   4.
5. *3.* All floor openings 40" or less at their narrowest dimensions are to be covered and secured using 3/4" exterior grade plywood or the equivalent. *Note, for normal foot traffic, a 4x8 sheet of 3/4" exterior grade plywood is sufficient to cover a 3'x7' floor opening.*

E.E. 40" Opening or Greater

1. 1. When a floor opening exceeds 40" at its narrowest dimension, it will require temporary flooring of sufficient strength for the anticipated loads. Temporary flooring can be solid 2-inch lumber positively secured to prevent displacement from personnel. Temporary flooring can be 3/4" exterior-grade plywood as long as it is properly supported. In any case, the cover shall be designed by a qualified person.
   2.
3. 2. Stairwells, elevator shafts, chases and similar large type openings must be decked solid on every other floor unless alternate protection is approved by the Regional Safety Director.

F. F. Floor Cover Removal

Whenever any type of floor cover in this procedure must be removed, the employee(s) removing it must have authorization from their supervisor in addition to the following:

1. 1. Any Floor Cover over 1'x1' in size shall require a "Floor Cover Removal Permit". This permit must be obtained through the JE Dunn Superintendent (or competent JED designee) who must inspect, authorize and approve the removal and protections required.
2.
3. 2. If a Floor Cover must be removed for an extended period of time, a substantial guardrail system must be erected and anchored to afford adequate fall protection.
4.
5. 3. Permits shall be issued and returned to JE Dunn Superintendent (or competent JED designee) and kept as a project record.

G. G. Floor Cover Modifications

1. 1. If floor covers must be modified, or cut, to accept piping, conduit, etc., the Supervisor responsible for the work must contact a JE Dunn Superintendent. If size exceeds 1'x1' floor cover, a "Floor Cover Removal Permit" shall be initiated.

H. H. Inspection / Verification Process

1. 1. An assessment and / or survey shall be made (+keep current) using available resources, such as: BIM modeling, drawings, etc.
2.
3. 2. Regular inspections shall be made by the project team to ensure all existing and potential floor hole and openings + covers are positively identified, marked and meet the intent of this procedure. The expectation of "regular" inspections is 1x per week and anytime conditions change.

I. I. Annexes

1. 1. Forms and Permits:

- Floor Cover/Protection Removal Permit

23.12 FALLING OBJECT OVERHEAD PROTECTION POLICY

The intent of this Policy is to protect people and property from overhead hazards both inside and outside of the project. Projects with one or more elevated decks must provide 360 degree protection utilizing guardrail debris netting, and engineered horizontal exterior debris netting system beginning on the 5th floor and follow upwards.

Falling Object Overhead Protection Policy

Policy includes:

1. Guard Rail Debris Netting
2. Horizontal Debris Netting
3. Overhead Protection
4. Fall Zone Protection and Barricades
5. General Requirements

Responsibilities:

Superintendent and Project Executive shall:

- Conduct a risk assessment of the project prior to starting with the first elevated deck and put in place a written Falling Object / Overhead Protection Plan, to include:

o Review and approval by a competent person and Regional Safety Director

o Protection against exposure hazards to both project site personnel and property

o Protection against exposure hazards to offsite project personnel and property

- Provide effective and timely communication of the Falling Object / Overhead Protection Plan to all JE Dunn employees, Trade Partners, Vendors, and all others that enter the project site.
- Review the plan periodically and make adjustments, as necessary
- Inspect falling object/overhead protection systems in BIM 360 field (at least weekly)

Safety Personnel shall:

- Review risk assessment, project conditions and provide guidance, as necessary.
- Regional Safety Director has the responsibility and authority to make exceptions and additions to the plan.
- Safety Professionals assigned full time to projects inspect weekly and Roving Safety Professionals inspect during every visit.

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

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

Note, the successful completion of a safety course does not alone establish someone as a qualified person. Additionally, a qualified person does not mean the person is competent since they may not have the authority to make changes in the project.

1. Guardrail - Debris Netting:

- Must be installed on all elevated floors and interior openings (where applicable)
- Debris nets, must have the following provisions:

o Nets installed from the top of guardrail to floor

o Elevated / temporary decks must include, and maintain, a debris netting protection system sufficient to protect falling object hazards

o Be inspected and maintained regularly (weekly)

2. Horizontal Debris Netting (Cantilever nets)

- Designed and installed by qualified personnel
- Debris nets must have a minimum 2500lbs strength capable of stopping falling objects such as tools and materials used at the site
- Must be installed on projects to protect people (Figure 1)

o working or walking below

o where off-site exposures exist

- Shall be inspected at least weekly and maintained per manufacture requirements
- **Debris netting will not be used for fall protection even though many of the systems are designed to this specification.**
- Horizontal debris netting must start by the 5th floor and follow upwards. Note, netting installation can begin as early as the second floor. For special circumstances, horizontal debris netting may be utilized on lower levels to provide adequate and sufficient protection.

3. Overhead Protection: Points of Entry, Hoist Platforms, Loading Areas, Walkways and Material Laydown

- Overhead protection shall be provided where potential exposures exist, such as: at all points of entry, exterior personnel hoists, loading areas, walkways leading up to the dock, trash disposal locations, walkways connected to adjacent hoist docks (when applicable), and laydown areas in close proximity to fall zone.

o *Sufficient distances and materials shall be considered when constructing and installing overhead protection.*

o *Overhead protection should extend outward from the edge of building to a minimum of 30ft. and continue with sufficient protection and coverage taking into consideration any additional provisions for height. Some examples of overhead walkway protection may include: a. stick build lumber walkway, b. jersey barrier system with stick build system on top, c. walk through scaffold frame scaffold, d. connex box system, or other similar structure.*

- Overhead protection that is designed (including those used to protect the public) must be designed by a qualified person.
- Designs must take into account:

o The heights of the overhead work.

o The materials being installed over the potential fall area.

o The tools and equipment being used in the area.

- Overhead work that exceeds the intended level of protection provided by the design should include: 1. Re-routing of traffic, construction personnel, construction equipment, public, etc., 2. Placement of a trained and authorized "Ground Person" to control risk and exposure.

4. Fall Zone Protection and Barricades

Fall zone means the area (including but not limited to the area directly beneath a potential falling object) in which it is reasonably foreseeable that falling objects could fall.

- A controlled access zone should be established through the use of barricades and should completely encompass the potential fall zone.
- Fall zones must be well defined (and marked), easily controlled and established around the entire perimeter of the structure, when possible.
- Placement of a "Ground man" to warn other workers of the overhead hazard and keep people out of the potential fall area may be necessary. Note, an employee assigned as a "Ground man" must receive adequate training before being assigned, be able to effectively communicate with all employees, and should be equipped with an air horn or whistle and distinct vest.

- **Barricades may consist of:**

o Standard barricading, i.e. chain link fence panels, plastic orange fence or an equivalent barricade and appropriate signage to warn of overhead work or potential falling objects.

o High strength fiber tape with appropriate signage. (Appropriate signage to include: company name, point of contact, and duration of work for the overhead hazard.)

- A temporary barricade (less than 8 hours) may consist of red danger tape assuming that it is not erected in a high traffic area.

5. General Requirements

- Materials may not be stacked within 10 feet of the exterior edge of a building or within 6 feet of an interior opening where the material is higher than the toe board or debris netting.
- Materials should be tied back and secured, when possible.

o Good housekeeping practices and inspections shall be performed regularly.

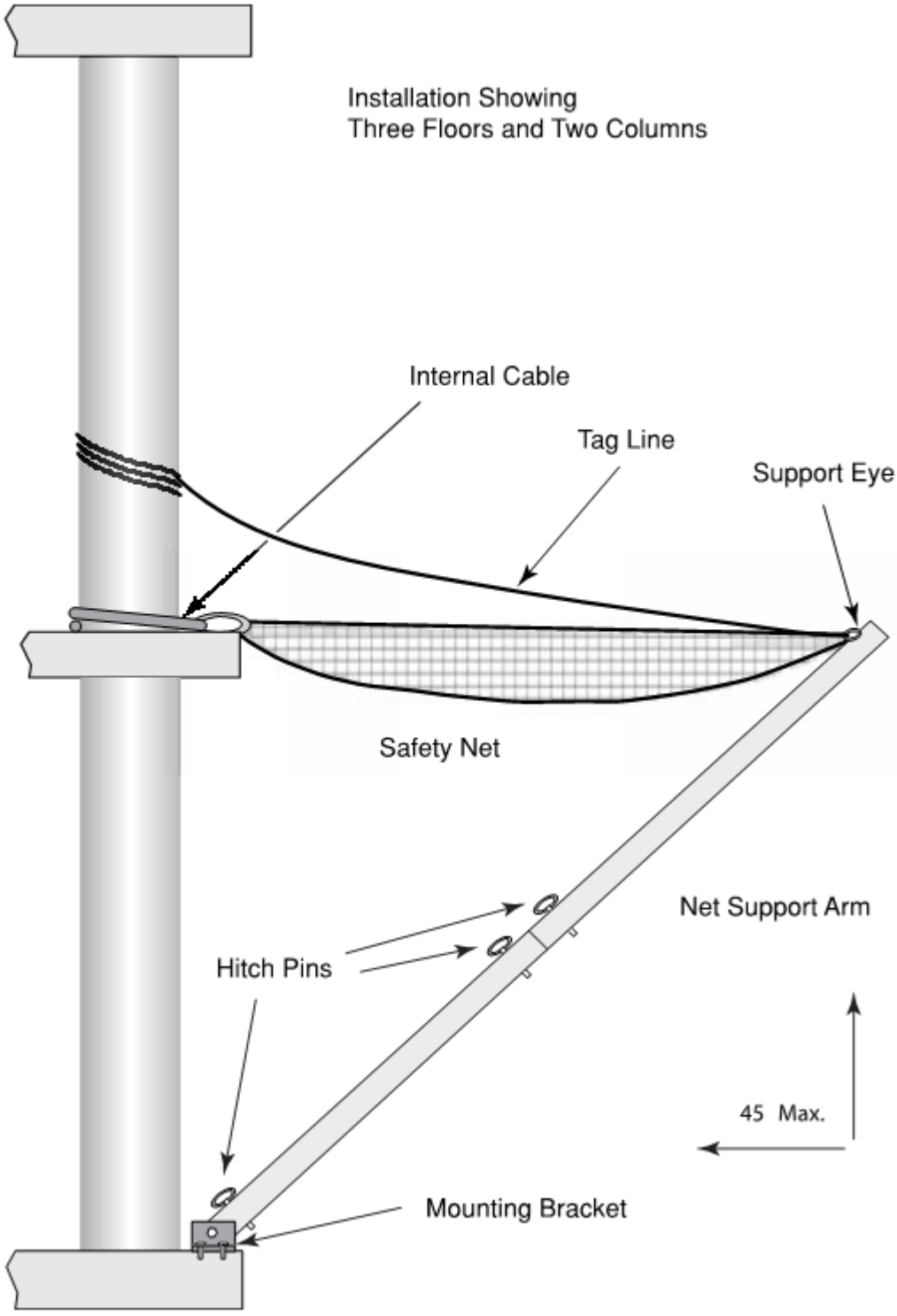
o Tool lanyards are required when working at or near an open-sided floor, or edge, of the structure.

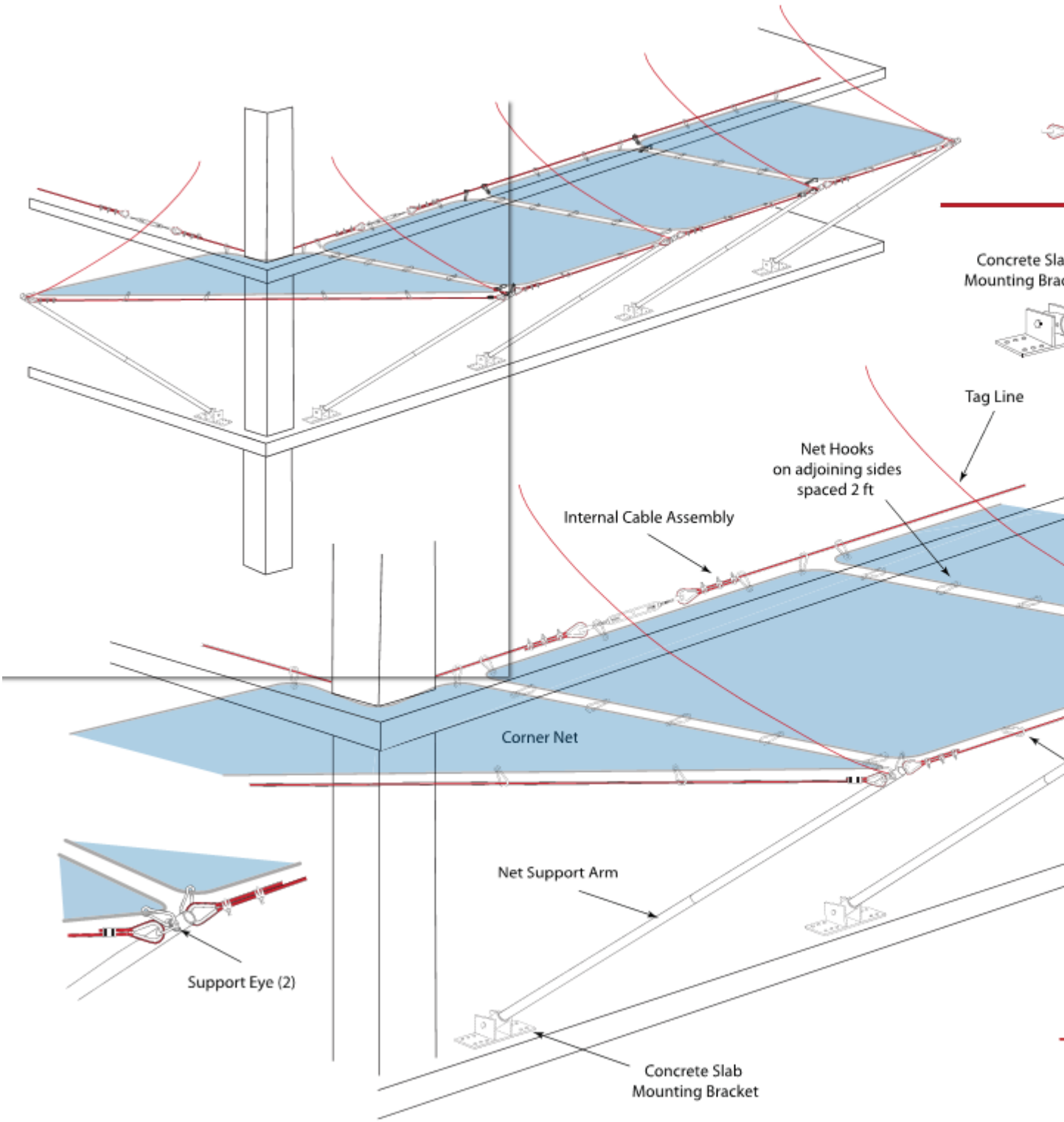
- Workers who enter barricaded areas without authorization are subject to disciplinary action up to and including removal from project site.

Guides & Diagrams:

Figure 1 Examples – Speed Fan debris netting design

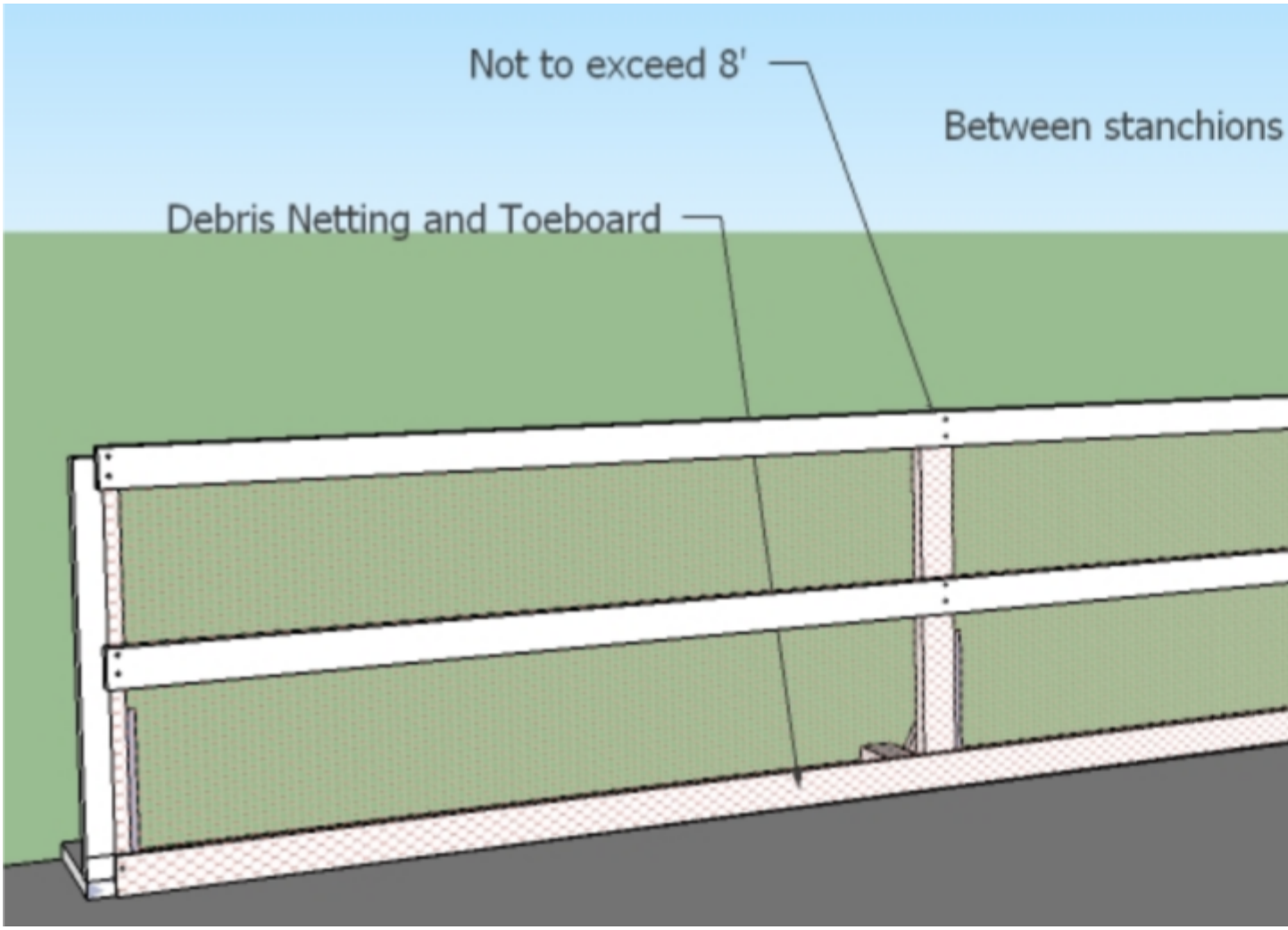
NN Perimeter System and Design


Installation Showing
Three Floors and Two Columns
Internal Cable
Tag Line
Support Eye
Safety Net
Net Support Arm
Hitch Pins
45 Max.
Mounting Bracket



Fi Figure 2
Example of Overhead Protection

Figure …
Guardrail Debris Netting



23.13 TRAINING

1. Contractors must provide training and retraining to employees;
    1. Immediately prior to using a fall protection system.
    2. Each time a new crew or crew member is added to a crew
    3. Each time that a worker is observed using fall protection improperly or in an unsafe manner.
    4. Anytime that the equipment or methods of fall protection change.
2. Training shall include:

        1. The nature of fall hazards in the work area.;
        2. The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used.
        3. The use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems and other protection to be used.
        4. The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection.
        5. The roles and responsibilities of each worker in fall protection plans.
        6. All applicable state federal and local fall protection standards.
    3. Training must be documented and include:
        1. The date of the training and the name of the project being inspected.
        2. A description of the topics discussed and details including the fall protection methods, proper use, inspection, installation, maintenance and any project specific requirements as applicable.
        3. A sign-in sheet with all attendees.
        4. The name of the person giving the training and the responsible foreman (if different)

Copies of the training shall be available upon request.

Section 24 - Fork Lifts and Powered Industrial Trucks

Responsibility

24.1 PURPOSE

The purpose of this program is to establish the minimum requirements for operation of powered industrial vehicles. It also outlines the minimum training and certification requirements for the operators who intend to operate a powered industrial vehicle on a JE Dunn Construction project.

24.2 RESPONSIBILITIES

This policy applies to all contractors, subcontractors and vendors who perform work on JE Dunn Projects.

1. Superintendent
    1. Ensure that employees assigned to operate powered industrial vehicles are trained and certified as outlined in this program.
    2. Ensure operation in his/her area complies with the contents outlined in this Program.
    3. Ensure powered industrial vehicles are inspected prior to each use as outlined in this Program.
2. Subcontractor
    1. To provide JE Dunn the training and inspection certifications for each operator and machine that is outlined in this Program prior to the operation of a powered industrial vehicle on a JE Dunn Project.
3. Operator
    1. Adheres to all of the operating requirements that have been identified in this program.
    2. Ensure that his/her certification is current prior to any operation of a powered industrial vehicle on a JE Dunn Project. (Recertification is required a minimum of every three years). Certification must be present on operator whenever he/she is operating any fork lift or powered industrial truck.

Requirements

24.3 DEFINITIONS

1. Qualified Person- Individual that possesses the knowledge, skill and ability either through training or experience to operate equipment included in this policy. They must also successfully demonstrate their practical skills to operate the equipment smoothly and safely.
2. Powered Industrial Vehicle- A powered industrial vehicle includes but is not limited to fork vehicles, tractors with forks, platform lift vehicles, motorized hand vehicles, and any other specialized industrial vehicle powered by electric motors or internal combustion engines.

24.4 OPERATOR TRAINING

1. Only trained and authorized operators are permitted to operate powered industrial vehicles on JE Dunn projects. Powered Industrial Vehicle operators must be trained in accordance with the manufactures recommendations and OHSA Standard CFR 1910.178 (l).
2. Operator training and operator certifications are required at a minimum of every three years. Operators will be required to retrain under the following conditions:
    1. The operator has been observed operating a powdered industrial vehicle in an unsafe manner.
    2. The operator has been involved in an accident or near miss incident.
    3. The operator is assigned to operate a different vehicle type.
    4. Conditions in the workplace change in a manner that could affect the safe operation of the vehicle.

24.5 OPERATING PROCEDURES

1. Only trained and authorized operators are permitted to operate powered industrial vehicles. Operators are required to :
    1. Inspect the forklift daily and prior to each use.
    2. Wear safety belts when operating the machine.
    3. Keep arms and legs inside the cab or ROPS at all times.
    4. Not allow workers to ride on the forklift or load.
    5. Operate the machine at a safe speed that is suitable to the conditions.
    6. Follow the manufactures recommendations on the vehicles capacity.
    7. Not allow workers to stand or pass under the elevated portion of the forklift, whether loaded or empty.
    8. Ensure the stability of their load.
    9. Drive a loaded forklift with the load on the uphill side whenever possible.
    10. Travel with the load trailing if load obstructs forward view,
    11. Drive with the load tilted back and the forks raised only enough for clearance of the surface.
    12. Never turn a vehicle sideways on a ramp or steep incline.
    13. Never transport compressed gas cylinders without the proper cage that secure and support the cylinders.
    14. Maintain a safe distance from all overhead obstructions.
    15. Avoid sudden starts and stops to prevent the load from shifting or coming displaced.
    16. Never raise or lower a load while traveling.
    17. Reduce speeds when negotiating turns.
    18. Always shut the engine off while refueling.
    19. Maintain a safe operating distance from other powered industrial vehicles.
    20. Sound the horn when approaching intersections, blind sports or dangerous locations.
    21. Compensate for shifts in the center of gravity of the machine and maintain machine stability at all times.
    22. Be cautious of pedestrians, they have the right of away.
    23. Horseplay is strictly prohibited.
    24. Never leave a vehicle running while unattended. Unattended is considered to be 25 feet from the vehicle.
    25. When the vehicle is in the parked or unattended position insure that the forks are on the ground, parking break is set, and the engine is in the off position with the key removed.

26. It is strictly prohibited that a powered industrial vehicle is used as a personnel lift unless an approved manufactured personnel platform is used.
27. Maintain proper distance from overhead power lines in accordance the table below.

Minimum Safe Approach Distance (Feet/Meters)

Voltage Range (phase to phase)	Minimum Safe Approach Distance (Feet/Meters)
0 to 50 KV	10 (3)
Over 50KV to 200KV	15 (5)
Over 200KV to 350KV	20 (6)
Over 350KV to 500KV	25 (8)
Over 500KV to 750KV	35 (11)
Over 750KV to 1000KV	45 (14)

24.6 USE OF PERSONAL WORK PLATFORMS

1. All personnel work platforms must be manufactured or designed by a registered professional engineer (RPE). Makeshift devises will not be allowed on site.
2. The platform must have a positive connection to secure it to the forklift per the manufacturer's recommendations.
3. Workers in the platform must wear and utilize fall protection.
4. Workers in the platform are prohibited from tying off to adjacent structures.
5. All gates and rails must be secured in the proper position.
6. The workers' feet must stay on the floor of the platform when in use.
7. Using steps, planks or standing on guardrails to increase reach is prohibited.

The platform must have permanent labeling to indicate the platform's weight and rated load capacity or maximum intended load.

Section 25 - Fire Protection, Prevention, and Hot Work

Responsibility

25.1 RESPONSIBILITIES

This program applies to all subcontractors, lower tier subcontractors and vendors on all JE Dunn Projects.

1. The Superintendent is responsible for the implementation of the project fire protection program.
2. Contractors are to provide the appropriate equipment, manpower, training and supervision needed to accomplish fire protection at the jobsite. Equipment may include; fire extinguishers, fire blankets, fire watch, water pump sprayer, laser thermometer.
3. Each Subcontractor's Foreman is responsible for:
    1. Providing and ensuring that the fire prevention procedures are being used as appropriate for the particular application.
    2. Training all workers on the proper installation, use, maintenance, inspection and limitations of their fire protection equipment.
    3. Retraining whenever a worker demonstrates a lack of knowledge regarding this program.

Requirements

25.2 FIRE EXTINGUISHERS

1. All site workers must be trained in the proper use, maintenance, and limitations of fire extinguishers at the site.
2. Extinguishers will be inspected monthly or more often when circumstances warrant. The inspections should be documented on the extinguisher. These inspections should include:
    1. A visual inspection of the extinguisher components such as the extinguisher housing, nozzle, pin, handle, label and inspection tag.
    2. Verify that the extinguisher is charged with the needle in the green.
    3. Each extinguisher will have a durable tag securely attached showing the signature and company that completed the previous yearly inspection.
    4. Extinguishers that show any sign of damage or defects must be removed from service, placed in a designated location and replaced until serviced and re-inspected by an authorized provider.
    5. Monthly inspections should be documented.
3. A fire extinguisher, rated not less than 2A shall be provided for each 3,000 square feet of the protected building area. Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 100 feet.
4. Any flammable liquid storage located outside shall have a fire extinguisher, rated not less than 20-B, located not less than 25 feet or more than 75 feet away from the storage area.
5. Additional fire extinguishers are required outside storage areas containing flammable or combustible liquids or gas.
6. Fueling areas shall be provided with at least one fire extinguisher having a rating of not less than 20-B:C located so that an extinguisher will be within 75 feet of each pump, dispenser, underground fill pipe opening, and lubrication or service area.

25.3 FLAMMABLE AND COMBUSTIBLES STORAGE AND HANDLING

1. General Storage Requirements
    1. All flammable and combustible liquids shall be stored in an approved closed container, of not more than 5-gallons capacity, having a flash-arresting screen, spring-closing lid and spout cover. It shall be designed that it will safely relieve internal pressure when subjected to fire exposure.
    2. Areas where flammable and combustible materials are stored shall be kept free of trash, weeds and debris, or other combustible material.
    3. Areas where flammable and combustible liquids are stored shall be marked with signs that read: Flammable – No Smoking or Open Flame within 50 feet.
    4. Flammable or combustible liquids shall not be stored in areas used for exits, stairways, or normally used for the passage of people.
    5. Flammable liquids shall be kept in closed containers when not actually in use.
    6. All equipment engines shall be shut off prior to being fueled.
    7. Smoking shall be prohibited when fueling equipment.
2. Indoor Storage
    1. No more than 25 gallons of flammable or combustible liquids shall be stored in a building, outside of an approved storage cabinet.
    2. A 1-hour fire resistant barrier must segregate noncompatible materials that may create a fire hazard.
    3. Clearance shall be maintained around light and heating units to prevent ignition.
    4. No more than 60 gallons of flammable or 120 gallons of combustible liquids shall be stored in any one cabinet. No single storage area shall have more than three storage cabinets.
    5. Cabinets shall be conspicuously labeled, "Flammable – Keep Fire Away".
3. Outside Storage
    1. Fuel shall not be stored within 20 feet of a building.
    2. The storage area shall be kept free from the accumulation of weeds and grass and a procedure shall be in place for regularly scheduled clean-up of the storage area.
    3. Above ground storage tanks shall have spill containment.
    4. Storage tanks shall be protected from vehicle traffic.
    5. All storage tanks shall be vented.
    6. All storage tanks shall have an automatic shut off on dispensing hoses.
4. Liquid Petroleum (LP) and Fuel Gas
    1. LP bottles must be stored outside or in a well-ventilated area. Storage areas must be protected from equipment and other activities that could damage the bottles.
    2. Storage outside of buildings, for containers awaiting use, shall be located from the nearest building or group of buildings, in accordance with the following:
        -

Quantity of LP-gas stored	Distance (feet)
500 lbs or less	0
501 to 6,000 lbs	10ft

6,001 to 10,000 lbs	20ft
Over 10,000 lbs	25ft

-

3. Danger "NO Smoking" signs should be posted in bulk LP gas storage areas.
4. In locations where tanks may be exposed to crane loads or other potential falling objects, overhead protection designed for the exposure, must be provided.
5. Gasoline, diesel and other flammable or combustible fuels should not be stored with LP tanks.
6. LP bottles <100 Pounds
    1. Bottles must be secured in an upright position at all times. Three bottles may be tied together to accomplish this requirement.
    2. Bottles may not be located near exits, stairs, ladders, or other areas that may affect safe egress.
    3. All bottles must have a hackney collar installed.
    4. O rings, hoses, couplings, regulators and similar devises must be inspected daily. Leaking or damaged devices may not be used.
    5. Bottles with dents, weld burns or other damage shall not be used.
    6. Bottles may not be used on their side.
    7. No more than three 100-pound tanks may be connected together per manifold.
    8. When multiple manifolds are used on the same floor, such manifolds must be separated by at least 20 feet.
    9. Torches or other heat producing devices may not be used to thaw bottles.
    10. Bottles must be a minimum of 6 feet from heaters at all times.
    11. Bottles may be tilted and rolled on end for short distance. A cart or dolly should be used for long distances to avoid muscular skeletal or back injuries.
    12. When dollies or carts are used the bottles must be secured in an upright position.
    13. Bottles may not be hoisted by choking the bottle or the hackney collar.
    14. Material baskets that allow the bottles to be supported in an upright position may be used to hoist bottles.
    15. Man and material lifts or hoists may be used to transport bottles when smoking is prohibited and extra care is taken to prevent damage to bottles.
7. Large LP tanks >1,000 gallons
    0. **When tanks measuring 2,000 gallon (cumulative) or more are placed at a single site, the fuel gas supplier and the regional safety department should be contacted to help facilitate the safe placing and use prior to placing the tanks.**
    1. Hoses from large tanks must be placed in areas where they will not come into contact with equipment or construction activities that could result in damage. Hoses should be run overhead when it is safe to do so.
    2. Hoses must be placed away from ignition and heat sources including temporary lighting overhead electrical installations.
    3. Hot work may not take place near LP gas hoses or tanks.

4. Fuel gas hoses, regulators and other accessories shall have a rated working pressure of 250 psig and be approved for LPG use.

8. LP Gas System Safety Devices and Design Recommendations
    0. Systems must be designed by a competent person.
    1. Every container and shall be provided with one or more approved safety relief valve(s) or device(s).
    2. Shutoff valves shall not be installed between the safety relief device and the container, or the equipment or piping to which the safety relief device is connected, except that a shutoff valve may be used where the arrangement of this valve is such that full required capacity flow through the safety relief device is always afforded.
    3. In addition to the standard fire protection requirements an additional 20ABC fire extinguisher per temporary heater is required.
    4. Concrete blankets, plastic sheeting and other material that could blow into heaters must be secured or weighted down.
    5. Trash and other combustibles must not be allowed to accumulate in areas where heaters are being used.
    6. LPG is heavier than air. Any significant leak will move downwards and stay on the ground. It will accumulate in any low-lying area such as depressions in the ground, drains or pits. If a leak is detected the area should be ventilated and heat sources extinguished.

25.4 TEMPERARY HEATING AND COOLING PLANS

1. A temporary heating or cooling plan must be submitted to the Regional Safety Director, MEP and Quality departments for approval before temporary or permanent heat or A/C systems are used. This includes the use of existing building systems.

25.5 HEATERS

1. A fire watch is required **at all times** when using temporary heat. At least one competent person must be present to maintain and inspect all heating units. The fire watch must also inspect the project for potential fire hazards relating to the use of heaters. A full time fire watch is not required when using steam heaters that are tapped into existing building systems.
2. Heaters must be inspected before use and following any incident that may have resulted in damage to the heater. Damaged heaters may not be used.
3. The following OSHA requirements regarding minimum clearances must be maintained at all times.
    o

Heating Appliance	**Minimum Clearances (inches)**		
	Sides	Rear	Chimney Connector
Room heater, circulating type	12"	12"	18"
Room heater, radiant type	36"	36"	18"

    - o
4. Gasoline, diesel and other flammable or combustible liquids shall not be placed near heaters.
5. Housekeeping must be maintained throughout the day. Trash shall not be allowed to accumulate.
6. Trash or combustible material such as wood, cardboard and insulation must not be stored near heaters.
7. Fuel fired heaters that produce Carbon Monoxide gas must be used only in well-ventilated areas.
8. Carbon monoxide levels must be monitored when using equipment in doors or in any area where ventilation is restricted.
9. LP Heater Use
    1. Heaters may not be directed at LPG bottles.
    2. Cylinder valves must be closed when heaters are not in use.
10. Electrical Heaters
    0. A qualified electrician must install electrical heaters when connections must be made within electrical boxes.
    1. Heaters must have a three wire grounding type plug.
    2. Electrical cords must not be placed where they pose a trip hazard or where they may be damaged by equipment and construction activities.
11. Training
    0. All employees should be training in the care, maintain and handling of bottles and heaters.
    1. All employees should be trained in the use of fire protection equipment and emergency fire procedures.

Employees who act as fire watch must be familiar with the crisis management, emergency action and emergency contact list for the project.

Section 26 - Hand and Power Tools

Responsibility

26.1 GENERAL

1. All tools whether personal or company owned, must be kept in good condition, inspected before use and maintained.
2. Worn or damaged equipment must be tagged "Out of Service" and replaced immediately.

Requirements

26.2 ELECTRIC TOOLS

1. Electrical tools must be grounded or double insulated.
2. Power cords must be free of cuts, knicks or damage.
3. Ground Fault Circuit Interruption must be provided if the tool is connected to temporary power which will include an extension cord plugged into permanent power.
4. Tools must be disconnected before changing attachments or making repairs.

26.3 GASOLINE TOOLS

1. Fuel power tools must be shut down before refueling.
2. Smoking is prohibited during refueling operations.
3. Adequate ventilation must be provided when operating in closed areas.
4. Carbon monoxide levels must be monitored when using equipment in doors or in any area where ventilation is restricted.
5. Fire extinguishers must be provided in the immediate area and must be easily accessible.
6. Gasoline containers used for refueling must be an approved type safety can.

26.4 PORTABLE CIRCULAR SAWS

1. Portable circular saws must be equipped with guards above and below the base plate or shoe. The lower blade guard must operate smoothly and retract when the blade is in use and automatically return to the guarding position when the tool is withdrawn from the material being cut.
2. Blocking of the lower guard is prohibited.
3. The base or shoe of the saw should be adjusted for the thickness of the material being cut.

26.5 TABLE OR BENCH SAWS

1. Upper blade guards and non-kickback attachments must be provided and used.
2. A push stick is required when ripping.

3. Blade height should be properly adjusted when cutting and retracted when not in use.
4. Belt/pulley guards shall be installed and maintained.

26.6 RIGHT-ANGLE GRINDERS

1. 180 degree guards must be installed and utilized.
2. Wheels must be inspected regularly and defective wheels replaced immediately.

26.7 PNEUMATIC TOOLS

1. Air supply lines must be protected and all connections secured to prevent accidental separation.
2. Hoses may not be used to raise or lower tools.
3. Air hoses with an inside diameter of ½ inch or greater must be equipped with a flow control safety device attached at the source to reduce pressure if a hose fails.

26.8 POWDER ACTUATED TOOLS

1. Only licensed employees are allowed to operate powder-actuated tools.
2. Hearing and eye protection is mandatory.
3. Loaded tools shall not be left unattended.
4. Unfired cartridges must be disposed of per the manufacturer's recommendations.

26.9 LASERS

1. Warning signs must be conspicuously posted in any area where laser equipment is being used.
2. Only workers that are trained and qualified in the specific equipment being used are allowed to operate laser equipment.
3. Lasers equipment must be turned off or shielded when not in use.
4. Lasers must be set up well above or below head level when possible.

26.10 HAND TOOLS

1. Hand tools must be kept in good condition. Worn or broken tools such as hammers with loose handles, chisels with mushroomed heads, saws with teeth not set, shovels with splintered or split handles, etc. must be repaired or replaced.

26.11 OTHER MACHINE GUARDS

1. Rotating belts, pulleys, shafts, etc. on all equipment shall be guarded to prevent contact either by the worker or by objects carried or worn by the worker.

26.12 TRANSPORTATION EQUIPMENT

1. Bicycles, golf carts, Gators, 4 wheelers or similar equipment must be fitted with a whip and flag when utilized on the project

Section 27 - Hazard Communication

Responsibility

27.1 INTRODUCTION

1. OSHA 1926.59 requires each employer to have a comprehensive hazard communication program which complies with the global harmonized system and requirements. This program must include a written hazard communication program for the workplace, a list of all hazardous chemicals present at the workplace, proper labeling of all containers of chemicals in the workplace, a file of all material safety data sheets (SDS) maintained at the workplace and provide all employees with information and training on all hazardous chemicals at their workplace.

27.2 OBJECTIVE

1. To inform all Company employees of the Occupational Safety and Health Administration (OSHA) regulations 29 CFR 1926.59.
2. This regulation requires that all employees be informed of hazards associated with chemicals and materials that may be encountered in the workplace and the appropriate protective measures that should be taken, if needed.
3. To safeguard our employees' health by providing a management guide for compliance.
4. To provide all employees with the necessary information concerning health and physical hazards of the chemicals and/or materials in use at the workplace during routine and non-routine tasks.
5. To provide guidance on implementing this program on multi-employer worksites.
6. To comply with the OSHA 29 CFR 1926.59 regulation.

Requirements

27.3 HAZARD DETERMINATION

1. The Company will not make a determination if a chemical is hazardous. They will rely on the evaluation performed by the manufacturer or material supplier and follow the recommendations from the Safety Data Sheets (SDS).

27.4 CHEMICAL LISTS

1. A list of all chemicals used or stored in the workplace will be maintained and upgraded as needed. This list will be maintained and kept with the SDS.

27.5 SAFETY DATA SHEETS (SDS)

1. To obtain a copy of the SDS for materials or chemicals used on the project, the employee can obtain access to the company Portal via the project computer. Go to the Operations section, click on safety and go to the reference page under safety. Click on SDS on-line and type in the name of the material. The SDS sheet

can be read on line or printed off to obtain a hard copy. The employee can also call 1-866-362-7416 24hrs/day-7 days/week to request a copy be faxed or emailed to the project.

2. The superintendent will be responsible for ensuring that SDSs on materials used on site that are not included in our SDS e-Binder will be available on site.
3. SDSs will be made available to all employees, their representatives or subcontractors for review
4. If a SDS cannot be found for a chemical or product, call the Safety Department for assistance.
5. Purchasing shall make requests for SDSs on all purchases. SDSs shall be forwarded to the Safety Department. If SDSs are not sent with the shipment, a letter shall be sent to the manufacturer requesting the SDS. A file shall be maintained for follow-up that SDSs request letters.

MSDS

Material Safety Data Sheets

For online access
to an MSDS

Click the MSDS on-Line link

Located on the Risk Management/Safety section of the JE Dunn Portal
or go to:
http://binderview.msdsonline.com/JEDunnConstruction/

If computer access is not available, have an MSDS faxed to you:

Contact MSDSonline

1-888-362-7416

24 HRS/DAY — 7 DAYS/WEEK

Please have the following information on hand when calling:

- Product Name
- Manufacturer Name
- Your Fax Number
- Product Code (optional)

JE DUNN® CONSTRUCTION

27.6 LABELS AND OTHER FORMS OF WARNING

1. Each container, regardless of size, shall be labeled, tagged or otherwise marked to show the identity of the hazardous chemicals and the appropriate warnings.
    1. *(Container size exceptions would be only for very small containers filled by the person using the material, which must then be used/emptied by that person during the same shift. Such containers do not require labeling.)*
2. Field supervisors shall be responsible for seeing that all portable containers used in their work areas are labeled with identity and hazard warnings. If the chemical is transferred to another container, that container must be properly labeled with its contents and appropriate hazards. For help with labeling, please contact the Regional Safety Department.
3. All incoming materials shall be checked for the following:
    1. Name of the chemical.
    2. Appropriate hazard warnings.
    3. Name and address of the responsible party.

27.7 EMPLOYEE TRAINING AND OTHER INFORMATION

1. The superintendent shall be responsible for ensuring that every employee is trained in the following subjects:
    1. Explanation of the Hazard Communication Standard.
    2. Introduction to the written Hazard Communication/GHS program.
    3. Availability and interpretation of SDS.
    4. Labeling procedures and how to interpret them.
    5. Physical and health hazards of chemicals in the workplace.
    6. Proper protective measures to undertake when exposed to the hazard.
    7. The Safety Department, upon request, will assist the superintendent in the training of employees.
2. Posters shall be placed on site informing workers of the location of the written program and the SDSs.

27.8 MULTI-EMPLOYER WORKSITES

1. Each subcontractor working on site must have a Hazard Communication Program and corresponding Safety Data Sheets available on site. It is preferred that a copy of their program be placed in our project office along with all programs. If the subcontractor elects not to do this, the subcontractor must be aware that the program must remain on site as long as they have material on site. The superintendent shall be made aware of the location of that program. If our employees are potentially exposed to chemicals used by other contractors, they shall be trained in the hazards associated with those chemicals.

27.9 WORK PERFORMED IN OTHER FACILITIES

1. If work is performed in an active facility owned by someone else, that owner has a responsibility to provide us the following:
    1. The facilities Hazard Communication Program.
    2. A list of hazardous materials we may encounter along with the proper SDSs.
    3. The system they use for identifying chemicals, pipes, tanks, etc.

4. During the course of work, if we encounter materials, tanks, pipes, vessels, etc. that JE Dunn is unaware of their contents, the owner and/or his representative will be notified immediately to provide the needed information before work is allowed to resume.

27.10 NON-ROUTINE TASKS

1. Occasionally, workers are required to perform tasks that would be considered non-routine. An example would be requiring a laborer to spray a special concrete sealer on the inside of a vault (enclosed space). The task of sealing concrete in itself would not be considered non-routine but the fact that he would be in an enclosed space would qualify this as a non-routine task. Another example would be requiring a laborer to remove existing plant piping that at one time may have contained hazardous chemicals that he would normally not be required to handle. If a worker is required to perform a task that would be considered non-routine, the superintendent shall ensure that:
    1. The worker is trained in the hazards associated with this task.
    2. The personal protective equipment available is sufficient for the potential hazards encountered.

All SDSs associated with the work are available and precautions followed.

Section 28 - Housekeeping and Sanitation

Responsibility

Requirements

28.1 HOUSEKEEING

1. To reduce the risk of fire, slip, trip and fall hazards, good housekeeping habits must be maintained throughout all stages of construction.
    1. All stripped lumber shall be safely stacked after nails have been removed or bent over.
    2. All stairways, scaffolds, ramps, platforms, walkways, and work areas shall be kept clear and clean of trash and material.
    3. Contractors shall provide trash receptacles in their immediate work areas and are responsible for picking up as they go.
    4. Round or rolling stock such as pipe, rebar, conduit and all-thread scraps shall not be allowed to lie on the floor.
    5. Contractors are responsible for providing trash receptacles in lunch and break areas. They are also responsible for maintaining these areas in a clean and orderly manner.
    6. All combustible scrap and debris shall be removed from project daily. Safe means shall be provided to facilitate such removal. This may include, but is not limited to:
        1. Trash chutes
        2. Trash gondolas
        3. Rolling containers
        4. Cranes
        5. Material hoists
    7. Separate closed containers shall be provided by the contractor generating waste containing paint soak combustibles, oily or solvent soaked rags. This material shall be removed from the project daily.
    8. Trash gondolas used to fly debris off the building shall not have the debris stacked any higher than the sides.
    9. Dumpsters shall have the end door open for employees to dump trash or a platform shall be built for safe access.

28.2 SANITATION

1. Potable Water
    1. An adequate supply of potable water shall be provided by each contractor for their employees unless noted otherwise in the contract documents.
    2. All potable containers used to distribute drinking water shall be sanitized, clearly marked, and not used for any other purpose. The lids should be sealed with tape and marked with the date it was filled.
    3. The common drinking cup is prohibited on-site.

4. When using single service cups on-site (cups to be used once); a sanitary container for unused cups and a receptacle for disposing of cups shall be provided.

2. Non-Potable Water
    1. Outlets for non-potable water used for firefighting, dust control, industrial use, etc, shall be identified by proper signage.
3. Toilets
    1. Adequate toilet facilities shall be provided for employees according to the following table:
        -

No. of Employees	Min. No. of Facilities
20 or less	1
20 or more	1 toilet seat and 1 urinal per 40 workers
200 or more	1 toilet seat and 1 urinal per 50 workers

        -
    2. Hand sanitizer shall be provided and maintained by the toilet supplier.
    3. Under temporary field conditions, provisions shall be made to assure a minimum of one toilet facility is available.

Local codes shall be checked for additional requirements such as heat and hand washing facilities.

Section 29 - Ladders

Responsibility

Requirements

29.1 STAIRWAY GENERAL REQUIREMENTS

1. A stairway or ladder must be provided for all personnel access points with a vertical break in elevation of 19 inches or more.

29.2 STAIRS, PANS, AND LANDINGS

1. Employees are not allowed to walk on pan stairs or platforms which have not been poured unless wood filler or other solid material is fitted to the top edge of each pan and platform.
2. Incomplete stairs (including stairs without pans filled) shall be barricaded at the top and bottom of the landings to prevent use.

29.3 STAIRWAY HANDRAILS AND GUARDRAILS

1. Handrails must be provided on all open sides of stairs with 4 or more risers or rising more than 30 inches, whichever is less.
2. Guardrails (42” top rail 21” mid rail) must be installed to protect landings.

29.4 LADDER INSPECTION AND MAINTENENCE

1. Ladders should be inspected by a competent person prior to use. Damaged ladders shall be removed from service.
2. Rungs should be kept clean to prevent slips
3. Manufactured ladders must be type 1AA, Type 1 A or Type 1

Ladder Type	Duty Rating	Description
Type 1AA	375 lbs.	Extra Heavy-duty industrial ladder
Type 1A	300 lbs.	Heavy-duty industrial ladder
Type 1	250 lbs.	Heavy-duty industrial ladder

29.5 GENERAL LADDER SAFETY

1. Side rails must extend at least 36 inches above the landing surface and the ladder must be secured.

2. Ladders must be placed on a substantial base with a clear access at the top and bottom.
3. Ladders should be pitched at 1 foot out from the support structure for every 4 feet of ladder height.
4. Workers must face the ladder and maintain three points of contact when climbing.
5. A hand line must be available at each access ladder to hoist tools or materials.
6. Ladders should not be placed in front of doors unless the door is locked or blocked.
7. When utilizing a ladder within ten feet of an interior or exterior opening, personal fall protection must be utilized to prevent the worker from falling into the opening.
8. Guardrails protecting ladder landings shall be provided with a gate or offset so that a person cannot walk directly into the ladder way opening.

29.6 STEP LADDERS

1. Center your body on the ladder and keep belt buckle between the rails while maintaining a firm grip.
2. Don't overreach, lean to one side or try to move the ladder while you are on it.
3. Don't exceed the maximum load capacity of a ladder
4. Do not stand on the top step or brace of a step ladder
5. Do not straddle a ladder and sit on the top or pail shelf.
6. Don't climb a closed step ladder.
7. Do not use a stepladder unless the ladder is completely open with the spreaders locked.
8. Don't climb on the back of a ladder.
9. Don't permit more than one person on a single sided step ladder.

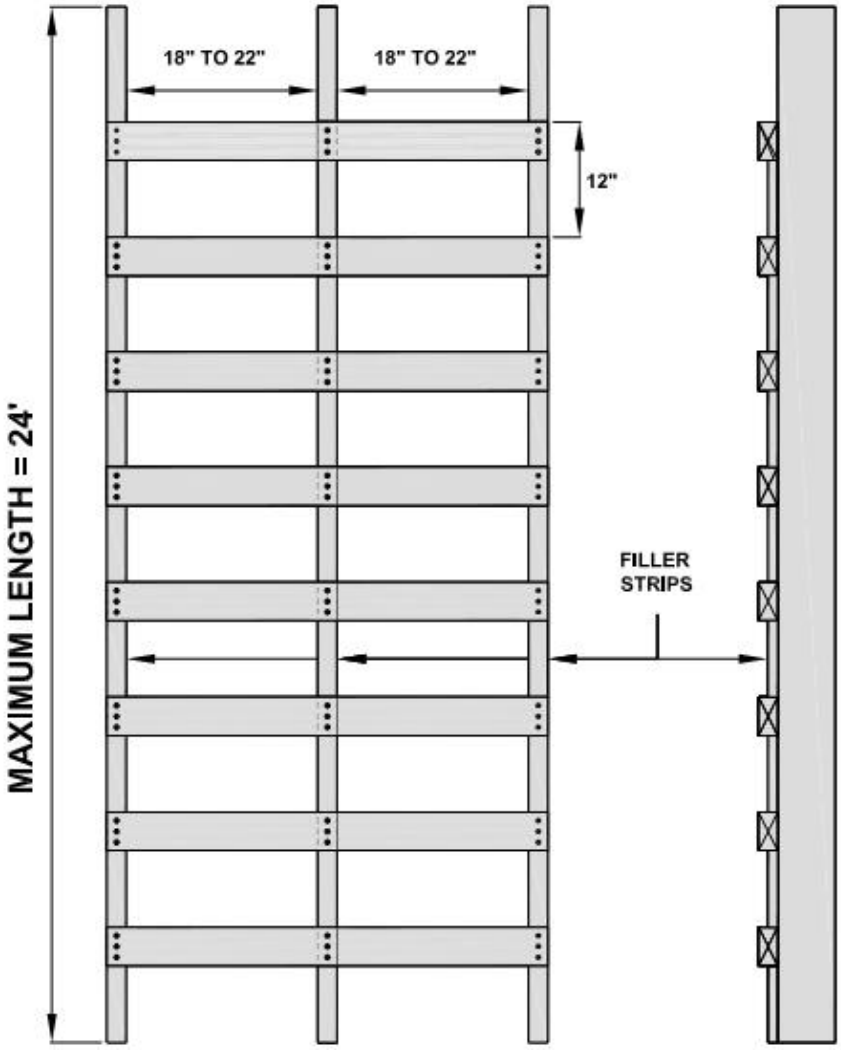
29.7 EXTENSION LADDERS

1. Get help with handling heavy ladders
2. Secure the ladder or have another person hold the ladder while you are working on it.
3. Center your body on the ladder and keep belt buckle between the rails while maintaining a firm grip.
4. Don't overreach, lean to one side or try to move the ladder while you are on it.
5. Don't exceed the maximum load capacity of a ladder

29.8 JOB BUILT LADDERS

1. Single-cleat and Double-cleat ladders must not exceed 24 feet in working length.
2. The width of a single-cleat should be between 16 and 20 inches. The width of a double-cleat should be between 18 and 22 inches.
3. Cleats should be continuous and extend the full width of double cleat ladders. Cleats must be parallel and evenly spaced from the ladder's base to the top bearing point. Spacing must measure 12 inches between the top edges of each cleat. There should be no cleats on side rails that extend above the landing surface.
4. Extra cleats should be cut and nailed to the side rail of the ladder as a quick replacement for cleats that become worn or broken.
5. Cleat board should be free of knots, holes, checks or splits.
6. When job built ladders are installed where there is an exposure to an interior or exterior unprotected shaft or opening, a side rail shall be installed along the exposed side of the ladder.

7. Single-headed nails as specified in note 4 of drawing A shall be used to construct ladders.



NOTES:

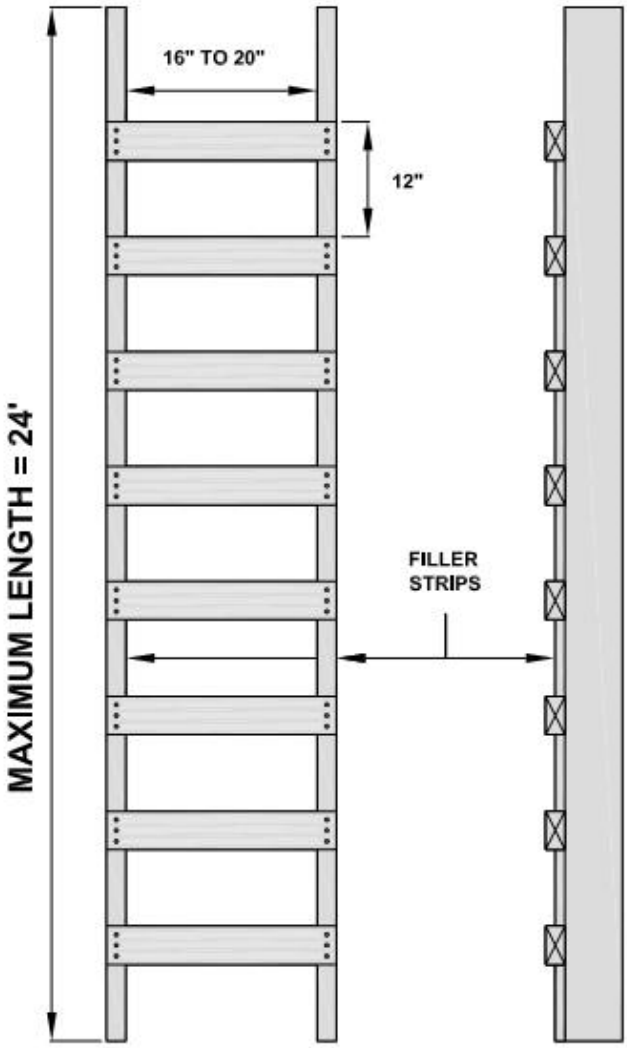
1. LENGTH BETWEEN SUPPORTS (BASE AND TOP LANDING) NOT TO EXCEED 24 FEET.
2. SLOP OF GRAIN IN SIE RAILS TO BE NOT STEEPER THAN 1 IN 12. KNOTS OF 1/2" OR LESS ACCEPTABLE ONLY ON WIDE FACE AT LEAST 1/2" FROM EDGE.
3. CLEATS SHALL BE 1X4 NOMINAL OR 2X4 STRESS GRADE MATERIAL THAT IS CLEAR, STRAIGHT-GRAINED AND FREE OF KNOTS.
4. SECURE CLEATS TO EACH RAIL WITH THREE 10d COMMON WIRE NAILS FOR 1X4 CLEATS OR THREE 12d COMMON WIRE NAILS FOR 2X4 CLEATS.
5. FILLER STRIPS ARE 3/4" STOCK - WIDTH OF RAIL AND LENGTH TO SUIT.

DOUBLE CLEAT LADDER

TABLE OF MATERIAL SIZES		
LENGTH OF LADDER (FEET)	SIDE RAIL THICKNESS (NOMINAL)	SIDE RAIL DEPTH (NOMINAL)
UP TO 14	2"	4"
14 TO 24	2"	6"

DOUBLE CLEAT LADDER

Drawing A



NOTES:

1. LENGTH BETWEEN SUPPORTS (BASE AND TOP LANDING) NOT TO EXCEED 24 FEET.
2. SLOP OF GRAIN IN SIE RAILS TO BE NOT STEEPER THAN 1 IN 12. KNOTS OF 1/2" OR LESS ACCEPTABLE ONLY ON WIDE FACE AT LEAST 1/2" FROM EDGE.
3. CLEATS SHALL BE 1X4 NOMINAL OR 2X4 STRESS GRADE MATERIAL THAT IS CLEAR, STRAIGHT-GRAINED AND FREE OF KNOTS.
4. SECURE CLEATS TO EACH RAIL WITH THREE 10d COMMON WIRE NAILS FOR 1X4 CLEATS OR THREE 12d COMMON WIRE NAILS FOR 2X4 CLEATS.
5. FILLER STRIPS ARE 3/4" STOCK - WIDTH OF RAIL AND LENGTH TO SUIT.

SINGLE CLEAT LADDER

TABLE OF MATERIAL SIZES		
LENGTH OF LADDER (FEET)	SIDE RAIL THICKNESS (NOMINAL)	SIDE RAIL DEPTH (NOMINAL)
UP TO & INCLUDING 16	2"	4"
16 TO 24	2"	6"

SINGLE CLEAT LADDER

Drawing B

Section 30 - Lockout and Tagout

Responsibillity

30.1 PURPOSE:

1. Lock out- Tagout(LOTO) procedures are used to protect all personnel from injury or death while installing, adjusting, performing service on a piece of equipment, machinery, or a circuit. The intent of the LOTO policy and procedure is to ensure that the machine or equipment is stopped and isolated from **all potential hazardous energy sources** and locked and tagged out.

30.2 SCOPE

1. This policy and procedure establishes the minimum requirements for the control of energy sources when installing, adjusting and servicing machinery or equipment.
2. The lock-out procedure is written to comply with the latest revisions of OSHA regulations, industry standards, and the implementation guidelines.

30.3 APPLICATION

1. This policy and procedure applies to the locking and tagging of potential energy sources during the installation, adjustment and servicing of components in machines or equipment.
2. This program shall be strictly followed through the construction and commissioning phase of the project.
3. This policy and procedure does not apply to the following:
    1. Servicing or maintenance of a machine or equipment in which the electrical wiring and/or electrical components are not a factor in the job to be performed and safety measures provided by the mechanical lockout/tagout policy and procedure ensures full employee protection.
    2. Work on plug connected electrical equipment where the controlling of energy is accomplished by unplugging the equipment and the plug is under the exclusive control of the employee performing the work.

30.4 COMPLIANCE /ENFORCEMENT OF THIS PROGRAM

1. Employees are responsible for adhering to the requirements of this program. The employee must understand the importance of this program and that ignoring these requirements could result in an accident that could inflict serious bodily harm to themselves or their fellow worker.
2. Employees must also understand that failure to follow these requirements or knowingly bypassing or ignoring any of these written procedures could result in discipline up to and including removal from the project.
3. Subcontractors shall be allowed to utilize their company specific LOTO program for their employees.

30.5 DEFINITIONS

1. AFFECTED EMPLOYEES- An affected employee is one whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under LOTO, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.
2. AUTHORIZED EMPLOYEE - An employee that has been properly trained in the Lock-out/tag-out policy and by training has been authorized to apply/remove their assigned lock during the performance of their work.
3. CAPABLE OF BEING LOCKED OUT- An energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if LOTO can be achieved without the need to dismantle, rebuild, or replace the energy-isolating device or permanently alter its energy control capability.
4. DE-ENERGIZED- When all energy sources are disconnected or in a released state.
5. ENERGIZED- Connected to an energy source or containing residual or stored energy.
6. ENERGY ISOLATING DEVICE- A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following:
    1. a manually operated electrical circuit breaker
    2. a disconnect switch
    3. a manually operated switch in which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and, in addition, no pole can be operated independently
    4. a line valve
    5. a block
    6. any similar device used to block or isolate energy
    7. NOTE: Push buttons, selector switches and other control circuit type devices are not energy isolating devices.
7. ENERGY SOURCE- Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.
8. GROUP LOCKOUT/TAGOUT PROCEDURE- This procedure can be used when there are projects that require a group of authorized tagperson(s) to perform work on the machine or piece of equipment locked out by an authorized employee in charge.
9. LOTO – Lock Out Tag Out
10. LOCK-OUT/TAG-OUT SUPERVISOR-An authorized employee who has been designated as having the primary responsibility for a set number of employees working under the protection of a LOTO procedure to ensure coordination of the work group and ensure continuity of protection for employees.
11. MULTIPLE ENERGY SOURCES – When more than one energy source is present and poses a potential hazard.
12. MULTIPLE LOCKING HASP - A manufactured device designed to accommodate a number of locks (usually 6) to allow more than one person, craft, etc., to secure an Energy Isolation Device.
13. OTHER EMPLOYEE- Employees whose work operations are or may be in an area where energy controls procedures may be utilized.
14. QUALIFIED TAGPERSON- A worker who has been trained in avoiding the hazards of working on or near exposed energized parts and have the authorization to work within those conditions.

30.6 RESPONSIBILITIES

1. EMPLOYER

1. Ensures that all qualified tagpersons and the designated LOTO supervisor(s) are properly trained and instructed in the lockout/tagout(LOTO) policy and procedure.
2. Enforces compliance with LOTO policy and procedures by all personnel, which includes the use of disciplinary action where warranted.
3. Ensures that all qualified tagpersons are knowledgeable in and able to demonstrate the necessary skills and techniques to safely work on or near equipment or machinery.
4. Ensures that only qualified tagpersons perform the LOTO procedure. Maintains a roster of all qualified tagpersons.

2. LOTO SUPERVISOR
    1. Ensures compliance with the policy procedures by observing LOTO on an ongoing basis.
    2. Ensures that all personnel have been properly trained and instructed in LOTO policy and procedures prior to starting any work.
    3. Ensures that the proper safety equipment and tools are available and are inspected, tested, and maintained in safe and reliable condition and utilized by all qualified tagpersons.
    4. Issues disciplinary action if the LOTO procedures are not strictly followed.
    5. Ensures the procedure for transfer of LOTO status at shift changes is strictly followed.
3. QUALIFIED TAGPERSONS
    1. Must have successfully completed LOTO training.
    2. Must obtain and care for safety equipment required to comply with the LOTO policy and procedure.
    3. Must implement--without exception--the LOTO procedure established when working on equipment.
    4. Must consult with their foreman whenever there are questions concerning the LOTO policy and procedure.
    5. Must immediately report any violation of the LOTO policy and procedure to their foreman.
4. AFFECTED AND OTHERS
    1. Does not attempt to start or energize a piece of equipment that is, or has been locked and/or tagged out.
    2. Does not attempt to remove a lock or a tag from any machine or energy control source.
    3. Does not place any part of their body into an area on a machine where work is performed on the material being processed or where an associated danger zone exists during a machine operating cycle.

Requirements

30.7 LOCKS AND TAGS

1. STANDARDIZED LOCKS
    1. After successfully completing an authorized employee LOTO training course, each qualified tagperson will be assigned an individually keyed lock (one key) as needed for a LOTO procedure. The LOTO Supervisor will maintain a roster of lock assignments. The roster shall include at a minimum the employee name, the numerical code of the lock assigned, and the date.
    2. After completion of the LOTO procedure, or the need for an LOTO procedure is no longer necessary, the employee shall return the assigned lock to the job

foreman. The foreman will then document the return of the lock and the completion of the LOTO procedure.

2. STANDARDIZED IDENTIFICATION TAGS
    1. Each qualified tagperson will receive one tag for each lock they have been issued.
    2. This tag will have printed on it the individuals name, the company name, and the date and location in which the tag was applied.
    3. This tag will also have a statement prohibiting unauthorized operation of the disconnect and removal of the tag.
    4. This tag will have either a reinforced hole large enough for the shank of the lock to pass through , or shall have a tag attachment device which is non-reusable that is attached by hand which is self locking and nonreleasable with a minimum of 50 lbs. opening strength. An all environment nylon cable tie is acceptable.

30.8 TRAINING

1. FREQUENCY OF TRAINING
    1. Individual employee training/retraining is required when:
        1. The employee is introduced to the LOTO policy and procedures.
        2. There is a change in the LOTO policy and procedure.
        3. It is determined by the Safety Department, LOTO supervisor or any other authority, there are deviations or inadequacies in the employee's knowledge or use of the LOTO policy and procedure.
2. DOCUMENTATION OF TRAINING
    1. Training and re-training is documented to certify that the employee has completed the required training. Documentation will include:
        1. The employee's name
        2. The employee's social security number
        3. The date of training
        4. The reason for training (regular training/re-training as required)
        5. The trainer's name
    2. Documentation will be maintained in compliance with company procedures.
3. TRAINING ELEMENTS
    1. Training of authorized employees must include:
        1. The purpose and use of the LOTO procedures.
        2. The type and magnitude of the energy available in the work place.
        3. The recognition of applicable hazardous energy sources.
        4. The individual and group responsibilities of the LOTO policy and procedures.
        5. The method of notification that must be used when the LOTO procedures are being applied and removed.
        6. Prohibitions relating to attempting to restart or re-energize equipment or machines.
        7. The basic steps of the LOTO procedure.
        8. The disciplinary action associated with violations of the LOTO policy and procedure.
    2. Training of other affected employees shall include:
        1. The purpose and use of the LOTO policy and procedure and when it must be used.
        2. The method of notification that will be used when the LOTO procedures are being applied and removed.

3. Employee responsibilities during a LOTO procedure and the prohibitions relating to attempting to restart or re-energize equipment or machines.
4. A visual observation of the locks and tags used in the LOTO procedure.
5. The disciplinary action associated with violation of the LOTO policy and procedure.

30.9 PERSONAL PROTECTION SAFEGUARDS

1. Qualified tagpersons working in areas where there are potential hazards are provided with, and must use protective equipment that is appropriate for the work to be performed.

30.10 LOCK-OUT/TAGOUT PROCEDURES

1. Preparation
    1. LOTO procedures should only be carried out by "authorized employees."
    2. Before implementing the LOTO procedure, you must fully understand:
        1. Who is responsible for identifying and determining the de-energization procedure
        2. The number, type and magnitude of the energy to be controlled; and
        3. The methods and means of controlling the hazardous energy sources
2. Notification:
    1. Before the application of the LOTO devices, notify all affected personnel of the energy control procedure that is being used and reasons why.
3. Shutdown:
    1. Shut down equipment in an orderly manner. This may mean simply turning off the equipment. When the equipment is part of a production or manufacturing process, all parts of the operation must be considered. An orderly shutdown will avoid increased hazards when the equipment is de-energized.
4. Isolation:
    1. Locate all energy isolating devices. Often times there are multiple energy sources. When the LOTO supervisor determines that a piece of equipment needs to be locked out, that supervisor is responsible to ensure that all energy sources are identified and locked out. If the LOTO supervisor has any doubt whether all sources have been identified, no LOTO procedure shall be implemented until the Safety Department is notified and all parties have been assured that all potential energy sources have been identified.
    2. Operate the energy isolating devices so that the equipment is completely isolated from the energy source. When complete, all devices will be in the "safe" or "off" position.
5. Application of Locks and Tags:
    1. Securely attach locks and / or tags to the energy-isolating device so the device is held in the "safe" or "off" position. Separate locks or tags must be used for each authorized employee.
6. Controlling of Stored and Residual Energy:
    1. Relieve, disconnect and restrain all stored or residual energy. Remember, hazardous energy can be found in springs, elevated machine members, capacitors, rotating flywheels, hydraulic systems, air, gas, steam and water pressure.

2. This energy must be dissipated or restrained. Operator's and service manuals can assist you in safely controlling the specific energy hazards. Common methods to restrain or dissipate stored energy are repositioning, blocking, and bleeding down systems.
3. Know in advance the tools and equipment needed to control each hazard. Be sure they are in proper working order and able to perform the tasks you expect of them.

7. Shutdown verification:
    1. Check to be sure that all personnel are in a safe location. Verify that the equipment is properly isolated and all hazardous energy is safely controlled. Operate push buttons and other controls to verify isolation. Check circuits with electrical meters. Inspect springs, pressure gauges and the location of moving parts and other sources of stored energy. Be sure to return operating controls to the neutral or off position after the test. Each machine and piece of equipment is different. Follow the instructions found in the operator's and service manual. Once you are absolutely sure that the energy is isolated and safely controlled, proceed with the maintenance and service activities.

WARNING: Some machinery and equipment can re-accumulate stored energy even after the system has been de-energized. If there is a possibility of stored energy building to a hazardous level, continue verification until maintenance or service is completed or until the possibility of accumulation no longer exists.

30.11 TAG OUT PROCEDURES

1. The Tag Out Procedure follows the same steps and has the same requirements for insuring de-energization as the Lock Out Procedure. However, because Tag Out does not provide the same level of security that is present with Lock Out the conditions listed below must be met. **Tag out procedures cannot be used in lieu of lock out.** Tag out shall only be implemented when there is no physical engineered accommodation for lock out and the employee(s) performing the work can maintain continuous line of sight monitoring of the tag locations(s).
2. Tag out requires the use of completed "DANGER-DO NOT OPERATE" tag (s).

30.12 GROUP LOCKOUT/TAGOUT

1. This procedure can be used when there are projects that require a group of authorized tagpersons to perform work on the same machine or piece of equipment that is locked out by the LOTO supervisor in charge.
    1. There are two types of group LOTO:
        1. With the use of a lockbox.
        2. Without the use of a lockbox.
    2. With the use of a lockbox:
        1. The LOTO supervisor is in charge of the group LOTO procedure.
        2. The LOTO supervisor must complete each step of the appropriate LOTO procedure and secure locks and tags on all energy isolating devices.
        3. The keys for the locks are then placed in a lockbox.
        4. Each employee then secures a lock and properly completes the tag on the lockbox.

5. After an employee is finished with his/her service or maintenance work, the employee removes his/her lock from the lockbox.
6. After all employees' locks are removed from the lockbox, the LOTO supervisor removes the key(s) from inside and follows the re-energizing procedure.

3. Without the use of a lockbox:
    1. The LOTO supervisor is in charge of the group LOTO procedure.
    2. The LOTO supervisor must complete each step of the appropriate LOTO procedure and secure locks and tags on all energy isolating devices using a multiple locking hasp when necessary.
    3. Service or maintenance work can now be performed, but only by the employees who have affixed their locks to the lockout device.
    4. After employee is finished with his/her service or maintenance work, the employee removes his/her lock from the device.
    5. After all employees' locks are removed from the LOTO device, the LOTO supervisor removes his/her lock and follows the re-energizing procedure.

30.13 SHIFT OR PERSONNEL CHANGE

1. If the work is incomplete at the end of the shift, the shift end tag person will:
    1. Contact the lock-out/tag-out supervisor for permission to maintain LOTO status for shift rotation at the shift change.
    2. The shift-end lock-out/tag-out supervisor will notify the on-coming lock-out/tag-out supervisor that a tagperson has a piece of equipment locked and tagged out on which the work is incomplete.
    3. The on-coming lock-out/tag-out supervisor will ensure that an on-coming tagperson accompanies the tagperson who has locked the equipment out to the location of the lockout-tagout.
    4. The shift-end tagperson will remove his/her lock and tag from the isolating device in the presence of the on-coming tagperson.
    5. The on-coming tagperson will place his/her lock and tag on the isolating device, and complete all steps of the LOTO procedure.

30.14 RESTORING EQUIPMENT TO SERVICE-RELEASING ENERGY CONTROLS

1. When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the following steps shall be taken:
    1. Inspection:
        1. Inspect the work area. Ensure all non-essential items such as tools, parts and cleaning supplies have been removed. Check to be sure that all machine and equipment components and safety guards are ready for operation. Be certain all employees have been safely positioned or removed. Verify all controls are in neutral, off or stop position.
    2. Notification:
        1. Notify all affected employees that the LOTO devices are being removed.
    3. Remove Locks and Tags:
        1. After a thorough inspection of the equipment is conducted and the tagperson is confident that the equipment can be safely returned to service, the lock /tag can be removed by the authorized employee that installed it. Removal of a safety lock or tag not belonging to you is

strictly prohibited without the LOTO supervisor's implementation of the emergency lock removal procedures.

30.15 EMERGENCY LOCK REMOVAL

1. When a tagperson who applies a lock and tag to a machine or piece of equipment and is not available to remove them, they may be removed at the direction of the lock-out/tag-out supervisor under the following circumstances.
    1. Verification that the authorized employee who applied the LOTO devices is not at the facility.
    2. After all reasonable efforts are made to contact the authorized employee to inform him/her that their LOTO devices are being removed.
    3. And that the authorized employee who applied the LOTO devices is informed before resuming work that the LOTO devices were removed.

Section 31 - Personnel Hoists

Responsibility

31.1 RESPONSIBILITY

1. Superintendent is responsible for the safe management, utilization and use the of hoist.
2. Logistics is responsible for the coordination, safe installation, periodic inspections, drop tests, maintenance and removal of the hoist.
3. Operator is responsible for the daily inspection and safe everyday operation of the hoist. They are also responsible for reporting any issue(s) associated with the hoist to the project superintendent.

Requirements

31.2 INSTALLATION

1. All cranes and hoists shall be erected, operated and maintained in accordance with the company Hoisting Policy Manual.
2. Tie backs shall be designed by a structural engineer and should be based on manufacturers' design loads for that configuration.
3. No scaffolding, structure or work platform where workers pass shall be erected within three feet of any moving portion of the hoist.
4. Scaffolding, structure or work platform where workers pass that are located between three and eight feet from any moving portion of the hoist shall have an enclosure consisting of a solid wall or a net installed on the exposed end of the system to prevent materials from being placed into the hoist way path.
5. Drop tests shall be performed after initial installation, and quarterly or more frequently when required by local authority.
6. All hoist gates and floor doors shall have door interlocks installed and operational before placing hoist in service.
7. Communication devices shall be installed on every floor that is designated as a stopping point.
8. Hoist way doors shall not be less than 6 foot 6 inches in height. They shall not have an opening into the hoist way of greater than three quarter of an inch.
9. Hoist way enclosures on the building side of the hoist way shall be enclosed full height or a minimum of eight feet.
10. A vision panel may be installed in the door provided there is no opening larger than three quarter of an inch.
11. Walls a minimum of eight feet in height must be installed a minimum of thirty inches from both sides of the landing door.
12. Landing doors shall be provided. The doors shall be equipped with a locking device that cannot be opened from the landing side. A hook and eye shall not be used as a locking mechanism.
13. All landing platforms where workers are exposed to overhead hazards shall have overhead protection installed. Overhead protection shall be a minimum of two inch wood planking or equivalent.

31.3 OPERATION

1. Only individuals who possess the skills, knowledge, and qualifications shall operate a crane or hoist.
2. The operator shall inspect and /or test the following components daily;
    1. Visually inspect the entire mast.
    2. Travel limits
    3. Floor, door, and gate interlocks
    4. Communication devices
    5. Landing platform including the overhead protection, pit fencing, and handrails
    6. The roof access door shall be closed during the operation of the hoist.
3. Any discrepancies found during the daily operators checks must be reported to the project superintendent. Any issues that will affect the safe operation of the hoist shall result in the hoist being red tagged until the issues have been corrected.

At any time the operator is required to climb or work outside the confines of the rooftop guardrail systems, they shall be protected by a personal fall arrest system.

Section 32 - Personal Protective Equipment

Responsibility

32.1 RESPONSIBILITY

1. This document is written to provide clear and concise policy on the wearing of various types of required personal protective equipment. Everyone, regardless of the reason for being on site will be required to follow these guidelines. Subcontractors are required to ensure their employees, visitors and tiered subcontractors follow these requirements. Failure to follow these guidelines will result in being removed from the project.
2. Supervisors and project managers are responsible for ensuring that this policy is strictly enforced.
3. Field supervisors are required to conduct a hazard assessment of their workplace and select the proper PPE to protect the employee from the assessed hazards

Requirements

32.2 GENERAL REQUIREMENTS

1. All personal protective equipment (PPE) used on site must be kept in good working condition.
2. Equipment, either personal or company owned, shall be checked periodically and be removed from service if found defective.
3. To avoid entanglement in rotating equipment, workers with long hair shall have it tucked under their hard hat or within their shirt.
4. Wearing long necklaces that may get hung up in moving parts of tools or machinery is prohibited.
5. Wearing rings on the fingers or any other loose jewelry is discouraged.
6. All workers shall be trained in the proper selection, use and care of all PPE.
7. Only PPE that meets the standards published by the American National Standard Institute (ANSI), National Institute of Occupational Safety & Health (NIOSH) or the Occupational Safety and Health Administration (OSHA) shall be used.

32.3 FALL PROTECTION GENERAL GUIDELINES

1. Any employee exposed to fall hazards of greater than 6 feet must be protected from a fall by a fall arrest system.
2. Personal fall arrest systems and components subjected to impact loading shall be immediately removed from service and shall not be used again for employee protection until inspected and determined by a competent person to be undamaged and suitable for reuse.
3. All employees using fall protection PPE will be trained on the proper use, fit and wear before donning the equipment.
4. Personal fall arrest systems shall be inspected prior to each use for wear, damage and other deterioration. Defective equipment shall be tagged and removed from service.
5. Personal fall arrest systems shall not be attached to guardrail systems.

6. Lifelines and lanyards shall be used only for employee safeguarding.
7. Safety Belts are prohibited for fall protection.

32.4 VERTICAL LIFELINES

1. A minimum of ¾ inch manila or equivalent, with a minimum breaking strength of 5,400 pounds shall be used.
2. Lifelines shall be secured above the point of operation to an anchorage point capable of supporting a minimum dead weight of 5,400 pounds.
3. When vertical lifelines are used, each employee shall be attached to a separate lifeline.
4. Lifelines shall be protected against being cut or abraded.

32.5 HORIZONTAL LIFELINES

1. Horizontal lifelines shall be designed, installed, and used, under the supervision of a competent person, as part of a complete personal fall arrest system and shall be designed to a safety factor of twice the designed load.

32.6 FULL BODY HARNESS

1. Full body harnesses are required for all personal fall protection applications.
2. Leg and chest straps must be properly buckled when utilizing the harness for fall protection.

32.7 LANYARDS

1. Shock absorbing lanyards will be a minimum of 1/2-inch nylon, or equivalent, with a maximum length to provide for a fall of no greater than 6 feet.
2. The lanyard shall have a nominal breaking strength of 5,400 pounds.
3. Anchorage points used for attachment of personal fall arrest equipment shall be independent of any anchorage point being used to support or suspend platforms and capable of supporting at least 5,000 pounds
4. Lanyards shall not be extended in any way.
5. Lanyards shall not be hooked back to themselves.
6. Lanyards shall not be attached to retractable lifelines (yo-yos) to extend reach.
7. All other information concerning fall protection can be found in the fall protection Section 23.

32.8 HARD HATS

1. The outside shell shall be free of paint, holes, cracks or cuts, and the inside suspension shall be in good working order.
2. Bump caps or baseball caps in place of hard hats are prohibited. Ball caps will not be worn under hardhats.
3. Hard hats must be worn in conformance with the manufacturer's instructions.
4. Welder's "soft caps" will not be allowed. A hard hat that accepts the welding hood must be worn by those needing such protection

32.9 EYE AND FACE PROTECTION

1. Eye protection that meets the safety standards must be worn at all times.
2. During certain activities that create potential eye and/or face injuries, safety glasses with side shields meeting ANSI Z87 or a combination of safety glasses and a face shield will be required.
3. Tinted eye protection shall not be used for interior work as it limits vision. Only eye protection that is rated as Indoor/outdoor or indoor will be allowed.

32.10 HAND AND ARM PROTECTION

Gloves play an important role in protecting our people. However, before putting on a pair of gloves, it's important to perform a workplace hazard assessment and investigate the use of engineering and work practice controls to reduce and mitigate risk and exposure. Once this has been accomplished, appropriate PPE in the form of hand protection can be applied. (see "Hand and Arm Protection Guide") Appropriate hand protection must be selected and worn to protect against: cuts or lacerations, abrasions, punctures, chemical burns, harmful chemicals, thermal burns and extreme temperatures. Considerations for selecting the appropriate type of hand protection, i.e. gloves are based around performance characteristics related to: task, conditions present, duration of use, and those hazards identified. There are many types of gloves available in the market today to protect against a wide variety of hazards which makes the selection process challenging. To assist with the selection process, a JE Dunn "Hand and Arm Protection" guide is available for reference. Note, these glove types can be found through our on-line logistics catalog.

Responsibilities: A Mandatory Glove Wearing Policy applies equally to JE Dunn and Trade Partner employees while they are within the construction area of any JE Dunn project site. Appropriate gloves are required to be worn similar to other forms of PPE, such as: hard hats, protective eye wear, hi-vis apparel, and foot protection.

1. JE Dunn and Trade Partner employees are required to wear appropriate gloves rated ANSI level two or EN level three (or higher) and even greater protection for particular exposures and tasks. *The only exceptions, will be:*

a. *Specialty gloves used for certain applications and exposures such as protection against chemicals*
b. *Where job tasks require a higher amount of dexterity and serious hazards are not present, then the task may be carried out without the use of gloves. In each of these instances, a hazard assessment and job safety analysis shall clearly identify that the use of gloves will actually introduce a risk.*

c. *If an employee needs to temporarily remove his / her glove(s) in the work area and this does not present any type of risk or exposure.*

d. *When operating equipment, such as: cranes, heavy earth-moving, dump trucks or other similar equipment where exposure to abrasions or cuts / laceration hazards are low. However, prior to exiting the seat, appropriate gloves will be expected to be worn.*

2. Gloves must be suitable for the user and task. Most importantly, the type of glove and level of cut / puncture protection should comply with the latest industry standards for PPE.

3. Gloves will be provided free of charge to directly employed JE Dunn personnel. Any gloves with impaired protective ability should be brought to the Supervisor then discarded and

replaced. Furthermore, each employee is responsible for taking reasonable care of his/her protective equipment.

4. Gloves should be inspected before each use by the user to ensure they are not torn, punctured or made ineffective in any way.
5. Trade Partners will be expected to supply their staff and any sub-tier trade partner with appropriate gloves. Again, 100% gloves is a requirement of every project site and must be adhered to.

Hand and Arm Protection Guide:

32.11 PROPER CLOTHING

1. Clothing bearing wording and/or illustrations that could be considered offensive to the general public is prohibited.
2. Shirts:
    1. Shirts with sleeves shall be worn at all times
    2. Short sleeve shirts are acceptable, but they shall cover the upper shoulder from the base of the neck to approximately half way to the elbow.
    3. The shirts shall also cover the trunk of the body, starting at the base of the neck to the belt line.
    4. Tank tops, midriffs, sleeveless or shirts with deep cut necklines or armpits are not allowed.
3. Trousers:
    1. Heavy-duty trousers which cover the length of the leg to the boot top must be worn while on site
    2. Shorts, cutoffs, wind pants or exercise type pants are not allowed – this apparel does not protect the leg from the elements or hazards that may be encountered onsite
4. Foot Protection:
    1. Employees must wear appropriate protective footwear for the work they are performing.
    2. Sturdy, heavy-duty work boots are required.
    3. Canvas or soft leather-type athletic shoes or toeless shoes are not permitted.
    4. Rubber boots are required when working in concrete or water.
    5. While recommended, steel toe or the equivalent type of safety boot is not mandatory except in site specific requirements.
5. Reflective Vests
    1. Reflective / high-visibility vests shall be worn by all workers on site for the duration of the project or as deemed necessary by the Regional Safety Director. Tee shirts, shirts or coats that are a high visibility color (orange, yellow, lime and green) may be worn in lieu of the vests when not flagging traffic or working in an area where the DOT approved vests is required. Shirts and vests that are dirty and faded that have lost their visibility characteristics are prohibited.

32.12 HEARING PROTECTION

1. When it's not possible to reduce noise levels below the permissible exposure limit levels, hearing protection will be worn. When proper hearing protection is in use, noise reduction levels should be maintained below 85 dba per 8hr work shift.
2. During certain activities that could affect hearing, protection will be required. Tasks include, but are not limited to:
    1. Grinding
    2. Chipping
    3. Scaling
    4. Cutting metal studs or track
    5. Cutting masonry / block saw
    6. Using table saw
    7. Sanding
    8. Using air blowers
    9. Working near noise and other noise producing operations
3. For most of construction related noise hazards, simple foam ear plugs are adequate for most tasks and will be made readily available onsite. If additional protection is needed, ear muffs worn with ear plugs can provide additional protection.
4. Portable radios, iPods, Walkman's, or similar devices are prohibited.

Hearing Tip: As a rule of thumb, if you have to raise your voice above a normal speaking level to be heard, the sound around you is too loud and hearing protection is required.

32.13 RESPIRATORS

For detailed information on Respirators, See Section 33.

Section 33 - Respiratory Program

Responsibility

33.1 RESPONSIBILITES

1. The Regional Safety Department is the Respiratory Protection Program Administrator. The Program Administrator will develop written detailed instructions covering each of the basic elements in this program, and is solely authorized to amend these instructions.
2. Project Superintendents are responsible for ensuring all employees follow the guidelines outlined in this program.
3. The Regional Safety Department shall review this program periodically to ensure its effectiveness. Only the Regional Safety Department may amend the written program.
4. Employees may review a copy of our Respiratory Protection Program.

Requirements

33.2 RESPIRATORY SELECTION

1. Respirators are to be used only where engineering control of respirator hazards is not feasible, while engineering controls are being installed, or in emergencies.
2. All respiratory equipment will be provided by the company at no cost to the employee.
3. Respirators shall be selected on the exposure of the worker. They shall also be based on workplace and user factors that affect respirator performance and reliability. All selections must be approved by the Regional Safety Department.
4. Before selecting the respirator, the company must first assemble the necessary toxicological, safety, and other relevant information for each containment, including the following:
    1. General use conditions, including determination of contaminant(s).
    2. Physical, chemical, and toxicological properties of the contaminant(s).
    3. Odor threshold data, if applicable.
    4. Exposure limits (exposure limits are usually Time Weighted Averages (TWA) unless a ceiling limit exists for the compound).
    5. Eye irritation potential.
    6. Any service life information available (for cartridges and canisters).
5. Under no circumstance shall an employee be allowed to enter a space that is considered to be IDLH (immediately dangerous to life or health). If you encounter a condition that has the potential of becoming IDLH, the safety department should be contacted immediately.

33.3 MEDICAL EVALUATIONS

1. A medical evaluation to determine whether an employee is able to use a given respirator is an important element of an effective Respiratory Protection Program and is necessary to prevent injuries, illnesses, and even, in rare cases, death from the physiological burden imposed by respirator use.

2. Workers will not be assigned to tasks requiring use of respirators nor fit tested unless it has been determined that they are physically able to perform the work and use the respirator.
3. A Physician or Other Licensed Health Care Professional (PLHCP) will perform medical evaluations using a medical questionnaire found in Sections 1 and 2, Part A of Appendix C of OSHA 29 CFR 1910.134.
4. All medical questionnaires and examinations shall remain confidential and completed during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire is administered so that the employee understands its content. All employees are provided an opportunity to discuss the questionnaire and examination results with their physician or other licensed health care professional (PLHCP).
5. Before any initial examination or questionnaire is given, the medical provider should be provided with the following information so that he/she can make the best recommendation concerning an employee's ability to use a respirator:
    1. Type and weight of the respirator to be used by the employee.
    2. Duration and frequency of respirator use (including use for rescue and escape).
    3. Expected physical work effort.
    4. Additional protective clothing and equipment to be worn.
    5. Temperature and humidity extremes that may be encountered.
6. Once the examiner determines the eligibility of the employee to wear a respirator, the examiner will provide the company a written recommendation containing only the following information:
    1. Limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator.
    2. The need, if any, for follow-up medical evaluations.
    3. A statement that the PLHCP has provided the employee with a copy of the PLHCP's written recommendation. All candidates for respiratory equipment must undergo a medical examination before use. The evaluation must be confidential and provided during normal work hours. Candidates must be provided the opportunity to discuss the results of medical exams with the program licensed health care provider (PHHCP).

33.4 FIT TEST PROCEDURES

1. To provide the proper protection, respirators must fit properly. If a tight seal is not maintained between the respirator and employee's face, contaminated air will be drawn into the breathing zone of the worker rendering the respirator ineffective. Fit testing seeks to protect the employee against breathing contaminated ambient air and is one of the core provisions of our respirator program.
2. In general, fit testing may be either qualitative or quantitative. Qualitative fit testing (QLFT) involves the introduction of a gas, vapor, or aerosol test agent into an area around the head of the respirator user. If that user can detect the presence of the test agent through subjective means, such as odor, taste, or irritation, the respirator fit is inadequate.
3. In a quantitative respirator fit test (QNFT), the adequacy of respirator fit is assessed by measuring the amount of leakage into the respirator, either by generating a test aerosol as a test atmosphere, using ambient aerosol as a test agent, or using

controlled negative pressure to measure the volumetric leak rate. Appropriate instrumentation is required to quantify respirator fit in QNFT.

4. Fit tested shall be conducted with the same make, model, style, and size of respirator that will be used whenever any of the following are encountered:
    1. Employees are required to use any respirator with a negative or positive pressure tight-fitting face piece.
    2. Whenever a different respirator face piece (size, style, model, or make) is used;
    3. At least annually.
    4. Whenever the employee physical conditions change that could affect respirator fit.
    5. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery or an obvious change in body weight.
    6. When the employee notifies the company that the fit of the respirator is unacceptable. The employee will be retested with a different respirator face piece.
5. Employees must pass one of the following fit test types that follow the protocols and procedures contained in OSHA 29 CFR 1910.134 Appendix A:
    1. QLFT (Only used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less. May be used to test tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators if tested in the negative pressure mode).
    2. QNFT (May be used to fit test a tight-fitting half face piece respirator that must achieve a fit factor of 100 or greater OR a tight-fitting full face piece respirator that must achieve a fit factor of 500 or greater OR tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators if tested in the negative pressure mode).

33.5 PROPER USE OF RESPIRATORS

1. Once the respirator has been properly selected and fitted, its protection efficiency must be maintained by proper use in accordance with OSHA 29 CFR 1910.134(g).
2. The following checklist shall be used to ensure that proper use procedures include coverage of OSHA requirements:
    1. Face piece Seal Protection
        1. Do not permit respirators with tight-fitting face pieces to be worn by employees who have any of the following:
            1. Facial hair that comes between the sealing surface of the face piece and the face or that interferes with valve function.
            2. Any condition that interferes with the face-to-face piece seal or valve function.
            3. If an employee wears corrective glasses or goggles or other personal protective equipment, ensure that such equipment is worn in a manner that does not interfere with the seal of the face piece to the face of the user.
            4. For all tight-fitting respirators, ensure that employees perform a user seal check each time they put on the respirator using the procedures recommended by the respirator manufacturer.
    2. Continuing Respirator Effectiveness
        1. Maintain surveillance of the work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect

respirator effectiveness, reevaluate the continued effectiveness of the respirator.
        2. Ensure that employees leave the respirator use area:
        3. To wash their faces and respirator face pieces as necessary to prevent eye or skin irritation associated with respirator use; or
        4. If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece; or
        5. To replace the respirator or the filter, cartridge, or canister elements.
    3. If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the face piece, replace or repair the respirator before allowing the employee to return to the work area.

33.6 MAINTENANCE AND CARE PROCEDURES

1. In order to ensure continuing protection from respiratory protective devices, it is necessary to establish and implement proper maintenance and care procedures and schedules. A lax attitude toward maintenance and care will negate successful selection and fit because the devices will not deliver the assumed protection unless they are kept in good working order.
2. Respirators shall be provided that are clean, sanitary, and in good working order.
3. Disposal respirators should be used whenever possible.
4. If reusable respirators are used, the following requirements must be met:
    1. Respirators shall be cleaned and sanitized whenever:
        1. More than one employee uses the respirator
        2. After each use

33.7 STORAGE

1. Proper respirator storage must be done to ensure that the equipment is not subject to contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals.

33.8 INSPECTION

1. To assure the continued reliability of respirator equipment, it must be inspected on a regular basis. The frequency of inspection is related to the frequency of use.
2. Respirators shall be inspected:
    1. Before first use
    2. After cleaning and disinfecting
    3. In accordance with manufacturer’s recommendations.
3. Inspection criteria includes but is not limited to, elastomeric parts for pliability and signs of deterioration, the face piece, head straps, valves, connections, cartridges, canisters or filters.
4. Respirators that fail an inspection must be discarded.

33.9 TRAINING

1. The Regional Safety Department shall ensure workers that utilize respirators be trained. The training shall include:
    1. Pre-use inspections.
    2. Use of equipment.

3. Limitations of the respirators
4. Inspections of respirators.

33.10 RECORD KEEPING

1. The Regional Safety Departments shall maintain all records required in this policy. Those records include:
    1. Medical reports will be kept on all employees using respirators
    2. Records of inspections

Maintenance of personnel records

Section 34 - Scaffolding

Requirements

34.1 SCAFFOLD ERECTION

1. All scaffolds shall be erected or dismantled under the direct supervision of a designated competent person. That person must be familiar with and follow the manufacturer's recommendations concerning the installation and use of the scaffolding.
2. All scaffolds shall be capable of supporting, without failure, its own weight and at least 4 times the maximum intended load.
3. Scaffolds will be designed by a qualified person. The scaffold shall be constructed and loaded in accordance with that design. The designer must address non typical loading due to winter protection and netting.
4. Scaffolding greater than 125 feet high must be designed by a registered engineer.
5. Scaffold installers/dismantlers shall utilize fall protect when exposed to a fall of greater than 6 feet.

34.2 SCAFFOLD INSPECTION

1. A daily inspection of the scaffold is to be performed by the designated competent person.
2. The designated competent person shall determine whether the scaffold is safe to use by others. A scaffold tagging system shall be used to identify the stage of scaffold readiness.
3. The scaffold tagging system shall consist of a three separate tags;
    1. Green tag
    2. Yellow tag
    3. Red tag
        1. Scaffold tags shall be placed at the base of the scaffold in a highly visible location and shall bear the date of the last inspection and the initials of the inspector.
        2. A green tag is attached by the competent person to scaffolds that are considered complete. This would include the installation of all structural components, tiebacks, decking and a guardrail system. A green tag would tell the user that the scaffold is safe to use.
        3. A yellow tag placed on a scaffold indicates the scaffold was constructed in a manner outside the norm in order to meet specific work conditions or requirements. All attempts should be made to restore a yellow tag to a green tag as soon as is practical. A yellow tag also informs the user that a fall protection device may be required.
        4. A red tag indicates the scaffold is being dismantled, not yet completely erected, or for some reason not safe and shall not be used.
        5. Scaffolds that are not tagged shall not be used.
4. If there are any changes or alterations of the scaffold, the competent person shall re-inspect the
5. All contractors are to provide own inspections, regardless of responsible erecting party.

6. All contractors are to sign an indemnity release form and present for acceptance to the responsible scaffold contactor.
7. All employees are to be properly trained in scaffolds and fall protection prior to accessing scaffolds, with documentation.

34.3 GENERAL WORK REQUIREMENTS

1. Fall protection must be used when on a scaffold that is 6 feet or more below a lower level.
2. No scaffold shall be constructed, or used in any manner as to present an electrical hazard. Any special considerations where it is deemed that no other feasible means are available to perform work, all work activity must have:
    1. Proper notification to the utility company(s) for remediation of such hazard.
    2. Pre-meeting with J E Dunn Safety / Management.
    3. A Job Safety Analysis properly performed, prior to performing any work.
3. Employees are prohibited from working on scaffolds covered with snow, ice, or other slippery material.
4. Work on or from scaffolds is prohibited during storms or high winds unless a competent person has determined that it is safe for all employees.
5. Debris, material, and tools shall not be allowed to accumulate on platforms.
6. No type of makeshift devices, material, or equipment will be used to increase working height of employees on scaffolds, including but not limited to ladders.
7. Apparatuses such as hoists, lifts or piping shall not be added to a scaffold without the scaffold manufacturers' approval.

34.4 GUARDRAILS

1. Standard guardrails consisting of a top rail (39-42 inches), midrail (21 inches) and toe boards (4 inches) shall be installed on all open sides of the scaffolding.
2. Cross bracing is acceptable in place of a midrail when the crossing point of two braces is between 20" and 30" above the work platform.
3. The platform must be completely decked when using cross braces as part of the Guardrail system.

34.5 WORK PLATFORMS

1. Scaffold work platform shall be a minimum of two planks wide.
2. Scaffolds will be fully planked or decked between the front uprights and the guardrail supports with spacing no greater than 1" around the uprights
3. The front edge of all platforms will not be more 14 inches from the face of the work, unless guardrail systems are erected along the front edge and / or personal fall arrest systems are used.
4. The maximum distance from the face for plastering and lathing operations will be 18 inches.
5. Each end of the plank or platform, unless cleated or otherwise restrained by hooks shall extend over the center line of the support at least 6 inches but not more than 12 inches.
6. Planking overlap shall not be less than 12 inches unless planks are nailed together or restrained to prevent movement.

34.6 BRACING/TIEBACKS

1. All scaffolds that meet the 4:1 ratio (height to base) are required to be tied-off, braced, or supported by other means.
2. Tie backs must be installed to support the scaffold in all directions.

34.7 FOUNDATION

1. Supported scaffolds poles, legs, posts, frames, and uprights shall bear on base plates. Mud sills capable of supporting the load must be used unless there are other adequate firm foundations. Footings shall be level, sound, rigid, and capable of supporting scaffold without settling or displacement.
2. No other means, mechanical or motorized, will be used to support scaffold

34.8 SCAFFOLD ACCESS

1. When scaffold platforms (of any type of scaffold) are more than 2 feet above or below a point of access, safe means of access will be provided.
2. Cross braces will not be used as means of access.
3. Hook-on and attachable ladders will be positioned no more than 24” above scaffold supporting level.
4. When hook-on or attachable ladders are used, the maximum free climbing height shall be limited to 35 feet measured from the base of the scaffold. Alternate means such as a stair scaffold shall be utilized when exceeding that height.
5. Hook-on and attachable ladders shall be specifically designed for use with the type of scaffold used.
6. The ends of stair rail systems, handrails, or any other type of access provision will be constructed so that they do not constitute a hazard.
7. Direct access to or from another surface shall be used only when the scaffold is not more than 14 inches horizontally and not more than 24” vertically from the other surface. Other means may be allowed when discussed and agreed upon with J E Dunn Safety / Management, and when 100 % fall protection is provided.
8. Scaffolds will not be moved horizontally while employees are on them.

34.9 SUSPENSION SCAFFOLD

1. Suspension scaffold shall be installed per manufacturer’s recommendations.
2. Two-point and multi-point suspension scaffolds shall be tied or otherwise secured to prevent movement.
3. All suspension scaffold support devices, such as outrigger beams, cornice hooks, parapet clamps, and similar devices, shall rest on surfaces capable of supporting at least 4 times the load imposed on them.
4. Suspension scaffold outrigger beams, when used, will be made of structural metal or equivalent strength material and will be restrained to prevent movement.
5. Outrigger beams shall have stop bolts installed at each end of the beam.
6. Outrigger beams which are not stabilized by bolts or other direct connections to the floor or roof will be secured by tiebacks.
7. Outrigger tiebacks shall be installed perpendicular to the face of the building or at opposing angles to a structurally sound anchorage.

34.10 COUNTERWEIGHT

1. Counterweights will be made of a solid material.

2. Sand, Gravel, and similar material will not be allowed as counterweights.
3. Counterweights, if used, will be secured by mechanical means to the outrigger beams to prevent accidental movement.

34.11 OVERHEAD FALLING OBJECT PROTECTION

1. When employees are working on scaffolding and are exposed to work above, they shall be protected with one or more of the following means:
    1. Approved overhead protection installed on the scaffold.
    2. Toe boards, vertical netting, on every open-sided floor above the scaffold.
    3. Catch platforms or horizontal nets between the work above and the scaffold work platform.
    4. Housekeeping efforts on the upper floors.
    5. Securing of material and/or equipment on the upper floors.
    6. Staggering of work schedule to eliminate the exposure.
2. When employees are working on a scaffold and there is a potential of exposure below due to falling objects, one or more of the following means shall be implemented
    1. Barricades and signage shall be set up to keep workers out of the area.
    2. Extended toe boards and/or vertical netting shall be installed on the back of the scaffold.
    3. A ground person shall be in place to direct traffic and/or personnel movement.

Scaffold deck cleaned regularly throughout the shift.

Section 35 - Steel Erection

Responsibility

35.1 RESPONSIBILITY

1. The Superintendent is responsible for the implementation and enforcement of these requirements.
2. The steel erection contractor(s) is responsible for following the guidelines of this program including all applicable federal, state and local regulations.

Requirements

35.2 PRIOR TO START OF ERECTION

1. Prior to the start of work, a pre-erection meeting shall be conducted with the project superintendent and representatives of the erection contractor including the erection foreman. The Steel Erection Checklist shall be completed and reviewed.
2. The Controlling Contractor shall provide written notification to the steel erector that:
    1. The concrete in the footings, piers and walls and/or the mortar in the masonry piers and walls have attained, on the basis of an appropriate ASTM standard test method of field-cured samples, either 75 percent of the intended minimum compressive design strength or sufficient strength to support the loads imposed during steel erection.
    2. Anchor bolt repairs, replacements and modifications were completed under the direction and approval of the project Structural Engineer of Record.
3. Site Layout
    1. In order for the steel erector to perform necessary operations in a safe manner, Controlling Contractor shall ensure that:
        1. Access roads into and through the site are adequate for safe delivery and movement of: derricks, cranes, trucks, other necessary equipment and the material to be erected.
        2. Adequate space is available for safe storage of materials and safe operation of the erector's equipment.
4. Site Specific Erection Plans
    1. All hoisting and erection operations must be pre-planned by a qualified person. The plan shall be written and submitted to the project superintendent for approval before any work is performed.
    2. Plans must include the following:
        1. The sequence of erection activity, developed in coordination with the controlling contractor
        2. Material deliveries
        3. Material staging and storage
        4. Coordination with other trades and construction activities
        5. A description of the crane and derrick selection and placement procedures, including the following:
            1. Site preparation
            2. Certified crane operator
            3. Path for overhead loads
            4. Critical lifts, including rigging supplies and equipment
            5. Inspection documentation (annual and daily).

3. A description of steel erection activities and procedures, including the following:
    1. Stability considerations requiring temporary bracing and guying
    2. Erection bridging terminus point
    3. Notifications regarding repair, replacement and modifications of anchor rods (anchor bolts)
    4. Columns and beams (including joists and purlins);
    5. Connections
    6. Decking, Ornamental and miscellaneous iron.
    7. A description of the fall protection procedures that will be used
    8. A description of the falling object protection procedures that will be used to comply with
    9. A description of the special procedures required for hazardous non-routine tasks.
    10. A certification for each employee who has received training for performing steel erection operations as required by OSHA.
    11. A list of the qualified and competent persons.
    12. A description of the procedures that will be utilized in the event of rescue or emergency response.
4. In addition, the plan should include identification of the site and project, and be signed and dated by the qualified person(s) responsible for its preparation and modification.

35.3 STRUCTURAL STEEL ASSEMBLY

1. Multi-Story Structures
    1. Permanent floors must be installed as the erection of structural members progresses, with no more than eight stories between the erection floor and the upper-most permanent floor.
    2. Unfinished bolting or welding above the foundation (or the uppermost secured floor) is not permitted to exceed four floors, or 48 feet (14.6 m), whichever is less.
    3. Safety nets or a fully planked or decked floor shall be maintained directly under any erection work being performed, within two stories, or 30 feet (9.1 m), whichever is less.
    4. To prevent tripping hazards, shear connectors(studs or lugs) must not be attached so as to project from the top flanges of beams, joists, or beam attachments until after the metal decking, or other walking/working surface, has been installed (Exception: These may be factory installed if all workers, including connectors and deckers, use fall protection at all times).
    5. When shear connectors are used in construction of composite floors, roofs and bridge decks, they must be laid out and installed after the metal decking has been installed, so the metal decking serves as a working platform.
2. Guying or bracing
    1. When deemed necessary by a competent person, guying or bracing must be installed during the steel erection process to ensure the stability of the structure
    2. Bracing shall be in place and properly installed before the structure is loaded with construction material such as loads of joists, bundles of decking, or bundles of bridging to avoid movement
    3. Bracing equipment may be removed only with the approval of a competent person

3. Metal Decking
    1. Hoisting, landing, and placing of metal decking bundles shall be under the direction of a qualified rigger.
    2. Bundle packaging and strapping may not be used for hoisting unless specifically designed for that purpose.
    3. If loose items such as dunnage, flashing, or other materials are placed on top of metal decking bundles intended to be hoisted, they must be secured to the bundles.
    4. When bundles of metal decking are landed on joists, all bridging must be installed and anchored, and all joist-bearing ends attached.
    5. Metal decking bundles must be landed on framing members so that enough support is provided to allow the bundles to be unbanded without dislodging the bundles from the supports.
    6. At the end of the shift or when environmental or jobsite conditions require, metal decking must be secured against displacement.
    7. Metal decking at roof and floor holes and openings must be installed as follows:
        1. Framed metal deck openings must have structural members turned down to allow continuous deck installation, except where prevented by structural design constraints or constructability
        2. Openings such as roof and floor holes must be decked over.
        3. When metal decking holes and openings are cut, they must be protected by standard guardrails or adequate floor hole covers.
        4. Where large size, configuration, or other structural constraints do not allow openings to be decked over (e.g. elevator shafts, stair wells, etc.), employees must be protected in accordance with the Section 23 fall protection provisions of this policy.
    8. Covers for roof and floor openings shall be capable of supporting, without failure, twice the weight of the employees, equipment, and materials that may be imposed on them at any one time - All covers must be:
        1. Secured when installed to prevent accidental displacement by the wind, equipment or employees
        2. Marked with the word "HOLE" or "COVER" to provide warning of the hazard
    9. Installed smoke dome or skylight fixtures are not considered covers, unless they meet the appropriate strength requirements.
    10. Where planks or metal decking around columns do not fit tightly, wire mesh, exterior plywood, or equivalent material must be installed, and must be of sufficient strength to:
        1. Provide fall protection for personnel.
        2. Prevent objects from falling through.
    11. To prevent accidental movement or displacement, metal decking must be laid tightly, and be immediately secured.
    12. During initial placement, metal decking panels must be fully supported by structural members.
4. Derrick Floors
    1. To support the intended floor loading, a derrick floor must be fully decked and/or planked, and the steel member connections completed.
    2. Temporary loads placed on a derrick floor must be distributed over the underlying support members so as to prevent local overloading of the deck material.

35.4 COLUMN ANCHORAGE

1. All columns must be anchored by a minimum of 4 anchor bolts.
2. Columns must be set on level finished floors, pre-grouted leveling plates, leveling nuts, or shim packs that adequately transfer the construction loads.
3. All columns must be evaluated by a competent person to determine whether guying or bracing is needed; if guying or bracing is needed, it must be installed.
4. Anchor Rods / anchor bolts will not be repaired, replaced, or field-modified without approval by the project structural engineer of record in writing.

35.5 BEAMS AND COLUMNS

1. During the final placing of solid web structural members, the load must not be released from the hoisting line until the members are secured with at least two bolts per connection, of the same size and strength as shown in the erection drawings and bolts are drawn up wrench-tight.
2. A competent person must determine if more than two bolts are necessary to ensure the stability of cantilevered members If additional bolts are needed, they must be installed.
3. Perimeter columns shall not be erected unless:
    1. The perimeter columns extend a minimum of 48 inches (1.2 m) above the finished floor to permit installation of perimeter safety cables prior to erection of the next tier, except where constructability does not allow
    2. The perimeter columns have holes or other devices in or attached to perimeter columns at 42-45 inches (107-114 cm) above the finished floor and the midpoint between the finished floor and the top cable to permit installation of perimeter safety cables required for fall protection (Section 23)

35.6 OPEN WEB STEEL JOISTS

1. Hoisting cables will not be released until the seat of the joist on each end has been stabilized.
2. No modification that affects the strength of the joist can be made without approval of Structural Engineer of record.
3. Steel joists and steel joist girders shall not be used as anchorage points for a fall arrest system unless written approval to do so is obtained from a qualified person.
4. Each steel joist will be secured to the structure, at least on one end immediately upon placement in the final erection position and before additional joists are placed or hoisting cables released. For joists over 60 feet, both ends will be secured prior to release of hoisting cables.
5. No more than one employee is allowed on a joist until bridging is installed and secured.
6. When landing decking materials on joists, ensure that load is distributed properly and does not exceed carrying capacity of joists.
7. No bundle of decking can be placed on joists until all bridging has been installed and anchored and all joist ends are secured.
8. Bundles of decking should be placed on a minimum of three joists to properly distribute weight, and should be within 1 foot of the bearing surface of the joist end.

35.7 SYSTEMS-ENGINEERED METAL BUILDINGS

1. All safety standards that apply to structural steel erection shall also apply to Pre-Engineered buildings.
2. Structural columns must be anchored by a minimum of four anchor bolts.

3. Rigid frames will have 50 % of the bolts installed and tightened before hoisting equipment is released from the load. In general, connections should be bolted and tightened as the erection sequence advances.
4. Purlins and girts shall not be used as an anchorage point for fall arrest systems without written approval from a qualified person.
5. Construction loads will not be placed on any structural steel framework unless such framework is safely bolted, welded, or otherwise adequately secured.

35.8 FALLING OBJECT PROTECTION

1. All materials, equipment and tools, which are not in use shall be secured against accidental displacement.
2. No other construction activities will occur during the erection process unless overhead protection is provided for the workers, or a restricted area is in place to prevent exposure to workers below.

35.9 FALL PROTECTION

1. During all erection processes, all workers shall utilize and follow 100% fall protection.
2. On multi-story structures, perimeter safety cables shall be installed at the final interior and exterior perimeter of the floors as soon as the metal decking is installed.
3. Controlled decking zones cannot be used as a substitute for the 100% fall protection rule.
4. Fall protection provided by the steel erector shall remain in place and under his control until the controlling contractor has inspected and accepted control and responsibility of the fall protection.

35.10 TRAINING

1. Personnel performing steel erection shall receive training from their employer that focuses on the specific hazards associated with steel erection such as fall hazards, use and operation of guardrails, personal fall arrest systems, and any other special training as required.
2. Subcontractors will supply documentation of this training prior to starting erection.

Section 36 - Underground Utilities

Responsibility

36.1 RESPONSIBILITIES

1. The superintendent is responsible for ensuring all requirements of this procedure are implemented and followed.
2. The superintendent is also responsible for ensuring that all subcontractors follow the guidelines for the final location of underground utilities in the vicinity of their work.

Requirements

36.2 PROCEDURES

1. Before any excavations take place on site, all utilities in the area must be located. A preconstruction site survey shall be performed to gain information of anticipated or known underground utilities. The superintendent shall ensure that all utility companies or their designees are contacted to locate and mark the location of underground utilities.
2. Notice must be given to the location services 2 to 10 days before the start of the excavation. These location services vary from state to state and utility to utility. In most cases, there is a One-Call Service available that will notify utilities in the area of our intention to excavate. Contact numbers for all participating locations are listed in section 36.5.
3. The superintendent should ask the locating service if there are any utilities in the area that they do not represent. In the event that a utility is not represented by the location service listed, the utility company shall be contacted directly.
4. When you contact the service for a locate, you must provide the following information:
    1. Caller name, address and telephone number.
    2. Address and telephone number of the excavator, if different from your own.
    3. Work location: street address/Township/Range/Section/Quarter section or GPS points
    4. The date, and preferably the time, work will start.

36.5 LOCATE SERVICES BY STATE

1. All states participate in the 811 dial service or dial the number specific to each state below.
2. Dig Safe North America Directory Assistance (all states) 1-888-258-8080

State	Phone No.
Alabama	811 or (800) 292-8525
Alaska	811 or (800) 478-3121
Arizona	811 or (800) 782-5348
Arkansas	811 or (800) 482-8998
California	811 or (800) 227-2600
Colorado	811 or (800) 922-1987
Connecticut	811 or (800) 922-4455
Delaware	811 or (800) 282-8555
Florida	811 or (800) 432-4770
Georgia	811 or (800) 282-7411
Hawaii	811 or (866) 423-7287
Idaho	Dig Line 811 or (800) 342-1585 Bonner/Boundry 811 or(800) 626-4950 Kootenai Co 811 or (800)428-4950 Shoeshone-Benewaw 811 or (800) 398-3285
Illinois	outside Chicago 811 or (800) 892-0123 Chicago 811 or (312) 744-7000
Indiana	811 or (800) 382-5544
Iowa	811 or (800) 292-8989

5. The type of work and depth of excavation.
6. The type of excavation open/boring/tunneling
7. The location of excavation by any one or more of the following means:
    1. A specific street address.
    2. A reference to a platted lot number of record.
    3. A specific quarter section of a range or township.
8. In addition to the above information, You are also required to specify if the location is within a city limit

5. Upon contact with any one-call service you will be provided a confirmation number that shall be logged in your project diary along with the time, date, and the name of the contact person. If contacting a utility directly, log in the time, date and person's name.

36.3 LOCATES

1. The location must be provided as promptly as practical but not in excess of two working days from the time you called in your request. The location will be an "approximate location" which by law is the width of the utility plus two feet on each side.
2. If the Owner of the line provides a depth, it is, at best, approximate and should not be relied on.
3. Regardless of marking, excavations must be made in a careful, prudent manner around utilities. This will require a combination of hand digging, probing, and pot-holing. If a line is incorrectly marked, notify the owner immediately.
4. Remember, depending on the state requirements, locates are only good for short period of time. Normally 3-10 days. Check with your local service to determine what that period is and schedule callbacks for the locating service if work was not completed within that time frame.
5. Caution shall be used when performing excavations where buildings have been razed. Often there are abandoned service lines that have been "T'd" off the main line and were capped at the building line. These lines may still be active and are often not marked by the line locator.
6. In the event underground utilities are contacted, immediately notify the owner of the utility or emergency response personnel, based on the presented hazard commonly associated with gas and electrical utilities.

36.4 PRIVATE UTILITY LINES

Kansas	811 or (800) 344-7233
Kentucky	811 or (800) 752-6007
Louisiana	811 or (800) 272-3020
Maine	811 or (888) 344-7233
Maryland	West of Chesapeake Bay 811 or (800) 257-7777 East of Chesapeake Bay 811 or (800) 282-8555
Miss Utility	(800) 257-7777
Massachusetts	811 or (888) 344-7233
Michigan	811 or (800) 482-7171
Minnesota	811 or
Mississippi	811 or
Missouri	811 or (800) 344-7483
Montana	811 (800) 424-5555 Flathead and Lincoln Co. 811 or (800) 551-8344
Nebraska	811 or (800) 331-5666
Nevada	811 or (800) 227-2600
New Hampshire	811 or (888) 344-7233
New Jersey	811 or (800) 272-1000
New Mexico	811 or (800) 321-2537
New York	Underground Facility Protection Org. (800) 962-7962 or (315) 437-7333 New York 811 Center 811 or (800) 272-4480
North Carolina	811 or (800) 632-4949
North Dakota	811 or (800) 795-0555
Ohio	811 or (800) 362-2764
Oklahoma	811 or (800) 522-6543
Oregon	811 or (800) 332-2344
Pennsylvania	811 or (800) 242-1776
Rhode Island	811 or (888) 344-7233

1. There are times when we are on private property and dealing with the property owner's private lines. Many utilities will not locate these lines due to their liability. The superintendent should meet with the owner to try to locate these lines through as-built's or other means. There are private locating services that could also be hired that could assist in the line locations.

36.5 LOCATE COLOR CODING

1. Most Utilities will use a standardized color coding system to identify the location of underground lines.
2. Underground lines will be marked with the standard color codes as follows:
    1. White-Proposed excavation line
    2. Fluorescent pink-Temporary Survey Markings
    3. Red – Electric
    4. Yellow - Gas/Oil/Steam/Petroleum
    5. Orange - Communications
    6. Blue – Water
    7. Green – Sewer and drain lines

South Carolina	811 or (888) 721-7877
South Dakota	811 or (800) 781-7474
Tennessee	811 or (800) 351-1111
Texas	Lone Star Notification Center 811 or (800) 669-8344 TX Excavation Safety System 811 or (800) 344-8377
Utah	811 or (800) 662-4111
Vermont	811 or (888) 344-7233
Virginia	811 or (800) 552-7001
Washington	811 or 800-424-5555
Washington, DC	811 or (800) 257-7777
West Virginia	811 or (800) 245-4848
Wisconsin	811 or (800) 242-8511
Wyoming	811 or (800) 849-2476