

Last
Revised
2023

AWAIR PROGRAM AND SAFETY MANUAL

RULES, RECORDS, GUIDELINES, FORMS, AND INFORMATION,
INCLUDING MSDS



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1.1 Acknowledgement

**Acknowledgment of the Receipt of AWAIR Safety Program Summary
and Safety Rules**

I acknowledge the receipt of a copy of the Lyon Contracting, Inc. "AWAIR Safety Program Summary" and "Safety Rules" documents. I understand it is my responsibility to read these and any additional safety rules as provided by the employer. I will notify the foreman or company safety officer if any safety questions arise.

I also understand that failure to follow safety rules will result in the following disciplinary action:

- First Offence: Verbal Warning
- Second Offence: Written Warning
- Third Offence: Disciplinary action, which may include discharge for cause as provided for in the current labor agreement

I am aware that I must work responsibly to ensure a safe work environment and I must report all work related injuries immediately to my superintendent, and management official.

Employee Name Printed _____

Signature _____ Date _____

1.2 Awair Program Policy

AWAIR PROGRAM

It is the policy of Lyon Contracting that our employees' safety is a vital aspect of all company operations. Employee safety must be considered when planning for construction and on site during the building and transporting processes. It is the goal of **Lyon Contracting, Inc.** to provide our employees' with a safe work environment that will eliminate occurrence of injuries.

Management goals include immediately eliminating unsafe practices and conditions in the office, in transit and at the construction site with leadership and necessary funds. Superintendent's responsibilities include toolbox talks on job sites and enforcing safety rules. Employees are responsible for attending company safety meetings, tool box talks, and observing all safety rules and disciplinary action. Management and superintendents are to make sure the safety meeting documentation form is filled out at safety meetings, toolbox talks, and similar events.

Establishing operating procedures and employee training for all equipment being operated is how supervisors will be expected to minimize equipment damage and maintain construction schedules. In addition employees will utilize an effective preventive maintenance program to ensure equipment is properly maintained. All subcontractors shall follow Lyon Contracting and their own company policies in regard to company operations of tools and machines.

All employees are expected to follow the proper safety procedures as required by **Lyon Contracting, Inc.** or disciplinary action will be taken. Employees are encouraged to make suggestions and or comment on safety issues and they may be forwarded to superintendents and or management at any time.

1.3 Safety Policy

Lyon Contracting, Inc. has adopted the following Safety Policy to promote a safe working environment for its employees. Please read this information and remain constantly aware of our safety concerns on our construction projects, offices, and while driving vehicles.

The following people serve on our safety committee. It is their responsibility to monitor the activities of our projects and to maintain a safe environment. Please feel free to contact any member of the committee with any safety questions or concerns you may have.

Safety Director	Phone
Matthew Pelant	(320) 260-8995
Safety Committee	Phone
Matthew Pelant	(320) 260-8995
Abe Hofmeister	(320) 406-0394
Bill Clark	(320) 248-4758
Cole Knaeble	(320) 423-0324
Kyle Johnson	(320) 423-7934
Cody McLaren	(320) 249-1313
Anthony Wensmann	(320) 402-4079
Tim Rogers	(320) 423-1803
Trevor Ford	(320) 428-2417
Kayla Hedin	(320) 252-2267
Lori Catton	(320) 252-2267

Remember always report every accident or injury immediately to the safety director or a member of the Safety Committee at our office.

State Law requires if a work related death or work injury, which requires a report to the Commissioner of Labor in accordance with Section 176.231 Sub Div. 1 “the employer shall report the injury or death to the commissioner and insurer within 48 hours after its occurrence. Where any other injury occurs which wholly or partly incapacitates the employee from performing labor or service for more than three calendar days, the employer shall report the injury to the insurer on a form prescribed by the commissioner within ten days from its occurrence. An insurer and self-insured employer shall report the injury to the commissioner no later than 14 days from its occurrence. Where an injury has once been reported but subsequently death ensues, the employer shall report the death to the commissioner and insurer within 48 hours after the employer receives notice of this fact. An employer who provides notice to the Occupational Safety and Health Division of the Department of Labor and Industry of a fatality within the eight-hour time frame required by law, or of an inpatient hospitalization within the 24-hour time frame required by law, has satisfied the employer's obligation under this section.”

Employer intends to conduct its operations so that injuries to people, damage to property and damage to the environment will be avoided. Every effort will be made to prevent accidents and illness by the timely recognition and correction of accident and illness causes. We shall comply with all standards relating to Safety and Health matters that are enforced by Local, State, or Federal Authorities.

1.4 Statement of Safety Policy

STATEMENT OF SAFETY POLICY

SAFETY is everyone's responsibility. It is the desire of **Lyon Contracting, Inc.** to help provide a safe working environment for all employees.

To accomplish this, management will provide reasonable safeguards to help insure safe working conditions and support the safe and efficient development of all work activities.

The need also exists for recognizing that ***no job is so important that we cannot take time to perform our work safely.***

Employees are expected to use the safety equipment provided. Rules of conduct and rules of safety shall be observed. Safety equipment shall not be destroyed or abused.

The joint cooperation of employees and management in observance of this policy will help provide safe working conditions, help reduce work related accidents and will be to the mutual advantage of all. Therefore, I ask your cooperation and support to help make all our jobs safe.

President

1.5 Safety Director Announcement

SAFETY DIRECTOR

A safety director is the key person in any program designed to create and maintain interest in safety because this person is responsible for coordinating the program, supplying the ideas and inspiration, while enlisting the wholehearted support of management, supervisors, and employees.

Duties of the Safety Director:

- ◆ Develop written safety policies and procedures;
- ◆ Coordinate activities with safety committee, project managers, and superintendents (on their specific job site);
- ◆ Inform management of proposed safety and health recommendations;
- ◆ Compile and distribute safety and health information to employees;
- ◆ Provides safety training for employees, supervisors, and managers;
- ◆ Arrange for training of new employees;
- ◆ Complete and analyze accident investigation reports;
- ◆ Monitor and evaluate the effectiveness of safety and health programs;
- ◆ Assure compliance with government regulations; and

SAFETY DIRECTOR ANNOUNCEMENT

I am pleased to announce that Matthew Pelant has been appointed to the position of Safety Director for **Lyon Contracting, Inc.** We are asking the Safety Director to give you all the assistance possible to help provide a safe environment for all employees and the general public. The Safety Director has full authority to implement our safety program, so please refer any questions or comments regarding the safety program to this person. We will expect all employees to abide by the guidelines of the safety program and to cooperate with the Safety Director in all safety related matters.

President

1.6 Awair Duties

AWAIR PROGRAM

MANAGEMENT WILL:

1. Provide means to accomplish policy as stated above.
2. Endorse this policy and discharge any employee willfully disregarding it.
3. Establish and provide safety training for personnel, both for new employees and present employees.
4. Periodically audit and review the safety records and reporting functions.
5. Encourage, endorse, promote and attend safety functions.
6. Maintain open lines of communication between employees, supervisors and management relative to the free exchange of safety suggestions and information.
7. Establish safety goals and objectives and the tactics by which they may be achieved.
8. Monitor the follow-up on recommendations made to improve performance, control losses, and prevent accidents.

SUPERINTENDENT AND FOREMAN WILL:

1. Be completely responsible for on-site safety.
2. Orient new employees and subcontractors in safe job procedures, job assignments, job requirements and all rules and regulations that they will be expected to observe.
3. Report any unsafe conditions or equipment to and follow up to insure that any defective equipment or unsafe conditions are corrected.
4. Review the daily activities of each employee and subcontractors assisting in the enforcement of the Safety Program and the observance of all Safety Rules.
5. Maintain satisfactory standards of housekeeping throughout the job site.
6. Know how to operate all emergency equipment in their area of responsibility.
7. Enforce the wearing of required personal protective equipment.
8. See that all injuries are cared for properly and reported promptly.
9. Investigate all accidents; file complete reports and correct the causes immediately.
10. Re-train or instruct Lyon employees involved in accidents and those whose performance or actions make additional training necessary.
11. Be familiar with the laws pertaining to safety and their basic requirements.
12. Perform job hazard analysis by established methods when required and file reports in a timely manner.

SAFETY DIRECTOR WILL:

1. Establish and implement all necessary employee safety training and develop controls that insure that safe procedures are followed.
2. Make periodic inspections of all areas of the job site for the purpose of identifying safety hazards and take action to correct all unsafe conditions or actions.

3. Functions as the communication link between the job site, the insurance carrier and top management.
4. Insure compliance with all company, local, state and federal safety regulations.
5. Comply with proper procedures for accident investigation and reporting.
6. Review job hazard analysis forms with supervisors and schedules job tasks to be analyzed.

ALL EMPLOYEES:

Safety is a management responsibility. However, management cannot be solely responsible for the acts of employees. Each employee is expected, as a condition of employment, to work in a manner, which will not inflict self-injury or cause injury to fellow employees and subcontractors. It is important that each employee understands that responsibility for his or her own safety is an integral job requirement.

Each employee will:

1. Comply with all safety rules and regulations.
2. Refrain from any unsafe act that might endanger himself or his fellow workmen.
3. Report all accidents and injuries immediately to the supervisor.
4. Use the proper tools and personal protective equipment for the job.
5. Report all unsafe conditions to the supervisor.
6. Know what emergency telephone number to call in case of fire and/or personal injury.
7. Help maintain a safe and clean work area.
8. Participate in safety training.
9. Set a good example for others to follow.
10. Do not engage in horseplay on the job.
11. Help extend the life of equipment through proper operation and avoidance of abuse.
12. Be a safe worker off the job, as well as on.
13. Defective equipment, machinery, hazardous conditions or unsafe practices must be taken out of service and reported immediately to your supervisor.
14. The use or possession of intoxicating beverages on the job is prohibited. This includes contractor's job sites and any of our own buildings and other facilities.
15. We will not deliver any intoxicating substances or beverages to any employees or subcontractors on the job site.
16. Caution all other employees who might be endangered by the work you are doing.
17. Do not alter safety rules. Ignorance of safety rules will not be accepted as an excuse.

SUBCONTRACTORS:

Lyon Contracting, Inc. expects that its subcontractors will have established their own safety and health program. Each subcontractor is responsible for the safety of their employees on each **Lyon Contracting, Inc.** project. Each subcontractor is expected to:

1. Work according to good safety practices as posted, instructed and discussed.
2. Refrain from any unsafe act that might endanger himself or his fellow subcontractor.
3. Attend, as required, all safety meetings.
4. Comply with the applicable federal and/or state OSHA regulations.

5. Supply **Lyon Contracting, Inc.** with a copy of the subcontractor's company safety program and material safety data sheets for materials used on our projects.
6. Report all accidents, injuries and fatalities that occur on our job sites immediately to our job site superintendent and project manager.
7. Supply the proper personal protective equipment and safety equipment to his/her employees and assure their use.
8. Have adequately trained their field employees on proper safety practices.
9. Help extend the life of equipment through proper operation and avoidance of abuse.
10. Assume their share of responsibility for thoughtless or deliberate acts that cause injury to themselves or their fellow subcontractor.
11. Be a safe employee off the job, as well as on.
12. Report all unsafe conditions to the job site superintendent and project manager.
13. Notify **Lyon Contracting, Inc.** owner, job site superintendent, project manager or safety director immediately in the event of an OSHA inspection when no **Lyon Contracting, Inc.** personnel are on the site.
14. Provide COVID-19 Preparedness Plan

GENERAL INFORMATION

1. If you don't understand how to do the job safely, ask before starting work.
2. EMERGENCY PHONE NUMBERS – Doctor, Hospital, Ambulance, Fire Department, and Police are posted on provided bulletin boards in job trailer.
3. FIRST AID KITS are located in job trailers and pickups.
4. REPORT ANY INJURIES TO THE SUPERINTENDENT IMMEDIATELY FOR TREATMENT.
5. MOST ALL SUPERINTENDENTS HAVE HAD RED CROSS FIRST AID TRAINING.
6. DO NOT MOVE SERIOUSLY INJURED PERSON unless he is exposed to further injury from fire, falling objects or other hazards. Never remove foreign bodies from the eyes. Leave this to the first aid people.

1.7 Safety Committees

COMMUNICATION

POLICY

Good communication is an essential element of our safety program. This will be accomplished in a variety of forms, but the goal is always to keep employees informed and to encourage their participation and cooperation with company safety policies and procedures. The following methods will be utilized to keep employees informed of issues affecting their health and safety. Each has been described in more detail on the pages that follow.

- Safety committee
- Safety reporting
- Posters/signs/displays/handouts
- Safety suggestion system

SAFETY COMMITTEE

POLICY

An important element of our workplace safety program is having an effective safety committee.

Our safety committee shall be comprised of both management representatives and field employees. Management representative shall include the (safety director and two project managers), who will chair this committee, and one (1) jobsite supervisor.

OBJECTIVES

- **Set a Good Example** - Members must maintain safe work practices and a positive attitude toward safety.
- **Review Safety Inspections** - The unsafe acts and conditions identified should be discussed and assignments made to correct the problem. It is important to verify that corrective action has been taken promptly, so that these problems do not contribute to future accidents and injuries.
- **Report Unsafe Acts/Conditions** - Members must lead the way in informing supervisors/managers of workplace hazards at all times. This can be done formally in writing or through immediate on-site discussions.
- **Review Accident Investigation Reports** - Once an accident investigation report is completed, the safety committee should review the report for completeness and clarity. The main goal is to ensure that proper corrective steps were taken to prevent recurrence of a similar accident. If preventative actions are not adequate, the committee should recommend additional or alternate control measures.

- **Hold Regular Meetings** - Meetings should be conducted on a monthly basis. The safety coordinator shall be the chairman and have the following duties:
 - ◇ Set the date for the meetings.
 - ◇ Document the meeting activities.
 - ◇ Coordinate the safety inspection.
 - ◇ Gather/review accident reports prior to the meeting.
 - ◇ Inform management of the safety committee activities.
 - ◇ Select the committee members.
 - ◇ Make assignments to the members.
 - ◇ Keep the meeting on track to ensure problems are solved.
- **Act on Employee Safety Suggestions** - Make a concerted effort to resolve/correct safety concerns raised by fellow employees.

2.1 New Employee & Subcontractor Orientation

NEW EMPLOYEE ORIENTATION

POLICY

New employees are particularly susceptible to accidents and injuries due to their unfamiliarity with the company and the work environment. Therefore, it is essential that all new employees receive a thorough orientation to the company, their job duties, potential hazards on the job, and their responsibilities related to our safety program.

PROCEDURE

The Vice President is responsible for the safety orientation of office staff, Project Managers & Superintendents. Jobsite Superintendents are responsible for the safety orientation of new employees on their Jobsites. This orientation must be completed on the first day of employment / on the jobsite.

The new employee safety orientation must be documented using the “New Employee Orientation Checklist” and placed in the employee’s personnel file.

NEW SUBCONTRACTOR ORIENTATION

Jobsite Superintendents are responsible for the initial safety orientation of subcontractors, visitors, & temporary workers who step onto their job site for the first time. This orientation must be completed on the first day of work onsite to go over all safety standards, procedures, and potential job site hazards on their specific site. The Site Orientation must be documented using the “Subcontractor Site Orientation” Checklist and saved to the job file.

New Employee Orientation Checklist

Employee Name				
Orientation Date				
Areas to be Covered	Description	Completed		
		Yes	No	
Office				
	Meet with Human Resources (HR) and fill-out all new hire paperwork.			
	Provide and review Lyon Contracting, Inc.'s company Awair Manual.			
Safety Equipment				
	Provide Personal Protective Equipment (PPE) for the employees position.			
	Hard Hat			
	Safety Glasses			
	Type 2 Reflective Clothing			
	CO Monitor			
	Safety Harness			
Safety Requirements				
	Review training requirements and schedule if necessary.			
	OSHA 30			
	CPR & First Aid			
	All Terrain Forklift Certification			
	Erosion and Stormwater Management Certification			
	Procore Certifications (Safety, Project Manager, Superintendent)			
Reporting Requirements				
	Review reporting requirements.			
	Daily Logs			
	Daily Safety Audits			
	Observations			
	Meeting Minutes			
	Weekly Project Summary			
	SWPPP			
	Quarterly Safety Suggestions			
	Other Procore Forms/Inspections			
Employee Name:				
Employee's Signature:				
Date:				

Subcontractor Site Orientation

Subcontracted Company w/Lyon _____
 Orientation Date _____
 Project Name _____
 Project Superintendent _____

Areas to be Covered	Description	Response	
		Yes	No
Contract			
	Has the Subcontractor's Contract been executed with Lyon Contracting?		
	Do we have a copy of their Insurance Certificate for the Project?		
	Do we have a copy of their W9?		
AWAIR			
	Do we have a copy of their AWAIR Program onsite?		
	Is the employee familiar with their AWAIR Program?		
Safety Requirements			
	Does the employee understand that the following PPE is required at ALL times on the project?		
	Class G or E Hard Hats		
	Eye Protection meeting ANSI Z87.1		
	Class II Reflective Vests		
	Does the employee understand that the following Clothing is required at ALL times on the project?		
	Shirt with a minimum of 4" Sleeves		
	Pants		
	Proper Footwear (Work Boots)		
	Fall protection is required anytime there is an exposure to a fall of 6' or greater. What are the subcontractors potential fall protection exposures?		
	Is a Jobsite specific Fall Protection required for the subcontractor to perform their work, has it been filled out & reviewed by both the subcontractor's & Lyon's Safety Directors?		
	Has the employee reviewed the Jobsite emergency plan?		
	Has the employee reviewed the jobsite evacuation plan?		
	Has the employee reviewed the jobsite operations plan?		
Material Loading Zones			
	Only use Material Loading Zones that have been established by Lyon. These are identified with signage & have fall protection tie-off points.		
	Only persons that are tied off with the proper fall protection PPE are allowed within 6' of these areas when the guardrail is removed or the loading door is open.		

Areas to be Covered	Description	Response	
		Yes	No
Caution Tape vs Danger Tape			
	Caution Tape (yellow) means persons are permitted in the area if aware of the hazards & the necessary precautions have been taken.		
	Danger Tape (red) means only authorized persons are permitted in the zoned off area, all others are to stay out.		
	Do the employees understand that if they observe a safety hazard that they are expected to bring it to the attention of their supervisor or the project superintendent so that the safety hazard can be mitigated.		
Ladder Safety - Proper ladder safety is to be used at all times.			
	Only Type 1 (Heavy Duty rating or greater) are allowed on Lyon Jobsites.		
	Ladders are to be used for their intended purpose only. Do not straddle step ladders, do not stand on the top 2 rungs and do not lean step ladders against anything.		
	If a ladder is damaged or defective in anyway do not use it & remove it from the jobsite immediately.		
Smoking			
	Smoking is only allowed in the designated areas adjacent to the job trailer with the cigarette butt disposal unit. No smoking is allowed in the building at any time.		
Jobsite Posters			
	The Table 1 for Silica poster is in the site trailer.		
	The Fed OSHA / Labor Law poster is in the site trailer.		
Training			
	Does the employee have any specific training that could be valuable to the project (CPR, First Aid etc.)? List Here:		
	Does the employee understand that they must have All Terrain Forklift (Lull) and their certification card must be on file with the superintendent before they're allowed to operate the equipment?		
	Does the employee understand that they must have Aerial Lift training and their certification card must be on file with the superintendent before they're allowed to operate the equipment?		
Hoisting			
	Does the Subcontractor understand that they are responsible for their own hoisting on the project. The use of the lift onsite, that has been provided by Lyon, is subject to the following conditions:		
	(1) Subcontractor has signed Lyon's lift insurance and liability release form.		
	(2) The use of the lift must be coordinated with the job site superintendent.		
	(3) The lift operator must be certified & have their certification card on file with the job site superintendent.		
Disciplinary			
	Disciplinary Procedures are posted in the site trailer in English and Spanish for your review.		

Areas to be Covered	Description	Response	
		Yes	No
Emergencies			
	Does the employee understand how to operate a fire extinguisher using the P.A.S.S method?		
	<i>PULL</i> - Pull the pin.		
	<i>AIM</i> - Aim low point at the base of the fire.		
	<i>SQUEEZE</i> - Squeeze the handle to release the agent.		
	<i>SWEEP</i> - Sweep from side to side at the base of fire.		
	Fire extinguishers are placed throughout the building.		
	Additional med kits are in the site trailer.		
Housekeeping			
	Clean as you go is the expectation on the jobsite. It is expected that your work space will be cleaned up and organized at the end of each work day.		
Policies / Hazards			
	General Construction Hazards to be Aware Of:		
	Weather (cold, hot, wind)		
	Noise		
	Physical Work		
	Mobile Earth Moving Equipment Safety (Review Reference Tool)		
	Electrical Shock		
	Sharp Edges		
	Lasers		
	Uneven Work Surfaces (grade changes)		
	Trenches / Excavation		
	The following job site specific policies and potential hazards have been discussed with the Subcontractor:		

Employee Name: _____
 Employee's Company Name: _____
 Employee's Signature: _____
 Date: _____

****Additional Signatures on Next Page****



Orientación del sitio del subcontratista

Empresa subcontratada con Lyon _____

Fecha de orientación _____

Nombre del proyecto _____

Superintendente de Proyectos _____

Áreas a cubrir	Descripción	Response	
		Sí	No
Contrato			
	¿Se ha ejecutado el Contrato del Subcontratista con Lyon Contracting?		
	¿Tenemos una copia de su certificado de seguro para el proyecto?		
	¿Tenemos una copia de su W9?		
AWAIR			
	¿Tenemos una copia de su programa AWAIR en el sitio?		
	¿Está el empleado familiarizado con su programa AWAIR?		
Requerimientos de seguridad			
	¿Comprende el empleado que se requiere el siguiente PPE en todo momento?		
	Sombreros duros de clase G o E		
	Reunión de protección ocular ANSI Z87.1		
	Chalecos reflectantes clase II		
	¿Comprende el empleado que la siguiente vestimenta es obligatoria en todo momento?		
	Camisa con un mínimo de 4 "mangas		
	Pantalones		
	Calzado adecuado (botas de trabajo)		
	Se requiere protección contra caídas en cualquier momento en que haya una exposición a una caída de 6 'o más. Que son los ¿Subcontratistas potenciales exposiciones a la protección contra caídas?		
	Es una protección contra caídas específica del sitio de trabajo requerida para que el subcontratista realice su trabajo, ha sido completado y revisado por el subcontratista y Lyon's Safety Directores?		
	¿El empleado ha revisado el plan de emergencia en el lugar de trabajo?		
	¿El empleado ha revisado el plan de evacuación en el lugar de trabajo?		
	¿El empleado ha revisado el plan de operaciones del sitio de trabajo?		
Zonas de carga de material			
	Utilice únicamente zonas de carga de material establecidas por Lyon. Estas se identifican con señalización y tienen puntos de amarre de protección contra caídas.		
	Solo las personas que están amarradas con el PPE adecuado de protección contra caídas son permitido dentro de 6 'de estas áreas cuando se retira la barandilla o el La puerta de carga está abierta.		
Cinta de precaución vs cinta de peligro			



Áreas a cubrir	Descripción	Response	
		Sí	No
	La cinta de precaución (amarilla) significa que se permiten personas en el área si están informadas De los peligros y las precauciones necesarias se han tomado.		
	Cinta de peligro (roja) significa que solo las personas autorizadas están permitidas en el zona zonificada, todos los demás son para permanecer fuera.		
	¿Entienden los empleados que si observan un peligro para la seguridad son Se espera que lo señale a su supervisor o al proyecto. superintendente para que el peligro de seguridad pueda ser mitigado.		
Seguridad de la escalera: la seguridad de la escalera se debe utilizar en todo momento			
	Solo se permite Tipo 1 (Clasificación de servicio pesado o superior) en los sitios de trabajo de Lyon.		
	Las escaleras se deben usar solo para su propósito previsto. No se extienda escaleras de mano, no se pare en los 2 peldaños superiores y no se incline contra cualquier cosa.		
	Si una escalera está dañada o defectuosa, no la use y retírela de el lugar de trabajo inmediatamente.		
De fumar			
	Solo se permite fumar en las áreas designadas adyacentes al remolque de trabajo con La unidad de eliminación de cigarrillos. No se permite fumar en el edificio en cualquier momento.		
Posters del sitio de trabajo			
	El póster de la Tabla 1 para sílice está en el trailer del sitio.		
	El cartel de la Fed OSHA / Ley del Trabajo está en el trailer del sitio.		
Formación			
	¿Tiene el empleado algún entrenamiento específico que pueda ser valioso para el proyecto? (RCP, primeros auxilios, etc.)? Lista aquí:		
	¿Comprende el empleado que debe tener Carretilla elevadora todo terreno (calma) y su tarjeta de certificación debe estar archivada con el superintendente antes de que estén ¿Se permite operar el equipo?		
	¿Comprende el empleado que debe tener un entrenamiento de Elevación Aérea y su La tarjeta de certificación debe estar archivada con el superintendente antes de que se les permita operar el equipo?		
Levantamiento			
	¿Entiende el Subcontratista que son responsables de su propia responsabilidad? Levantando el proyecto. El uso del ascensor en el lugar, que ha sido proporcionado por Lyon, Está sujeto a las siguientes condiciones:		
	(1) El Subcontratista ha firmado el formulario de liberación de responsabilidad y seguro de elevación de Lyon.		
	(2) El uso del elevador debe coordinarse con el superintendente del sitio de trabajo.		
	(3) El operador del elevador debe estar certificado y tener su tarjeta de certificación en archivo con el superintendente del sitio de trabajo.		
Disciplinario			



Áreas a cubrir	Descripción	Response	
		Sí	No
	Los procedimientos disciplinarios se publican en el trailer del sitio en inglés y español para su revisión.		
Emergencias			
	¿Comprende el empleado cómo operar un extintor de incendios con el PASS? ¿método?		
	<i>PULL - Tire de la clavija.</i>		
	<i>AIM - Apunta el punto bajo en la base del fuego.</i>		
	<i>SQUEEZE - Apriete el mango para liberar el agente.</i>		
	<i>SWEEP - Barrer de lado a lado en la base del fuego.</i>		
	Extintores de incendios se colocan en todo el edificio.		
	Los kits de medicamentos adicionales están en el trailer del sitio.		
Gestión interna			
	Limpiar a medida que avanza es la expectativa en el lugar de trabajo. Se espera que tu trabajo. El espacio se limpiará y organizará al final de cada día de trabajo.		
Políticas / Peligros			
	Peligros generales de construcción a tener en cuenta:		
	Clima (frío, calor, viento)		
	ruido		
	Trabajo físico		
	Operaciones de equipo pesado		
	Choque eléctrico		
	Bordes afilados		
	Láseres		
	Superficies de trabajo desiguales (cambios de grado)		
	Trincheras / Excavación		
	Las siguientes políticas específicas del sitio de trabajo y los peligros potenciales han sido discutido con el Subcontratista:		

Nombre de empleado: _____
Nombre de la empresa del empleado: _____
Firma del empleado: _____
Fecha: _____

EMPLOYEE TRAINING

POLICY

Documented employee safety training is critical to our program. It ensures that workers are made aware of workplace hazards and that the appropriate precautions are taken to avoid an accident and/or an injury. To satisfy established training requirements, the following should be considered:

PROCEDURES

- The safety director, immediate supervisor, or key manager should conduct or oversee all training. If qualified, a lead person or key employee may perform certain training functions with the approval of the safety director. Also, outside experts may be utilized on occasion.
- Training is required in the following situations:
 - ◇ When new employees are hired.
 - ◇ When employees transfer to a new work area.
 - ◇ When employees are required to perform a new job function.
 - ◇ When employees return to work after a long layoff, illness, or injury.
 - ◇ For employees who perform unusual, seasonal, or extremely hazardous jobs.
 - ◇ For all employees when operations or processes change significantly.
 - ◇ For all supervisors, managers, and lead employees, to ensure they are familiar with all safety program elements.
 - ◇ Whenever mandated by outside regulatory agencies such as OSHA.
- All training sessions must be documented on a training log, indicating who was trained, date trained, who completed the training, and what was covered in the session.
- The key areas to cover in training are:
 - ◇ Overall safety rules.
 - ◇ Specific safety rules for individual job tasks.
 - ◇ OSHA-mandated training requirements.
 - ◇ Emergency procedures.
- Key considerations for effective training:
 - ◇ Be prepared and knowledgeable about the subject matter.
 - ◇ Make clear the objectives of the training.
 - ◇ Be enthusiastic.
 - ◇ Relate the training to the employee's job.
 - ◇ Ask questions of employee(s) to determine understanding.
 - ◇ Conduct the training in a comfortable and suitable environment (i.e., quiet, clean, at jobsite).
 - ◇ Vary the delivery to maintain interest.

SAFETY TRAINING LOG

Date: _____ Name of Trainer: _____

Subject(s) Covered:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Attendees (Please print and sign your name legibly. Use additional sheets as necessary.)

PRINT	SIGNATURE
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

2.2 SWPPP

2.2	Have all SWPPP amendments been coordinated with & approved by the individual(s) who prepared &/or are in charge of overseeing implementation of, revising, and amending the SWPPP? If No, describe what needs to be done through an observation.	Yes
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observations		
Bryan Rucks responded with Yes on <i>January 13th, 2021 at 12:21 PM CST</i>		

Summary: 2 0 0 0
 Pass Fail N/A Neutral

Erosion & Sediment Control Best Management Practices

3.1	Are the construction exits preventing sediment from being tracked into the street? Take photos to document & if your response is No, describe what is being done to correct this within the next 24 Hours through an observation.	Yes
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observations		
Bryan Rucks responded with Yes on <i>January 13th, 2021 at 12:21 PM CST</i>		

3.2	Are perimeter controls and sediment barriers adequately installed and maintained? Take photos to document & if repairs are required, describe what is being done to correct this within the next 24 Hours through an observation.	Yes
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observations		
Bryan Rucks responded with Yes on <i>January 13th, 2021 at 12:21 PM CST</i>		

3.3	Are the storm drain inlets properly protected & are they being maintained? Take photos to document & if your response is No, describe what is being done to correct this within the next 24 Hours through an observation.	Yes
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observations		
Bryan Rucks responded with Yes on <i>January 13th, 2021 at 12:21 PM CST</i>		

3.4	Do temporary soil stockpiles have silt fence or other effective sediment controls? Take photos to document & if your response is No describe what is being done to correct this with the next 24 Hours through an observation.	N/A
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observations		
Bryan Rucks responded with N/A on <i>January 13th, 2021 at 12:21 PM CST</i>		

3.5	Are all exposed soil areas (including stockpiles) not actively being worked properly stabilized? Take photos to document & if your response is No stabilization must be initiated immediately to limit soil erosion wherever any construction activity has permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Describe what has been initiated to stabilize the these soils within 14 calendar days through an observation.	N/A
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observations		
Bryan Rucks responded with N/A on <i>January 13th, 2021 at 12:21 PM CST</i>		

3.6	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with the required BMPs? Take photos to document & if your response is No describe what is being done to correct this within the next 24 Hours through an observation.	N/A
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observations		
Bryan Rucks responded with N/A on <i>January 13th, 2021 at 12:21 PM CST</i>		
3.7	Are discharge points and receiving waters free of any sediment deposits? Take photos to document & if your response is No this needs to be addressed immediately! Describe what is being done to correct this through an observation.	N/A
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observations		
Bryan Rucks responded with N/A on <i>January 13th, 2021 at 12:21 PM CST</i>		

Summary: 3 0 4 0
Pass Fail N/A Neutral

Dewatering and Basin Draining		
4.1	Are dewatering activities being done in a manner that does not cause nuisance conditions or erosion & is it being directed to a temporary or permanent sedimentation basin as directed by the SWPPP? Take photos to document & if your response is No this needs to be addressed immediately! Describe what is being done to correct this through an observation.	N/A
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observations		
Bryan Rucks responded with N/A on <i>January 13th, 2021 at 12:21 PM CST</i>		
4.2	Is all water from dewatering or basin draining activities being treated to remove sediments so that it is free of any sediment deposits prior to leaving the project site? Take photos to document & if your response is No this needs to be addressed immediately! Describe what is being done to correct this through an observation.	N/A
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observations		
Bryan Rucks responded with N/A on <i>January 13th, 2021 at 12:21 PM CST</i>		

Summary: 0 0 2 0
Pass Fail N/A Neutral

Pollution Prevention Management Measures		
5.1	Is all trash/litter from work areas around the site being collected and placed in covered dumpsters? Take photos to document & if your response is No describe what is being done to correct this through an observation.	Yes
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observations		
Bryan Rucks responded with Yes on <i>January 13th, 2021 at 12:22 PM CST</i>		

5.2	Is there effective containment for all liquid and solid wastes (Concrete, mortar, grout, stucco, paint, form release oils, curing compounds and other construction materials) generated by construction activities & washout operations that are clearly marked & that are being maintained? Take photos to document & if your response is No describe what is being done to correct this through an observation.	N/A
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observations		
Bryan Rucks responded with N/A on <i>January 13th, 2021 at 12:22 PM CST</i>		
5.3	Do all bulk fuel storage tanks onsite have secondary containment, is there a spill kit with each tank and are reasonable steps being taken to prevent the discharge of spilled or fuel? Take photos to document & if your response is No describe what is being done to correct this through an observation.	Yes
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observations		
Bryan Rucks responded with Yes on <i>January 13th, 2021 at 12:22 PM CST</i>		
5.4	Are all portable toilets positioned so that they are secure and will not be tipped or knocked over? Take photos to document & if your response is No describe what is being done to correct this through an observation.	Yes
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observations		
Bryan Rucks responded with Yes on <i>January 13th, 2021 at 12:22 PM CST</i>		
5.5	Are all building products that have the potential to leach pollutants under cover or protected by a similarly effective means designed to minimize contact with stormwater. Take photos to document & if your response is No describe what is being done to correct this through an observation.	Yes
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observations		
Bryan Rucks responded with Yes on <i>January 13th, 2021 at 12:22 PM CST</i>		

Summary: 4 0 1 0
 Pass Fail N/A Neutral

**GENERAL PERMIT
AUTHORIZATION TO DISCHARGE
STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY
UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/
STATE DISPOSAL SYSTEM PROGRAM**

ISSUANCE DATE: August 1, 2013

EXPIRATION DATE: August 1, 2018

This permit is issued in compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et seq.), 40 Code of Federal Regulations (CFR) 122, 123, 124, and 450 as amended; Minnesota Statute chapters 115 and 116, as amended, and Minn. R. chs. 7001, 7050, 7060 and 7090.

This permit regulates discharges associated with **stormwater** affected by **construction activity** to **waters of the state** of Minnesota. This permit covers the **stormwater** discharges identified in Part I.A. of this permit. The limitations on permit coverage are identified in Part I.B. of this permit.

Minn. R. 7090.2040 requires **owner(s)** of a **construction activity** to complete a **Stormwater Pollution Prevention Plan (SWPPP)** prior to submitting an application for this permit and prior to conducting any **construction activity**. No person shall commence **construction activity** covered by Part I.A. until permit coverage under this permit is effective or, if applicable, until the Minnesota Pollution Control Agency (MPCA) has issued an individual **National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Construction Stormwater (CSW) Permit** for the **project**.

Unless notified by the MPCA to the contrary, applicants who submit a complete and accurate application (including permit fee) in accordance with the requirements of this permit are authorized to discharge **stormwater** associated with construction activity under the terms and conditions of this permit as described in Part II.B.

Signature: 

John Linc Stine
Commissioner

If you have questions on this permit, including the specific permit requirements, permit reporting or permit compliance status, please contact the appropriate MPCA offices. Note that **bolded** words throughout the permit are defined in Appendix B.

**Minnesota Pollution Control Agency
Municipal Division
Construction Stormwater Program
520 Lafayette Road North
St. Paul, MN 55155-4194
Telephone: 651-296-6300
Toll free in MN: 800-657-3864**

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PART I. PERMIT COVERAGE AND LIMITATIONS

I.A. PERMIT COVERAGE

1. This permit is required for **construction activity** that results in land disturbance of equal to or greater than one acre or a **common plan of development or sale** that disturbs greater than one acre, and authorizes, subject to the terms and conditions of this permit, the discharge of **stormwater** associated with **construction activity**.

Construction activity does not include a disturbance to the land of less than five (5) acres for the purpose of routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. Pavement rehabilitation that does not disturb the underlying soils (e.g., mill and overlay **projects**) is not considered construction activity.

2. This permit covers all areas of the State of Minnesota.
3. Coverage under this permit is not required when all stormwater from **construction activity** is routed directly to and treated by a "treatment works", as defined in Minn. Stat. § 115.01, subd. 21, that is operated under an individual **NPDES/SDS** permit with a Total Suspended Solids effluent limit for all treated runoff.
4. Previously Permitted Ongoing **Projects: Permittee(s)** of ongoing **projects** covered initially under the previous MPCA-issued **NPDES/SDS** Construction Stormwater General Permit (issuance date August 1, 2008) are granted coverage under this reissued permit.
 - a. The **Permittee(s)** of those ongoing **projects** shall amend the **SWPPP** for the **project** to meet the requirements of this reissued permit no later than 18 months after the issuance date of this reissued permit if the termination-of-coverage requirements in Part II.C. will not be met within 18 months of the issuance date of this reissued permit and shall thereafter comply with this permit. However, additional permanent treatment required in this reissued permit is not required for previously permitted **projects**.
 - b. If the previously permitted ongoing **project** will meet the termination-of-coverage requirements in Part II.C. within 18 months of the issuance date of this reissued permit, the **Permittee(s)** shall comply with the 2008 construction general permit until the **project** is complete and a **Notice of Termination (NOT)** consistent with Part II.C. of this reissued permit is submitted.
 - c. If a previously permitted ongoing **project** will not be able to meet the terms and conditions of this reissued permit (other than the additional permanent treatment requirement) and will continue longer than 18 months after the issuance date of this permit, the **Permittee(s)** shall apply for an individual permit in accordance with Minn. R. ch. 7001.

I.B. LIMITATIONS OF COVERAGE

This permit does not authorize discharges related to the following activities:

1. Discharges or releases that are not **stormwater** (except those non-**stormwater** discharges

authorized under Part IV.D.).

2. The placement of fill into **waters of the state** requiring local, state or federal authorizations (such as U.S. Army Corps of Engineers Section 404 permits, Minnesota Department of Natural Resources Public Waters Work Permits or Local Governmental Unit Wetland Conservation Act replacement plans or determinations).
3. Discharges associated with industrial activity except for **construction activity**. Discharges associated with industrial activity may need to obtain coverage under a separate NPDES/SDS permit once day-to-day operational activities commence even if construction is ongoing.
4. Discharges from non-point source agricultural and silvicultural activities excluded from **NPDES** permit requirements under 40 CFR pt. 122.3(e).
5. Discharges to the waters identified below unless the requirements of Appendix A are complied with:
 - a. Discharges into outstanding resource value waters as listed in Minn. R. 7050.0180, subp. 3, 4, 5, 6, 6a and 6b.
 - b. Discharges into trout waters as listed in Minn. R. 6264.0050, subp. 2 and 4.
 - c. Discharges into **wetlands** as defined in Minn. R. 7050.0186 subd.1a.B.
 - d. Discharges from **projects** that have not completed applicable Environmental Review requirements under state or federal laws.
 - e. Discharges that adversely impact or contribute to adverse impacts on a state or federally listed endangered or threatened species or adversely modify a designated critical habitat.
 - f. Discharges that adversely affect properties listed or eligible for listing in the National Register of Historic Places or affecting known or discovered archeological sites.
6. Discharges to waters identified as impaired pursuant to section 303(d) of the federal Clean Water Act (33 U.S.C. § 303(d)) where the identified pollutant(s) or stressor(s) are phosphorus (nutrient eutrophication biological indicators), turbidity, dissolved oxygen, or biotic impairment (fish bioassessment, aquatic plant bioassessment and aquatic macroinvertebrate bioassessment), and with or without a U.S. Environmental Protection Agency (USEPA) approved Total Maximum Daily Load (TMDL) for any of these identified pollutant(s) or stressor(s), unless the applicable requirements of Part III.A.8. are met.

PART II. SUBMITTING THE APPLICATION

II.A. PREREQUISITE FOR SUBMITTING A PERMIT APPLICATION

The **owner** must develop an accurate and complete **SWPPP** in accordance with Part III. (Stormwater Discharge Design Requirements) of this permit prior to submitting the application for coverage. The **SWPPP** is not required to be submitted to the MPCA (unless the **project** size is 50 acres or more and will discharge to certain waters as described in Part II.B.1.b.) but is to be retained by the **owner** in

accordance with Part III.E. (Record Retention). The **owner's** failure to prepare an accurate and complete **SWPPP** prior to submitting the application is grounds for MPCA to revoke the permit.

II.B. APPLICATION AND DURATION OF COVERAGE

1. Application Required.

- a. The **owner** and **operator** shall submit a complete and accurate on-line application form with the appropriate fee to the MPCA for each **project** that disturbs one (1) or more acres of land or for a **common plan of development or sale** that will ultimately disturb one (1) or more acres. If the applicant is not able to apply on-line, contact the MPCA for technical assistance or a waiver.
 - b. For certain **projects** or **common plans of development or sale** disturbing 50 acres or more, the application must be submitted at least 30 days before the start of **construction activity**. This requirement pertains to **projects** that have a discharge point on the **project** that is within one mile (**aerial radius measurement**) of, and flows to, a special water listed in Appendix A, Part B. or waters listed as impaired under section 303(d) of the federal Clean Water Act (see the MPCA's website) where the identified pollutant(s) or stressor(s) are phosphorus (nutrient eutrophication biological indicators), turbidity, dissolved oxygen, or biotic impairment (fish bioassessment, aquatic plant bioassessment and aquatic macroinvertebrate bioassessment). Applicants of **projects** listed in this part must submit a complete and accurate application form and **SWPPP** including all calculations for the Permanent **Stormwater** Management System (see Parts III.A.-D.).
2. All persons meeting the definition of **owner** and **operator** are **Permittees** and must be listed on the application. The **owner** is responsible for compliance with all terms and conditions of this permit. The **operator** is responsible for compliance with Parts II.B, II.C, III.B-F, IV, V, and applicable **construction activity** requirements found in Appendix A, Part C. of this permit and is jointly responsible with the **owner** for compliance with those portions of the permit.
 3. Permit Coverage Effective Date: The commencement of any **construction activity** (e.g., land disturbing activities) covered under Part I.A. of this permit is prohibited until permit coverage under this permit is effective.
 - a. For **projects** listed in Part II.B.1.a. permit coverage will become effective seven (7) calendar days after the electronic submittal date or the postmarked date of a complete application form.
 - b. For **projects** listed in Part II.B.1.b. permit coverage will become effective 30 calendar days after the electronic submittal date, the postmarked date or MPCA date stamp (whichever is first) of the complete application. For incomplete applications (e.g., lack of fees or signature) or incomplete **SWPPPs** (e.g., missing calculations, **Best Management Practice (BMP)** specifications, estimated quantities of the **BMPs**, or timing of **BMP** installation narrative), the permit becomes effective 30 calendar days after all required information is submitted.
 4. Coverage Notification: **Permittee(s)** will be notified of coverage in a manner as determined by the **Commissioner** (e.g., e-mail, online notification or letter).

5. Change of Coverage: For construction **projects** where the **owner** or **operator** changes, (e.g., an original developer sells portions of the property to various homebuilders or sells the entire site to a new **owner**) the current **owner** and the new **owner** or **operator** shall submit a complete permit modification on a form provided by the **Commissioner**. The form must be submitted prior to the new **owner** or **operator** commencing **construction activity** on site or in no case later than 30 days after taking ownership of the property. The **owner** shall provide a **SWPPP** to the new **owner** and **operator** that specifically addresses the remaining **construction activity**.

II.C. TERMINATION OF COVERAGE

1. Termination of coverage when construction is complete: All **Permittee(s)** must submit a **Notice of Termination (NOT)** to the MPCA on a form provided by the **Commissioner** within 30 days after all activities required for **Final Stabilization** (see Part IV.G.) are complete. The **Permittee(s)**' coverage under this permit terminates at midnight on the submission date of the **NOT**.
2. Termination of coverage when transfer of ownership occurs: All **Permittee(s)** must submit a **NOT** on a form provided by the **Commissioner** within 30 days after selling or otherwise legally transferring the entire site, including permit responsibility for roads (e.g., street sweeping) and **stormwater** infrastructure final clean out, or transferring portions of a site to another party. The **Permittee(s)**' coverage under this permit terminates at midnight on the submission date of the **NOT**.
3. **Permittee(s)** may terminate permit coverage prior to completion of all **construction activity** if all of the following conditions are met. After the permit is terminated under this Part, if there is any subsequent development on the remaining portions of the site where **construction activity** was not complete, new permit coverage must be obtained if the subsequent development itself or as part of the remaining **common plan of development or sale** will result in land disturbing activities of one (1) or more acres in size.
 - a. **Construction activity** has ceased for at least 90 days.
 - b. At least 90 percent (by area) of all originally proposed **construction activity** has been completed and **permanent cover** established on those areas.
 - c. On areas where **construction activity** is not complete, **permanent cover** has been established.
 - d. The site is in compliance with Part IV.G.2. and Part IV.G.3. and where applicable, Part IV.G.4. or Part IV.G.5.
4. **Permittee(s)** may terminate coverage upon approval by the MPCA if information is submitted to the MPCA documenting that termination is appropriate because the project is cancelled.

PART III. **STORMWATER DISCHARGE DESIGN REQUIREMENTS**

III.A. STORMWATER POLLUTION PREVENTION PLAN CONTENT

The **owner** must develop a **Stormwater Pollution Prevention Plan (SWPPP)**. The **SWPPP** shall be

completed prior to submitting any permit application and prior to conducting any **construction activity** by any required **Permittee(s)**. For **stormwater** discharges from **construction activity** where the **owner** or **operator** changes, the new **owner** or **operator** can implement the original **SWPPP** created for the **project**, modify the original **SWPPP**, or develop and implement their own **SWPPP**. **Permittee(s)** shall ensure either directly or through coordination with other **Permittee(s)** that their **SWPPP** meets all terms and conditions of this permit and that their activities do not render another party's **erosion prevention** and **sediment control BMPs** ineffective. The **SWPPP** must include the following:

1. A description of the **construction activity**: The description must be a combination of narrative, plan sheets, and (if appropriate) standard detail sheets that address the foreseeable conditions, at any stage in the construction or post construction activities. The **SWPPP** must identify the potential for discharge of sediment and/or other potential pollutants from the site. The **SWPPP** must propose **erosion prevention and sediment control BMPs** to control the discharge of sediment and/or other potential pollutants from the site.
2. Knowledgeable person/chain of responsibility: As part of the **SWPPP**, the **owner** must identify a person knowledgeable and experienced in the application of **erosion prevention and sediment control BMPs** who will oversee the implementation of the **SWPPP**, and the installation, inspection and maintenance of the **erosion prevention and sediment control BMPs** (see Part III.F.1.) before and during construction. The **owner** must identify in the **SWPPP** who will have the responsibility for long-term operation and maintenance of the Permanent **Stormwater Management System** (see Part III.D.). The **owner** shall include in the **SWPPP** a chain of responsibility with all **operators** on the site, or if not known, the title or position of the responsible party, to ensure that the **SWPPP** will be implemented and stay in effect until the construction **project** is complete, the entire site has undergone **Final Stabilization**, and an **NOT** has been submitted to the MPCA. Once the identity of the responsible party is known, the **SWPPP** must be amended to include this information.
3. Training documentation: The **Permittee(s)** shall ensure the individuals identified in Part III.F. have been trained in accordance with this Permit's training requirements. The **Permittee(s)** shall ensure the training is recorded in or with the **SWPPP** before the start of construction or as soon as the personnel for the **project** have been determined. Documentation shall include:
 - a. Names of the personnel associated with this **project** that are required to be trained per Part III.F.1. of this permit.
 - b. Dates of training and name of instructor(s) and entity providing training.
 - c. Content of training course or workshop including the number of hours of training.
4. Designs, calculations, and narrative: The **SWPPP** must incorporate the requirements of Part III (**Stormwater Discharge Design Requirements**) including calculations, Part IV (**Construction Activity Requirements**) and Appendix A for the **project**. A narrative describing the timing for installation of all **erosion prevention and sediment control BMPs** and permanent **stormwater management systems** required in Part III, Part IV and Appendix A must also be included in the **SWPPP**.
5. **SWPPP** components: The **SWPPP** requirements must be incorporated into the **project's** final

plans and specifications and/or **project** documentation, as appropriate, and must include:

- a. Location and type of all temporary and permanent **erosion prevention** and **sediment control BMPs** along with procedures to be used to establish additional temporary **BMPs** as necessary for the site conditions during construction. **Standard details** and/or specifications for the **BMPs** used on the **project** must be included in the final plans and specifications for the **project**.
- b. Quantities: Estimated preliminary quantities tabulation anticipated at the start of the **project** for the life of the **project** must be included for all **erosion prevention** and **sediment control BMPs** in the **SWPPP** (e.g., linear feet of silt fence or ft² of erosion control blanket).
- c. Impervious surface: The number of acres of **impervious surface** for both pre- and post-construction must be specified.
- d. Site map: A site map with existing and final grades, including dividing lines and direction of flow for all pre-and post-construction **stormwater** runoff drainage areas located within the **project** limits must be included. The site map must indicate the areas of **steep slopes**. The site map must also include **impervious surfaces**, soil types and locations of potential pollutant-generating activities as identified in Part IV.F.
- e. Locations of areas not to be disturbed: Buffer zones, as required for temporary **BMPs** during construction in Part IV.C.9., or if required as permanent **BMPs** in Appendix A, Part C.3., must be described and identified on plan sheets or **project** maps in the **SWPPP**.
- f. Construction phasing: Location of areas where construction will be phased to minimize duration of exposed soil areas must be described.
- g. Maps of surface waters and wetlands: The **SWPPP** must include a map of all **surface waters**, existing **wetlands**, and **stormwater** ponds or basins which can be identified on maps such as United States Geological Survey 7.5 minute quadrangle maps, the National Wetland Inventory map or equivalent maps within one mile (**aerial radius measurement**) from the **project** boundaries that will receive **stormwater** from the construction site, during or after construction. Where **surface waters** receiving **stormwater** associated with **construction activity** will not fit on the plan sheet, they must be identified with an arrow, indicating both direction and distance to the **surface water**. The **SWPPP** must identify if the **surface water** is a special or impaired water. The site map must also show **construction activity** areas that are adjacent to and drain to **Public Waters** for which the Department of Natural Resources has promulgated "work in water restrictions" during specified fish spawning time frames.
- h. **Final stabilization**: Methods to be used for **Final Stabilization** of all exposed soil areas must be described.
- i. **BMP design factors**: The **SWPPP** must account for the following factors in designing the temporary **erosion prevention** and **sediment control BMPs**:
 - i. The expected amount, frequency, intensity, and duration of precipitation.
 - ii. The nature of **stormwater** runoff and run-on at the site, including factors such as

expected flow from **impervious surfaces**, slopes, and site drainage features.

- iii. If any **stormwater** flow will be channelized at the site, the **Permittee(s)** must design **BMPs** to control both peak flowrates and total **stormwater** volume to minimize erosion at outlets and to minimize downstream channel and streambank erosion.
 - iv. The range of soil particle sizes expected to be present on the site.
 - j. Soil Management: Methods used to minimize soil compaction and preserve topsoil must be described. Minimizing soil compaction is not required where the function of a specific area of the site dictates that it be compacted.
 - k. Maintenance plan: For **projects** that include permanent **stormwater** treatment systems, the **SWPPP** must include a maintenance plan identifying who will be performing future maintenance of the system.
 - l. Chemical treatments: Any specific chemicals and the chemical treatment systems that may be used for enhancing the sedimentation process on the site, and how compliance will be achieved with the requirements in Part IV.C.10., must be described.
 - m. Documentation of **infeasibility**: If the **Permittee(s)** determine(s) that compliance with the requirement for temporary sediment basins (Part III.C.) is **infeasible** on the **project** site; the **Permittee(s)** must document that determination and the substitute **BMPs** in the **SWPPP**. If **Permittee(s)** cannot obtain right-of-way for the permanent stormwater management system; the **Permittee(s)** must document the infeasibility of obtaining right-of-way (Part III.D.)
6. Stormwater pollution mitigation measures identified in environmental review or other required review: The **SWPPP** must include any **stormwater** mitigation measures approved as part of a final environmental review document, endangered species review, archeological or other required local, state or federal review conducted for the **project**. For the purposes of this permit provision, mitigation measures means actions necessary to avoid, minimize, or rectify (e.g., repairing, rehabilitating, restoring), reducing, eliminating or compensating for impacts related to: (1) **stormwater** discharges associated with the **project's construction activity**; and (2) **erosion prevention, sediment control** and the Permanent **Stormwater** Management System for the **project**.
 7. Karst areas: The **SWPPP** must identify additional or different measures necessary (e.g. impervious liner in pond bottom) to assure compliance with **surface and groundwater** standards in Minn. R. chs. 7050 and 7060 in karst areas and to ensure protection of drinking water supply management areas (see Minn. R. 4720.5100, subp. 13).
 8. Impaired Waters and Total Maximum Daily Loads (TMDLs): The **SWPPP** must address the following:
 - a. For **projects** that have a discharge point on the **project** that is within one mile (**aerial radius measurement**) of and which flows to an impaired water, the **Permittee(s)** must identify the impaired water(s) in the **SWPPP**, and whether or not there is a USEPA-approved TMDL for the pollutant(s) or stressor(s) identified in Appendix A, Part B.10. Unless otherwise notified by the MPCA in writing, the **Permittee(s)**' identification of impaired waters must be based

on the most recent USEPA approved section 303(d) Clean Water Act list of impaired waters and USEPA approved TMDLs at the time a complete permit application is submitted. The **Permittee(s)**' identification must include those TMDLs, applicable to the **project's stormwater** discharge, that were approved at any time prior to permit application submittal and are still in effect.

- b. If the TMDL identifies specific implementation activities regarding construction **stormwater** that would apply to the site discharges, the **Permittee(s)** must include the **BMPs** identified in the TMDL and any other specific construction **stormwater** related implementation activities identified in the TMDL.

III.B. SWPPP AMENDMENTS

The **Permittee(s)** must amend the **SWPPP** as necessary to include additional requirements, such as additional or modified **BMPs** that are designed to correct problems identified or address situations whenever:

1. There is a change in design, construction, operation, maintenance, weather or seasonal conditions that has a significant effect on the discharge of pollutants to **surface waters** or **underground waters**.
2. Inspections or investigations by site **owner** or **operators**, USEPA or MPCA officials indicate the **SWPPP** is not effective in eliminating or significantly minimizing the discharge of pollutants to **surface waters** or **underground waters** or that the discharges are causing water quality standard exceedances (e.g., nuisance conditions as defined in Minn. R. 7050.0210, subp. 2).
3. The **SWPPP** is not achieving the general objectives of minimizing pollutants in **stormwater** discharges associated with **construction activity**, or the **SWPPP** is not consistent with the terms and conditions of this permit.
4. At any time after permit coverage is effective, the MPCA may determine that the **project's stormwater** discharges may cause, have reasonable potential to cause, or contribute to non-attainment of any applicable water quality standard, or that the **SWPPP** does not incorporate the applicable requirements in Part III.A.8., (Impaired Waters and TMDLs). If a water quality standard changes during the term of this permit, the MPCA will make a determination as to whether a modification of the SWPPP is necessary to address the new standard. If the MPCA makes such determination(s) or any of the determinations in Parts III.B.1.-3., the MPCA will notify the **Permittee(s)** in writing. In response, the **Permittee(s)** must amend the **SWPPP** to address the identified concerns and submit information requested by the MPCA, which may include an individual permit application. If the MPCA's written notification requires a response, failure to respond within the specified timeframe constitutes a permit violation.

III.C. TEMPORARY SEDIMENT BASINS

Where ten (10) or more acres of disturbed soil drain to a common location, the **Permittee(s)** must provide a temporary sediment basin to provide treatment to the runoff before it leaves the construction site or enters **surface waters**. A temporary sediment basin may be converted to a permanent basin after construction is complete. The temporary basin is no longer required when

permanent cover has reduced the acreage of disturbed soil to less than ten (10) acres draining to a common location. The **Permittee(s)** is/are encouraged, but not required, to install temporary sediment basins where appropriate in areas with **steep slopes** or highly erodible soils even if less than ten (10) acres drains to one area. The basins must be designed and constructed according to the following requirements:

1. The basins must provide live storage for a calculated volume of runoff from a two (2)-year, 24-hour storm from each acre drained to the basin, except that in no case shall the basin provide less than 1,800 cubic feet of live storage from each acre drained to the basin.
2. Where the calculation in Part III.C.1. has not been performed, a temporary sediment basin providing 3,600 cubic feet of live storage per acre drained to the basin shall be provided for the entire drainage area of the temporary basin.
3. Temporary basin outlets must be designed to prevent short-circuiting and the discharge of floating debris. The basin must be designed with the ability to allow complete basin drawdown for maintenance activities, and must include a **stabilized** emergency overflow to prevent failure of pond integrity. The outlet structure must be designed to withdraw water from the surface in order to minimize the discharge of pollutants, except that the use of a surface withdrawal mechanism for discharge of the basin may be temporarily suspended during frozen conditions. **Energy dissipation** must be provided for the basin outlet (see Part IV.B.5.).
4. Sediment Basins must be situated outside of surface waters and any buffer zone required under Appendix A.C.3, and must be designed to avoid draining water from **wetlands** unless the impact to the **wetland** is in compliance with the requirements of Appendix A, Part D.
5. The temporary basins must be constructed and made operational prior to 10 or more acres of disturbed soil draining to a common location.
6. Where a temporary sediment basin meeting the requirements of this part is **infeasible**, equivalent **sediment controls** such as smaller sediment basins, and/or sediment traps, silt fences, vegetative buffer strips, or any appropriate combination of measures are required for all down-slope boundaries of the construction area and for side-slope boundaries as dictated by individual site conditions. In determining whether installing a sediment basin is **infeasible**, the **Permittee(s)** must consider public safety and may consider factors such as site soils, slope, and available area on site. This determination of **infeasibility** must be documented in the **SWPPP** per Part III.A.5.m.

III.D. PERMANENT STORMWATER MANAGEMENT SYSTEM

The **Permittee(s)** shall design the **project** so that all **stormwater** discharged from the **project** during and after **construction activities** does not cause a violation of state water quality standards, including nuisance conditions, erosion in receiving channels or on downslope properties, or a significant adverse impact to **wetlands** caused by inundation or decrease of flow.

The **Permittee(s)** shall construct a permanent stormwater management system meeting the requirements of this Part, or if the **project** is located in a jurisdiction subject to a **NPDES/SDS** Municipal Separate Storm Sewer System (MS4) permit and that permit has established permanent treatment requirements that include volume reduction, the **Permittee(s)** can comply with the

permanent treatment requirements established under the MS4 permit in lieu of the permanent treatment requirements of this permit.

Where a **project's** ultimate development replaces vegetation and/or other pervious surfaces with one (1) or more acres of cumulative **impervious surface**, the **Permittee(s)** must design the **project** so that the **water quality volume** of one (1) inch of runoff from the new **impervious surfaces** created by the **project** is retained on site (i.e. infiltration or other volume reduction practices) and not discharged to a **surface water**. For purposes of this part, **surface waters** does not include man-made drainage systems that convey **stormwater** to a compliant permanent **stormwater** management system.

For those **projects** where infiltration is prohibited (see Part III.D.1.j.), the **Permittee(s)** shall consider other methods of volume reduction and the **water quality volume** (or remainder of the **water quality volume** if some volume reduction is achieved) must be treated by a wet sedimentation basin, filtration system, regional ponding or equivalent methods prior to the discharge of **stormwater** to **surface waters**.

Where the proximity to bedrock precludes the installation of any of the permanent **stormwater** management practices outlined in Part III.D., other treatment, such as grassed swales, filtration systems, smaller ponds, or grit chambers, is required prior to the discharge of **stormwater** to **surface waters**.

For work on linear **projects** with lack of right-of-way where the **Permittee(s)** cannot obtain an easement or other permission for property needed to install treatment systems capable of treating the entire **water quality volume** on site, the **Permittee(s)** must maximize the **water quality volume** that can be treated prior to discharge to **surface waters**. Treatment can be provided through other methods or combination of methods such as grassed swales, filtration systems, smaller ponds, or grit chambers, prior to discharge to **surface waters**. A reasonable attempt must be made to obtain right-of-way during the **project** planning process. Documentation of these attempts must be in the **SWPPP** per Part III.A.5.m. in the section addressing **infeasibility**.

When constructing any of the permanent **stormwater** management systems in this part, the **Permittee(s)** must incorporate the following design parameters:

1. Infiltration/Filtration

- a. Infiltration/Filtration options include but are not limited to: infiltration basins, infiltration trenches, rainwater gardens, sand filters, organic filters, bioretention areas, natural or enhanced swales, dry storage ponds with underdrain discharge, off-line retention areas, and natural depressions. Infiltration must be used only as appropriate to the site and land uses. The method selected by the **Permittee(s)** must remove settleable solids, floating materials, and oils and grease from the runoff to the maximum extent practicable before runoff enters the infiltration/filtration system. Filtration systems must be designed to remove at least 80 percent of total suspended solids. When designing the system the **Permittee(s)** must evaluate the impact of constructing an infiltration practice on existing hydrologic features (e.g., existing **wetlands**) and the system must be designed to maintain pre-existing conditions (e.g., do not breach a perched water table that is supporting a **wetland**). For a discussion of potential **stormwater** hotspots, groundwater warnings, design measures, maintenance considerations or other retention, detention, and treatment devices, see the

Minnesota Stormwater Manual found on the MPCA's website.

- b. Infiltration systems must not be excavated to final grade until the contributing drainage area has been constructed and fully **stabilized** unless rigorous erosion prevention and sediment controls are provided (Part III.D.1.c.).
- c. When an infiltration system is excavated to final grade (or within three (3) feet of final grade), the **Permittee(s)** must employ rigorous **erosion prevention** and **sediment controls** (e.g., diversion berms) to keep sediment and runoff completely away from the infiltration area. The area must be staked off and marked so that heavy construction vehicles or equipment will not compact the soil in the proposed infiltration area.
- d. To prevent clogging of the infiltration or filtration system, the **Permittee(s)** must use a pretreatment device such as a vegetated filter strip, small sedimentation basin, or water quality inlet (e.g., grit chamber) to settle particulates before the **stormwater** discharges into the infiltration or filtration system.
- e. The **Permittee(s)** must design infiltration or filtration systems that provide a **water quality volume** (calculated as an instantaneous volume) of one (1) inch of runoff (or one (1) inch minus the volume of **stormwater** treated by another system on the site) from the new impervious surfaces created by the **project**.
- f. The **Permittee(s)** must design the infiltration/filtration system to discharge the **water quality volume** routed to the system through the soil surface or filter media within 48 hours or less. Additional flows that cannot be infiltrated or filtered within 48 hours must be routed to bypass the system through a **stabilized** discharge point. The **Permittee(s)** must design the infiltration system to provide a means to visually verify that the system is discharging through the soil surface or filter media within 48 hours or less.
- g. The **Permittee(s)** shall employ appropriate on-site testing consistent with the recommendations found in the **Minnesota Stormwater Manual** to verify soil type and to ensure a minimum of three (3) feet of separation from the seasonally **saturated soils** (or from bedrock) and the bottom of the proposed infiltration/filtration system.
- h. The **Permittee(s)** must ensure filtration systems with less than three (3) feet of separation from seasonally **saturated soils** or from bedrock are constructed with an impermeable liner.
- i. The **Permittee(s)** must design adequate maintenance access (typically eight (8) feet wide).
- j. Infiltration is prohibited when the infiltration system will be constructed in:
 - i. Areas that receive discharges from vehicle fueling and maintenance.
 - ii. Areas with less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally **saturated soils** or the top of bedrock.

- iii. Areas that receive discharges from industrial facilities which are not authorized to infiltrate industrial **stormwater** under an **NPDES/SDS** Industrial Stormwater Permit issued by the MPCA.
 - iv. Areas where high levels of contaminants in soil or groundwater will be mobilized by the infiltrating **stormwater**.
 - v. Areas of predominately Hydrologic Soil Group D (clay) soils unless allowed by a local unit of government with a current MS4 permit.
 - vi. Areas within 1,000 feet up-gradient, or 100 feet down-gradient of active karst features unless allowed by a local unit of government with a current MS4 permit.
 - vii. Areas within a Drinking Water Supply Management Area (DWSMA) as defined in Minn. R. 4720.5100, subp. 13., unless allowed by a local unit of government with a current MS4 permit.
 - viii. Areas where soil infiltration rates are more than 8.3 inches per hour unless soils are amended to slow the infiltration rate below 8.3 inches per hour or as allowed by a local unit of government with a current MS4 permit.
2. Wet Sedimentation Basin
- a. The **Permitte(s)** must design the basin to have a permanent volume of 1,800 cubic feet of storage below the outlet pipe for each acre that drains to the basin. The basin's permanent volume must reach a minimum depth of at least three (3) feet and must have no depth greater than 10 feet. The basin must be configured such that scour or resuspension of solids is minimized.
 - b. The **Permittee(s)** must design basins to provide live storage for a **water quality volume** (calculated as an instantaneous volume) of one (1) inch of runoff (or one (1) inch minus the volume of **stormwater** treated by another system on the site) from the new impervious surfaces created by the **project**.
 - c. The **Permittee(s)** must design basin outlets such that the **water quality volume** is discharged at no more than 5.66 cubic feet per second (cfs) per acre of surface area of the pond.
 - d. The **Permittee(s)** must design basin outlets to prevent short-circuiting and the discharge of floating debris. Basin outlets must have **energy dissipation**.
 - e. The **Permittee(s)** must design the basin to include a **stabilized** emergency overflow to accommodate storm events in excess of the basin's hydraulic design.
 - f. The **Permittee(s)** must design adequate maintenance access (typically eight (8) feet wide).
 - g. The **Permittee(s)** must design sediment Basins to be situated outside of **surface waters** and any buffer zone required under Appendix A, Part C.3. and they must be designed to avoid draining water from **wetlands** unless the impact to the **wetland** is in compliance with the requirements of Appendix A, Part D.

3. Regional Ponds

When the entire **water quality volume** cannot be retained onsite, the **Permittee(s)** can use or create regional ponds provided that they are constructed ponds, not a natural **wetland** or water body, (**wetlands** used as regional ponds must be mitigated for, see Appendix A, Part D) and designed in accordance with this permit's design requirements (Part III.D.2.) for all water from **impervious surfaces** that reach the pond. **Permittee(s)** shall not construct regional ponds in **wetlands**, regardless of their condition, quality or designation by local plans, unless the mitigative sequence in Appendix A, Part D. of this permit has been completed. There must be no significant degradation of the waterways between the **project** and the regional pond. The **owner** must obtain written authorization from the applicable local governmental unit (LGU) or private entity that owns and maintains the regional pond. The LGU's or private entity's written authorization must identify that the regional pond will discharge the **water quality volume** (one (1) inch of runoff from the impervious watershed area) at no more than 5.66 cfs per acre of surface area of the pond. The **owner** must include the LGU's or private entities' written authorization in the **SWPPP**. The LGU's or private entity's written authorization must be obtained before the **owner** finalizes the **SWPPP** and before any application for this permit is made to the MPCA.

III.E RECORD RETENTION

The **SWPPP** (original or copies) including, all changes to it, and inspections and maintenance records must be kept at the site during construction by the **Permittee(s)** who has/have operational control of that portion of the site. The **SWPPP** can be kept in either the field office or in an on-site vehicle during normal working hours.

All **owner(s)** must keep the following records on file for three (3) years after submittal of the **NOT** as outlined in Part II.C. This does not include any records after submittal of the **NOT**.

1. The final SWPPP
2. Any other **stormwater** related permits required for the **project**
3. Records of all inspection and maintenance conducted during construction (Part IV.E. Inspections and Maintenance)
4. All permanent operation and maintenance agreements that have been implemented, including all right-of-way, contracts, covenants and other binding requirements regarding perpetual maintenance and
5. All required calculations for design of the temporary and permanent **Stormwater** Management Systems.

III.F. TRAINING REQUIREMENTS

The **Permittee(s)** shall ensure the following individuals identified in this part have been trained in accordance with this Permit's training requirements.

1. Who must be trained:
 - a. Individual(s) preparing the **SWPPP** for the **project**
 - b. Individual(s) overseeing implementation of, revising, and amending the **SWPPP** and individual(s) performing inspections as required in Part IV.E. One of these individual(s) must be available for an onsite inspection within 72 hours upon request by the MPCA.
 - c. Individual(s) performing or supervising the installation, maintenance and repair of **BMPs**. At least one individual on a **project** must be trained in these job duties.
2. Training content: The content and extent of training must be commensurate with the individual's job duties and responsibilities with regard to activities covered under this permit for the **project**. At least one individual present on the permitted **project** site (or available to the **project** site in 72 hours) must be trained in the job duties described in Part III.F.1.b. and Part III.F.1.c.
3. The **Permittee(s)** shall ensure that the individuals are trained by local, state, federal agencies, professional organizations, or other entities with expertise in **erosion prevention, sediment control**, permanent **stormwater** management and the Minnesota **NPDES/SDS** Construction Stormwater Permit. An update refresher-training must be attended every three (3) years starting three (3) years from the issuance date of this permit.

PART IV. CONSTRUCTION ACTIVITY REQUIREMENTS

IV.A. STORMWATER POLLUTION PREVENTION PLAN

The **Permittee(s)** must implement the **SWPPP** and the requirements of this part. The **BMPs** identified in the **SWPPP** and in this permit must be selected, installed, and maintained in an appropriate and functional manner that is in accordance with relevant manufacturer specifications and accepted engineering practices.

IV.B. EROSION PREVENTION PRACTICES

1. The **Permittee(s)** must plan for and implement appropriate **BMPs** such as construction phasing, vegetative buffer strips, horizontal slope grading, inspection and maintenance of Part IV.E. and other construction practices that minimize erosion as necessary to comply with this permit and protect **waters of the state**. The location of areas not to be disturbed must be delineated (e.g., with flags, stakes, signs, silt fence etc.) on the **project** site before work begins. The **Permittee(s)** must minimize the need for disturbance of portions of the **project** that have **steep slopes**. For those sloped areas which must be disturbed, the **Permittee(s)** must use techniques such as phasing and **stabilization** practices designed for **steep slopes** (e.g., slope draining and terracing).
2. The **Permittee(s)** must **stabilize** all exposed soil areas (including stockpiles). **Stabilization** must be **initiated immediately** to limit soil erosion whenever any **construction activity** has permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. **Stabilization** must be completed no later than 14 calendar days after the **construction activity** in that portion of the site has temporarily or permanently ceased. For **Public Waters** that the Minnesota Department of Natural Resources has promulgated "work

in water restrictions” during specified fish spawning time frames, all exposed soil areas that are within 200 feet of the water’s edge, and drain to these waters must complete the **stabilization** activities within 24 hours during the restriction period. Temporary stockpiles without significant silt, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) and the constructed base components of roads, parking lots and similar surfaces are exempt from this requirement but must be in compliance with Part IV.C.5.

3. If using **stormwater** conveyance channels ,the **Permittee(s)** must design the channels to route water around unstabilized areas on the site and to reduce erosion, unless **infeasible**. The **Permittee(s)** must use erosion controls and velocity dissipation devices such as check dams, sediment traps, riprap, or grouted riprap at outlets within and along the length of any constructed **stormwater** conveyance channel, and at any outlet, to provide a non-erosive flow velocity, to minimize erosion of channels and their embankments, outlets, adjacent stream banks, slopes, and downstream waters during discharge conditions.
4. The **Permittee(s)** must **stabilize** the **normal wetted perimeter** of any temporary or permanent drainage ditch or swale that drains water from any portion of the construction site, or diverts water around the site, within 200 lineal feet from the property edge, or from the point of discharge into any **surface water**. **Stabilization** of the last 200 lineal feet must be completed within 24 hours after connecting to a **surface water** or property edge.

The **Permittee(s)** shall complete **stabilization** of the remaining portions of any temporary or permanent ditches or swales within 14 calendar days after connecting to a **surface water** or property edge and construction in that portion of the ditch has temporarily or permanently ceased.

Temporary or permanent ditches or swales that are being used as a sediment containment system during construction (with properly designed rock-ditch checks, bio rolls, silt dikes, etc.) do not need to be **stabilized** during the temporary period of its use as a sediment containment system. These areas must be **stabilized** within 24 hours after no longer being used as a sediment containment system.

Applying mulch, hydromulch, tackifier, polyacrylamide or similar **erosion prevention** practices is not acceptable **stabilization** in any part of a temporary or permanent drainage ditch or swale.

5. Pipe outlets must be provided with temporary or permanent **energy dissipation** within 24 hours after connection to a **surface water**.
6. Unless **infeasible** due to lack of pervious or vegetated areas, the **Permittee(s)** must direct discharges from **BMPs** to vegetated areas of the site (including any **natural buffers**) in order to increase sediment removal and maximize **stormwater** infiltration. The **Permittee(s)** must use velocity dissipation devices if necessary to prevent erosion when directing **stormwater** to vegetated areas.

IV.C. SEDIMENT CONTROL PRACTICES

1. The **Permittee(s)** must employ **Sediment control** practices as necessary to minimize sediment from entering **surface waters**, including curb and gutter systems and storm sewer inlets.

- a. Temporary or permanent drainage ditches and sediment basins that are designed as part of a sediment containment system (e.g., ditches with rock-check dams) require **sediment control** practices only as appropriate for site conditions.
 - b. If the down gradient **sediment controls** are overloaded (based on frequent failure or excessive maintenance requirement), the **Permittee(s)** must install additional upgradient **sediment control** practices or redundant **BMPs** to eliminate the overloading, and the **SWPPP** must be amended to identify these additional practices as required in Part III.B 1.-3.
2. **Sediment control** practices must be established on all down gradient perimeters and be located upgradient of any buffer zones. The perimeter **sediment control** practice must be in place before any upgradient land-disturbing activities begin. These practices shall remain in place until **Final Stabilization** has been established in accordance with Part IV.G. A floating silt curtain placed in the water is not a **sediment control BMP** to satisfy perimeter control requirements in this part except when working on a shoreline and below the waterline. In those cases, a floating silt curtain can be used as a perimeter control practice if the floating silt curtain is installed as close to shore as possible. Immediately after the short term construction activity (e.g. installation of rip rap along the shoreline) in that area is complete, an upland perimeter control practice must be installed if exposed soils still drain to the surface water..
 3. The **Permittee(s)** shall re-install all **sediment control** practices that have been adjusted or removed to accommodate short-term activities such as clearing or grubbing, or passage of vehicles, immediately after the short-term activity has been completed. The **Permittee(s)** shall complete any short-term activity that requires removal of **sediment control** practices as quickly as possible. The **Permittee(s)** must re-install **sediment control** practices before the next precipitation event even if the short-term activity is not complete.
 4. All storm drain inlets must be protected by appropriate **BMPs** during construction until all sources with potential for discharging to the inlet have been **stabilized**. Inlet protection may be removed for a particular inlet if a specific safety concern (street flooding/freezing) has been identified by the **Permittee(s)** or the jurisdictional authority (e.g., city/county/township/MnDOT engineer).The **Permittee(s)** must document the need for removal in the **SWPPP**.
 5. Temporary soil stockpiles must have silt fence or other effective **sediment controls**, and cannot be placed in any **natural buffers** or **surface waters**, including **stormwater** conveyances such as curb and gutter systems, or conduits and ditches unless there is a bypass in place for the **stormwater**.
 6. Where vehicle traffic leaves any part of the site (or onto paved roads within the site):
 - a. The **Permittee(s)** must install a vehicle tracking **BMP** to minimize the track out of sediment from the construction site. Examples of vehicle tracking **BMPs** include (but are not limited to) rock pads, mud mats, slash mulch, concrete or steel wash racks, or equivalent systems.
 - b. The **Permittee(s)** must use street sweeping if such vehicle tracking **BMPs** are not adequate to prevent sediment from being tracked onto the street (see Part IV.E.5.d.).
 7. The **Permittee(s)** must install temporary sedimentation basins as required in Part III.C. of this permit.

8. The **Permittee(s)** must minimize soil compaction and, unless **infeasible**, preserve topsoil. Minimizing soil compaction is not required where the function of a specific area of the site dictates that it be compacted.
9. The **Permittee(s)** must preserve a 50 foot **natural buffer** or (if a buffer is **infeasible** on the site) provide redundant **sediment controls** when a **surface water** is located within 50 feet of the **project's** earth disturbances and stormwater flows to the **surface water**. **Natural buffers** are not required adjacent to road ditches, judicial ditches, county ditches, **stormwater** conveyance channels, storm drain inlets, and sediment basins. The **Permittee(s)** is/are not required to enhance the quality of the vegetation that already exists in the buffer or provide vegetation if none exist. However, **Permittee(s)** can improve the natural buffer with vegetation.
10. If the **Permittee(s)** intend to use polymers, flocculants, or other sedimentation treatment chemicals on the **project** site, the **Permittee(s)** must comply with the following minimum requirements:
 - a. The **Permittee(s)** must use conventional erosion and **sediment controls** prior to chemical addition to ensure effective treatment. Chemicals may only be applied where treated **stormwater** is directed to a **sediment control** system which allows for filtration or settlement of the floc prior to discharge.
 - b. Chemicals must be selected that are appropriately suited to the types of soils likely to be exposed during construction, and to the expected turbidity, pH, and flow rate of **stormwater** flowing into the chemical treatment system or area.
 - c. Chemicals must be used in accordance with accepted engineering practices, and with dosing specifications and sediment removal design specifications provided by the manufacturer or provider/supplier of the applicable chemicals.

IV.D. DEWATERING AND BASIN DRAINING

1. The **Permittee(s)** must discharge turbid or sediment-laden waters related to **dewatering** or basin draining (e.g., pumped discharges, trench/ditch cuts for drainage) to a temporary or permanent sedimentation basin on the **project** site unless **infeasible**. The **Permittee(s)** may discharge from the temporary or permanent sedimentation basins to **surface waters** if the basin water has been visually checked to ensure adequate treatment has been obtained in the basin and that nuisance conditions (see Minn. R. 7050.0210, subp. 2) will not result from the discharge. If the water cannot be discharged to a sedimentation basin prior to entering the **surface water**, it must be treated with the appropriate **BMPs**, such that the discharge does not adversely affect the receiving water or downstream properties. If the **Permittee(s)** must discharge water that contains oil or grease, the **Permittee(s)** must use an oil-water separator or suitable filtration device (e.g. cartridge filters, absorbents pads) prior to discharging the water. The **Permittee(s)** must ensure that discharge points are adequately protected from erosion and scour. The discharge must be dispersed over natural rock riprap, sand bags, plastic sheeting, or other accepted **energy dissipation** measures.

2. All water from **dewatering** or basin-draining activities must be discharged in a manner that does not cause nuisance conditions, erosion in receiving channels or on downslope properties, or inundation in **wetlands** causing significant adverse impact to the **wetland**.
3. If the **Permittee(s)** is/are using filters with backwash water, the **Permittee(s)** must haul the backwash water away for disposal, return the backwash water to the beginning of the treatment process, or incorporate the backwash water into the site in a manner that does not cause erosion. The Permittee(s) may discharge backwash water to the sanitary sewer if permission is granted by the sanitary sewer authority. The **Permittee(s)** must replace and clean the filter media used in **dewatering** devices when required to retain adequate function.

IV.E. INSPECTIONS AND MAINTENANCE

1. The **Permittee(s)** must ensure that a trained person (as identified in Part III.A.3.a.) will routinely inspect the entire construction site at least once every seven (7) days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. Following an inspection that occurs within 24 hours after a rainfall event, the next inspection must be conducted within seven (7) days after the rainfall event.
2. All inspections and maintenance conducted during construction must be recorded within 24 hours in writing and these records must be retained with the **SWPPP** in accordance with Part III.E. Records of each inspection and maintenance activity shall include:
 - a. Date and time of inspections
 - b. Name of person(s) conducting inspections
 - c. Findings of inspections, including the specific location where corrective actions are needed
 - d. Corrective actions taken (including dates, times, and party completing maintenance activities)
 - e. Date and amount of all rainfall events greater than 1/2 inch (0.5 inches) in 24 hours. Rainfall amounts must be obtained by a properly maintained rain gauge installed onsite, a weather station that is within 1 mile of your location or a weather reporting system that provides site specific rainfall data from radar summaries.
 - f. If any discharge is observed to be occurring during the inspection, a record of all points of the property from which there is a discharge must be made, and the discharge should be described (i.e., color, odor, floating, settled, or suspended solids, foam, oil sheen, and other obvious indicators of pollutants) and photographed.
 - g. Any amendments to the **SWPPP** proposed as a result of the inspection must be documented as required in Part III.B. within seven (7) calendar days.
3. Inspection frequency adjustment
 - a. Where parts of the **project** site have **permanent cover**, but work remains on other parts of the site, the **Permittee(s)** may reduce inspections of the areas with **permanent cover** to

once per month.

- b. Where construction sites have **permanent cover** on all exposed soil areas and no **construction activity** is occurring anywhere on the site, the site must be inspected during non-frozen ground conditions at least once per month for a period of twelve (12) months. Following the twelfth month of **permanent cover** and no **construction activity**, inspections may be terminated until **construction activity** is once again initiated unless the **Permittee(s)** is/are notified in writing by the MPCA that erosion issues have been detected at the site and inspections need to resume.
 - c. Where work has been suspended due to frozen ground conditions, the inspections may be suspended. The required inspections and maintenance schedule must begin within 24 hours after runoff occurs at the site or 24 hours prior to resuming construction, whichever comes first.
4. The **Permittee(s)** is/are responsible for the inspection and maintenance of temporary and permanent water quality management **BMPs**, as well as all **erosion prevention** and **sediment control BMPs**, until another **Permittee** has obtained coverage under this Permit according to Part II.B.5. or the **project** has undergone **Final Stabilization**, and an **NOT** has been submitted to the MPCA.
 5. The **Permittee(s)** must inspect all **erosion prevention** and **sediment control BMPs** and Pollution Prevention Management Measures to ensure integrity and effectiveness during all routine and post-rainfall event inspections. All nonfunctional **BMPs** must be repaired, replaced, or supplemented with functional **BMPs** by the end of the next business day after discovery, or as soon as field conditions allow access unless another time frame is specified below. The **Permittee(s)** must investigate and comply with the following inspection and maintenance requirements:
 - a. All perimeter control devices must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches one-half (1/2) of the height of the device. These repairs must be made by the end of the next business day after discovery, or thereafter as soon as field conditions allow access.
 - b. Temporary and permanent sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches one-half (1/2) the storage volume. Drainage and removal must be completed within 72 hours of discovery, or as soon as field conditions allow access (see Part IV.D.).
 - c. **Surface waters**, including drainage ditches and conveyance systems, must be inspected for evidence of erosion and sediment deposition during each inspection. The **Permittee(s)** must remove all deltas and sediment deposited in **surface waters**, including drainage ways, catch basins, and other drainage systems, and restabilize the areas where sediment removal results in exposed soil. The removal and **stabilization** must take place within seven (7) days of discovery unless precluded by legal, regulatory, or physical access constraints. The **Permittee(s)** shall use all reasonable efforts to obtain access. If precluded, removal and **stabilization** must take place within seven (7) calendar days of obtaining access. The **Permittee(s)** is/are responsible for contacting all local, regional, state and federal authorities and receiving any applicable permits, prior to conducting any work in surface waters.

- d. Construction site vehicle exit locations must be inspected for evidence of off-site sediment tracking onto paved surfaces. Tracked sediment must be removed from all paved surfaces both on and off site within 24 hours of discovery, or if applicable, within a shorter time to comply with Part IV.C.6.
 - e. Streets and other areas adjacent to the **project** must be inspected for evidence of off-site accumulations of sediment. If sediment is present, it must be removed in a manner and at a frequency sufficient to minimize off-site impacts (e.g., fugitive sediment in streets could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets).
6. All infiltration areas must be inspected to ensure that no sediment from ongoing **construction activity** is reaching the infiltration area. All infiltration areas must be inspected to ensure that equipment is not being driven across the infiltration area.

IV.F. POLLUTION PREVENTION MANAGEMENT MEASURES

The **Permittee(s)** shall implement the following pollution prevention management measures on the site:

1. Storage, Handling, and Disposal of Construction Products, Materials, and Wastes: The **Permittee(s)** shall comply with the following to minimize the exposure to **stormwater** of any of the products, materials, or wastes. Products or wastes which are either not a source of contamination to stormwater or are designed to be exposed to stormwater are not held to this requirement:
 - a. Building products that have the potential to leach pollutants must be under cover (e.g., plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by a similarly effective means designed to minimize contact with **stormwater**.
 - b. Pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials must be under cover (e.g., plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by similarly effective means designed to minimize contact with **stormwater**.
 - c. Hazardous materials, toxic waste, (including oil, diesel fuel, gasoline, hydraulic fluids, paint solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids) must be properly stored in sealed containers to prevent spills, leaks or other discharge. Restricted access storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste or hazardous materials must be in compliance with Minn. R. ch. 7045 including secondary containment as applicable.
 - d. Solid waste must be stored, collected and disposed of properly in compliance with Minn. R. ch. 7035.
 - e. Portable toilets must be positioned so that they are secure and will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. ch. 7041.

2. Fueling and Maintenance of Equipment or Vehicles; Spill Prevention and Response: The **Permittee(s)** shall take reasonable steps to prevent the discharge of spilled or leaked chemicals, including fuel, from any area where chemicals or fuel will be loaded or unloaded including the use of drip pans or absorbents unless infeasible. The **Permittee(s)** must conduct fueling in a contained area unless infeasible. The **Permittee(s)** must ensure adequate supplies are available at all times to clean up discharged materials and that an appropriate disposal method is available for recovered spilled materials. The **Permittee(s)** must report and clean up spills immediately as required by Minn. Stat. § 115.061, using dry clean up measures where possible.
3. Vehicle and equipment washing: If the **Permittee(s)** wash the exterior of vehicles or equipment on the **project** site, washing must be limited to a defined area of the site. Runoff from the washing area must be contained in a sediment basin or other similarly effective controls and waste from the washing activity must be properly disposed of. The **Permittee(s)** must properly use and store soaps, detergents, or solvents. No engine degreasing is allowed on site.
4. Concrete and other washouts waste: The **Permittee(s)** must provide effective containment for all liquid and solid wastes generated by washout operations (concrete, stucco, paint, form release oils, curing compounds and other construction materials) related to the **construction activity**. The liquid and solid washout wastes must not contact the ground, and the containment must be designed so that it does not result in runoff from the washout operations or areas. Liquid and solid wastes must be disposed of properly and in compliance with MPCA rules. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.

IV.G. FINAL STABILIZATION

The **Permittee(s)** must ensure **Final Stabilization** of the site. **Final Stabilization** is not complete until all requirements of Parts IV.G.1-5. are complete:

1. All soil disturbing activities at the site have been completed and all soils are **stabilized** by a uniform perennial vegetative cover with a density of 70 percent of its expected final growth density over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions.
2. The permanent **stormwater** management system is constructed, meets all requirements in Part III.D. and is operating as designed. Temporary or permanent sedimentation basins that are to be used as permanent water quality management basins have been cleaned of any accumulated sediment. All sediment has been removed from conveyance systems and ditches are **stabilized** with **permanent cover**.
3. All temporary synthetic and structural **erosion prevention** and **sediment control BMPs** (such as silt fence) have been removed on the portions of the site for which the **Permittee(s)** is/are responsible. **BMPs** designed to decompose on site (such as some compost logs) may be left in place.
4. For residential construction only, individual lots are considered finally **stabilized** if the structure(s) are finished and **temporary erosion protection** and downgradient perimeter control has been completed and the residence has been sold to the homeowner. Additionally, the **Permittee** has distributed the MPCA's "**Homeowner Fact Sheet**" to the homeowner to inform

the homeowner of the need for, and benefits of, **permanent cover**.

5. For construction **projects** on agricultural land (e.g., pipelines across crop, field pasture or range land) the disturbed land has been returned to its preconstruction agricultural use.

PART V. GENERAL PROVISIONS

V.A. APPLICABILITY CRITERIA

1. If the **Commissioner** determines that pollution in **stormwater** discharges associated with a **construction activity** are contributing to a violation of a water quality standard or due to specific site considerations rendering a substantial portion of the requirements of this permit impossible to comply with, and the **Commissioner** determines that the **construction activity** would be more appropriately regulated by an individual permit, the **Commissioner** may terminate coverage under this general permit and require the **owner and operator** to continue the **construction activity** subject to an individual **stormwater** discharge permit. Upon issuance of an individual permit, this general permit would no longer apply. Prior to termination of coverage under this general permit, the **Commissioner** will provide notice and an opportunity to request a contested case hearing.
2. If the terms and conditions of this general permit cannot be met, an **owner** may request an individual permit, in accordance with Minn. R. 7001.0210 subp. 6.
3. Any interested person may petition the MPCA to require an individual **NPDES/SDS** permit in accordance with 40 CFR 122.28(b)(3).

V.B. RECORD AVAILABILITY

1. The **Permittee(s)** must make the **SWPPP**, including all certificates, reports, records, or other information required by this permit, available to federal, state, and local officials within 72 hours upon request for the duration of the permit and for three (3) years following the **NOT**. This does not include any records after submittal of the **NOT**.
2. When requested by the MPCA, the **Permittee(s)** must make the responsible person trained as required in Part III.F.1.b. or Part III.F.1.c. available to be onsite during an MPCA inspection within 72 hours of a request.

V.C. PROHIBITIONS

This permit prohibits discharges of any material other than **stormwater** treated in compliance with this permit and discharges from **dewatering** or basin draining activities in accordance with Part IV.D.1.-2. Prohibited discharges include (but are not limited to) wastewater from washout of concrete, stucco, paint, form release oils, curing compounds and other construction materials, fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance, soaps or solvents used in vehicle and equipment washing and maintenance, and other hazardous substances or wastes.

V.D. TRANSFER OF OWNERSHIP OR CONTROL

This permit may not be assigned or transferred by the **Permittee(s)** except when transfer occurs in accordance with the applicable requirements of Part II.B.5.

V.E. CIVIL AND CRIMINAL LIABILITY

Nothing in this permit must be construed to relieve the **Permittee(s)** from civil or criminal penalties for noncompliance with the terms and conditions provided herein. Nothing in this permit must be construed to preclude the initiation of any legal action or relieve the **Permittee(s)** from any responsibilities, liabilities, or penalties to which the **Permittee(s)** is/are or may be subject to under Section 311 of the Clean Water Act and Minn. Stat. § 115 and 116, as amended. The **Permittee(s)** is/are not liable for permit requirements for activities occurring on those portions of a site where the permit has been transferred to another party as required in Part II.B.5. or the **Permittee(s)** **has/have** submitted the **NOT** as required in Part II.C.

V.F. SEVERABILITY

The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit must not be affected thereby.

V.G. NPDES/SDS RULE STANDARD GENERAL CONDITIONS

The **Permittee(s)** must comply with the provisions of Minn. R. 7001.0150, subp. 3 and Minn. R. 7001.1090, subp. 1(A), 1(B), 1(C), 1(H), 1(I), 1(J), 1(K), and 1(L).

V.H. INSPECTION AND ENTRY

The **Permittee(s)** must allow access as provided in 40 CFR 122.41(i) and Minn. Stat. § 115.04. The **Permittee(s)** shall allow representatives of the MPCA or any member, employee or agent thereof, when authorized by it, upon presentation of credentials, to enter upon any property, public or private, for the purpose of obtaining information or examination of records or conducting surveys or investigations.

APPENDIX A

A. GENERAL REQUIREMENTS

All requirements in this Appendix are in addition to **BMPs** already specified in the permit. Where provisions of Appendix A, conflict with requirements elsewhere in the permit, the provisions in Appendix A take precedence. All **BMPs** used to comply with this Appendix must be documented in the **SWPPP** for the **project**. If the terms and conditions of this Appendix cannot be met, an individual permit will be required in accordance with Minn. R. ch. 7001.

B. REQUIREMENTS FOR DISCHARGES TO SPECIAL WATERS AND IMPAIRED WATERS

Additional **BMPs** and enhanced runoff controls identified in this Part are required for discharges to the following special waters (Part B.1 through B.9 of Appendix A) and impaired waters (Part B.10 of Appendix A). The **BMPs** identified for each special or impaired water are required for those areas of

the **project** draining to a discharge point on the **project** that is within one mile (**aerial radius measurement**) of special or impaired water and flows to that special or impaired water.

1. Wilderness areas: Boundary Waters Canoe Area Wilderness; Voyageurs National Park; Kettle River from the site of the former dam at Sandstone to its confluence with the Saint Croix River; Rum River from Ogechie Lake spillway to the northernmost confluence with Lake Onamia. Discharges to these waters must incorporate the **BMPs** outlined in C.1., C.2., and C.3. of this Appendix.
2. Mississippi River: Those portions from Lake Itasca to the southerly boundary of Morrison County that are included in the Mississippi Headwaters Board comprehensive plan dated February 12, 1981. Discharges to these waters must incorporate the **BMPs** outlined in C.1., C.2. and C.3. of this Appendix.
3. Scenic or recreational river segments: Saint Croix River, entire length; Cannon River from northern city limits of Faribault to its confluence with the Mississippi River; North Fork of the Crow River from Lake Koronis outlet to the Meeker-Wright county line; Kettle River from north Pine County line to the site of the former dam at Sandstone; Minnesota River from Lac qui Parle dam to Redwood County State Aid Highway 11; Mississippi River from County State Aid Highway 7 bridge in Saint Cloud to northwestern city limits of Anoka; and Rum River from State Highway 27 bridge in Onamia to Madison and Rice streets in Anoka. Discharges to these waters must incorporate the **BMPs** outlined in C.1., C.2. and C.3. of this Appendix.
4. Lake Superior: (Prohibited and restricted) Discharges to Lake Superior must incorporate the **BMPs** outlined in C.1., C.2. and C.3. of this Appendix.
5. Lake Trout Lakes: Identified in Minn. R. 7050.0470, including those inside the boundaries of the Boundary Waters Canoe Area Wilderness and Voyageurs National Park. Discharges to these waters must incorporate the **BMPs** outlined in C.1., C.2., and C.3. of this Appendix.
6. Trout Lakes: Identified in Minn. R. 6264.0050, subp. 2. Discharges to these waters must incorporate the **BMPs** outlined in C.1., C.2., and C.3., of this Appendix.
7. Scientific and natural areas: Boot Lake, Anoka County; Kettle River in sections 15, 22, 23, T 41 N, R 20, Pine County; Pennington Bog, Beltrami County; Purvis Lake-Ober Foundation, Saint Louis County; waters within the borders of Itasca Wilderness Sanctuary, Clearwater County; Iron Springs Bog, Clearwater County; Wolsfeld Woods, Hennepin County; Green Water Lake, Becker County; Blackdog Preserve, Dakota County; Prairie Bush Clover, Jackson County; Black Lake Bog, Pine County; Pembina Trail Preserve, Polk County; and Falls Creek, Washington County. Discharges to these waters must incorporate the **BMPs** outlined in C.1., C.2., and C.3. of this Appendix.
8. Trout Streams: Listed in Minn. R. 6264.0050, subp. 4. Discharges to these waters must incorporate the **BMPs** outlined in C.1., C.2., C.3., and C.4. of this Appendix.
9. Calcareous Fens: Listed in Minn. R 7050.0180 subp.6b. Discharges to these Calcareous Fens must incorporate the **BMPs** outlined in C.1. and C.2. of this Appendix.
10. Impaired Waters: Waters identified as impaired under section 303 (d) of the federal Clean Water

Act for phosphorus (nutrient eutrophication biological indicators), turbidity, dissolved oxygen or aquatic biota (fish bioassessment, aquatic plant bioassessment and aquatic macroinvertebrate bioassessment).

- a. Impaired Water Without an Approved TMDL or With an Approved TMDL and No Waste Load Allocation:

If runoff from the site discharges to an impaired water, and a TMDL has not been approved by USEPA or there is a USEPA approved TMDL that does not establish a Waste Load Allocation (WLA) for construction **stormwater**, discharges to these waters must incorporate the **BMPs** outlined in C.1. and C.2. of this Appendix.

- b. Impaired Water With an Approved TMDL and WLA:

If runoff from the site discharges to an impaired water for which there is a USEPA approved TMDL that establishes a WLA for construction **stormwater**, and the TMDL does not identify any specific implementation activities that would apply to the site discharges, discharges to these waters must incorporate the **BMPs** outlined in C.1. and C.2. of this Appendix.

If the TMDL identifies specific implementation activities regarding construction **stormwater** that would apply to the site discharges, the **Permittee(s)** must include the following in the **SWPPP**:

- i. Identify the receiving water, the areas of the site discharging to it, and the pollutant(s) identified in the TMDL and
- ii. **BMPs** identified in the TMDL and any other specific construction **stormwater** related implementation activities identified in the TMDL.

Note on impaired waters listing terminology: The terms in parenthesis in Appendix A, Part B.10. above are the most current terminology used to list waters as impaired at the time of permit issuance. These terms are subject to change. For example, at one time waters were listed as impaired for phosphorus and now those same waters are listed as impaired for nutrient eutrophication biological indicators. If the terminology changes for one of the pollutant(s) or stressor(s) identified in the permit, the MPCA will keep a list of the new terms on its construction **stormwater** website.

C. ADDITIONAL **BMPs** FOR SPECIAL WATERS AND IMPAIRED WATERS

For the **BMPs** described in C.2., and C.4. of this Appendix:

Where the proximity to bedrock precludes the installation of any of the permanent **stormwater** management practices outlined in Appendix A, other treatment (such as grassed swales, smaller ponds, or grit chambers) is required prior to discharge to **surface waters**.

For work on linear **projects** with lack of right-of-way where the **Permittee(s)** cannot obtain an easement or other permission for property needed to install treatment systems capable of treating the entire **water quality volume** on site, the **Permittee(s)** must maximize the **water quality volume** that can be treated prior to discharge to **surface waters**. Treatment can be provided through other

methods or combination of methods such as grassed swales, filtration systems, smaller ponds or grit chambers prior to discharge to **surface waters**. A reasonable attempt must be made to obtain right-of-way during the **project** planning process. Documentation of these attempts must be in the **SWPPP** per Part III.A.5.m. in the section addressing **infeasibility**.

1. During construction:
 - a. **Stabilization** of all exposed soil areas must be **initiated immediately** to limit soil erosion but in no case completed later than seven (7) days after the **construction activity** in that portion of the site has temporarily or permanently ceased.
 - b. Temporary sediment basin requirements described in Part III.C. must be used for common drainage locations that serve an area with five (5) or more acres disturbed at one time.
2. Post construction: The **water quality volume** that must be retained on site by the **project's** permanent **stormwater** management system described in Part III.D. shall be one (1) inch of runoff from the new **impervious surfaces** created by the **project**. See Part III.D.1. for more information on infiltration design, prohibitions and appropriate site conditions.
3. Buffer zone: The **Permittee(s)** shall include an undisturbed buffer zone of not less than 100 linear feet from the special water (not including tributaries) and this buffer zone shall be maintained at all times, both during construction and as a permanent feature post construction, except where a water crossing or other encroachment is necessary to complete the **project**. The **Permittee(s)** must fully document the circumstance and reasons that the buffer encroachment is necessary in the **SWPPP** and include restoration activities. Replacement of existing **impervious surface** within the buffer is allowed under this permit. All potential water quality, scenic and other environmental impacts of these exceptions must be minimized by the use of additional or redundant **BMPs** and documented in the **SWPPP** for the **project**.
4. Temperature Controls: The **Permittee(s)** must design the Permanent **Stormwater** Management System such that the discharge from the **project** will minimize any increase in the temperature of trout stream receiving waters resulting from the one (1)-and two (2)-year 24-hour precipitation events. This includes all tributaries of designated trout streams within the Public Land Survey System (PLSS) Section that the trout stream is located. **Projects** that discharge to trout streams must minimize the impact using one or more of the following measures, in order of preference:
 - a. Minimize new **impervious surfaces**.
 - b. Minimize the discharge from connected **impervious surfaces** by discharging to vegetated areas, or grass swales, and through the use of other non-structural controls.
 - c. Infiltration or other volume reduction practices to reduce runoff in excess of pre-**project** conditions (up to the two (2)-year 24-hour precipitation event).
 - d. If ponding is used, the design must include an appropriate combination of measures such as shading, filtered bottom withdrawal, vegetated swale discharges or constructed wetland treatment cells that will limit temperature increases. The pond should be designed to draw down in 24 hours or less.

- e. Other methods that will minimize any increase in the temperature of the trout stream.

D. REQUIREMENTS FOR DISCHARGING TO WETLANDS

If the **project** has any discharges with the potential for significant adverse impacts to a **wetland**, (e.g., conversion of a natural **wetland** to a **stormwater** pond) the **Permittee(s)** must demonstrate that the **wetland** mitigative sequence has been followed in accordance with D.1 or D.2 of this Appendix.

1. If the potential adverse impacts to a **wetland** on a specific **project** site have been addressed by permits or other approvals from an official statewide program (U.S. Army Corps of Engineers 404 program, Minnesota DNR, or the State of Minnesota Wetland Conservation Act) that are issued specifically for the **project** and **project** site, the **Permittee(s)** may use the permit or other determination issued by these agencies to show that the potential adverse impacts have been addressed. For the purposes of this permit, de minimus actions are determinations by the permitting agency that address the **project** impacts, whereas a non-jurisdictional determination does not address **project** impacts.
2. If there are impacts from the **project** that are not addressed in one of the permits or other determinations discussed in Appendix A, Part D.1. (e.g., permanent inundation or flooding of the **wetland**, significant degradation of water quality, excavation, filling, draining), the **Permittee(s)** must minimize all adverse impacts to **wetlands** by utilizing appropriate measures. Measures used must be based on the nature of the **wetland**, its vegetative community types and the established hydrology. These measures include in order of preference:
 - a. Avoid all significant adverse impacts to **wetlands** from the **project** and post-**project** discharge.
 - b. Minimize any unavoidable impacts from the **project** and post-**project** discharge.
 - c. Provide compensatory mitigation when the **Permittee(s)** determine(s) that there is no reasonable and practicable alternative to having a significant adverse impact on a **wetland**. For compensatory mitigation, **wetland** restoration or creation shall be of the same type, size and whenever reasonable and practicable in the same watershed as the impacted **wetland**.

E. DISCHARGES REQUIRING ENVIRONMENTAL REVIEW

This permit does not replace or satisfy any environmental review requirements, including those under the Minnesota Environmental Policy Act or the National Environmental Policy Act. The **owner** must verify that any environmental review required by law, including any required Environmental Assessment Work sheets or Environmental Impact Statements, Federal environmental review, or other required review is complete before making application for coverage under this permit, and the **owner** must incorporate any **stormwater** mitigation measures required as the result of any environmental review into the **SWPPP** for the **project**. If any part of your **common plan of development or sale** requires environmental review, coverage under this permit cannot be obtained until such environmental review is complete.

F. DISCHARGES AFFECTING ENDANGERED OR THREATENED SPECIES

This permit does not replace or satisfy any review requirements for endangered or threatened species, from new or expanded discharges that adversely impact or contribute to adverse impacts on a listed endangered or threatened species, or adversely modify a designated critical habitat. The **owner** must conduct any required review and coordinate with appropriate agencies for any **project** with the potential of affecting threatened or endangered species, or their critical habitat.

G. DISCHARGES AFFECTING HISTORIC PLACES OR ARCHEOLOGICAL SITES

This permit does not replace or satisfy any review requirements for historic places or archeological sites, from new or expanded discharges that adversely affect properties listed or eligible for listing in the National Register of Historic Places or affecting known or discovered archeological sites. The **owner** must be in compliance with National Historic Preservation Act and conduct all required review and coordination related to historic preservation, including significant anthropological sites and any burial sites, with the Minnesota Historic Preservation Officer.

APPENDIX B. – DEFINITIONS

1. **“Aerial radius measurement”** means the shortest straight line distance measurement between the point of **stormwater** discharge from a **project** construction site to the nearest edge of the water body the **stormwater** will flow to. This measurement does not follow the meander flow path.
2. **“Best Management Practices (BMPs)”** means the most effective and practicable means of **erosion prevention** and **sediment control**, and water quality management practices that are the most effective and practicable means of to control, prevent, and minimize degradation of **surface water**, including avoidance of impacts, construction-phasing, minimizing the length of time soil areas are exposed, prohibitions, pollution prevention through good housekeeping, and other management practices published by state or designated area-wide planning agencies.

Individual **BMPs** found in this permit are described in the current versions of Protecting Water Quality in Urban Areas, MPCA and The Minnesota Stormwater Manual, MPCA. **BMPs** must be adapted to the site and can be adopted from other sources. However, they must be similar in purpose and at least as effective and stringent as MPCA’s **BMPs**. (Other sources include manufacturers specifications, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices, U.S. Environmental Protection Agency 1992, and Erosion Control Design Manual, Minnesota Department of Transportation, et al, 1993).

3. **“Commissioner”** means the **Commissioner** of the MPCA or the **Commissioner's** designee.
4. **“Common Plan of Development or Sale”** means a contiguous area where multiple separate and distinct land-disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. One plan is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land-disturbing activities may occur.
5. **“Construction Activity”** includes **construction activity** as defined in 40 C.F.R. pt. 122.26(b)(14)(x) and small construction activity as defined in 40 C.F.R. pt. 122.26(b)(15) and **construction activity** as defined by Minn. R. 7090.0080, subp. 4. This includes a disturbance to the land that results in a change in the topography, existing soil cover (both vegetative and non-vegetative), or the existing soil topography that may result in accelerated **stormwater** runoff, leading to soil erosion and

movement of sediment into **surface waters** or drainage systems. Examples of **construction activity** may include clearing, grading, filling, and excavating. **Construction activity** includes the disturbance of less than one acre of total land area that is a part of a larger **common plan of development or sale** if the larger common plan will ultimately disturb one (1) acre or more. **Construction activity** does not include a disturbance to the land of less than five (5) acres for the purpose of routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

6. **“Dewatering”** means the removal of surface or ground water to dry and/or solidify a construction site to enable **construction activity**. Dewatering may require a Minnesota Department of Natural Resources water appropriation permit and, if dewatering water is contaminated, discharge of such water may require an individual MPCA **NPDES/SDS** permit.
7. **“Energy Dissipation”** means methods employed at pipe outlets to prevent erosion caused by the rapid discharge of water scouring soils. Examples include, but are not limited to: concrete aprons, riprap, splash pads, and gabions that are designed to prevent erosion.
8. **“Erosion Prevention”** means measures employed to prevent erosion. Examples include but not limited to: soil **stabilization** practices, limited grading, mulch, **temporary erosion protection or permanent cover**, and construction phasing.
9. **“Final Stabilization”** means required actions in Part IV.G. taken after the completion of **construction activities** and prior to submitting the **NOT** that are intended to prevent discharge of pollutants associated with stormwater discharges from the **project**.
10. **“Homeowner Fact Sheet”** means a fact sheet developed by the MPCA and available on the MPCA Construction **Stormwater** website to be given to homeowners at the time of sale by a builder to inform the homeowner of the need for, and benefits of, **Final Stabilization**.
11. **“Infeasible”** means not technologically possible or not economically practicable and achievable in light of the best industry practices.
12. **“Initiated immediately”** means taking an action to commence **stabilization** as soon as practicable, but no later than the end of the work day, following the day when the earth-disturbing activities have temporarily or permanently ceased, if the **Permittee(s)** know that construction work on that portion of the site will be temporarily ceased for 14 or more additional calendar days or 7 calendar days where Appendix A.C.1.a applies. The following activities can be taken to initiate **stabilization**:
 1. prepping the soil for vegetative or non-vegetative **stabilization**
 2. applying mulch or other non-vegetative product to the exposed soil area
 3. seeding or planting the exposed area
 4. starting any of the activities in # 1 – 3 on a portion of the area to be **stabilized**, but not on the entire area and
 5. finalizing arrangements to have **stabilization** product fully installed in compliance with the applicable deadline for completing **stabilization**

13. **“Impervious Surface”** means a constructed hard surface that either prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than prior to development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads.
14. **“National Pollutant Discharge Elimination System (NPDES)”** means the program for issuing, modifying, revoking, reissuing, terminating, monitoring, and enforcing permits under the Clean Water Act (Sections 301, 318, 402, and 405) and United States Code of Federal Regulations Title 33, Sections 1317, 1328, 1342, and 1345.
15. **“Natural Buffer”** means an area of undisturbed cover surrounding surface waters within which construction activities are restricted. **Natural buffer** includes the vegetation, exposed rock, or barren ground that exists prior to commencement of earth-disturbing activities.
16. **“Normal Wetted Perimeter”** means the area of a conveyance, such as a ditch, channel, or pipe that is in contact with water during flow events that are expected to occur from a two-year 24-hour storm event.
17. **“Notice of Termination (NOT)”** means notice to terminate coverage under this permit after construction is complete, the site has undergone **Final Stabilization**, and maintenance agreements for all permanent facilities have been established, in accordance with all applicable conditions of this permit.
18. **“Operator”** means the person designated by the **owner**, who has day to day operational control and/or the ability to modify **project** plans and specifications related to the **SWPPP**. The operator must be named on the permit as a **Permittee**.
19. **“Owner”** means the person or party possessing the title of the land on which the construction activities will occur; or if the **construction activity** is for a lease, easement, or mineral rights license holder, the party or individual identified as the lease, easement or mineral rights license holder; or the contracting government agency responsible for the **construction activity**.
20. **“Permanent Cover”** means surface types that will prevent soil failure under erosive conditions. Examples include: gravel, asphalt, concrete, rip rap, roof tops, perennial cover, or other landscaped material that will permanently arrest soil erosion. A uniform perennial vegetative cover (i.e. evenly distributed, without large bare areas) with a density of 70 percent of the native background vegetative cover for the area must be established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures. **Permanent cover** does not include the practices listed under **temporary erosion protection**.
21. **“Permittee(s)”** means the person or persons, firm, or governmental agency or other entity that signs the application submitted to the MPCA and is responsible for compliance with the terms and conditions of this permit.
22. **“Project(s)”** means all **construction activity** that is planned and/or conducted under a particular permit. The **project** will occur on the site or sites described in the permit application, the **SWPPP** and in the associated plans, specifications and contract documents.

23. **“Public Waters”** means all water basins and watercourses that are described in Minn. Stat. § 103G.005 subd. 15.
24. **“Saturated Soil”** means the highest seasonal elevation in the soil that is in a reduced chemical state because of soil voids being filled with water **Saturated soil** is evidenced by the presence of redoximorphic features or other information.
25. **“Sediment Control”** means methods employed to prevent sediment from leaving the site. **Sediment control** practices include silt fences, sediment traps, earth dikes, drainage swales, check dams, subsurface drains, bio rolls, rock logs, compost logs, storm drain inlet protection, and temporary or permanent sedimentation basins. A floating silt curtain placed in the water is not a **sediment control BMP** to satisfy perimeter control requirements, except as provided for in Part IV.C.2.
26. **“Stabilize, Stabilized, Stabilization”** means the exposed ground surface has been covered by appropriate materials such as mulch, staked sod, riprap, erosion control blanket, mats or other material that prevents erosion from occurring. Grass, agricultural crop or other seeding alone is not **stabilization**. Mulch materials must achieve approximately 90 percent ground coverage (typically 2 ton/acre).
27. **“Standard details”** means generic drawings showing a common or repeated **construction activity** or practice.
28. **“Stormwater”** is defined under Minn. R. 7077.0105, subp. 41(b), and includes precipitation runoff, **stormwater** runoff, snowmelt runoff, and any other surface runoff and drainage.
29. **“Steep Slopes”** means slopes that are 1:3 (V:H) (33.3 percent) or steeper in grade.
30. **“Storm Water Pollution Prevention Plan (SWPPP)”** means a plan for **stormwater** discharge that includes all required content under Part III of this Permit and which describes the **erosion prevention BMPs, sediment control BMPs** and Permanent **Stormwater** Management Systems that, when implemented, will decrease soil erosion on a parcel of land and decrease off-site nonpoint pollution.
31. **“Surface Water or Waters”** means all streams, lakes, ponds, marshes, **wetlands**, reservoirs, springs, rivers, drainage systems, waterways, watercourses, and irrigation systems whether natural or artificial, public or private, except that **surface waters** do not include treatment basins or ponds that were constructed from upland. Treatment basins or ponds that were constructed in **wetlands** and mitigated in accordance with Appendix A.D are also not considered surface waters for purposes of this permit.
32. **“Temporary Erosion Protection”** means methods employed to prevent erosion during construction activities. Examples of **temporary erosion protection** include, but are not limited to: straw, wood fiber blanket, wood chips, vegetation, mulch, and rolled erosion control products.
33. **“Underground Waters”** means water contained below the surface of the earth in the saturated zone including, without limitation, all waters whether under confined, unconfined, or perched conditions, in near surface unconsolidated sediment or regolith, or in rock formations deeper underground. The term ground water shall be synonymous with underground water.

34. **“Waters of the State”** (as defined in Minn. Stat. § 115.01, subd. 22) means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof.
35. **“Water Quality Volume”** means one (1) inch of runoff from the new **impervious surfaces** created by this **project** (calculated as an instantaneous volume) and is the volume of water to be treated in the Permanent **Stormwater** Management System, as required by this permit.
36. **“Wetland” or “Wetlands”** is defined in Minn. R. 7050.0186, subp. 1a.B. and includes those areas that are inundated or saturated by **surface water** or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in **saturated soil** conditions. **Wetlands** generally include swamps, marshes, bogs, and similar areas. Constructed wetlands designed for wastewater treatment are not **waters of the state**. **Wetlands** must have the following attributes:
 - a. A predominance of hydric soils
 - b. Inundated or saturated by **surface water** or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in a **saturated soil** condition and
 - c. Under normal circumstances support a prevalence of such vegetation.

2.3 Competent Person Training

Competent Person Training

The term "Competent Person" is used in many OSHA standards and documents. An OSHA "competent person" is defined as "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" [[29 CFR 1926.32\(f\)](#)]. By way of training and/or experience, a competent person is knowledgeable of applicable standards, is capable of identifying workplace hazards relating to the specific operation, and has the authority to correct them. Some standards add additional specific requirements which must be met by the competent person.

Various tasks on construction job sites require a "competent person". Lyon Contracting subcontracts the majority of the tasks on the job site to subcontractors. The Lyon superintendent is required to know when a "competent person" is required, who the subcontractors "competent person" is & that the "competent person" is onsite while these specific tasks are being performed. Below is an (incomplete) list of tasks that require a "competent person":

- Any operation requiring Fall Protection
- Steel Erection
- Setting Trusses
- Scaffolding
- Excavation / Trenching
- Asbestos
- Silica
- Confined Spaces
- Cranes

2.4 First Aid & CPR

First Aid & CPR Training

In the absence of an infirmary, clinic, hospital, or physician, that is reasonably accessible in terms of time and distance to the worksite, which is available for the treatment of injured employees, a person who has a valid certificate in first-aid training from the U.S. Bureau of Mines, the American Red Cross, or equivalent training that can be verified by documentary evidence, shall be available at the worksite to render first aid.

Therefore Lyon Contracting will provide outside First Aid & CPR training to all Project Managers & Superintendents every two years.

2.5 OSHA 30

OSHA 30 Certification

Lyon Contracting requires that all Project Managers & Job Superintendents have taken the OSHA 30 Course & have obtained the OSHA 30 Hour Certification. Contact the Lyon Contracting Safety Director to set-up this training if necessary.

2.6 ALL TERRAIN FORKLIFT Certification

Equipment Operator Training

Lyon Contracting requires that all Job Superintendents be certified operators of the Rough Terrain Forklift (Lull).

Contact the Lyon Contracting Safety Director to set-up this training if necessary.

Lyon Contracting requires that all personnel operating equipment onsite be certified operators of the piece of equipment that they are operating.

The Lyon Job Superintendent is required to obtain & have copies on file of the operator's certificates.

3.1 Lyon Employees

DISCIPLINARY PROCEDURES

The following procedures have been established to ensure that disciplinary action resulting from violation of company safety standards is administered in a consistent and systematic manner.

Employees who fail to comply with company safety standards will be subject to disciplinary action up to and including termination.

Supervisors will follow the disciplinary procedures outlined below:

STEP ONE

Verbal Counseling - Following the violation of established safety procedures, a discussion must be held with the employee in question, citing the inappropriate behavior and explaining any corrective action required. This must be documented in the employee's personnel file.

STEP TWO

Written Warning - Safety violations, which are repeated, require that a Written Warning Notice be given to the employee, clearly outlining the problem and specifying corrective action. This warning shall be signed and dated by the employee and the direct supervisor or manager, with a copy placed in the employee's personnel file.

STEP THREE

Suspension Without Pay - Continued violation of established safety procedures, following a Written Warning Notice or serious violations, which demonstrate reckless behavior, subject the employee to a suspension of employment without pay. This suspension shall be for a minimum of one (1) workday and not to exceed five (5) workdays. The reason for the suspension must be discussed with the employee and a copy of the Notice of Suspension placed in the employee's personnel file.

STEP FOUR

Termination - Repeated violations of company safety procedures resulting in three (3) or more Written Warnings or repeat violations following a Suspension Without Pay in any twelve (12) month period constitutes grounds for dismissal.

Progressive reprimand may, but does not necessarily have to, follow the above steps. There can be circumstances causing the company to waive the above steps because of the severity of the act or actions, such as gross misconduct, insubordination, stealing, failure to follow safety procedures, etc.

- Termination requires the approval of senior management and must include the reason for the termination and be so documented in the employee's personnel file.

Supervisors may be subject to disciplinary action for the following reasons:

- Repeated safety rule violation by their department employees.
- Failure to provide adequate training prior to job assignment.
- Failure to report accidents and provide medical attention to employees injured at work.
- Failure to control unsafe conditions or work practices.
- Failure to maintain good housekeeping in their departments.
- Failure to administer the disciplinary procedures as outlined previously.

3.2 Subcontractors

SUBCONTRACTOR - DISCIPLINARY PROCEDURES

The following procedures have been established to ensure that disciplinary action resulting from violation of company safety standards is administered in a consistent and systematic manner.

Subcontractors who fail to comply with company safety standards will be subject to disciplinary action up to and including permanent removal from project.

Subcontractors will follow the disciplinary procedures outlined below:

STEP ONE

Verbal Counseling - Following the violation of established procedures, a discussion will be held with the Subcontractor in question, citing the inappropriate behavior and explaining any corrective action required. This will be documented in the Superintendents Daily Audit.

STEP TWO

Written Warning - Violations, which are repeated, require that a Written Warning Notice be given to the Subcontractor, clearly outlining the problem and specifying corrective action. This warning shall be signed and dated by the Subcontractor and the direct supervisor or manager, with a copy submitted to their company Supervisor. Utilize updated form in Procore and can easily send to the company Supervisor.

STEP THREE

Removal of Subcontractor from Project - Continued violation of established procedures, following a Written Warning Notice or serious violations, which demonstrate reckless behavior, subject the Subcontractor to a temporary removal from project. This suspension shall be for a minimum of one (1) workday and not to exceed five (5) workdays. The reason for the suspension will be discussed with the Subcontractor and a copy of the Notice of Suspension is sent to the Subcontractor's company Supervisor. Utilize updated form in Procore and can easily send to the company Supervisor.

STEP FOUR

Permanent Removal of Subcontractor from Project - Repeated violations of company procedures resulting in three (3) or more Written Warnings or repeat violations following a Temporary Removal from project in any twelve (12) month period constitutes grounds for permanent removal from Lyon Contracting, Inc. projects. A copy of the form needs to be sent to the company Supervisor.

Progressive reprimand may, but does not necessarily have to, follow the above steps. There can be circumstances causing the company to waive the above steps because of the severity of the act or actions, such as gross misconduct, insubordination, stealing, failure to follow safety procedures, etc.

- Termination requires the approval of senior management and must include the reason for the termination and be so documented to the Subcontractors company Supervisor.

Subcontractors may be subject to disciplinary action for the following reasons:

- Repeated rule violation by any Subcontractor or their employee.
- Failure to provide adequate training prior to job assignment.
- Failure to report accidents and provide medical attention to Subcontractors injured at work.
- Failure to control unsafe conditions or work practices.
- Failure to maintain good housekeeping on jobsite.
- Failure to administer the disciplinary procedures as outlined previously.



Lyon Contracting, Inc.
 3601 18th Street South, Ste. 103
 Saint Cloud, Minnesota 56301
 Phone: (320) 252-2267
 Fax: (320) 252-3603

**Example
 Observation**

Project: - Novo Apartments
 2400 66th St W
 Richfield, Minnesota 55423
 Phone: (763) 333-5135
 Fax: (320) 252-3603

Safety Violation #36: No fall protection

ORIGIN:		STATUS:	Ready For Review
ASSIGNEE:	Jason Potvin (<i>Wolf Construction</i>)	CREATED BY:	Rob Rosener (<i>Lyon Contracting, Inc.</i>)
NOTIFICATION DATE:	11/30/2020	CREATED DATE:	11/30/2020
TRADE:	Rough Carpentry - Framing Labor	DISTRIBUTION:	Kyle Johnson (<i>Lyon Contracting, Inc.</i>)
LOCATION:		PRIORITY:	
DUE DATE:	12/09/2020	PRIVATE:	Yes
CONTRIBUTING CONDITION:		CONTRIBUTING BEHAVIOR:	
HAZARD:			
SPEC SECTION:			
DESCRIPTION:	The crew was told to wear safety harnesses after discussing not using the selected material handling doors		
ATTACHMENTS:			

ACTIVITY

Jason Potvin
 11/30/2020
 at 05:17 PM CST

Comment: My guys have been dealt with very loudly. I specifically told them to tie off and I guess that didn't happen. My apologies. I had them send me proof that they are now tied off (see pic).

Attachments:



[34196.jpeg](#)

Status Changed: Ready For Review

4.0 Right To Know (RTK)

Lyon Contracting, Inc. will conduct initial and ongoing evaluations of the workplace to determine the hazardous substances and physical agents on site for which there is a reasonable potential for employee exposure during the normal course of the assigned work. Subcontractors whose employees may be affected these substances will be responsible for the training and maintaining of Material Data Safety Sheets (MSDS) with a list attached to the written RTK program.

Subcontractors are responsible for the safety of their area and are responsible for surveying their site for hazards. Subcontractors are also responsible for informing the General Contractor and other subcontractors with employees in the area of the hazards present. Subcontractors are also responsible for assuring that their employees are trained in all hazards in which they may be exposed, even if the exposure is that caused by another subcontractor.

Employers who introduce hazardous substances into the worksite and expose other employer's employees to those substances are required to provide the other employers or contractors with a copy of pertinent MSDSs, or must make them available at a central location at the site.

Lyon Contracting, Inc. intends to provide information about all chemical hazards, hazardous substances, and the control of hazards through our hazard communication program. This program includes container labeling, Material Safety Data Sheets (MSDS), and related training.

Container Labeling

It is the policy of **Lyon Contracting, Inc.** that no container of hazardous substances will be released for use until the following label information is verified:

1. Containers are clearly labeled as to contents.
2. Appropriate hazard warnings are noted.
3. The name and address of the manufacturer is listed.

Lyon Contracting, Inc. will ensure that all secondary containers are labeled with either an extra copy of the original manufacturer's label or with generic labels which have a block for identity and blocks for the hazard warning.

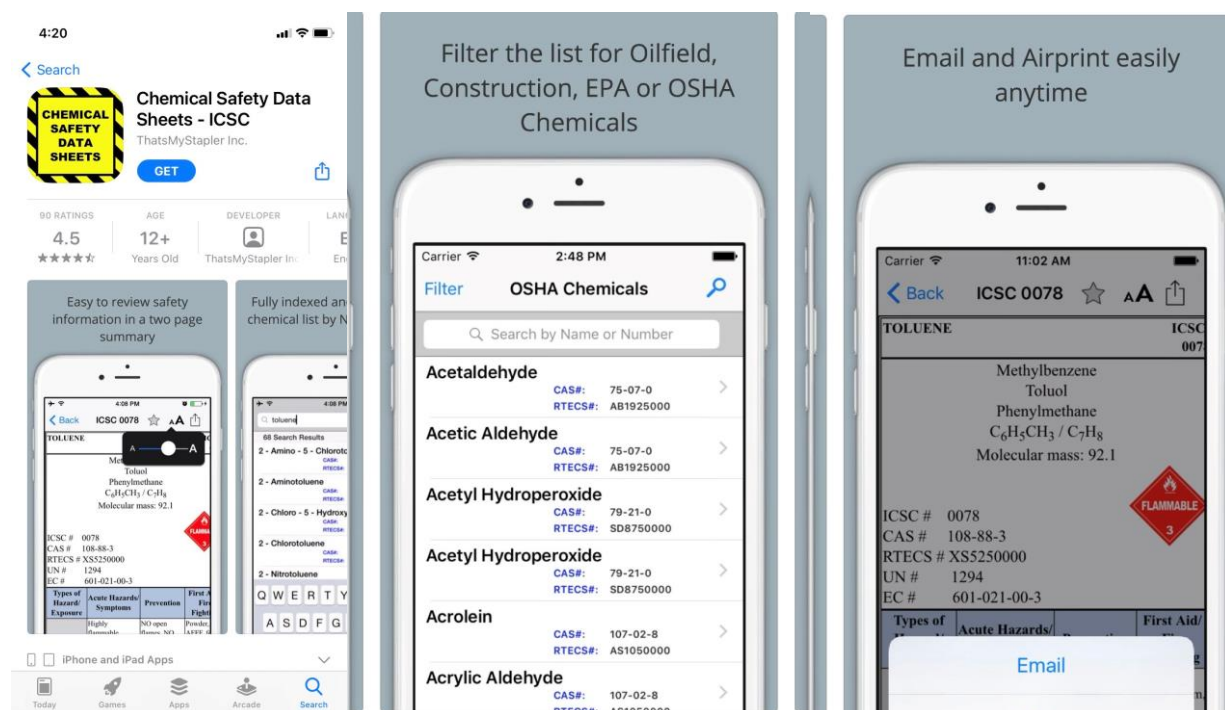
Material Data Safety Sheets (MSDS)

Copies of MSDS for all hazardous substances to which employees of this company may be exposed are kept at Lyon Contracting, Inc. 3601 18th Street South Suite 103, St. Cloud, MN 56301. MSDS sheets will be reviewed for completeness; if it is found that they are incomplete new copies will be requested from the manufacturer. MSDS are available to all employees on a project for review during each work shift. If

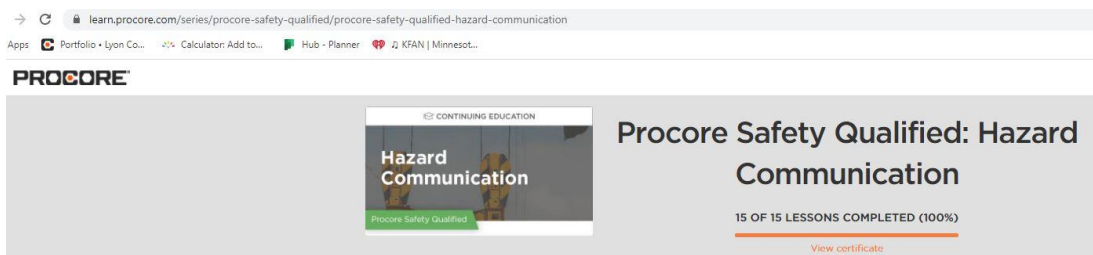
MSDS are not available for new hazardous substances in use do not have an MSDS, employees should immediately contact foreman or management official.

Employees Information and Training

Each employee of **Lyon Contracting, Inc.** will download the *“International Chemical Safety Cards”* application onto their work provided cell phone for quick, in the field reviewal of chemical safety information. This is a free application that summarizes the safety information in a 2-page report to easily address symptoms, prevention, first aid, etc.



Each employee of **Lyon Contracting, Inc.** will take a continuing education course through **Procore** called *“Hazard Communication”*. This course will reiterate the importance of each employee’s right to know information regarding hazardous chemicals in our workplace.



5.0 Accident Investigation**ACCIDENT INVESTIGATION****POLICY**

All workplace injuries must be investigated by a designated employee to determine the accident cause(s) and what actions are necessary to prevent recurrence. To accomplish this, the Accident Investigation Form must be filled out in detail.

PROCEDURES

1. Fill in the injured employee's name, date and time of the accident, and department or area where the accident occurred. Indicate any witnesses and attach their statements.
2. Immediately after the accident, or as soon as is medically possible, the employee/supervisor should write down in detail the events, conditions, and circumstances surrounding the accident. Include part of body affected and the type of accident (slip/fall, etc.).
3. In the analysis section, the questions should be answered and any pertinent findings detailed in the explanation area.
4. After reviewing the statements, analysis section, accident scene, and considering any facts brought out during interviews, state what the underlying and direct causes of the accident are.
5. Based on the causes listed above, indicate what corrective actions will be taken to prevent a recurrence of this type of accident.
6. If the accident was caused by faulty equipment or materials, note if a work order was submitted. Indicate who is responsible for completing the work and when the work is to be completed.
7. If the accident was caused by a personnel deficiency, any corrective actions determined must be completed as soon as possible and verified by a follow-up procedure.
8. The injured employee, his supervisor, and the accident investigator should all sign the completed investigation form. This is done only after the form is thoroughly completed.
9. For serious injuries / accidents the following need to be contacted immediately:
 - Ambulance
 - Insurance Company
 - OSHA

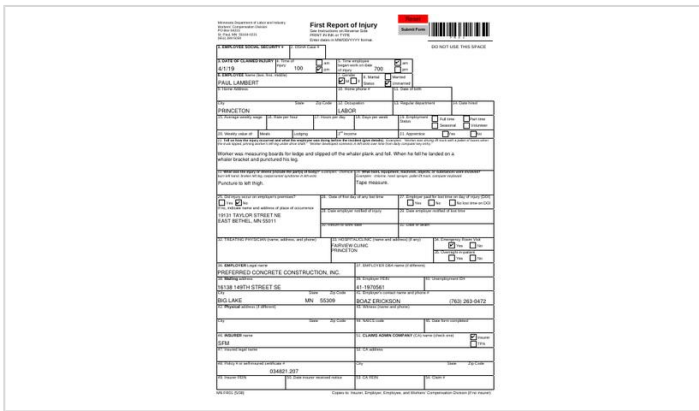
Incident #1 - Report of Injury/Preferred Concrete

Example

Created By	Trevor Ford	Date Created	04/01/2019
Location		Status	Open
Event Date	04/01/2019	Event Time	01:00 PM CDT
Private	Yes	Distribution	
Recordable	No		

Description Employee was in the process of going over the foundation wall that was formed up and when he was jumping off the wall his boot slipped and he fell onto a "whaler bracket" that ended up piercing the back of his left thigh. At the time when I came up to Paul his leg was not bleeding but we decided to put a gauze pad on the wound and wrap it with a towel, we got him loaded in to the back seat of a pick-up that Pete (Foreman) drove to the hospital.

Attachments



[PCC - First Report of Injury 2018.pdf](#)

Investigation Information

Hazard	Fall	Contributing Behavior	Position / Posture
Contributing Condition	Access / Egress		

6.0 Return to Work Program

RETURN-TO-WORK & LIGHT DUTY JOB PROGRAM

Wage loss benefits to injured workers make up almost 50 percent of a typical workers compensation claim. These costs result in higher experience modifications which, in turn, result in higher premiums. A systematic method of getting an injured employee back to work as quickly as possible can impact these costs, thus reducing **your** premiums.

HOW TO INSTITUTE RETURN-TO-WORK & LIGHT DUTY JOB PROGRAM:

Develop a Return-to-Work & Light Duty Job Policy Statement:

- ◆ Put it in writing;
- ◆ Communicate the policy to all employees;
- ◆ Emphasize your commitment to get injured employees back to productive work as quickly as possible;
- ◆ List some of the light duty jobs that will be made available; and
- ◆ Indicate your willingness to provide work that meets the employee's physical limitations.

Designate person(s) responsible for the administration of the program. This person should be responsible for:

- ◆ Reporting claims to the insurance company promptly;
- ◆ Keeping a supply of forms used:
 - ◆ Claims forms
 - ◆ Return-to-Work Agreement
 - ◆ Return-to-Work Authorization Form
- ◆ Keeping a list of key contact people and telephone numbers:
 - ◆ Claims person
 - ◆ Designated physician

Designate a company physician.

- ◆ Communicate this to all employees;
- ◆ In most cases, have a/the supervisor take the injured employee to the physician;
- ◆ Have the injured employee bring a Return-to-Work Authorization Form to the physician to be completed and returned to the employer as soon as possible.

Contact your injured employee if he/she does not return to work immediately.

- ◆ Explain to the employees that you value them and would like to have them back to work as soon as possible.
- ◆ Contact your employee on a regular basis to check on his/her status.
- ◆ Stress your commitment to returning the employee to work as soon as possible.
- ◆ Explain that you have light duty and transitional work available that may meet his/her physical limitations.

When the employee returns to work:

- ◆ Complete the Return-to-Work Agreement with the injured employee;
- ◆ Have the employee perform appropriate light duty or transitional work; and
- ◆ Regularly evaluate the employee's physical capabilities.

KEY CONTACT PEOPLE

Insurance Company

Name: _____

Mailing Address: _____

City, State, Zip: _____

Phone Number: _____

Designated Physician

Name: _____

Mailing Address: _____

City, State, Zip: _____

Phone Number: _____

State Workers Compensation Division

Name: _____

Mailing Address: _____

City, State, Zip: _____

Phone Number: _____

RETURN TO WORK AUTHORIZATION FORM

Lyon Contracting, Inc. has a light duty and transitional work program which provides temporary jobs that injured employees should be able to safely perform during their recovery periods. Completion of this form will allow us to identify an appropriate assignment for this employee. Thank you for your cooperation and prompt response.

EMPLOYEE _____ EMPLOYER _____
 EMPLOYER CONTACT PERSON _____ PHONE _____
 DATE _____ APPLICABLE SHIFT DURATION _____

DIAGNOSIS _____
 WORK RELATED YES NO SUBMIT CLAIM TO: _____
 NON-WORK RELATED YES NO SUBMIT CLAIM TO: _____
 TREATMENT _____
 DISPOSITION: RETURN TO WORK DATE (NO LIMITATIONS) _____
 RETURN TO WORK DATE (WITH LIMITATIONS) _____
 UNABLE TO WORK FROM _____ TO _____
 PROGNOSIS _____
 REFERRAL TO: CONSULTANT – DOCTOR _____ DATE _____

WORK RESTRICTIONS

RESTRICTIONS APPLY TO: WORK HOME LEISURE
 DURING THE APPLICABLE WORKDAY, THIS EMPLOYEE CAN:
 SIT _____ HOURS STAND _____ HOURS WALK _____ HOURS

EMPLOYEE CAN:	Never	Occasionally	Frequently	Continuously
Lift and carry:				
up to 10 pounds	_____	_____	_____	_____
11 - 25 pounds	_____	_____	_____	_____
26 - 35 pounds	_____	_____	_____	_____
36 - 50 pounds	_____	_____	_____	_____
51 - 75 pounds	_____	_____	_____	_____
76 - 100 pounds	_____	_____	_____	_____
Reach above shoulders	_____	_____	_____	_____
Push / Pull	_____	_____	_____	_____
Climb	_____	_____	_____	_____
Crawl	_____	_____	_____	_____
Squat / Kneel	_____	_____	_____	_____
Bend / Stoop / Crouch	_____	_____	_____	_____
Balance	_____	_____	_____	_____
Twist upper body	_____	_____	_____	_____
Use hands dexterously	_____	_____	_____	_____

In terms of an applicable work day, "occasionally" equals 1-33%, "frequently" equals 34-66%, and "continuously" equals 67-100%

Operation of moving equipment or machinery YES NO
 Exposure to chemicals YES NO (SPECIFY) _____
 Static position (SPECIFY) _____
 Other _____
 Physician's Comments _____

Physician _____ Date _____

Lyon Contracting, Inc.

Employee: _____ ("You" herein)

Lyon Contracting, Inc. agrees that the following represents the restrictions under which you are able and have agreed to return to work as of _____.

Those restrictions are:

Lyon Contracting, Inc. will not require you to perform any tasks beyond those restrictions. If you are asked to perform such a task by any of our employees or agents, please decline. They may not be aware of your restrictions.

By signing below, you agree and verify that you will not do anything beyond the noted restrictions either here at work, beyond the work site, at home or at recreation until such time as the doctor has released the restrictions and The Company has been notified to that effect.

Signature – Lyon Contracting, Inc.

Date

Signature – Employee

Date

RETURN-TO-WORK AGREEMENT

These guidelines are general enough to meet most state laws and regulations, however, it is strongly recommended that you consult a competent professional who is familiar with the specific laws and regulations of your state.

If you become ill or injured as a result of a job related accident, you will be missed by other employees working in your department. Employees have the responsibility to return to work at the earliest possible time, commensurate with your health and safety.

Lyon Contracting, Inc. will actively seek to return disabled employees covered by workers compensation to productive work as quickly as possible, in cooperation with the employee's physician or health care provider.

If necessary, a temporary job may be provided for you that is within your physical capabilities, consistent with company needs. Even working at a partial capacity will assist your fellow employees in completing the work. Efforts will be made to return you to your previous job, when possible.

Listed below are some examples of light duty jobs which **Lyon Contracting, Inc.** has available for you to do, depending upon your injury, capabilities, and company need.

Owner/Officer Signature	Title	Date
-------------------------	-------	------

7.0 Safety Incentives & Awards

SAFETY INCENTIVES AND AWARDS

Maintaining interest in safety may often be accomplished with an effective incentive program. Incentives help by improving employee morale, promoting safety awareness, and improving employee receptivity of the Safety Program. If not developed and run properly, it is conceivable that these programs will have little or no effect, or even a negative effect on your overall Safety Program. Well-run safety incentive programs can be a helpful addition to your Safety Program. An incentive program should start small with allowance for growth. Remember, once an incentive program has been implemented it should be continued.

A well-run safety incentive program may involve several components:

1. Program must be in addition to, not a substitute for, an otherwise solid company Safety Program.
2. Program should have a specific focus addressing definite safety issues, not safety in general.
3. Program should be based on employee involvement in as many ways as possible.
4. Rewards should have meaning to employees. Awards need not be monetary; sometimes emblems, insignias, or similar items can become status symbols if awarded properly.
5. Program demands good publicity. Promotional publicity should be planned and launched before the program gets under way. Publicity can be internal or external. Internal publicity includes newsletters, banners, special signs, posters or other internal recognition, while external includes releases to local newspaper, radio and television stations.

SUGGESTED TYPES OF INCENTIVES AND/OR AWARDS

1. A company could provide a gift/award to each employee after completing 30 - 60 - 90 days with no lost time accidents or safety violations. The reward can be chosen by management such as: flashlights, caps, jackets, etc.
2. Monetary type awards such as savings bonds, gift certificates, cash or steak dinners could be given following a pre-designated test period of time.
3. Awards can be given randomly-on-the-spot to individuals as a planned drawing with limited prizes to a chosen few or to a group such as a department with everyone receiving an award.

LYON CONTRACTING, INC'S – QUARTERLY SAFETY BONUS

Bonus periods:

- | | |
|-----------------------|--------------|
| 1) January – March | Amount \$500 |
| 2) April – June | Amount \$500 |
| 3) July – September | Amount \$500 |
| 4) October – December | Amount \$500 |

Lyon quarterly safety bonus requirements for Project Superintendents:

- 1) Superintendent projects have not had, nor are there any pending, MNOSHA or Federal OSHA citations on their jobsite during the quarterly safety bonus period.
- 2) Superintendent Reporting
 - a. Subcontractor Site Orientation's have been conducted & turned in for every Lyon & Lyon Subcontract employee onsite.
 - b. Daily Log's have been completed & turned in daily by each Superintendent.
 - c. Daily Safety Audit's have been completed & turned in daily by each Superintendent for the project they are on that day.
 - d. Weekly Progress / Foreman's meeting minutes have been completed & turned in by the end of the day every Friday for the project.
 - e. Weekly Toolbox Talks have been completed & documented by the end of the work week (Friday) for the project.
- 3) Project Managers will conduct weekly safety walks with the Superintendent. These weekly safety walk reports generated for the quarter need to have an average score of 95% or higher.
- 4) The Safety Director &/or VP or Operations will conduct jobsite safety walks. These safety walk reports generated for the quarter need to have an average score of 95% or higher.
- 5) Superintendent has researched & made a minimum of one (1) written safety suggestion for Lyon Contracting's safety committee to review.

8.1 General Safety Guidelines**GENERAL SAFETY GUIDELINES**

1. Jobsite & personal safety is a priority. Do not perform or allow any work to be performed if you feel it is unsafe. Any unsafe condition noted must be reported to your supervisor who is responsible for having the condition corrected prior to proceeding with the work.
2. All accidents & near miss incidents must be reported to your supervisor immediately whether anyone is hurt or not. In cases of injury, get first aid &/or professional medical attention as soon as possible. In all cases a written report must be documented, see jobsite reporting.
3. Hard Hats, Eye Protection, Class 2 Reflective Clothing, and other personal protective equipment (PPE) required to perform your job as established by safety procedures & through job instruction must be used & worn. It is your responsibility to see that PPE remains in good repair & is used in accordance with the manufacture's requirements. Damaged PPE must be taken out of service immediately & reported to your supervisor.
4. Everyone on the jobsite is required to wear appropriate work clothing and footwear for the work they are performing.
5. HORSEPLAY of any kind, such as scuffling, practical jokes, or throwing articles at each other will not be tolerated.
6. Jobsite conditions can change hourly therefore always be aware of your surroundings, be on the lookout for changing conditions & potential safety hazards.
7. Never walk or stand under suspended loads or equipment.
8. Mobile Equipment is utilized on jobsites almost daily and safe work procedures need to be followed while working around and/or approaching mobile equipment. Separate ground personnel work areas or walking paths from mobile equipment operations whenever possible. ALWAYS ensure the operator acknowledges your presence before approaching equipment. Be aware of Blind Spots & never work in an area that places you in the operator's blind spot.
9. Use of any mind-altering substance is not permitted on the jobsite at any time and those reporting for work under the influence will be subject to disciplinary action.
10. Good housekeeping needs to be always maintained throughout the jobsite. Work areas should be kept free of excess materials. All spills should be cleaned up immediately. Fire extinguishers, sprinklers or fire exits are not to be blocked by materials, equipment, or debris at any time.
11. Air lines, electrical cords, gas lines or any other objects that could cause a hazard need to be protected, maintained while in use & moved to a safe location when not.
12. Use only non-flammable solvents indoors. Flammable solvents are to be kept in approved containers and are used only when needed.
13. Follow safe job procedures. Only perform only those jobs you have been properly instructed to

perform. Only use the machinery, equipment, and tools you are qualified to use and have been properly instructed to operate.

14. Areas on, around, in front and over electrical controls or panels and fire extinguishers are to be always kept clear.
15. No worker is permitted to make repairs on any electrical device or equipment unless authorized to do so. ELECTRICAL EQUIPMENT IS NOT TO BE TAMPERED WITH IN ANY WAY. The covers on electrical boxes, panels, switch gear, etc. are to be kept in place.
16. All employees are requested to WALK - NOT RUN while they are on the jobsite.
17. Compressed air should never be used for cleaning clothes, cooling or practical jokes. VIOLATION OF THIS RULE CAN RESULT IN SERIOUS INJURY OR DEATH.
18. Hitching rides on forklifts, skid steers or other mobile equipment is strictly prohibited.

8.2 Job Hazard Analysis

JOB HAZARD ANALYSIS

POLICY

A Job Hazard Analysis (“JHA”) is an important accident prevention tool. It helps identify hazards and eliminate or minimize them, making a job task safer to perform. Lyon Employees can make a request to the safety committee to have a JHAs performed for tasks performed by that employee or for a subcontracted task to develop guidelines, controls, and safety measures to help reduce or eliminate hazards.

PROCEDURES

1. Identify a high hazard job & submit a request to the Lyon Safety Committee for a JHA.
2. After the job has been identified, the safety committee shall look at the individual job steps/tasks. Then concentrate on the high hazard/key steps/tasks.
3. Get employee, supervisor, and lead person input on how the job.
4. Note the safety controls in place. Determine if they are adequate.
5. Add controls that are needed to reduce/eliminate hazards.
6. Develop job guidelines, controls, and safety measures.
7. Include these preventative measures in rules/regulations and training programs.

JOB HAZARD ANALYSIS FORM DIRECTIONS

ELEMENTS OF A TASK

Break the job down into steps. Each of the steps of a job should accomplish some major task. The task will consist of a set of movements. Look at the first set of movements used to perform a task and then determine the next logical set of movements. For example, the job might be to move a box from a conveyor in the receiving area to a shelf in the storage area. How does that break down into job steps? Picking up the box from the conveyor and putting it on a hand truck is one logical set of movements, so it is one job step. Everything related to that one logical step of movements is part of that job step.

The next logical set of movements might be pushing the loaded hand truck to the storeroom. Removing the boxes from the truck and placing them on the shelf is another logical set of movements. And finally, returning the hand truck to the receiving area might be the final step in this type of job.

Be sure to list all the steps in a job. Some steps might not be done each time -- checking the casters on a hand truck, for example. However, that task is a part of the job as a whole and should be listed and analyzed.

POTENTIAL OCCUPATIONAL SAFETY HEALTH HAZARD

Identify the hazards associated with each step. Examine each step to find and identify hazards -- actions, conditions, and possibilities that could lead to an accident.

It's not enough to look at the obvious hazards. It's also important to look at the entire environment and discover every conceivable hazard that might exist.

Be sure to list health hazards as well, even though the harmful effect may not be immediate. A good example is the harmful effect of inhaling a solvent or chemical dust over a long period of time.

It's important to list all hazards. Hazards contribute to accidents, injuries, and occupational injuries.

In order to do part two of the JHA effectively, you must identify potential and existing hazards. That's why it's important to distinguish between a hazard, an accident, and an injury. Each of these terms has a specific meaning:

- HAZARD:** A potential danger. Oil on the floor is a hazard.

- ACCIDENT:** An unintended happening that may result in injury, loss, or damage. Slipping on the oil is an accident.

- INJURY:** The result of an accident. A sprained wrist from the fall would be an injury.

Some people find it easier to identify possible accidents and illnesses and work back from them to the hazards. If you do that, you can list the accident and illness types in parentheses following the hazard. But be sure you focus on the hazard for developing recommended actions and safe work procedures.

JOB HAZARD ANALYSIS

Department/Position: _____ Job Task: _____

Preparer: _____ Title: _____ Date: _____

ELEMENTS OF TASK	POTENTIAL OCCUPATIONAL SAFETY HEALTH HAZARD	PREVENTATIVE MEASURES/ SAFETY RULES

8.3 Emergency Preparedness

EMERGENCY PREPAREDNESS

INTRODUCTION

Pre-planning for emergencies is critical on every project. The project team consisting of the Project Manager, Superintendent & Assistant Superintendent shall put together a project specific Emergency Preparedness plan prior to mobilizing onsite & shall update this plan periodically throughout the project as construction progresses. A template for the plan is outlined below & is a “FORM” in PROCORE to be filled out and updated periodically throughout the project as construction progresses.

EMERGENCY ACTION PLAN

for

Project Name: _____

Jobsite Address: _____

DATE PREPARED: ___/___/___

EMERGENCY PERSONNEL NAMES AND PHONE NUMBERS

THE DESIGNATED RESPONSIBLE JOBSITE OFFICIAL IS:

PROJECT SUPERINTENDENT

Name: _____ Phone: (_____)

IF THE PROJECT SUPERINTENDENT IS UNAVAILBE CONTACT:

ASSISTANT SUPERINTENDENT

Name: _____ Phone: (_____)

PROJECT MANAGER

Name: _____ Phone: (_____)

LYON SAFETY DIRECTOR

Name: MATT PELANT Phone: (320) 260-8995

LYON VICE PRESIDENT

Name: ABE HOFMEISTER Phone: (320) 406-0394

LYON CEO

Name: JEFF DROWN Phone: (320) 260-2057

LYON COPRRATE OFFICE

Phone: (320) 252-2267

LEGAL COUNSEL

Name: AARON DEAN Phone (612) 916-7733

SAFETY CONSULTANT - OECS

Name: MATT SEHA Phone (507) 460-8034

Date ____/____/____

EMERGENCY RESPONSE PROCEDURE

An emergency can be reported from any source—a worker on site, an outside agency, or the public. Remember that circumstances may change during the course of an emergency.

The following list covers basic actions to take in an emergency. These steps apply to almost any emergency and should be followed in sequence.

STAY CALM – Your example can influence others and thereby aid the emergency response.

ASSESS THE SITUATION – Determine what happened and what the emergency is. Look at the big picture. What has happened to whom and what will continue to happen if no action is taken? Try to identify the cause that must be controlled to eliminate immediate, ongoing, or further danger.

TAKE COMMAND – The most senior person on the scene should take charge and call, or delegate someone to call, emergency services—generally 911—and explain the situation. Assign tasks for controlling the emergency. This action also helps to maintain order and prevent panic. After 911 - call Lyon’s Safety Director, OECS or Aaron Dean depending on severity of situation.

PROVIDE PROTECTION – If possible, without exposing yourself or anyone else to undue risk, eliminate further losses and safeguard the area. Control the energy source causing the emergency. Protect victims, equipment, materials, environment, and accident scene from continuing damage or further hazards. Divert traffic, suppress fire, prevent objects from falling, shut down equipment or utilities, and take other necessary measures. Preserve the accident scene; only disturb what is essential to maintain life or relieve human suffering and prevent immediate or further losses.

AID AND MANAGE – Provide first aid or help those already doing so if the scene is secure and you are capable. Manage personnel at the scene. Organize the workforce for both a headcount and emergency assignments. Direct all workers to a safe location or command post. This makes it easier to identify the missing, control panic, and assign people to emergency duties. Dispatch personnel to guide emergency services on arrival. Determine if the jobsite employees should be sent home for the remainder of the day.

MAINTAIN CONTACT – Keep emergency services informed of the situation. Contact utilities such as electric, gas and hydro where required. Alert management and keep them informed. Exercise increasing control over the emergency until immediate hazards are controlled or eliminated and causes can be identified.

GUIDE EMERGENCY SERVICES – Designate someone to meet services on site. Lead them to emergency scene. Explain ongoing and potential hazards and cause(s), if known.

Avoid photos or media questions depending on the situation, you may be in a state of shock and say something you don’t mean. Subcontractors should avoid any photos.

DEVELOP SITE MAPS & POST EVACUATION ROUTES

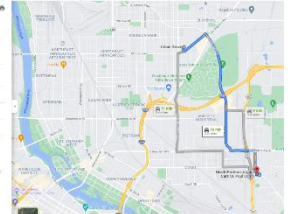
- Develop, print out & post at strategic locations throughout the jobsite (Field office, exits, access points to each floor, & temporary subcontractor offices) a site map to provide onsite personnel & emergency responders that includes the following:
 1. Jobsite address
 2. Lyon’s Jobsite office location
 3. Lyon’s jobsite supervisors’ names & contact information
 4. Jobsite building locations with the building names
 5. Emergency exits
 6. Primary and secondary evacuation routes
 7. Locations of fire extinguishers
 8. Assembly points
- Site personnel should know & have a minimum of at least two evacuation routes.
- Have copies of a map with written directions to the nearest emergency medical facility available.

Project Address:
2601 Stinson Blvd. NE
St. Anthony Village, MN
55418

Emergency Contacts:
Fire Department - 612-782-3400
Police Department - 612-782-3350

Nearest Urgent Care:
HealthPartners Urgent Care St. Paul Como
Directions Below

Scan QR Code for Directions:



1. Example below so all Project Managers / Superintendents are consistent in layout and information.

- Template Location: OD Drive >> Project Specific Folder >> 4) Safety >> Template – Map to Nearest Hospital
- Create a QR Code for quick directions to the nearest hospital using this website: https://www.qrcode-monkey.com/?utm_source=google_m&utm_medium=cpc&utm_campaign=&utm_content=&utm_term=qrcode%20monkey_e&gclid=EA1a1QobChMIhe_txpTa_glVJQtICh1SuAGwEAAAYASAAEgIYhvD_BwE

STEP 1: Set QR Content

- Select a content type at the top for your QR code (URL, Text, Email...). After selecting your type you will see all available options. Enter all fields that should appear when scanning your QR code. Make sure everything you enter is correct because you can’t change the content once your QR code is printed.
- **NOTE: Copy and paste the URL from Google Maps AFTER you’ve entered the jobsite address and medical destination.**

STEP 2: Customize Design

- You want your QR code to look unique? Set a custom color and replace the standard shapes of your QR code.

STEP 3: Download Image

- Now you can download the image files for your QR code as .png or .svg, .pdf, .eps vector graphic.



EMERGENCY PHONE NUMBERS

FIRE DEPARTMENT:

POLICE:

PARAMEDICS:

AMBULANCE:

SECURITY MONITORING SERVICE:

PROPERTY MANAGER (If applicable):

UTILITY COMPANY EMERGENCY CONTACTS

ELECTRIC COMPANY: _____

CONTACT: _____ Phone: (_____)

PUBLIC UTILITIES (WATER):

CONTACT: _____ Phone: (_____)

GAS COMPANY:

CONTACT: _____ Phone: (_____)

TELEPHONE COMPANY: _____

CONTACT: _____ Phone: (_____)

CABLE COMPANY:

CONTACT: _____ Phone: (_____)

Date: ___/___/___

EMERGENCY REPORTING AND EVACUATION PROCEDURES

Types of emergencies to be reported by site personnel are:

- MEDICAL
- FIRE
- SEVERE WEATHER
- BOMB THREAT
- ACTIVE SHOOTER
- CHEMICAL SPILL
- EXTENDED POWER LOSS
- OTHER (specify) _____
(e.g., terrorist attack/hostage taking)

MEDICAL EMERGENCY

- Call medical emergency phone number (check applicable):

- Paramedics
- Ambulance
- Fire Department
- Other

Provide the following information:

- a. Nature of medical emergency,
 - b. Location of the emergency (address, building, room number),
and
 - c. Your name and phone number from which you are calling.
- Do not move victim unless absolutely necessary.
 - Call the following personnel trained in CPR and First Aid to provide the required assistance prior to the arrival of the professional medical help:

Name: _____ Phone: _____

Name: _____ Phone: _____

- First Aid Kit & AED are located in the following location:

- If personnel trained in First Aid are not available, as a minimum, attempt to provide the following assistance:
 1. Stop the bleeding with firm pressure on the wounds (note: avoid contact with blood or other bodily fluids).
 2. Clear the air passages using the Heimlich Maneuver in case of choking.
- In case of rendering assistance to personnel exposed to hazardous materials, consult the Material Safety Data Sheet (MSDS), and wear the appropriate personal protective equipment. Attempt first aid ONLY if trained and qualified.

Date ___/___/___

FIRE EMERGENCY

When fire is discovered:

- Activate the nearest fire alarm (if installed)
- Notify the local Fire Department by calling _____.
- If the fire alarm is not available, notify the site personnel about the fire emergency by the following means (check applicable):

- | | | | |
|--------------------------|---------------------|--------------------------|------------------|
| <input type="checkbox"/> | Voice Communication | <input type="checkbox"/> | Radio |
| <input type="checkbox"/> | Text Message | <input type="checkbox"/> | Other (Air Horn) |

Fight the fire ONLY if:

- The Fire Department has been notified.
- The fire is small (smaller than the size of you) and is not spreading to other areas.
- Escaping the area is possible by backing up to the nearest exit.
- The fire extinguisher is in working condition and personnel are trained to use it.

Upon being notified about the fire emergency, occupants must:

- Leave the building using the designated escape routes.
- Assemble in the designated area (specify location):
- Remain outside until the competent authority (Designated Official or designee) announces that it is safe to reenter.

Designated Official, Emergency Coordinator or supervisors must (underline one):

- Disconnect utilities and equipment unless doing so jeopardizes his/her safety.
- Coordinate an orderly evacuation of personnel.
- Perform an accurate head count of personnel reported to the designated area.
- Determine a rescue method to locate missing personnel.
- Provide the Fire Department personnel with the necessary information about the facility.
- Perform assessment and coordinate weather forecast office emergency closing procedures

Area/Floor Monitors must:

- Ensure that all employees have evacuated the area/floor.
- Report any problems to the Emergency Coordinator at the assembly area.

Assistants to Physically Challenged should:

- Assist all physically challenged employees in emergency evacuation.

Date ___/___/___

SEVERE WEATHER AND NATURAL DISASTERS

THUNDERSTORMS/LIGHTNING

Did you know that the average annual death toll for lightning is higher than for tornadoes or hurricanes? The Environmental Science Administration estimates that there are some 1,800 thunderstorms over the earth's surface at a given time and that lightning strikes the earth 100 times each second. Voltages required to jump the gap between the earth's surface and a cloud formation can be upwards of 100 million volts. A lightning strike may have peaks of current exceeding 200,000 amperes. Persons struck by lightning can receive both severe electrical shock and burns. Generally, lightning will strike the tallest objects in the vicinity first. Therefore, it is important, if caught outside in an electrical storm, to avoid being next to tall poles or trees or making oneself the tallest object, such as is the case when in a boat on a lake or out on a golf course.

It is critical to Remove workers from vulnerable areas such as roofs, exposed work areas, cranes & other mobile equipment, etc. & monitor lightning activity until it is deemed safe by the national weather service.

GENERAL SAFETY RULES FOR SEVERE WEATHER

- Stay indoors if possible and tune in to local weather reports on the radio.
- Don't use electrical appliances, especially hand-held ones.
- Stay away from open doors and windows.
- Don't use the telephone hard lines during an electrical storm, as lightning may strike the phone lines.
- When outside with no building for shelter, lie flat or crouch in a ditch or culvert for protection from lightning and wind.
- A car gives excellent protection from lightning, but if a tornado threatens, a car is very susceptible to high winds, and shelter should be taken elsewhere.
- If a tornado or other high wind conditions are indicated, seek shelter in a basement corner facing the direction of the storm's approach.
- If no basement is available, go into a closet or small room with stout walls on the lowest floor level possible. Additional protection from falling or flying debris is afforded by getting beneath sturdy pieces of furniture, such as a workbench, table, or overturned sofa.
- Plan ahead; know where you will go for shelter before the storm hits. Keep a flashlight and radio handy.

TORNADOES

The most devastating type of localized storm is a tornado. Tornadoes are associated with severe thunderstorms and can form quickly and erratically. Rotating winds exceed 200 miles per hour. Paths of destruction can range from a few hundred feet wide to over one mile and over distances of a city block to many miles. The forward travel speed can vary from a few miles per hour to over 70 miles per hour.

The severe destruction is attributed not only to the high wind speed, but also the sudden change in atmospheric pressure. There is a near-complete vacuum at the center of a tornado. Thus, when it passes near an object, such as a building, the tremendous change in pressure virtually causes the structure to explode. Debris such as lumber, broken glass, metal, etc., is caught up in the high-speed winds and can be hurled hundreds of feet. The largest injury-causing characteristic is people being hit by these flying debris / objects.

Tornado:

- When a warning is issued by sirens or other means, seek inside shelter. Consider the following:
 - Small interior rooms on the lowest floor and without windows,
 - Hallways on the lowest floor away from doors and windows, and
 - Rooms constructed with reinforced concrete, brick, or block with no windows.
- Stay away from outside walls and windows.
- Use arms to protect head and neck.
- Remain sheltered until the tornado threat is announced to be over.

Blizzard:***If indoors:***

- Stay calm and await instructions from the Emergency Coordinator or the designated official.
- Stay indoors!
- If there is no heat:
 - Close off unneeded rooms or areas.
 - Stuff towels or rags in cracks under doors.
 - Cover windows at night.
- Eat and drink. Food provides the body with energy and heat. Fluids prevent dehydration.
- Wear layers of loose-fitting, lightweight, warm clothing, if available.
- ***If outdoors:***
- Find a dry shelter. Cover all exposed parts of the body.
- If shelter is not available:
 - Prepare a lean-to, wind break, or snow cave for protection from the wind.
 - Build a fire for heat and to attract attention. Place rocks around the fire to absorb and reflect heat.
 - Do not eat snow. It will lower your body temperature. Melt it first.

If stranded in a car or truck:

- Stay in the vehicle!

- Run the motor about ten minutes each hour. Open the windows a little for fresh air to avoid carbon monoxide poisoning. Make sure the exhaust pipe is not blocked.
- Make yourself visible to rescuers.
 - Turn on the dome light at night when running the engine.
 - Tie a colored cloth to your antenna or door.
 - Raise the hood after the snow stops falling.
- Exercise to keep blood circulating and to keep warm.

CRITICAL OPERATIONS

During some emergency situations, it will be necessary for some specially assigned personnel to remain at the work areas to perform critical operations.

Assignments:

Work Area	Name	Job Title	Description of Assignment

- Personnel involved in critical operations may remain on the site upon the permission of the site designated official or Emergency Coordinator.
- In case emergency situation will not permit any of the personnel to remain at the facility, the designated official or other assigned personnel shall notify the appropriate _____ offices to initiate backups. This information can be obtained from the Emergency Evacuation Procedures included in the _____ Manual.

The following Individuals should be contacted:

Name/Location: _____

Telephone Number: _____

Name/Location: _____

Telephone Number: _____

Name/Location: _____

Telephone Number: _____

Earthquake:

- Stay calm and await instructions from the Emergency Coordinator or the designated official.
- Keep away from overhead fixtures, windows, filing cabinets, and electrical power.
- Assist people with disabilities in finding a safe place.
- Evacuate as instructed by the Emergency Coordinator and/or the designated official.

Flood:*If indoors:*

- Be ready to evacuate as directed by the Emergency Coordinator and/or the designated official.
- Follow the recommended primary or secondary evacuation routes.

If outdoors:

- Climb to high ground and stay there.
- Avoid walking or driving through flood water.
- If car stalls, abandon it immediately and climb to a higher ground.

Hurricane:

- The nature of a hurricane provides for more warning than other natural and weather disasters. A hurricane watch is issued when a hurricane becomes a possible threat to a coastal area and is typically issued hours in advance. A hurricane warning is issued when hurricane winds of 74 mph or higher, or a combination of dangerously high water and rough seas, are expected in the area within 24 hours.

Once a hurricane watch has been issued:

- Stay calm, review hurricane action plan and hurricane watch checklist from the Construction Site Hurricane Protection Plan.
- Continue to monitor local TV and radio stations for instructions.
- If you are on high ground, away from the coast and plan to stay, secure the building, moving all loose items indoors and boarding up windows and openings.
- Collect drinking water in appropriate containers.

Once a hurricane warning has been issued:

- Be ready to evacuate as directed by the Emergency Coordinator and/or the designated official.
- Stay calm, review hurricane action plan and hurricane warning checklist from the Construction Site Hurricane Protection Plan.
- Leave areas that might be affected by storm tide or stream flooding.

During a hurricane:

- Remain indoors and consider the following:
 - Small interior rooms on the lowest floor and without windows,
 - Hallways on the lowest floor away from doors and windows, and
 - Rooms constructed with reinforced concrete, brick, or block with no windows.

After a hurricane:

- Review and follow the hurricane recovery checklist.




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The Calm Before the Storm


Construction Site
Hurricane Protection

Allianz 



With peak wind speeds that exceed 186 mph, hurricanes can cause catastrophic damage to structures under construction.

With correct planning, you can protect your construction site and mitigate potential damage from this extreme-weather event.



Engineering and construction firms that operate in the “hurricane belt” are acutely aware of the hazards that hurricanes pose to construction sites, with their incomplete structures; expensive machinery and equipment; materials and finishes that are easily damaged by water; flood-prone excavations; and building materials such as lumber, sheathing and piping that can quickly become projectiles in high winds. However, contractors often make the mistake of waiting to “batten down the hatches” until a hurricane is imminent, with inadequate time to protect the project.

Enclosed in this information kit are documents to aid in preparing a Hurricane Action Plan that can help you protect your construction site from this storm event.

These materials were compiled by Allianz Risk Consulting (ARC) risk specialists based on extensive years of consultation with construction and engineering firms that operate in hurricane-prone regions. This information kit provides general information and recommendations that may apply to many different situations. Any recommendations described in this information kit are not intended to be specific to your unique situation. Consult with your staff and specialists to determine how and whether the information in this information kit might guide you in developing specific plans and procedures for your operations. This information kit does not substitute for legal advice, which should come from your own counsel.

Hurricane Action Planning Kit Materials Include:

- Pre-construction Checklist
- Tropical Storm Checklist
- Hurricane Watch Checklist
- Hurricane Warning Checklist
- Hurricane Recovery Checklist
- Hurricane Response Team Form
- Hurricane Recovery Team Form
- Typical Hurricane Preparation Materials and Equipment
- Tropical Storm Action Items Table
- Hurricane Watch Action Items Table
- Hurricane Warning Action Items Table
- Hurricane Recovery Action Items Table
- Typical Recovery Operation Supplies

Hurricane Preparedness for the Construction Site

A Contractor's Loss Prevention Guide

Construction sites are extremely susceptible to losses when exposed to hurricanes. Hurricanes are tropical cyclones, occurring in the North Atlantic Ocean or the Northeast Pacific Ocean, east of the International Dateline. Tropical cyclones, depending on size of the storm, can have peak wind speeds that exceed 186 mph, and they can be very destructive to completed buildings and even more so to structures under construction.

Structures under construction often have incomplete or temporarily supported weakened structural systems, unsecured building envelopes, loose materials and debris, temporary structures and susceptible construction equipment. Construction debris can become projectiles, damaging building components and structures. Windows, doors, roofs and building openings, even if secured, can be damaged and allow water to infiltrate the building envelope. Partially secured walls, shored floors and structures under construction may be at high risk for collapse from wind loadings. A storm surge can flood and damage low-lying structures, foundations and retaining walls. Cranes and other equipment can collapse and/or be damaged by high winds or flying debris.



With proper planning, contractors can minimize the impact and expedite project recovery from this extreme weather event. Hurricane preparedness should be considered if the construction site is located in a hurricane-prone area, as indicated in the map included in this packet, with construction ongoing between the months of June through November in the Atlantic, Caribbean and Gulf of Mexico region; May to November in the Eastern Pacific region; and June to November in the Central Pacific Basin.

If the site is located in these risk-prone areas, a Hurricane Action Plan should be assembled. It is critical that a Hurricane Action Plan is created during the site planning stages of the project and not left until news of an impending storm. If the plan is to be useful, project-specific thought and consideration are required.

This document is a tool to assist in the development of a project-specific Hurricane Action Plan.



Hurricane Action Plans should consider the following:

Phase I

Pre-Construction
Planning Prior to
Hurricane

Phase II

Tropical Storm/
Potential Hurricane
(storm is named)

Phase III

Hurricane Watch
(typically 48
hours before
hurricane makes
landfall)

Phase VI

Hurricane Warning
(24 to 36 hours
before hurricane
makes landfall)

Phase V

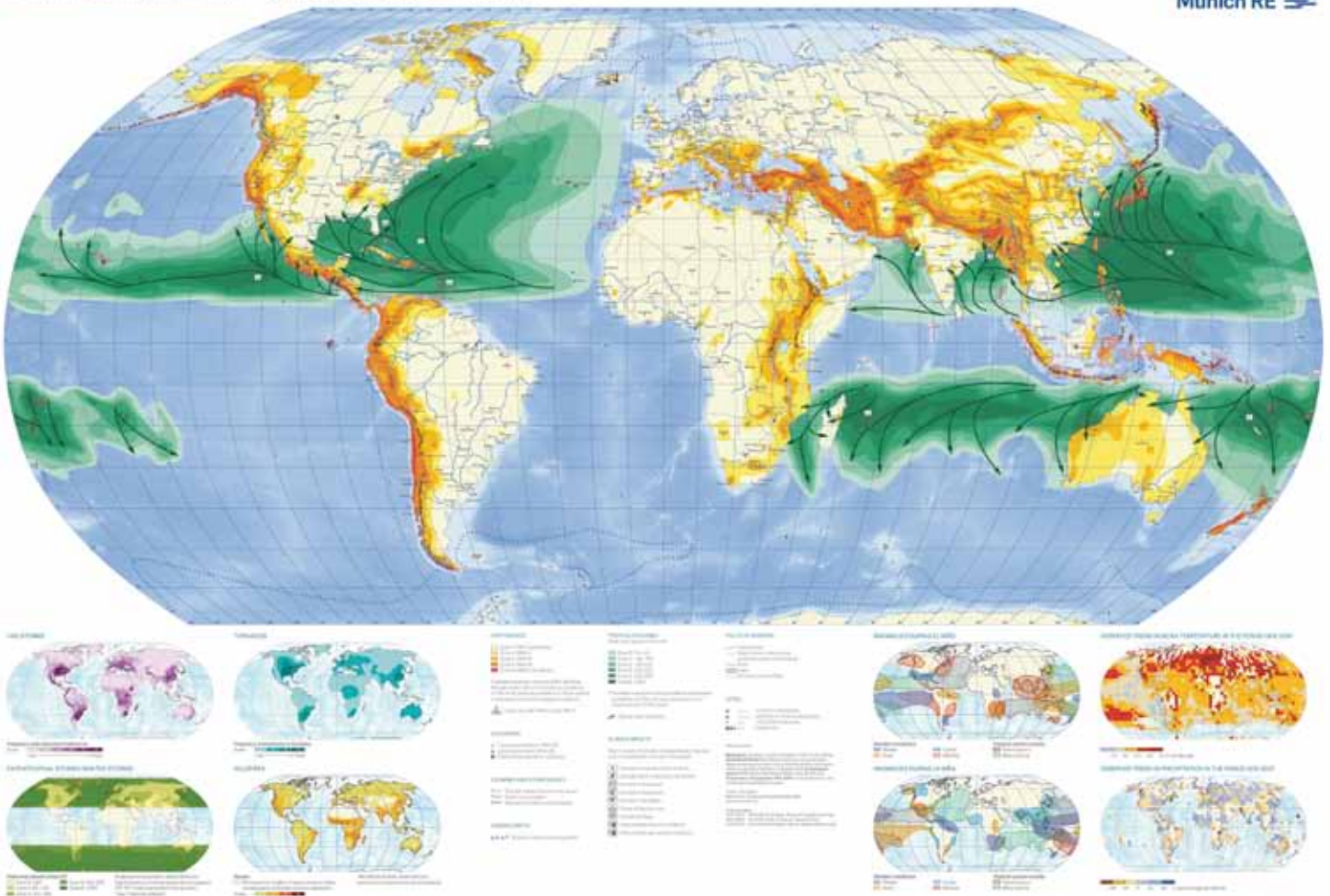
Hurricane Recovery
(following a
hurricane)

Each of these phases should be addressed and incorporated into the Hurricane Action Plan. Be aware of the fact that evacuation orders may require the staff to vacate the site well in advance of the storm. Plan ahead if this is a possibility for your project location.

Considerations that should be addressed in each phase of the best Hurricane Action Plans are detailed in this document. This document does not include every project-specific consideration that should be included in a contractor's Hurricane Action Plan and is, instead, a collection of best practices. The user should feel free to enhance their plan further according to local needs.

NATHAN WORLD MAP OF NATURAL HAZARDS

Munich RE 



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Definitions*

The following definitions are critical to understanding hurricanes and their potential impact on construction projects:

Hurricane Season

The portion of the year having a relatively high incidence of hurricanes. The hurricane season in the Atlantic, Caribbean and Gulf of Mexico runs from June 1 to November 30. The hurricane season in the Eastern Pacific basin runs from May 15 to November 30. The hurricane season in the Central Pacific basin runs from June 1 to November 30.

Hurricane / Typhoon

A tropical cyclone in which the maximum sustained surface wind (using the U.S. 1-minute average) is 74 mph (64 knots) or more. The term "hurricane" is used for Northern Hemisphere tropical cyclones east of the International Dateline to the Greenwich Meridian. The term "typhoon" is used for Pacific tropical cyclones north of the Equator and west of the International Dateline.

Hurricane Warning

An announcement that hurricane conditions (sustained winds of 74 mph or higher) are expected somewhere within the specified coastal area. Because hurricane preparedness activities become difficult once winds reach tropical storm force, the hurricane warning is issued less than 24 to 36 hours in advance of the anticipated onset of tropical storm-force winds.

Hurricane Watch

An announcement that hurricane conditions (sustained winds of 74 mph or higher) are possible within the specified coastal area. Because hurricane preparedness activities become difficult once winds reach tropical storm force, the hurricane watch is issued 48 hours in advance of the anticipated onset of tropical storm-force winds.





Definitions* continued

Major Hurricane

A hurricane that is classified as Category 3 or higher.

Potential Hurricane

When a storm is named and becomes a Tropical Storm (as defined for the purposes of this guide).

Storm Surge

An abnormal rise in sea level accompanying a hurricane or other intense storm, and whose height is the difference between the observed level of the sea surface and the level that would have occurred in the absence of the cyclone. Storm surge is usually estimated by subtracting the normal or astronomic high tide from the observed storm tide.

Tropical Depression

An organized system of persistent clouds and thunderstorms with a closed, low-level circulation and maximum sustained winds of 38 mph (33 knots) or less.

Tropical Storm

An organized system of strong thunderstorms with a well-defined circulation and maximum sustained winds of 39 to 73 mph (34 to 63 knots).

* Source is the National Oceanic and Atmospheric Administration (NOAA) National Hurricane Center

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Terms and conditions of policies vary between insurers and jurisdictions.

Whilst every effort has been made to ensure that the information provided is accurate, this information is provided without any representation or warranty of any kind about its accuracy and Allianz Global Corporate & Specialty cannot be held responsible for any mistakes or omissions.

References

"Federal Emergency Management Agency (FEMA)." Available at: <http://www.fema.gov>. 14 March 2011

"Munich RE – NATHAN Hurricane Maps." Available at: <https://register.munichre.com>. 14 March 2011

Miami, Florida. Code of Ordinances. Part III – Code of Ordinances. Chapter 8E – Cranes and Hoisting Equipment. Sec. 8E-11 - Hurricane preparedness. 18 March 2008

"National Oceanic and Atmospheric Administration (NOAA) National Hurricane Center (NHC)." Available at: <http://www.nhc.noaa.gov>. 14 March 2011

Orlando, FL. Code of Ordinances. Title II City Code. Chapter 13 Building Code. Article III – Cranes and Hoisting Equipment. Sec. 13.38. - Hurricane and High Wind Preparedness. 6 October 2008

"The Weather Channel – Hurricane Central." Available at: <http://www.weather.com/newscenter/hurricanecentral>. 14 March 2011

Activate
prior to
Construction

Pre-Construction Checklist

Hurricane Action Plan



Key personnel should maintain hard copies of all critical lists (such as telephone numbers) and the Hurricane Action Plan in the event that electronic files cannot be accessed due to loss of electrical power. Like all good disaster recovery plans, the documents should not be solely stored on the project site, which could be impacted by the event and therefore be inaccessible to key personnel.

- Establish a Person-in-Charge who will take control during an emergency, initiate the established plan and assign emergency responsibility roles. This person should also be responsible for ensuring all roles are filled and team members are trained regularly (typically the PM or assistant PM).
- Develop two teams: a Hurricane Response team (for the period before a storm event) and a Hurricane Recovery team (for the period following a storm event). **Hurricane Response/Recovery Team Forms*** will assist in the identification of the team members.
- Maintain an emergency phone list for all hurricane response and recovery personnel and key subcontractors. The phone list should be kept current and should include both work-related and personal home numbers, cell phone numbers and e-mail addresses. This information should be included in the **Hurricane Response/Recovery Team Forms***.
- Establish back-up recovery role personnel in the event that members of the response or recovery teams are not able to return to work promptly because they have been personally impacted by the storm.
- Create a flow chart indicating the order of who is to be called.
- During a weekly meeting, discuss the Hurricane Action Plan and the team members' roles and responsibilities.
- Establish an off-site "war room" and emergency communications control center in the event that an evacuation is required. This can be as simple as a hotel room, home office or a corporate office location. Determine procedures for communication and a rally point, as well as when a return to the site is expected.
- Monitor the weather during the hurricane season in potentially affected areas. The Person-in-Charge will assign responsibility for monitoring the weather and tracking the storm once it reaches tropical storm strength and becomes a "named storm." The National Oceanic Atmospheric Administration (NOAA.com) website can be used for this purpose.
- If radios are used for onsite communication, establish dedicated communication channels...for example, Channel 1 – Safety, Channel 2 – General Contractor, Channel 3 – Subcontractor A, Channel 4 – Subcontractor B, etc.
- A best practice for contractors is to establish a company website or a toll-free phone number to provide information to employees in the event of hurricanes or any catastrophe.

Pre-Construction Checklist

- Make a list of names, addresses and phone numbers for vendors and contractors who can provide recovery services or supplies.
- Think of possible project-specific scenarios and specific courses of action for each.
- Make provisions for salvage and cleanup operations, particularly for vital or essential items.
- Make provisions for security measures.
- Develop an inspection and testing schedule for emergency equipment (generators, pumps, fuel, etc).
- Establish treaties with contractors, subcontractors and suppliers. The treaty can offer priority assistance, labor and supplies in the event of a hurricane or other catastrophe. Additionally, because hurricanes are typically localized, treaties between a contractor's peers (competitors) can be developed in which, after a hurricane event, the impacted contractor is assisted by fellow contractors with resources, labor and expertise. These treaties often have no cost and can provide contractors with assurances of greatly expedited recovery following a catastrophic event.
- Establish contracts prior to hurricane season with pre-negotiated rates, ensuring fair pricing and greatly expedited recovery.
- Be aware of your location (i.e. proximity to ocean, lakes and rivers; adjacent properties; geographic elevation, etc.) and how transportation problems may slow or prevent evacuation.
- Determine project-specific measures required to minimize damage during a hurricane. If the facility is in a flood area, consider measures that would be taken to mitigate losses during construction.
- Develop a list of, and source for, hurricane preparation materials and equipment. A List of **Hurricane Preparation Materials and Equipment*** can be helpful; revise as needed.
- Have an inventory of supplies and materials required for recovery operations. A List of **Recovery Operation Supplies*** can be helpful; revise as needed. Note that the recovery team may need to be entirely self-sufficient for an extended period of time.
- Consider performing pre-planning with local authorities.
- Establish an emergency evacuation plan to ensure safe, complete and orderly evacuation.
- Establish procedures to follow in the event of exposed energized electrical wires, flammable or hazardous liquid leaks, leaking gas, structural damage and utility damage.

* Included in this packet

Notes



Tropical Storm Checklist

Hurricane Action Plan

Activate when a tropical storm is named with winds of 39 mph or higher



Weather forecasts are not 100 percent accurate. Therefore, it is best to take precautions even if the construction project is not directly in the projected path of the tropical storm.

- Review your Hurricane Action Plan and update if required.
- Activate the individual responsible for tracking the storm and advise the Person-in-Charge.
- Ensure that the hurricane response and recovery team information is up to date and accurate. The Person-in-Charge should have an updated, printed copy of the list for safe-keeping.
- Conduct a project meeting reviewing the members of the hurricane response/recovery team and their responsibilities. Review and confirm action items with the individuals responsible.
- Ensure that all hurricane planning items have been addressed.
- Monitor material deliveries and begin to consider the impact of material deliveries and the potential of stopping deliveries (especially for non-critical deliveries).
- Determine material requirements (plywood, netting, banding, plastic sheeting, trailer anchors and tie-downs, concrete anchor screws) for protecting the site in its current state of completion and determine the material source and availability.
- Prepare to secure the site (protect/secure materials and equipment, cover exterior openings, complete structures, brace equipment, clean site, etc).
- Review what off-site company resources are available to assist with recovery.
- Contact the corporate safety director, human resources and information technology personnel, as needed.
- Consider updating the project's Critical Path Method (CPM) Schedule Logic Diagram. This will be useful for reflecting the project's pre-storm status and later establishing delays caused by the storm, damages and subsequent repairs.

This article provides general information and recommendations that may apply to many different situations. Any recommendations described in this article are not intended to be specific to your unique situation. Consult with your staff and specialists to determine how and whether the information in this article might guide you in developing specific plans or procedures for your operations. This article does not substitute for legal advice, which should come from your own counsel.

Version 1, July 2011

Hurricane Watch Checklist

Hurricane Action Plan

Activate less than 48 hours in advance of a storm with anticipated sustained winds of 74 mph or higher



- Schedule a meeting with staff to review the Hurricane Action Plan, contingency plans and emergency roles and responsibilities and provide contact information.
- Have the storm tracker monitor the weather for changes and advise the Person-in-Charge every four hours.
- Stop all material deliveries.
- Have subcontractors move any uninstalled materials to a safe location.
- Discontinue work on projects that would be vulnerable to damage by the event.
- Complete work if it would minimize the impact of a storm event (for example, complete the roof, install doors, etc.).
- Prepare to protect materials or equipment that cannot be moved.
- Obtain materials to cover exterior openings (such as doors, windows, roof openings, etc.).
- Obtain netting, banding materials and self-tapping concrete anchoring screws to secure and anchor materials that cannot be removed or securely stored.
- Close all doors and windows. Remember that they may be left open unintentionally by employees on site.
- Remove, secure, isolate or neutralize chemicals to prevent their release or their reaction together if disturbed.
- Ensure that construction trailers and shipping containers/storage boxes are properly anchored and tied down. If anchors are not available, use concrete filled drums with embedded reinforcing steel loops and tether at least at three locations for each trailer or storage container.
- Remove loose jobsite materials and debris that could become projectiles, and clean the jobsite daily.
- Have garbage in dumpsters and other containers consolidated and properly disposed. Prepare to remove dumpsters/garbage containers. If it's not possible to remove the containers, secure them with nets to prevent debris from becoming airborne.
- Move important documents and records to a safe location.
- To minimize damage, finish work on partially completed structures. For example, complete sheathing nailing to code requirements; secure decking; install hurricane straps and required tie-straps; complete permanent connections to the extent possible; repair roof deficiencies (such as flashing, drains, gutters, scuppers, penetrations), etc.

Hurricane Watch Checklist

- If completion of structures is not possible or new construction is not fully strengthened, install and fortify temporary bracing to the greatest extent possible. Brace/secure all roof-mounted equipment or any other equipment prone to movement by high winds.
- Band and bundle building materials that cannot be removed.
- Move materials that cannot be relocated or secured otherwise to shipping containers/storage boxes. Cover all materials that cannot be relocated and elevate them to at least 4 inches above the floor to reduce water damage exposure.
- Remove and secure formwork if it cannot be filled with concrete. In some situations, it may be possible to secure formwork using materials such as heavy structural steel components and banding.
- Consider preparations to prevent water damage to the structure, such as grading, sandbagging materials, ensuring roof is clear of debris that could block scuppers, arranging for dewatering pumps and generators if required, etc.
- If emergency personnel are remaining on site during the event, ensure that adequate supplies for their well-being and protection are available and that safety precautions have been taken.
- A design engineer should examine the structures and advise to minimize damage potential.
- Remove scaffolds when possible. If removal of scaffolds is not feasible, remove and secure all boards from scaffolds. Secure all mobile scaffolds to columns or place in shipping (e.g., Conex) boxes.
- Keep evacuation routes open for all vehicles.
- Fully charge all devices and batteries.
- Consider flooding cofferdams, if prudent, to minimize the forces acting on them, such as wind and storm surge.



Notes

Activate less than 24 to 36 hours in advance of a storm with anticipated sustained winds of 74 mph or higher

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Hurricane Warning Checklist

Hurricane Action Plan



- Secure all exterior building openings, doors and windows. Consider temporary bracing for large doors which are not designed for high wind loads.
- Install protective measures to minimize the infiltration of water into the building and excavations (e.g., grading, berms, sandbags, pipe caps, etc.). If necessary, protect trailers to minimize the infiltration of water.
- Deploy portable de-watering equipment. Note that municipal power may not be available.
- Address housekeeping items; Remove all debris from site and roof; Secure materials that cannot be moved by placing them in interior building locations or bind them to secure structures; Remove or safely store all hazardous and flammable materials; Make sure that all roof drains are operational, roof caps/strainers are in place and scuppers are free of obstructions.
- Back up all important critical computer data. Store data backup offsite.
- Unplug and move computers to as high an elevation as possible, in the middle of a room and away from windows.
- For items that cannot be relocated, cover all office equipment (computers, copiers, phones, filing cabinets, etc) with plastic tarps and bags; move them to the most secure area possible.
- Move project drawings and specifications to a protected and secure location on- or off-site.
- De-energize power (especially temporary electrical service) at the circuit breakers, as close to the main power breaker as possible. Unplug all electrical equipment.
- Shut down all gas lines as far back to the main as is feasible to prevent a gas release or a fire.
- Shut down all water lines **that are not used for fire protection** as far back to the supply point as is feasible.
- Consider having cash available for recovery operations. If telephone and power are out, cash may be the only accepted form of payment. Cash may be required for food, materials, fuel, paying contractors or even paying employees.
- Secure/protect fuel tanks and drums to prevent movement and damage.
- Remove/secure portable toilets. Toilets can be banded together, anchored to the foundation, secured to walls or weighted down with concrete blocks or sand.
- All construction equipment mats should be tied together and anchored.
- All cranes should be removed from barges.

Hurricane Warning Checklist

- Flood cofferdams, if determined to be the best option for damage reduction.
- Implement building code requirements governing hurricane and high-wind preparations for cranes and hoisting equipment. Some municipalities establish fines and penalties for not following hurricane and high-wind-event precautions for hoisting equipment.
- Contact the crane subcontractor regarding preparing the crane for adverse weather.
- Ensure hoisting equipment abides by all manufacturers' recommendations, including the placement and removal of advertisement banners and the use and/or removal of rigging.
- Remove portable equipment from the jobsite, or store it in shipping containers. For large portable equipment welding machines, compressors, etc., that cannot be placed in shipping containers or stored inside a structure, band the equipment together and protect/secure it as well as possible.
- All crane booms, buckets and blades should be lowered to the ground.
- Hydraulic cranes should have booms retracted and stored.
- Any counterweighted hoist should have the counterweight locked below the top tie-in.
- Inspect all crane counterweights and crane components to ensure they have the greatest likelihood to survive the storm.
- Generally, tower cranes should be allowed to weathervane (move with the wind to minimize the forces acting on the crane).
- Lubricate the tower crane turntable prior to the event.
- All power at the base of the tower should be disconnected.
- All rigging must be removed from the hoist block.
- Backfill excavations if feasible.
- Fuel all vehicles and emergency equipment (such as generators).
- Remove fence screening, signs, banners, etc.
- Secure essential traffic control devices using anchors, sandbags and "tie downs." Remove the devices only if their absence will not create unsafe driving conditions. Collect and remove non-essential barricades.
- Ensure fire protection systems are operational to the extent possible and that adequate fire extinguishers are available.
- Construction equipment should be moved to a location as far as possible from trees, structures or electrical wires, which could fall on them during a storm. Equipment, with brakes set, should also be relocated to as high an elevation as possible to reduce the likelihood of water damage and improve future access to equipment.
- In addition to monitoring the progress of the storm via the Internet, the use of lightning detection equipment can provide valuable information regarding the impending storm. It is considered prudent to take shelter in the interior of a building (taking shelter in construction field trailers should be a last resort) when lightning detectors indicate that lightning is within 8 miles of the site. Work should be immediately stopped in the event of lightning.
- Protect incomplete underground utilities, processes and drainage piping from flotation and the infiltration of sand and silt.
- Fill water coolers and place inside gang boxes for additional weight and for the water needs of recovery personnel. Water may not be available following a storm or municipal water may be contaminated.
- Make de-watering arrangements for meter pits and other in-ground vaults that contain electronic equipment.
- Inform employees and subcontractors about whom to contact regarding a resumption of site activities.



Hurricane Warning Checklist

- If employees are to remain onsite to operate pumps or minimize damage, safety is critical. Consideration must be given to the security of the shelter taken during the storm from a structural, flooding, storm-surge and projectile-impact standpoint. Consult a structural engineer to verify that the shelter protection is adequate. Depending on the severity of the storm, onsite personnel must be self sufficient (potentially for several weeks) and will require provisions. The choice to remain during the storm, if absolutely necessary, must be entirely voluntary, well considered and not taken lightly.
- Make a video/photographic record of the jobsite and surrounding properties to document the project condition and status prior to the storm.
- Establish a meeting place, if possible, for key recovery members.
- Inform construction personnel regarding when to leave the project site and how to determine when to return.
- If treaties or agreements exist for recovery assistance by Contractors, contact them to plan recovery efforts.
- If authorities require evacuation, immediately vacate the site.
- Once the site is secure, instruct subcontractors and employees to vacate the jobsite and not to return until the danger has passed.

Notes



Activate after
the storm

Hurricane Recovery Checklist

Hurricane Action Plan



- Despite the disruptive nature of the event, before making repairs, ensure that all safety procedures have been implemented including the permitting of Hot Work, fall protection, lockout tag-out, smoking prohibitions (safe areas), etc.
- Always ensure that a safety manager is present prior to beginning a hurricane recovery operation.
- Determine if the site is safe to enter and what hazards are present. Also, determine what trades and personnel should return to the site.
- Determine what medical facilities are currently handling emergencies in the event of an injury. Some facilities may have been evacuated or heavily damaged in the storm.
- Recovery personnel must be equipped with appropriate personal protective equipment (PPE). This should include, but not be limited to, hardhats, steel-toed boots, eye protection, gloves, respirators, chemical protective suits, etc. (Enforce all typical work safety practices).
- Recovery workers should have proper immunization if they are working in areas where there is a potential for disease exposure. Contact your local medical provider or the Centers for Disease Control (CDC) for assistance.
- Maintain proper first aid equipment and clean water to aid in disinfection.
- Workers should take extra care when walking through standing water, as it can mask hidden hazards, such as depressions, sharp debris, tripping hazards, etc., and can contain chemicals and harbor disease.
- If you or your employees encounter hazardous materials, stay upwind, isolate and secure/guard the area, and notify local experts of the incident for proper remediation.
- Have insecticides to protect against insects, which can carry disease.
- Repair roads, as needed, to allow unencumbered site access.
- Evaluate structures before entering (if required, utilize a structural engineer). Repairs may be required to make the structure safe prior to entry.
- Use caution when removing damaged building components so as not to further compromise and possibly collapse the structure.
- Use caution regarding protruding materials that could injure employees.
- Barricade and clearly identify unsafe areas to prevent entry. If a barricade is not feasible, post a guard to prevent unauthorized entry until the hazard is eliminated.

Hurricane Recovery Checklist

- If tower cranes, hoists or scaffolds have been damaged, notify the appropriate subcontractors and engineers.
- Investigate the site for dangerous conditions, such as collapse, live wires, leaking gas, piping damage or situations that could start a fire.
- Be aware of displaced wildlife that can be a hazard to personnel following a storm event and carry disease.
- Documenting damage (before cleanup and repair):
 - Carefully inspect the construction project and determine the extent of storm-related damage.
 - Document damages in writing, using photos or videos if necessary. Involve subcontractors, owner's representatives, design professionals, electricians and other staff, as required.
 - Notify the owner and insurer before making repairs. However, make immediate reasonable repairs to minimize damage or prevent personal injury.
 - Submit damage reports to risk management personnel.
 - Consider the duration of repairs and their impact on the schedule critical path.
- Establish repair priorities. Identify critical hazards that must be abated prior to allowing the entire construction staff to resume construction.
- Repair damage to fire protection systems as quickly as possible and maintain permitting of hot work, smoking prohibitions and a clean project site to prevent potential fire.
- Salvage and protect the structure by securing breaches in the roof (tarp if needed) and building envelope (cover broken windows and exterior building damage). Remove materials from and/or pump out water as required. Clean roof drains and debris to prevent drainage problems.
- Have each Subcontractor prepare a damage assessment report in writing within 24-28 hours of returning to site and providing these reports to the General Contractor.
- Use care as electrical devices and conductors may be energized. Have qualified electricians inspect all electrical systems and ensure that they are safe to be energized.
- If power lines are down, consider them as energized "live" until verified to be de-energized. Beware of electrical lines in standing water.
- Extension cords should be in good condition and should not be submerged in standing water.
- Contact your insurance claims office if necessary.
- When operating fuel powered equipment such as, generators, pumps, compressors, etc, ensure that proper ventilation is provided.
- Remove water from structures as quickly as possible to minimize the potential for mold and fungus growth.
- Restore HVAC System to maintain or restore building interior environment.



Hurricane Response Team Form

Hurricane Action Plan

1 Name _____ Work Title _____
Hurricane Role _____
Residence Location _____
Cell Phone _____ Residence Phone _____
Personal email _____

2 Name _____ Work Title _____
Hurricane Role _____
Residence Location _____
Cell Phone _____ Residence Phone _____
Personal email _____

3 Name _____ Work Title _____
Hurricane Role _____
Residence Location _____
Cell Phone _____ Residence Phone _____
Personal email _____

Hurricane Response Team Form

Backup Personnel

1 Name _____ Work Title _____

Hurricane Role _____

Residence Location _____

Cell Phone _____ Residence Phone _____

Personal email _____

2 Name _____ Work Title _____

Hurricane Role _____

Residence Location _____

Cell Phone _____ Residence Phone _____

Personal email _____

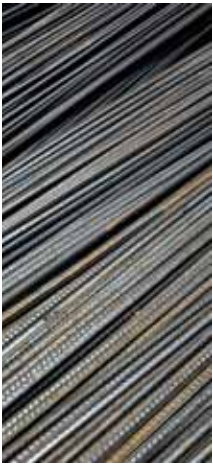
3 Name _____ Work Title _____

Hurricane Role _____

Residence Location _____

Cell Phone _____ Residence Phone _____

Personal email _____



Hurricane Recovery Team Form

Hurricane Action Plan

1 Name _____ Work Title _____

Hurricane Role _____

Residence Location _____

Cell Phone _____ Residence Phone _____

Personal email _____

2 Name _____ Work Title _____

Hurricane Role _____

Residence Location _____

Cell Phone _____ Residence Phone _____

Personal email _____

3 Name _____ Work Title _____

Hurricane Role _____

Residence Location _____

Cell Phone _____ Residence Phone _____

Personal email _____

Hurricane Recovery Team Form

Backup Personnel

1 Name _____ Work Title _____
Hurricane Role _____
Residence Location _____
Cell Phone _____ Residence Phone _____
Personal email _____

2 Name _____ Work Title _____
Hurricane Role _____
Residence Location _____
Cell Phone _____ Residence Phone _____
Personal email _____

3 Name _____ Work Title _____
Hurricane Role _____
Residence Location _____
Cell Phone _____ Residence Phone _____
Personal email _____



Typical Hurricane Preparation Materials and Equipment

Hurricane Action Plan

Hurricane Preparation Materials and Equipment* Source

Sand bags	
Generators	
Fuel	
Water	
Plywood (no less than 5/8" exterior rated)	
Shoring and bracing to provide support to incomplete structures	
Pumps	
Rope	

*These are only example materials and equipment and should be revised for each project.



Typical Hurricane Preparation Materials and Equipment

Hurricane Preparation Materials and Equipment* Source

Wire	
Netting	
Plastic Sheeting	
Garbage Bags	
Concrete Anchors (to secure netted items to concrete floors)	
Ground Anchors for Office Trailers and Shipping Containers and/or 55 gallon Drums filled with Concrete	
Misc. Hardware and Fasteners	
Duct Tape	

* These are only example materials and equipment and should be revised for each project.



Tropical Storm Action Items

Hurricane Action Plan

Task or Activity to be Completed	Individual(s) Assigned Responsibility	Required Completion Date	Date Completed



Tropical Storm Action Items

Task or Activity to be Completed	Individual(s) Assigned Responsibility	Required Completion Date	Date Completed

This article provides general information and recommendations that may apply to many different situations. Any recommendations described in this article are not intended to be specific to your unique situation. Consult with your staff and specialists to determine how and whether the information in this article might guide you in developing specific plans or procedures for your operations. This article does not substitute for legal advice, which should come from your own counsel.



Hurricane Watch Action Items

Hurricane Action Plan

Task or Activity to be Completed	Individual(s) Assigned Responsibility	Required Completion Date	Date Completed



Hurricane Watch Action Items

Task or Activity to be Completed	Individual(s) Assigned Responsibility	Required Completion Date	Date Completed



Hurricane Warning Action Items

Hurricane Action Plan

Task or Activity to be Completed	Individual(s) Assigned Responsibility	Required Completion Date	Date Completed



Hurricane Warning Action Items

Task or Activity to be Completed	Individual(s) Assigned Responsibility	Required Completion Date	Date Completed



Hurricane Recovery Action Items

Hurricane Action Plan

Task or Activity to be Completed	Individual(s) Assigned Responsibility	Required Completion Date	Date Completed



Typical Recovery Operation Supplies

Hurricane Action Plan

Hurricane Recovery Operation Supplies *	Source
Digital cameras and video recorders – to record damage	
De-humidifiers and vacuums to minimize water damage	
Food that does not require refrigeration (i.e. MREs, canned foods, dried foods, etc)	
Pumps, misc. piping and hoses	
Water	
Portable Air Conditioning Units (if needed, especially for control centers, computer rooms, temperature sensitive equipment, etc.)	
Lighting	
Misc. Tools (chainsaws, axes, blades, fasteners, hammers, tape, wrenches, propane tanks, grill for cooking and boiling, whistle, wheelbarrow, shovels, ladders, handsaws, flashlights, etc.)	

* These are only example supplies and should be revised for each project.



Typical Recovery Operation Supplies

Hurricane Recovery Operation Supplies *

Source

Adequate fire extinguishers (municipal water may not be available)

Satellite phones (cell phone service may not be available)

Plastic sheeting / Tarps and temporary roof repair materials / Roofing paper

Garbage Bags

Power Cords

Temporary housing (supplied as needed)

First Aid Medical Equipment (if applicable, verify that recovery team members have an adequate supply of their prescription medication)

Dumpsters

Batteries

Fuel

Clorox Bleach for disinfecting

* These are only example supplies and should be revised for each project.



Typical Recovery Operation Supplies

Hurricane Recovery Operation Supplies *

Source

Protective clothing and equipment (overalls, rubber boots, gloves, steel-toed boots, hard hat, eye protection, etc.)

Binoculars

Lumber, screws, nails, powder actuated fastener

Cash should be on hand for food, supplies, equipment, etc (credit and checks may not be accepted)

Mops, brooms, squeegees and absorbents

Temporary Housing (tents or mobile homes),
Sleeping bags

* These are only example supplies and should be revised for each project.

BOMB THREAT

BOMB THREAT

The decision to evacuate employees must be made by the resident manager, site superintendent and/or safety coordinator.

OFFICE HOURS PROCEDURES

- Bomb threat by telephone (telephone operator's duties):
 - ◇ The telephone operator receiving a bomb threat should signal another individual, advising that a call is in progress, **without alarming the caller**. Every attempt is to be made to engage the caller in conversation as long as possible to obtain the following information:
 - * Ask questions: Where, when, why.
 - * Pay attention to caller's voice.
 - * Note any background noise.
 - * Location of bomb is important.
 - * Attempt to use keywords "kill" and "children" in your conversation as a deterrent.
 - * Write down time of call and try to get time the bomb is supposed to explode.
 - * Have someone take notes, if possible.
 - ◇ A second telephone operator will notify the Anonymous Telephone Call department of the telephone company and advise whoever answers of the following:
 - * Telephone operator calling (give name).
 - * Identify emergency and state call is in progress.
 - * Identify the line on which call is in progress.
 - * Request immediate trace.
 - ◇ The operator will call:
 - * Resident manager
 - * Site Supervisor
 - * Safety coordinator
- Resident manager's duties:
 - ◇ Notify building engineer.
 - ◇ Supervise or assist police in conducting a physical search of the designated area, using foreman, janitorial, and safety personnel, as necessary.
 - * If no specified area of the building, search areas such as hallways, restrooms, stairwells, elevator shafts, utility closets, and areas outside the building. Office personnel should search immediate office areas.
 - ◇ Prepare to evacuate floor(s).

- ◇ Be prepared to assign foreman personnel to assist floor leaders with the evacuation.
 - * Stay calm.
 - * Be on the lookout for panic or disturbance.
 - * Make sure those not able to walk are assisted.

SHOULD A BOMB BE DISCOVERED

- It is imperative that all personnel involved in the search be instructed that their mission is ONLY TO SEARCH FOR AND REPORT suspicious objects, **NOT** to move, jar, or touch the object or anything attached thereto. The removal/disarming of a bomb must be left to the professionals.
- Building guard's duties:
 - ◇ Guard assigned to the floor(s) involved will station himself in the elevator lobby to keep all persons off the floor. It may be necessary to supplement the guard staff by assigning building maintenance personnel to this task.
 - ◇ Guards/floor leaders on the first floor will be prepared to open the doors in the event evacuation is necessary.
 - ◇ Assist police, if necessary.
- Floor leader's duties:
 - ◇ Follow normal evacuation procedures:
 - * Notify assistant floor leaders.
 - * Announce specific instructions for evacuation, cautioning employees to WALK to the nearest exit.
 - * Supervise the evacuation and see that no one is left on the floor.

IF A BOMB EXPLODES

- Floor leaders report to involved area.
 - ◇ Render assistance as needed.
 - ◇ Have responsible person report conditions and assist needed switchboard operator.

BOMB THREAT BY MAIL

- If a bomb threat is received and opened, the person who opened the letter will:
 - ◇ Immediately put the letter back into its original envelope, showing it to NO ONE.
 - ◇ Give the envelope to his supervisor stating it is a bomb threat.
 - ◇ The supervisor will not open the letter or allow anyone else to handle its contents and will call the resident manager as soon as the letter is received.
- Follow above procedures as indicated by the situation.

TELEPHONE BOMB THREAT CHECKLIST

INSTRUCTIONS: BE CALM, BE COURTEOUS. LISTEN. DO NOT INTERRUPT THE CALLER.

YOUR NAME: _____ TIME: _____ DATE: _____

CALLER'S IDENTITY SEX: Male _____ Female _____ Adult _____ Juvenile _____ APPROXIMATE AGE: _____

ORIGIN OF CALL: Local _____ Long Distance _____ Telephone Booth _____

VOICE CHARACTERISTICS	SPEECH	LANGUAGE
<input type="checkbox"/> Loud <input type="checkbox"/> Soft <input type="checkbox"/> High Pitch <input type="checkbox"/> Deep <input type="checkbox"/> Raspy <input type="checkbox"/> Pleasant <input type="checkbox"/> Intoxicated _____ Other	<input type="checkbox"/> Fast <input type="checkbox"/> Slow <input type="checkbox"/> Distinct <input type="checkbox"/> Distorted <input type="checkbox"/> Stutter <input type="checkbox"/> Nasal <input type="checkbox"/> Slurred _____ Other	<input type="checkbox"/> Excellent <input type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor <input type="checkbox"/> Foul _____ Other
ACCENT	MANNER	BACKGROUND NOISES
<input type="checkbox"/> Local <input type="checkbox"/> Not Local <input type="checkbox"/> Foreign <input type="checkbox"/> Region <input type="checkbox"/> Race	<input type="checkbox"/> Calm <input type="checkbox"/> Angry <input type="checkbox"/> Rational <input type="checkbox"/> Irrational <input type="checkbox"/> Coherent <input type="checkbox"/> Incoherent <input type="checkbox"/> Deliberate <input type="checkbox"/> Emotional <input type="checkbox"/> Righteous <input type="checkbox"/> Laughing	<input type="checkbox"/> Factory <input type="checkbox"/> Trains <input type="checkbox"/> Machines <input type="checkbox"/> Animals <input type="checkbox"/> Music <input type="checkbox"/> Quiet <input type="checkbox"/> Office <input type="checkbox"/> Voices <input type="checkbox"/> Machines <input type="checkbox"/> Airplanes <input type="checkbox"/> Street <input type="checkbox"/> Party <input type="checkbox"/> Traffic <input type="checkbox"/> Atmosphere

BOMB FACTS

PRETEND DIFFICULTY HEARING - KEEP CALLER TALKING - IF CALLER SEEMS AGREEABLE TO FURTHER CONVERSATION, ASK QUESTIONS LIKE:

When will it go off? Certain Hour _____ Time Remaining _____

Where is it located? Building _____ Area _____

What kind of bomb? _____

What kind of package? _____

How do you know so much about the bomb? _____

What is your name and address? _____

If building is occupied, inform caller that detonation could cause injury or death.

Activate malicious call trace: Hang up phone and do not answer another line. Choose same line and dial *57 (if your phone system has this capability). Listen for the confirmation announcement and hang up.

Call Security at _____ and relay information about call.

Did the caller appear familiar with plant or building (by his/her description of the bomb location)? Write out the message in its entirety and any other comments on a separate sheet of paper and attach to this checklist. Notify your supervisor immediately.

ACTIVE SHOOTER THREAT

- Before an active shooter situation on site would occur, there are typically warning signs given by the individual. Examples of those situations are shown below and should be reported to your supervisor if noticed.
 - Threatening remarks or gestures, whether direct or vague.
 - Physical harm or injury to another person (during or outside of work).
 - Demonstrated aggressive or hostile behavior.
 - Intentional destruction of property.
 - Self-destructive behavior.
 - Talk of violence.
- As soon as you are in a protected position, you should immediately contact the authorities. Workers should offer as much information as possible about the location of the active shooter, the number of shooters and their physical description of the shooter(s), if known.
- Federal Bureau of Investigation's (FBI) model for responding to an active shooter is to Run, Hide, and Fight, in that order.
 - RUN
 - Workers should first attempt to run as far from the situation as they can until they get to a safe location or a secure hiding place away from the shooter.
 - Workers should try to keep large objects between themselves and the shooter as they run and not run in a straight line.
 - HIDE
 - The hiding place should not trap or restrict the workers' options for movement.
 - Workers should never hide in dangerous places such as trenches or ledges above 6 feet without fall protection.
 - FIGHT
 - If confronted by the active shooter and your lives or lives of others are immediately threatened, the worker should fight, if possible.
 - Workers should improvise weapons, act with aggression, and commit to taking the shooter down no matter what.
 - If other workers are nearby, coordinate with them so they can take the active shooter down more effectively with a team approach.
 - Focus on the eyes, throat, nose, and head and don't stop attacking until the shooter is no longer a threat.

CHEMICAL SPILL

The following are the locations of:

Spill Containment and Security Equipment: _____

Personal Protective Equipment (PPE): _____

MSDS Information: _____

When a Large Chemical Spill has occurred:

- Immediately notify the designated official and Emergency Coordinator.
- Contain the spill with available equipment (e.g., pads, booms, absorbent powder, etc.).
- Secure the area and alert other site personnel.
- Do not attempt to clean the spill unless trained to do so.
- Attend to injured personnel and call the medical emergency number, if required.
- Call a local spill cleanup company or the Fire Department (if arrangement has been made) to perform a large chemical (e.g., mercury) spill cleanup.

Name of Spill Cleanup Company: _____

Phone Number: _____

- Evacuate building as necessary

When a Small Chemical Spill has occurred:

- Notify the Emergency Coordinator and/or supervisor (select one).
- If toxic fumes are present, secure the area (with caution tapes or cones) to prevent other personnel from entering.
- Deal with the spill in accordance with the instructions described in the MSDS.
- Small spills must be handled in a safe manner, while wearing the proper PPE.
- Review the general spill cleanup procedures.

Date ___/___/___

EXTENDED POWER LOSS

In the event of extended power loss to a facility certain precautionary measures should be taken depending on the geographical location and environment of the facility:

- Unnecessary electrical equipment and appliances should be turned off in the event that power restoration would surge causing damage to electronics and effecting sensitive equipment.
- Facilities with freezing temperatures should turn off and drain the following lines in the event of a long-term power loss.
 - Fire sprinkler system
 - Standpipes
 - Potable water lines
 - Toilets
- Add propylene-glycol to drains to prevent traps from freezing
- Equipment that contain fluids that may freeze due to long term exposure to freezing temperatures should be moved to heated areas, drained of liquids, or provided with auxiliary heat sources.

Upon Restoration of heat and power:

- Electronic equipment should be brought up to ambient temperatures before energizing to prevent condensate from forming on circuitry.
- Fire and potable water piping should be checked for leaks from freeze damage after the heat has been restored to the facility and water turned back on.

8.4 Posters

Posters – Job Site

Required Federal Posters

These are the posters that you are required by the federal government to display at any job site where employees report:

- Job Safety and Health Protection
- Equal Employment Opportunity poster
- Notice to Workers with Disabilities Paid at Special Minimum Wages
- Davis Bacon Act Poster
- Family and Medical Leave Act Poster
- Federal Minimum Wage
- Employee Polygraph Protection Act

Required State Posters

Every state has a different set of specific required posters, but the basic labor law posters that you will need to display include:

- Occupational and Safety Health Act
- Child Labor Laws
- Unemployment Insurance Policies
- Specific Wage and Discrimination Labor Laws

8.5 First Aid Kits

First Aid Kits

Each Lyon Contracting Project Manager and Superintendent has First Aid Kits available in their work trucks as well as in their job trailer. Each First Aid Kit should be checked weekly & restocked as needed.

The following list sets forth the minimally acceptable number and type of first-aid supplies for first-aid kits required under paragraph (d)(2) of the logging standard. The contents of the first-aid kit listed should be adequate for small work sites, consisting of approximately two to three employees. When larger operations or multiple operations are being conducted at the same location, additional first-aid kits should be provided at the work site or additional quantities of supplies should be included in the first-aid kits:

- 1) Gauze pads (at least 4 x 4 inches).
- 2) Two large gauze pads (at least 8 x 10 inches).
- 3) Box adhesive bandages (band-aids).
- 4) One package gauze roller bandage at least 2 inches wide.
- 5) Two triangular bandages.
- 6) Wound cleaning agent such as sealed moistened towelettes.
- 7) Scissors.
- 8) At least one blanket.
- 9) Tweezers.
- 10) Adhesive tape.
- 11) Latex gloves.
- 12) Resuscitation equipment such as resuscitation bag, airway, or
- 13) pocket mask.
- 14) Two elastic wraps.
- 15) Splint.
- 16) Directions for requesting emergency assistance.

[59 FR 51672, Oct. 12, 1994; 60 FR 47022, Sept. 8, 1995]

To order refills go to: www.firstaidonly.com.

8.6 Sanitation and Water

Sanitation and Water

Safety and Health Regulations for Construction

Potable Water

An adequate supply of potable water shall be provided in all places of employment.

Individual water bottles should be used as the primary source of potable water on the jobsite. The individual water bottles need to be disposed of in a trash receptacle by the individual once the contents have been consumed.

Due to potential health concerns portable containers used to dispense drinking water should not be used unless absolutely necessary. If necessary:

- the portable container shall be capable of being tightly closed, and equipped with a tap. Water shall not be dipped from containers.
- Any container used to distribute drinking water shall be clearly marked as to the nature of its contents and not used for any other purpose.
- A common drinking cup is strictly prohibited.
- Where single service cups (to be used but once) are supplied, both a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided.

Potable water means water that meets the standards for drinking purposes of the State or local authority having jurisdiction, or water that meets the quality standards prescribed by the U.S. Environmental Protection Agency's National Primary Drinking Water Regulations (40 CFR part 141).

Nonpotable Water

Outlets for nonpotable water, such as water for industrial or firefighting purposes only, shall be identified by signs meeting the requirements of Subpart G of this part, to indicate clearly that the water is unsafe and is not to be used for drinking, washing, or cooking purposes.

There shall be no cross-connection, open or potential, between a system furnishing potable water and a system furnishing nonpotable water.

Toilets at Construction Jobsites

Toilets shall be provided for employees according to the following:

- There should be an average of 1 portable toilet per 10 workers onsite. This can never exceed 1:20.
- All portable toilets shall be cleaned & sanitized a minimum of 2x per week.
- Any Trade (Crew) with 10 or more employees onsite shall have their own dedicated (labeled) toilet onsite for that crew.
- Provide separate women's toilets as necessary.

Washing Facilities

General. Washing facilities shall be maintained in a sanitary condition.

In addition to the hand-sanitizer dispensers in the portable restrooms there will be a minimum of two (2) additional hand-sanitizer dispensers onsite, 1 at the job trailer & 1 at each main entrance (access point) to the building.

As soon as possible on the jobsites portable handwash stations with running water will be installed. These are to be laundry tubs piped to a floor drain with a soap dispenser, paper towels & a trash can adjacent to the laundry tub.

[44 FR 8577, Feb. 9, 1979; 44 FR 20940, Apr. 6, 1979, as amended at 58 FR 35084; June 30, 1993; 76 FR 33611, June 8, 2011]

8.7 Jobsite Security

Jobsite Security

Due to the differing conditions of each jobsite, jobsite security shall be handled on a case by case basis.

- 1) The follow safety signage shall be installed at the following locations on each jobsite
 - a) At jobsite entrances “Authorized Construction Personnel Only”
 - b) “No Trespassing” signage on perimeter site fence in accordance with state statues.
 - c) At
- 2) Temporary Jobsite Fencing shall be installed in generally accessible areas of the jobsite to keep the public out of harm’s way throughout construction.
- 3) Security Cameras shall be installed at the following locations:
 - a) Field Office upon mobilization
 - b) Building Entry Points

8.8 Housekeeping

HOUSEKEEPING

SUBCONTRACTOR shall be responsible for the removal of all debris created by its work and SUBCONTRACTOR shall clean up and remove debris from the area to a dumpster or as directed by CONTRACTOR at the end of each workday. If SUBCONTRACTOR refuses or fails to perform this cleaning, CONTRACTOR shall have the right and power to proceed with said clean up and removal at SUBCONTRACTOR's expense.

8.9 Non-Employee Visitation Policy

LYON CONTRACTING, INC.

Non-Employee Visitation Policy

It is a priority of this policy to ensure the safety of the visitors and all those working on the project. In certain, limited circumstances, it may be necessary for non-employees to visit a Lyon project site. In those instances, the following policy is applicable to all non-employee visitors:

1. All non-employee visitors are required to check in at the project site trailer, introduce themselves to Lyon Superintendent and provide credentials including a business card. All non-employee visitors will be recorded in the daily log and advised of emergency evacuation procedures.
2. Visitors will not always come through the front gate nor report to our trailer. They may access the site in the manner most convenient to them and walk through the jobsite to accomplish their desired task. If you or your subcontractors see this, the Superintendent must be notified.
3. All non-employee visitors are encouraged to schedule visits ahead of time and to be flexible when visiting unannounced.
4. All non-employee visitors must be escorted by a Lyon employee while on a project site. No non-employee visitors will be allowed to walk a jobsite unsupervised.
5. Escort exception for union representatives: As will all non-employee visitors, Union representatives that have a signatory subcontractor at a project site must be escorted to the location where their member(s) have made contact, however, the Lyon employee will allow them to conduct their business in private. Once the business is concluded, the union representative will be escorted off site by a Lyon employee.
6. All non-employee visiting a project site are required to comply with all safety and jobsite rules. If a non-employee visitor fails to comply with safety and jobsite rules they may be escorted off the project site and the police may be called.
7. All Lyon employees are required to be civil and diplomatic when working with all non-employee visitors.
8. Notify your direct Supervisor and/or Lyon Superintendent at any time where any of the following occur:
 - a. If visitor's behavior is not conducive for a safe and productive work environment
 - b. Visitor will not leave the project site
 - c. Visitor is taking pictures of any portion of the project (from on or off site)
 - d. Any action that visitor takes where field managers feel uncomfortable

LYON JOBSITE INDEMNIFICATION WAIVER
For

(Project Name & Address)

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

Then:

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

Reason for visiting the site:

Print Name: _____

Date: _____

Signature: _____



Lyon Contracting, Inc.
1200 25th Ave. South
Saint Cloud, Minnesota 56301
P: (320) 252-2267
F: (320) 252-3603

Project: Carver Ridge Senior Living
920 6th Street West
Carver, Minnesota 55315
P: 3204060394

Daily Log: Monday 4/8/2019

Daily Log Completed

The Daily Log was completed by Brad Schlechter on Mon Apr 8, 2019 at 03:14 pm CDT.

WEATHER REPORT

Temperature			Precipitation Since			Humidity				Windspeed		
Low	High	Avg	Midnight	2 Days Ago	3 Days Ago	Low	Avg	High	Dew	Avg	Max	Gust
43°F	68°F	54°F	0.00 in.	0.01 in.	0.37 in.	44%	64%	89%	42°F	11.0 mph	18 mph	32 mph

DAILY SNAPSHOT

06:00 AM	09:00 AM	12:00 PM	03:00 PM	06:00 PM	09:00 PM
clear-night 44°F	partly-cloudy-day 52°F	partly-cloudy-day 62°F	partly-cloudy-day 68°F	wind 65°F	clear-night 57°F

OBSERVED WEATHER CONDITIONS

No.	Weather Delay	Sky	Temp	Average	Precipitation	Wind	Ground/Sea

MANPOWER LOG

11 Workers | 88.0 Man Hours

No.	Contact/Company	Workers	# Hours	Man Hours	Location
1	J-Berd Mechanical Contractors, Inc.	7	8.0	56.0	
Notes: Started to install the below grade plumbing in area B going towards area C. They are working all the deep pipe that runs down the corridor. Created By: Brad Schlechter					
2	Concrete Inc	4	8.0	32.0	
Notes: Poured a pad in area A where they missed and also trimmed the 2" foam at a 45 degree angle so it was per plan. Created By: Brad Schlechter					
		11	88.0		

Manpower Log's Attachments:



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By

Date

Copies To



Lyon Contracting, Inc.
1200 25th Ave. South
Saint Cloud, Minnesota 56301
P: (320) 252-2267
F: (320) 252-3603

Project: Bluff View Estates
825 Menard Road
Winona, Minnesota 55987
P: (320) 423-2800

Daily Log: Monday 4/8/2019

Daily Log Completed

The Daily Log was completed by Jeff Lorber on Tue Apr 9, 2019 at 02:13 pm CDT.

WEATHER REPORT

Temperature			Precipitation Since			Humidity				Windspeed		
Low	High	Avg	Midnight	2 Days Ago	3 Days Ago	Low	Avg	High	Dew	Avg	Max	Gust
44°F	71°F	57°F	0.02 in.	0.08 in.	0.10 in.	43%	64%	85%	44°F	10.1 mph	20 mph	34 mph

DAILY SNAPSHOT

06:00 AM	09:00 AM	12:00 PM	03:00 PM	06:00 PM	09:00 PM
clear-night 46°F	clear-day 50°F	partly-cloudy-day 63°F	wind 70°F	wind 69°F	clear-night 60°F

OBSERVED WEATHER CONDITIONS

No.	Weather Delay	Sky	Temp	Average	Precipitation	Wind	Ground/Sea

MANPOWER LOG

2 Workers | 16.0 Man Hours

No.	Contact/Company	Workers	# Hours	Man Hours	Location
1	Ed Lunn Construction, Inc.	0	8.0	0.0	
<p>Notes: They're setting the remaining 3rd floor trusses in area B. 3rd floor sheathing is 50% complete with area A 90%. After completion of floor sheathing in area A they're setting up the guardrail on that floor and working on floor layout in preparation to start setting walls on 3rd floor tomorrow morning. Created By: Jeff Lorber</p>					
2	Heintz Excavating, LLC	2	8.0	16.0	
<p>Notes: They finished repairing all of the silt fence on site. They're beginning to backfill and grade in area C. Created By: Jeff Lorber</p>					
		2		16.0	

Manpower Log's Attachments:

EQUIPMENT LOG

No.	Equipment Name	Cost Code	Hrs Operating	Hrs Idle	Inspected?	Inspection Time	Location
1	Skid Steer		0.0	0.0	Yes	09:33 AM	
<p>Notes: TL8 Created By: Jeff Lorber</p>							

VISITOR LOG

No.	Created By	Visitor	Start Time	End Time	Details
1	Jeff Lorber	Tom Schaible	09:45 AM	09:45 AM	He's an associate from Forum Architects here to discuss job progress and monthly draws.
2	Jeff Lorber	Roger Fink	10:13 AM	02:13 PM	

By

Date

Copies To



Lyon Contracting, Inc.
 1200 25th Ave. South
 Saint Cloud, Minnesota 56301

Inspection Template

Daily Safety Audit

TYPE: Safety

TRADE:

DESCRIPTION:

The Jobsite safety audit must be completed daily by the project superintendent or another designated Lyon representative. To enter Comments, Photos, or Observations click on the "information symbol" next to the response.

ATTACHMENTS:

General Jobsite Safety	
1.1	Is the "Danger Construction Zone - No Trespassing - All Visitors must report to the Field Office" signage posted @ each potential access point to the site & are all visitors checking in, signing the necessary waivers, and wearing the proper shoes, clothing & PPE?
1.2	Is the following signage posted at the jobsite; (1) Current Federal OSHA poster in the jobtrailer? (2) MNOSHA CCP signs (if applicable) on the trailer & at the main entrance to the site? (3) NPDES / Construction Stormwater sign at all the primary entrances to the site?
1.3	Has everyone onsite (Lyon employees, subcontractors, etc.) received their project safety orientation with their orientation sticker and is there a copy of everyone's AWAIR Manual onsite?
1.4	Are all stockpiled materials being stored in a safe and orderly manner with chemicals clearly tagged & labeled with access to the Material Safety Data Sheets (MSDS) in accordance with OSHA requirements?
1.5	Are there enough dumpsters onsite & are they being switched out in a timely manner?
1.6	Are there enough portable restrooms onsite for the # of workers & If between 11/1 & 3/15 are there portable heaters in each?
1.7	Are good housekeeping practices being maintained throughout the jobsite? Are project work areas are clean, orderly, and free of excess trash and debris? Are scrap materials free of protruding nails or other puncture hazards?
1.8	Is PPE being worn in accordance with Lyon Contracting requirements; Safety Glasses, Hard Hats, Class 2 reflective vests / high visibility clothing?
1.9	Are traffic control devices & pedestrian protection practices in place? Has jobsite fencing been installed, inspected, and maintained at all practical locations around the project necessary to deter & direct pedestrian traffic? When required are flaggers being used for traffic control?
1.10	Are fire extinguishers provided for each 3,000 SF of the protected building area, or major fraction thereof (5lb extinguishers are 2A & good for up to 6,000 SF, 10lb extinguishers are 4A & good for up to 12,000 SF)? The Travel distance from any point to the nearest

	fire extinguisher shall not exceed 75'. Are the extinguishers tagged & have they been serviced within the past 12 Months?
1.11	Are there emergency plans in-place for a fire, a health emergency, severe weather, etc. and are the sites/buildings egress routes being maintained throughout the project?
1.12	Are all tools being used in accordance with OSHA and the manufactures recommendations? Specifically, are all off the tools in good condition, are the safety guards in place, and the the cords free from visible defects?
1.13	Electrical / Lighting; (1) Is there enough temporary power onsite? (2) Is there GFCI Protection in place for all outlets? (3) Are the electrical cords being protected from damage, kept out of water & inspected on a daily basis? (4) Is there enough lighting provided throughout the project (5 Foot-Candles Min. for all access points, corridors, hallways & exitways.)? (5) Are the temp lights fully caged with light bulbs in every socket?
1.14	If there is the potential for Carbon Monoxide exposure is there monitoring taking place with levels being checked & logged a minimum of every 2 hours (3 times minimum) throughout the work day? Is there an emergency response plan in-place?
1.15	Are all flammable and combustible materials being handled & stored in accordance with OSHA's and the manufactures requirements? Stored LP tanks need to be chained & a minimum of 50' away from the building.
1.16	Are dust control measures being implemented (Water, Sweeping Compound, HEPA Vac, Etc)?

Earthwork & Site Utilities

2.1	Do you know the Soil Types on the jobsite & the Ratio for sloping or benching the soils?
2.2	Is there a competent person onsite performing the trenching & excavation operations? Is this competent person performing daily inspections of the trenches / excavations documenting that they are safe for other employees to work in & around? Enter the competent person's name under comments.
2.3	Are all underground utilities being reviewed & identified prior to excavation?
2.4	Is there adequate cave-in protection (proper sloping, benching, shoring &/or trench boxes) for employees working in trenches / excavations greater than 5' in depth?
2.5	Are ladders provided for access/egress in trenches/excavations that 4' or deeper & are they within 25' of the workers?
2.6	Are spoil piles at least 2' back from the edge of excavations and if there are workers in the trench or at the bottom of the excavation are they protected from falling materials if anyone is working or driving equipment above?
2.7	On all earth moving equipment; (1) Are the operators trained & certified, (2) Are audible alarms in operation & loud enough to be heard? (3) Are seat belts being worn?
2.8	Are the necessary dust control measures being being implemented (Water, HEPA Vac)?

Concrete & Masonry Operations

3.1	If any of the following items are being used fill out the related safety documentation section: Cranes, Mobile equipment, Scaffolding
3.2	If working at the bottom of a trench/excavation greater than 4'; (1) Has the daily inspection of the excavation been conducted? (2) Is there adequate cave-in protection? (3) Is there an access/egress ladder in the excavation and is it with 25' of the workers? (4) Are the workers protected from falling materials from operations above?
3.3	Have all impalement hazards been clearly marked and abated?
3.4	Is everyone exposed to fall hazards of 6' or more protected with the proper form of fall protection?
3.5	Are there written exposure control plans being followed for the potential crystalline silica exposures?
3.6	Are washout & containment facilities being utilized for the concrete, mortar & grout operations? Are they clearly marked? Are they being properly maintained?
3.7	If working in an enclosed space & there is gas powered equipment running is their enough ventilation & are the monitoring their CO exposure?

Precast Erection, Structural Steel Erection, Framing & Roofing Operations

4.1	If any of the following items are being used fill out the related safety documentation section: Cranes, Mobile equipment, Scaffolding
4.2	Has each subcontractor developed a fall protection plan specifically for this project, is there a copy on file in the job trailer, & is the plan being followed?
4.3	Are the work area access points; (1) clearly identified with safety signage limiting access to authorized personnel only? (2) Equipped with a ladder, step, walkway or ramp if greater than 19"
4.4	Is there proper access / egress provided to upper / lower working levels (See 1926.1051)? Are ladders in good condition, installed / secured properly, & the right type for the application?
4.5	Have all fall hazards, that can be, been eliminated? Have all fall prevention measures been put into place that reasonably can be (Guardrails, Hole Covers, etc.)? Are safety harnesses/retractables/tie-off's being used as the last resort in the fall protection plan?
4.6	Are there written exposure control plans being followed for the potential crystalline silica exposures?
4.7	Are hot work permits being utilized for all hot work (welding) operations and fire watch provided?

Exterior Finishes (Window install, Siding, Masonry Veneer, etc.)

5.1	If any of the following items are being used fill out the related safety documentation section: Mobile equipment, Scaffolding
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5.2	Are "Overhead Work" signs posted where required?
5.3	Have all fall hazards, that can be, been eliminated? Have all fall prevention measures been put into place that reasonably can be (Guardrails, Safety Nets, etc.)? Are safety harnesses/retractables/tie-off's being used as the last resort in the fall protection plan?
5.4	Are there written exposure control plans being followed for the potential crystalline silica exposures?

Building Rough-in's & Interior Finishes

6.1	Are all corridors, walkway's and stairs clear of debris? Are hoses & cords organized with any that are suspended hung properly (No nails, wires, or non insulated staples)?
6.2	Have all fall hazards that can be eliminated been eliminated & are fall prevention measures in place for any fall hazards to could not be eliminated (Guardrails, hole covers, restricted access zones, etc.)? Have fall prevention / protection methods been reviewed with the various trades prior to them starting work & does everyone understand what the project requirements are?
6.3	Are guard rails installed are required, have they been installed at the proper heights (top rail 42" +/- 3", mid rail 1/2 way between) & are they able to support 200#?
6.4	Have material loading zones been established for the building; do they have the proper signage & are the necessary fall prevention measures in place?
6.5	Are "Safety Hazard - Do Not Open This Door" signs posted all doors where their is a potential fall hazard? Is there a temporary locking mechanism in place to restrict the opening of these doors more than 6"?
6.6	Are all of the ladders onsite; (1) Capable of supporting the required loads? (2) Being used properly, maintained & inspected? Type 2 & Type 3 ladders are not allowed on Lyon Jobsites!
6.7	Are hole covers being inspected and maintained on a daily basis? Are all holes greater than 2" in diameter covered, marked, and secured? Are all holes larger than 1' x 2' are provided with a secondary means of protection? Can all covers support at least twice the maximum intended load?
6.8	Are safe electrical work practices being followed specifically including; lock out / tag out?

Winter Conditions

7.1	Are temp. heaters set-up with proper clearances from flammable materials?
7.2	When temp. heaters are being used is CO2 monitoring taking place with levels being recorded a minimum of every 2 hours throughout the work day.

Mobile Equipment

8.1	Are daily inspections & maintenance being conducted on all mobile equipment and is it being properly documented?
8.2	Are fire extinguishers in all mobile equipment?
8.3	Are all audible alarms in operation and loud enough to hear on all mobile equipment?
8.4	Are the seat belts functional and being worn on mobile equipment (As required by OSHA)?
8.5	Have the attachments being used with the mobile equipment been engineered for that specific use?
8.6	Are the equipment operators trained & certified to operate the mobile equipment with documentation on file?
8.7	Is there secondary containment for the mobile equipment's all fuel storage along with a skill kit?

Scaffolds Constructed Properly and Maintained

9.1	Is the Scaffolding being erected / maintained (inspected daily) / dismantled under the supervision of a competent person & is the competent person tagging the scaffolding "Ready for use" or "NOT ready for use"? A copy of the competent person's certification card needs to be on file in the job trailer.
9.2	Have all employees using the scaffold had user training and been made aware of the hazards?
9.3	Is the scaffold level, bearing on baseplates & mudsills?
9.4	Has proper access and egress been provided to the scaffolding?
9.5	Have engineered / stamped drawings been provided & reviewed for complex scaffold systems?

Cranes / Hoisting Apparatus / Rigging Condition

10.1	Has the crane pad been certified by the independent testing agency?
10.2	Is the crane operator a trained, evaluated and qualified to operate the crane as set forth by the National Commission for the Certification of Crane Operators (NCCCO) and is this documentation on file?
10.3	Does the crane operator have documentation of the Crane's annual inspection & is it available to you?
10.4	Was the daily inspection of the cranes conducted & documented prior to the crane being put into operation for the day?
10.5	Has the rigging been inspected prior to each use, is it properly labeled, and is it being stored properly?
10.6	Has proper cribbing / dunnage and radius protection provided?

Flammable and Combustible Substances

11.1	Are Flammable / combustible liquids / gases being stored (50' from Building) and handled properly?
11.2	Are all gas cans onsite the proper type (NO PLASTIC!)?
11.3	Are all containers properly labeled / protected where required?
11.4	Is a fire extinguisher provided within 50' of storage area(s)?
11.5	Is there no smoking / open flame signage secured near storage area(s)?
11.6	Flammable / combustible liquids / gases are not stored within 10' from stairwells, elevators, and exits.
11.7	For bulk fuel storage; Does the tank have the required secondary containment, is there a spill kit & fire extinguisher hanging on the tank?



Meeting #3

Lyon Contracting, Inc.
1200 25th Ave. South
Saint Cloud, Minnesota 56301
Phone: (320) 252-2267

Project: - Bluff View Estates
825 Menard Road
Winona, Minnesota 55987
Phone: (320) 423-2800

For Reference Only

Weekly Foreman's Meeting Minutes

MEETING DATE: 01/21/2019

MEETING TIME: 11:00 AM - 12:00 PM Central Time (US & Canada)

MEETING LOCATION: Site Trailer

OVERVIEW:

We will be conducting these meetings each Monday at 11:00. If you have any scope coming up within the next 3 weeks please plan to attend so we can plan proper coordination for your scope / materials.

NOTES:

ATTACHMENTS:

ATTENDEES:

Name	Company	Phone Number	Email	Attendance
Chelsea Gornik	Berd Electric LLC	Tel: (320) 656-0847	chelsea@berdelectric.com	
Brock Iverson	Berd Electric LLC	Tel: (320) 656-0847	brock@berdelectric.com	
Tom Balluff	Carlson McCain	Tel: 7632627458	tballuff@carlsonmccain.com	
Greg Pick	Commercial Closet System	Tel: 320-274-3552	pick@lakedalelink.net	
Eric Ebnet	Concrete Inc	Tel: (320) 258-4685	erice@concreteincmn.com	
Ben Gaebel	Concrete Inc	Tel: (320) 258-4685	beng@concreteincmn.com	
Mark Mukomela	Concrete Inc	Tel: (320) 258-4685	markm@concreteincmn.com	
Chad Regneir	Concrete Inc	Tel: (320) 258-4685	chadr@concreteincmn.com	
Luke Thorson	Condor Fireplace & Stone	Tel: 763-786-2341	luke.thorson@condorfireplace.com	
Brett Anderson	Custom Building Components	Tel: (507) 444-3912	brett.custombc@gmail.com	
Ed Lunn	Ed Lunn Construction, Inc.	Tel:	edlunn@msn.com	
Jauson Almer	Encompass Interior Design	Tel: 651-646-6600	jauson.almer@encompassgroup.net	
Tim Deters	Garage Door Store	Tel: 320-251-7000	tim.deters@gdsmidwest.com	
Alan Block	Heartland Glass	Tel: (320) 259-1679	ablock@heartlandglass.com	
Ken Schueller	Heartland Glass	Tel: (320) 259-1679	kschueller@heartlandglass.com	
Andrew Heintz	Heintz Excavating, LLC	Tel: (507) 458-2174	heintzexcavatingllc@outlook.com	
Alex Wilson	Henne's Art Company (aka North American Art & Mirror)	Tel: (612) 377-2630	alex@northamericanart.com	
Mark Thelen	Innovated Services LLC	Tel: (952) 882-0002	markt@innovatedservices.net	

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Please contact Lyon Contracting, Inc. if there are any discrepancies or questions with the content of these minutes.



Meeting #3

Carrie Groth	Installed Building Solutions II, LLC.	Tel: (651) 463-9333	carrieg@installbuild.com	
Tyler Lego	Installed Building Solutions II, LLC.	Tel: (612) 240-5884	tylerl@installbuild.com	
Mike Blaskowski	J-Berd Mechanical Contractors, Inc.	Tel: (320) 656-0847	mblaskowski@j-berd.com	
Megan Henkemeyer	J-Berd Mechanical Contractors, Inc.	Tel: (320) 656-0847	mhenkemeyer@j-berd.com	
James Rachey	J-Berd Mechanical Contractors, Inc.	Tel: (320) 656-0847	jrachey@j-berd.com	
Patty Johnson	Jackson & Associates, LLC	Tel: (651) 395-4120	patty@jaarooing.com	
Jeff Seifert	Karls Inc.	Tel: (320) 252-2314	jseifert@karlsinc.com	
Brad Kerzman	Kerzman Exteriors	Tel: (320) 290-7906	thekerzmans@live.com	
Tim O'Neill	Kinzler Construction Services	Tel: (515) 292-5714	tim.oneill@insulation.net	
Ricky Nelson	Legends Concrete, Inc.	Tel: (507) 529-3846	rnelson@legendsconcrete.com	
Eric Licht	Light FX	Tel: (320) 654-0567	elicht6508@aol.com	
Mike Friendshuh	Littfin Lumber Company	Tel: (320) 485-3861	mike.friendshuh@littfintruss.com	
Scott Bertrand	Lyon Contracting, Inc.	Tel: (320) 252-2267	scottb@lyonmn.com	
Kayla Hedin	Lyon Contracting, Inc.	Tel: (320) 252-2267	kaylah@lyonmn.com	
Josh Laudenbach	North Star Signs & Engraving	Tel: 320-252-7871	info@nsssigns.com	
Jill Strandlund	Preferred Metafab Inc.	Tel: (763) 552-0127	jill@pmiracing.net	
Luke Strandlund	Preferred Metafab Inc.	Tel: 763-552-0127	luke@pmi-metal.com	
Kody Pronschinske	Pronschinske LLC	Tel:	kplawnlandscape@gmail.com	
Jerry Rick	Rick's Cabinets, Inc.	Tel: (763) 392-4985	jerry@rickscabinetsinc.com	
Brian Davis	Schindler Elevator Corporation	Tel: (651) 406-5335	brian.davis@us.schindler.com	
Angie Phillips	Schindler Elevator Corporation	Tel: (651) 406-5335	angela.phillips@schindler.com	
Michael Powell	Schindler Elevator Corporation	Tel: (651) 406-5335	mike.powell@schindler.com	
Ron Kollmann	Schwieters Co.	Tel: (651) 407-1618	ron@finishcarpenters.com	
Mike Loren	Security Fire Sprinkler	Tel: (320) 656-0847	mike@sfsprinkler.com	
Taylor Schumacher	Security Fire Sprinkler	Tel: (320) 656-0847	taylor@sfsprinkler.com	
Grant Buchanan	Shelter Products, Inc.	Tel: (866) 779-6995	gbuchanan@shelter-products.com	
Abigail Cruz	Shelter Products, Inc.	Tel: (866) 779-6995	acruz@shelter-products.com	

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Meeting #3

Eric Heaton	Shelter Products, Inc.	Tel: (972) 827-1047	eheaton@shelter-products.com	
Jessa Drinkwine	Stone Source	Tel: (763) 999-7805	jessa@stonesourceusa.com	
Don Cahlin	The Jeske Company Inc.	Tel: (800) 677-3383	dcahlin@jeskecompany.com	
Jim Gruenke	Traut Companies	Tel: 320-251-5090	treatwater@trautwells.com	
Todd Russell	Twin City Acoustics Inc.	Tel: (507) 271-8176	toddr@tcacoustics.com	
Gina Baarson	Vector Windows and Doors	Tel: (800) 739-9899	ginab@vectorwindows.com	
David Vertin	VER-TECH INC	Tel: (763) 509-7927	dvertin@ver-tech.com	
Travis Zenke	Zenke Incorporated	Tel: (507) 895-7191	travis.zenke@zenkeinc.com	

Introductions						
No	Meeting Origin	Title	Assignment	Due Date	Priority	Status
1.1	1	Sign in				Open
Description: Pass out sign-in sheet. Make sure all are accounted for and that their contact information is logged						
1.2	1	Introduction of Team Members				Open
Description: Introduce new contractors to the site						
1.3	1	Recognize any Deserving Team Members				Open

Schedule						
No	Meeting Origin	Title	Assignment	Due Date	Priority	Status
2.1	1	Present 3 Week Look Ahead				Open
Attachments: Bluff View Estates 3 Week Schedule January 4th.pdf						
2.2	1	Trade Concerns				Open
Description: Discuss and resolve any current / upcoming trade concerns						
2.3	1	Coordinate To-Do's				Open
Description: Who needs to have what done for the next trade to be able to start their work? Confirm adequate temp power / lighting.						
2.4	1	Manpower / Materials				Open
Description: Confirm manpower / materials availability and / or lead times. Discuss potential delays.						
2.5	1	Delivery Schedule				Open
Description:						

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Meeting #3

		All deliveries need to be posted on the delivery schedule.				
2.6	1	Owner Supplied Items / Equipment				Open
		Description: Verify if trades need information from owners, vendors or contractors. Discuss lead times or delivery dates for equipment.				

Plans / Specs

No	Meeting Origin	Title	Assignment	Due Date	Priority	Status
3.1	1	RFI's				Open
		Description: Discuss existing RFI's and if any new RFI's are needed.				
3.2	1	Changes				Open
		Description: Discuss any / all changes so that entire team is informed.				
3.3	1	Submittals				Open
		Description: Verify all submittals are in and discuss any potential delays due to open submittals.				
3.4	1	As-Built Drawings				Open
		Description: Discuss and update any drawing revisions / changes.				

MEP Coordination

No	Meeting Origin	Title	Assignment	Due Date	Priority	Status
4.1	1	MEP Coordination				Open
		Description: Discuss separate coordination for MEP's and their needs.				
4.2	1	PPE				Open
		Description: Reinforce Lyon policy and make sure upcoming trades are aware and bring proper PPE				
4.3	1	Housekeeping				Open
		Description: Clean site = safe site / productive site. Maintain daily!				
4.4	1	Good Catch				Open
		Description: Discuss and recent good catch accidents and what can be done to avoid this in the future.				
4.5	1	Potential Hazards				Open
		Description: Discuss and potential hazards existing or upcoming.				
4.6	1	Everyone Has Responsibility				Open
		Description:				

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Meeting #3

		All personal on site are responsible for safety and need to report any concerns to the Lyon Superintendent right away. Reinforce positive effects of safety.				
4.7	1	Tool Box Talks				Open
		Description: Conduct the weekly tool box talk.				

Safety						
No	Meeting Origin	Title	Assignment	Due Date	Priority	Status
5.1	1	PPE				Open
		Description: Reinforce Lyon policy and make sure upcoming trades are aware of required PPE for their respective scopes / hazards.				
5.2	1	Housekeeping				Open
		Description: A clean site = a safe and productive site. Cleanliness needs to addressed daily.				
5.3	1	Good Catch Accidents				Open
		Description: Discuss any recent good catch accidents and what could have avoided it.				
5.4	1	Potential Hazards				Open
		Description: Discuss any potential hazards existing or upcoming on site.				
5.5	1	Everyone Has Responsibility				Open
		Description: All personnel on site have a responsibility for safety. Reinforce the positive effects of reporting safety concerns to the site superintendent.				
5.6	1	Tool Box Talks				Open
		Description: Conduct the weekly tool box talk.				

Open Discussion						
No	Meeting Origin	Title	Assignment	Due Date	Priority	Status
6.1	1	Material Lay-Down				Open
		Description: Discuss planning for upcoming trades and material storage so as to not interfere with work.				
6.2	1	Equipment Use / Storage				Open
		Description: No one is allowed to use other companies equipment without the express permission of that company.				
6.3	1	Q&A's				Open
		Description: Open discussion time for any / all misc needs.				

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9.4 Hazard Reporting

EMPLOYEE REPORTING AND COMMUNICATION SYSTEM

It is important for employees to notify management of unsafe acts or conditions and to receive a timely and appropriate response to such communication. Such employee insight provides management a greater perspective of possible unsafe acts or conditions while actively involving employees in safety and health issues.

In a credible program, management should give a timely response to address any problems identified and a timely explanation of why particular actions were or were not taken. An example of an "employee reporting and communication" form can be provided to you as part of this safety program. You may tailor it to your particular needs.

EMPLOYEE REPORTING AND COMMUNICATION SYSTEM

Unsafe Act or Condition

Location of Unsafe Act or Condition

Proposed Solution For Unsafe Act or Condition

Date Submitted _____

Signature (if desired) _____

(Action will be taken whether signed or not)

Safety Director/Committee Evaluation

Plan Of Action

Date To Be Completed _____ Date of Completion _____

Signature _____

I. Purpose

The objective of the Personal Protective Equipment (PPE) Program is to protect employees from the risk of injury by creating a barrier against workplace hazards and to standardize the use of PPE on Lyon Contracting Inc. (Lyon) jobsites. Personal protective equipment is not a substitute for good engineering, administrative controls, or good work practices, but should be used in conjunction with these controls to ensure the safety and health of Lyon employees, subcontractors & visitors. Personal protective equipment will be required, used, and maintained when it has been determined that its use is required, and that such use will lessen the likelihood of occupational injury and/or illness.

II. Scope

This program addresses only minimum requirements of eye, face, head, foot, hand and/or dermal protection. Separate programs exist for respiratory and hearing protection, since the need for participation in these programs is established through industrial hygiene monitoring.

III. Hazard Assessment and Equipment Selection

Lyon Contracting, Inc. will, in compliance with Occupational Safety and Health Administration (OSHA) Personal Protective Equipment standards, as found in 29 CFR 1926.28 & 1926 Subpart E, conduct safety inspections of all jobsites to determine the need for PPE and to help in selecting the proper PPE for each task performed.

The use of PPE shall be the last choice in controlling exposure to a known hazard. When potential exposures are encountered, the following control measures must be applied before PPE is considered. Note: This order must be followed.

- Substitute the material (Eliminate the Hazard.)
- Change the process (Reduce the Hazard.)
- Make use of engineering controls. (Reduce the Hazard.)
- Implement administrative/work practice changes (Minimize the risk.)
- Use PPE

Management of **Lyon Contracting, Inc.**, in conjunction with the jobsite supervisors, will evaluate each jobsite to identify sources of hazards, including impact, penetration, compression, chemical, heat, dust, electrical sources, material handling, and light radiation. A survey will be completed for each jobsite listing the findings of the inspection and the specific PPE needed for that location. Each survey will be documented identifying the jobsite, the person conducting the survey, findings of potential hazards, and the date of the survey.

Once the hazards on the jobsite have been identified, management of **Lyon Contracting, Inc.**, in conjunction with the jobsite supervisors, will designate the required PPE on the job site. This will be reviewed often, as the job conditions change, and communicated with Lyon employees and subcontractors onsite to ensure the level of protection is greater than the minimum required to protect the employees from identified hazards.

IV. Responsibilities

Management is responsible for the development, implementation, and administration of the Personal Protective Equipment Program. This includes:

- ◆ Review all work procedures and activities in an effort to minimize exposures to unhealthy or unsafe conditions. A written hazard assessment will be performed to determine if hazards presented necessitate the use of PPE. This document will be signed, dated, and include identification of assessments.
- ◆ Maintain records of hazard assessments, PPE assignments & training.
- ◆ Ensure the proper PPE is available to Lyon Employees.
- ◆ Providing training and technical assistance on the proper use, care, and cleaning of approved PPE.
- ◆ Enforce compliance with the PPE guidelines.
- ◆ Include PPE requirements in orientations.

- ◆ Periodically evaluate the overall effectiveness of the PPE Program & update.

Jobsite supervisors have the primary responsibility for implementation of the PPE Program on their jobsites. This involves:

- ◆ Procure & provide the appropriate PPE to all Lyon employees.
- ◆ Ensure employees are trained on the proper use, care, and cleaning of PPE.
- ◆ Ensure the PPE Program guidelines are followed.
- ◆ Seek assistance from management to evaluate hazards, answer questions or address concerns.
- ◆ Notify management when any work conditions change, resulting in new with different PPE needs.
- ◆ Ensure defective or damaged equipment is immediately replaced.

All employees, as users, are responsible for following the requirements of the PPE Program. This involves:

- ◆ Inspect equipment daily.
- ◆ Abide by all PPE guidelines.
- ◆ Consult the supervisor with any questions or concerns
- ◆ Notify their supervisor when any work conditions change, resulting in new with different PPE needs.
- ◆ Attend required training sessions.
- ◆ Inform the supervisor of the need to repair or replace PPE.

V. Training

Any employee who is required to wear PPE will receive training in the proper use and care of the PPE. Initial training will be from instructional materials provided with the PPE by the manufacturer of the product. Periodic retraining will be offered to employees and supervisors as needed. Training will include, but not necessarily be limited to, the following subjects:

- ◆ When is PPE required.
- ◆ What type of PPE is necessary.
- ◆ How to properly put on / take off (don/doff), adjust, and wear PPE.
- ◆ Limitations of the PPE.
- ◆ The proper care, maintenance, useful life, and disposal of the PPE.

After completion of the training employees will be required to demonstrate they understand the components of the Personal Protective Equipment Program, and how to use PPE properly, or they will be retrained.

VI. Minimum Personal Protective Equipment

All PPE will be of safe design and construction for the work to be performed and will be maintained in a sanitary and reliable condition. Only those items of protective clothing and equipment that meet ANSI (American National Standards Institute) or NIOSH (National Institute of Safety & Health) standards will be procured or accepted for use. Newly purchased PPE must conform to the updated ANSI standards which have been incorporated into the OSHA PPE regulations, as found in 29 CFR 1926.28 & 1926 Subpart E.

Careful consideration will be given to comfort and fit in order to ensure the PPE will be used. Protective devices are generally available in a variety of sizes. Care will be taken to ensure the right size is selected.

10.1 Head Protection

- All employees, subcontractors, visitors or others to a jobsite are required to wear head protection when hazards from falling objects, fixed objects, or electrical shock are present.
- Hard hats will be furnished to all Lyon employees for head protection.
- When there is a risk of injury from hair entanglement, employees must confine their hair.

10.2 Eye Protection

- All employees, subcontractors, visitors or others to a jobsite are required to wear safety glasses, meeting

or exceeding ANSI Z87 + standard, at all times onsite.

- Safety glasses will be furnished to all Lyon employees for their eye protection.
- Lyon will supply visitors to the jobsite safety glasses for the duration of their visit. Upon the return of the safety glasses they will be cleaned & sanitized.
- Persons whose vision requires the use of corrective lenses in spectacles, and who are required to wear eye protection, shall wear goggles or spectacles whose protective lenses provide the approved ANSI Z87 + standard optical protection.
- Tinted lenses may only be worn by those working outdoors.
- Eye protection equipment must meet the appropriate standards, which include, but are not limited to, permanently attached side shields.
- Eye protection equipment must not be altered or modified.
- Potential hazards that require additional eye & face protection
 - Arc Welding – Safety glasses & a welding hood
 - Gas burning & cutting – Burning goggles
 - Acid and caustic handling areas – Chemical splash goggles
 - Grinding areas – Safety glasses & face shield
 - Mason saw – Safety glasses & face shield
 - Possibility of chemical exposure – Chemical goggles & face shield
 - Abrasive blasting – Abrasive blasting hood
 - Protection from glare – Tinted safety glasses or clip on shades over safety glasses.
- Basic first aid procedures for various types of eye injuries.
 - Small particles, specks or dust:
 - Don't rub the eye.
 - Pull upper lid out and down over the lower lid, causing the eye to tear and the particle to wash out.
 - Hold eye open and flush with water at eyewash station.
 - Blow to the eye:
 - Apply an ice compress for 15 minutes in order to reduce pain and swelling.
 - Have a doctor examine the eye as soon as possible to make sure there is no internal injury.
 - Chemical splash:
 - Do not rub or squeeze eye shut!
 - Flush immediately with water at nearest eyewash station or shower for at least 15 minutes.
 - Seek medical attention immediately.
 - Object embedded in eye:
 - Do not try to remove the object!
 - Cover both eyes to help prevent movement of injured eye. If object is large and protruding, cover it with a paper cup of something similar.
 - Seek medical attention immediately.
 - Light burns:
 - Symptoms include redness, swelling, light sensitivity and a gritty feeling in the eyes. Symptoms may not be apparent until 3-12 hours after injury.
 - Keep eyes closed & seek medical attention immediately.

10.3 Body Protection

- All employees, subcontractors, visitors or others to a jobsite are required to wear a high visibility warning vest or other high visibility garment meeting performance class 2 requirements as specified by ANSI/ISEA Standard 107-2004 while exposed to or working adjacent to moving motor vehicles.
- Employees, subcontractors & visitors to the jobsites shall wear clothing maintained in a good working condition that adequately covers the legs, arms, shoulders and stomach.
- Shirts must be tucked into pants, when the work presents a hazard to the general body.

- Individuals performing welding or 'hot work' activities must wear the proper PPE designed for that activity.
- Special PPE must be worn to protect individuals involved in work activities where radiant heat exposures are likely or apparent.

10.4 Hand Protection

- Suitable gloves will be worn when hazards from chemicals, cuts, lacerations, abrasions, punctures, burns, biologicals, or harmful temperature extremes are present. Glove selection will be based on performance characteristics of the gloves, conditions, duration of use, and hazards present.
- Gloves should not be worn around tools and machinery with rotating or moving parts, such as grinders, drills, lathes or milling machines.
- In selecting gloves for use during chemical exposure the first consideration will be the exact nature of substances encountered. Read the instructions and warnings found on chemical containers and/or Material Safety Data Sheets (MSDS) prior to working with any chemical. Recommended glove types are usually listed in the section for personal protective equipment.
- Basic first aid procedures for various types of hand injuries.
 - Bleeding
 - Control bleeding by gently applying direct pressure with a dry, sterile dressing. If it becomes saturated, do not remove it. Add another dressing.
 - Do not remove any impaled objects. Immobilize the object instead.
 - Seek medical attention immediately!
 - Fractures
 - Symptoms: swelling, deformity, pain, and tenderness, loss of use.
 - Avoid moving the injured hand if at all possible. Check for symptoms.
 - Control bleeding, but do not attempt to push protruding bones back beneath the skin.
 - Seek medical attention immediately!
 - Amputations
 - Control bleeding by applying direct pressure. Elevate extremity.
 - Contact emergency medical service immediately!
 - Recover and clean amputated body part by rinsing with water.
 - Wrap amputated body part with sterile gauze or a dry, clean cloth, put in a waterproof container, such as a plastic bag, and place on a bed of ice. Transport to hospital with victim.

10.5 Foot Protection

- Open toe or open heel shoes, sandals, high heels, or thongs are unacceptable footwear on a jobsite.
- Footwear should always be matched to the job and to the hazards associated with it. It is important during the selection and purchase of safety footwear that shoes and boots meet the requirements recommended by ANSI standards. ANSI approved footwear will have the ANSI label inside the shoe or boot. The ANSI standard relevant to protective footwear is ANSI Z41-1991.
 - Safety shoes or boots, with impact protection, are required to be worn in work areas where carrying or handling materials such as packages, objects, parts or heavy loads, which could be dropped; and for other activities where objects might fall onto the feet.
 - Safety shoes or boots, with compression protection, are required for work activities involving skid trucks (manual materials handling cars) or other activities in which materials or equipment could potentially roll over the feet of an employee.
 - Safety shoes or boots, with puncture protection, are required where sharp objects such as nails, wire, tacks, screws, large staples, or scrap metal can be stepped on by employees.

10.6 Cleaning and Maintenance

All PPE will be kept clean and properly maintained. Cleaning is particularly important for eye and face protection, where dirty or fogged lenses could impair vision. PPE should be inspected, cleaned, and maintained at regular

10.0 Personal Protective Equipment | 2022

intervals so the PPE provides the requisite protection. Personal protective equipment should not be shared between employees until it has been properly cleaned and sanitized. PPE will be distributed for individual use whenever possible.

**Lyon Contracting, Inc.
Personal Protective Equipment
Certification of Hazard Assessment Form**

Jobsite: _____ Date: _____

Provide a list of the Specific Tasks being performed at this Jobsite: _____

Analysis Conducted By: _____

Analysis Reviewed By: _____

I. Overhead Hazards

Answer the questions below to help determine if there are any Overhead Hazards:

- ◆ Are there any cranes, lifts, or hoists onsite carrying suspended loads that could fall? Yes / No
- ◆ Are there any trades with people, material or equipment working at an elevated height who could drop an object on others below? Yes / No
- ◆ Are there any beams, planks, shelving, sharp objects, or corners at head level? Yes / No
- ◆ Are there any overhead wires or other structures that could be hit? Yes / No
- ◆ Other Overhead Hazards Identified: _____
- ◆ Have all potential control measures been implemented to eliminate, reduce, or minimize the potential overhead hazards? Yes / No

Based upon the Overhead Hazard Analysis are Hard Hats required to be worn on the jobsite at this time? (if the answer to any of the 1st four questions above was yes or there were other overhead hazards identified then the answer to the questions is automatically yes)

II. Eye and Face Hazards

All employees, subcontractors, visitors or others to a jobsite are required to wear safety glasses, meeting or exceeding ANSI Z87 + standard, at all times onsite.

- ◆ Are there safety glasses available onsite for Lyon Employees & Visitors? Yes / No
- ◆ Are there materials onsite to clean & sanitize the safety glasses? Yes / No

Are there any potential hazards being performed onsite that require additional eye &/or face protection?

- ◆ Arc Welding – Safety glasses & a welding hood
- ◆ Gas burning & cutting – Burning goggles
- ◆ Acid and caustic handling areas – Chemical splash goggles
- ◆ Grinding areas – Safety glasses & face shield
- ◆ Mason saw – Safety glasses & face shield
- ◆ Possibility of chemical exposure – Chemical goggles & face shield
- ◆ Abrasive blasting – Abrasive blasting hood
- ◆ Protection from glare – Tinted safety glasses or clip on shades over safety glasses.

III. Physical Hazards

All employees, subcontractors, visitors or others to a jobsite are required to wear a high visibility warning vest or other high visibility garment meeting performance class 2 requirements as specified by ANSI/ISEA Standard 107-2004 while exposed to or working adjacent to moving motor vehicles.

- ◆ Are there safety vests available onsite for Lyon Employees & Visitors? Yes/No

Are there any potential hazards being performed onsite that require additional PPE?

- ◆ Hot work activities
- ◆ Radiant heat exposure

IV. Hand Hazards

Are there any potential hazards onsite that require Hand Protection?

- ◆ Chemicals
- ◆ Sharp edges, splinters
- ◆ Temperature extremes
- ◆ Biological agents
- ◆ Exposed electrical
- ◆ Sharp tools, machine parts
- ◆ Material handling

Hazards Identified: _____

Recommended Protection: _____

V. Foot Hazards

Are there any potential hazards onsite that require Foot Protection?

- ◆ Heavy materials handled by employees
- ◆ Sharp edges or points (puncture risk)
- ◆ Exposed electrical wires
- ◆ Unusually slippery conditions
- ◆ Wet conditions
- ◆ Construction/demolition

Hazards Identified: _____

Recommended Protection: _____

VI. Other Identified Safety and/or Health Hazards:

Hazards Identified	Recommended Protection
_____	_____
_____	_____
_____	_____
_____	_____

I certify that the above inspection was performed to the best of my knowledge and ability, based on the hazards present on this day.

Lyon Contracting, Inc.

Date



Fact sheet

Contents of a first-aid kit

Workplaces vary widely in their degree of hazards, location, size, amount of staff training and availability of professional medical services. With the exception of the Logging Operations standard, 29 CFR 1910.266, OSHA standards do not require specific first-aid kit contents. This includes the Medical Services and First Aid standards in both general industry and construction, 1910.151 and 1926.50. However, since some employers may find it useful to refer to a list of basic first-aid supplies, federal OSHA provided a reference for this type of information by adding nonmandatory Appendix A to the latter two standards. Appendix A references ANSI Z308.1, *Minimum Requirements for Workplace First Aid Kits and Supplies*. First-aid kits in compliance with this standard will provide a basic range of products to deal with most types of injuries encountered in the workplace and may be adequate for a small worksite. Employers should evaluate their own workplaces to determine whether additional supplies or kits are needed, based on the size and specific hazards of their workplaces. ANSI/ISEA Z308.1-2009 includes the following recommended basic contents of a first-aid kit.

ANSI/ISEA Z308.1-2015 – Minimum Requirements for Workplace First Aid Kits and Supplies <i>Basic kit – minimum contents</i>	
Adhesive bandages, 1 x 3 in. (2.5 x 7.5 cm)	16
Adhesive tape, at least 3/8 in. x 2.5 yd. (2.3 m)	1
Antibiotic application, 1/57 oz. (0.5 g)	10
Antiseptic, 1/57 oz. (0.5 g) ¹	10
Breathing barrier	1
Burn dressing (gel soaked), 4 x 4 in. (10 x 10 cm)	1
Burn treatment, 1.32 oz. (0.9 g) application ²	10
Cold pack, 4 x 5 in. (10 x 12.5 cm)	1
Eye covering with means of attachment, 2.9 sq. in. (19 sq. cm) per eye ³	2
Eye/skin wash, 1 fl. oz. (29.6 ml) total	1
First-aid guide ⁴	1
Hand sanitizer, 1/32 oz. (0.9 g) ⁵	6
Medical examination glove pairs	2
Roller bandage, 2 x 4 yd. (5 x 3.66 cm) ⁶	1
Scissors	1
Sterile pad, 3 x 3 in. (7.5 x 7.5 cm)	2
Trauma pad, 5 x 9 in. (12.7 x 22.9 cm) ⁷	2
Triangular bandage, 40 x 40 x 56 in. (101 x 101 x 142 cm)	1

The following supplemental items may also be considered, depending on the type of workplace, the hazards present and the number of employees:

- analgesic/anti-inflammatory (oral and/or topical) – used for pain management, swelling control;
- antihistamine – used to treat allergic reactions;
- aspirin, low-dose – used to treat a suspected heart attack;
- electrolyte replacement – used to treat heat-stress-related injuries;
- foil blanket – used to treat shock and/or cold-stress-related injuries;
- glucose replacement – used to treat diabetic or hypoglycemic episodes;
- hemostatic agent – used for individuals with compromised clotting, uncontrollable bleeding; and
- hydrocortisone – used to relieve itchiness and skin-related reactions, including rashes.

In addition, federal OSHA recommends employers consider the use of an automated external defibrillator (AED) in the workplace.

Notes

¹Either swabs or towelettes can be used. Spray containers with a minimum of 10 applications of 1/57 fl. oz. can also be used.

²Spray containers with a minimum of 10 applications of 1/32 oz. (0.9 g) can also be used. For use on minor burns only.

³The minimum requirement for eye covering can either be two eye pads or a single covering for both eyes.

⁴A list of topics to be covered in the first-aid guide can be found in ANSI/ISEA Z308.1-2015 Appendix A.

⁵A spray container with a minimum of six applications of 1/32 oz. (0.9 g) meets this requirement.

⁶A conforming bandage that can stretch to at least four yards can be substituted.

⁷Each trauma pad should be at least 45 sq. in., with no side smaller than 5 in.

11.1 Fire Extinguishers

Each Lyon Contracting, Inc. Project Manager will have a fire extinguisher in their truck and each Project Superintendent will have a fire extinguisher in both their truck and job trailers.

Lyon Contracting, Inc. will provide fire extinguishers as follows:

- Fire extinguishers with current tags.
- 1 per every 3,000 ft. and not more than 100 ft. from each other.
- 30 ft. from all exits and access doors.
- In all company vehicles.

11.2 Smoking Controls

Lyon Contracting – Smoking Policy

Smoking on Lyon Contracting jobsites is only allowed in designated areas with a cigarette deposit system. Absolutely NO SMOKING is allowed within 50' of the building! No smoking signage shall be posted in the job trailer & at each entrance into the building.

11.3 Flammable Liquid Storage & LP Gas Storage

FLAMMABLE LIQUID STORAGE & GASES

A flammable liquid is defined as any liquid whose flash point, the temperature at which vapors can ignite when there is a spark, flame or static electricity, is below 100 degrees F. At higher concentrations and higher temperatures the vapors of the liquid can ignite or explode without a spark. Most flammable liquids are volatile, evaporate quickly and reach a concentration in the air that could lead to an explosion. Some highly volatile flammable liquids are gasoline, acetone and alcohol. Containers with these flammable liquids must be marked with a red label indicating the hazard. To work safely with flammable liquids the three potential hazards: temperature, concentration of vapor and ignition sources must be controlled.

Tanks to be stored at least 50 feet from building and must be secured with chains to a substantial structure or post.

Tanks in use are to be secured in order to prevent exposure to ignition sources (i.e. flame, spark, heat).

- ◆ Storage in containers outside buildings shall not exceed 1,100 gallons in any one pile or area. The storage shall be graded to divert possible spills away from building or other exposures, or shall be

surrounded by a curb or dike. Storage areas shall be located at least 50 feet from any building and shall be free from weeds, debris and other combustible materials not necessary to the storage.

- ◆ **No Smoking** signs shall be posted in service and refueling areas.
- ◆ Appropriate fire extinguishers shall be mounted within 50 feet of outside areas containing flammable liquids and within 10 feet of any inside storage area for such materials.
- ◆ All flammable or combustible liquid storage tanks shall be adequately vented to prevent the development of excessive vacuum or pressure as a result of filling, emptying or atmosphere temperature changes.
- ◆ Drums containing Class I flammable liquids shall be grounded and bonded before and during dispensing into containers.
- ◆ Only approved containers and portable tanks shall be used for storage and handling of flammable and combustible liquids.
- ◆ No more than 60 gallons of flammable or combustible liquids shall be stored in any one storage cabinet. No more than three storage cabinets may be located in a single storage area.
- ◆ Inside storage rooms for flammable and combustible liquids shall be of fire resistive construction, have self-closing fire doors at all openings, 4 inch sills or depressed floors, a ventilation system that provides at least six air changes within the room per hour, and electrical wiring and equipment approved for Class I, Division 1 locations.
- ◆ Listed Safety containers shall be used for the dispensing of flammable or combustible liquids.
- ◆ All spills of flammable or combustible liquids shall be cleaned up promptly.
- ◆ All flammable or combustible liquid storage tanks shall be equipped with emergency venting that will relieve excessive internal pressure caused by fire exposure.
- ◆ Flammable liquids shall be stored separately from other chemicals, especially reactives such as oxidizers.
- ◆ All containers containing a flammable or combustible liquid shall be labeled correctly and clearly.

11.4 Temporary Heat Devices

Temporary Heat Devices

Lyon Contracting requires that all temporary heat devices within or adjacent to a wood framed structure have an enclosed flame. Direct Flame Torpedo style heaters are not allowed within or adjacent to any portion of a wood framed structure or a temporary enclosure.

Temporary Heaters shall be inspected daily for compliance with all of the manufactures operating instructions.

11.5 Fire Fighting Access

Fire Fighting Access

Lyon Contracting requires that the Job Superintendents meet with the local Fire Department Officials to review emergency access to the project throughout various stages of the project. Good housekeeping needs to be maintained at all times throughout the jobsite to ensure fire fighters have clear access throughout the buildings in case of a fire or any other emergency situation.

12.0 Fall Protection

Lyon Contracting is committed to the prevention of falls on its worksites. Falls are the leading cause of death and injury on a construction site and therefore we feel that it is important to discuss the exposures that Lyon Contracting employees are exposed to and the controls to be taken. The purpose of this fall protection program is to establish guidelines to protect all employees engaged in outdoor or indoor activities that expose them to potential falls from elevations. The scope includes all employees, particularly those that expose them to falls from height of 6 feet or more.

Fall Protection Definitions

- **Anchorage** means a secure point of attachment for lifelines, lanyards or deceleration devices.
- **Body belt** (safety belt) means a strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline or deceleration device. (Not Allowed!)
- **Body harness** means straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.
- **Buckle** means any device for holding the body harness closed around the employee's body.
- **Competent person** means a person 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
- **Connector** means a device which is used to couple (connect) parts of the personal fall arrest system and positioning device systems together. It may be an independent component of the system, such as a karabiner, or it may be an integral component of part of the system (such as a buckle or D-ring sewn into a body harness, or a snap-hook spliced or sewn to a lanyard or self-retracting lanyard).
- **Controlled Access Zone (CAZ)** means an area in which certain work (e.g., overhand bricklaying) may take place without the use of guardrail systems, personal fall arrest systems or safety net systems and access to the zone is controlled.
- **Dangerous equipment** means equipment (such as pickling or galvanizing tanks, degreasing units, machinery, electrical equipment and other units) which, as a result of form or function, may be hazardous to employees who fall onto or into such equipment.
- **Deceleration device** means any mechanism, such as a rope grab, rip-stitch lanyard, tearing or deforming lanyards, automatic self-retracting lifelines/lanyards, etc..., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.
- **Deceleration distance** means the additional vertical distance a falling employee travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which the deceleration device begins to operate. It is measured as the distance between the location of an employee's body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.

- **Equivalent** means alternative designs, materials or methods to protect against a hazard which the employer can demonstrate will provide an equal or greater degree of safety for employees than the methods, materials or designs specified in the standard.
- **Failure** means load refusal, breakage or separation of component parts. Load refusal is the point where the ultimate strength is exceeded.
- **Free fall** means the act of falling before a personal fall arrest system begins to apply force to arrest the fall.
- **Guardrail system** means a barrier erected to prevent employees from falling to lower levels.
- **Hole** means a gap or void two (2) inches (5.1cm) or more in its least dimension, in a floor, roof or other walking/working surface.
- **Infeasible** means that it is impossible to perform the construction work using a conventional fall protection system (i.e., guardrail system, safety net system or personal fall arrest system) or that it is technologically impossible to use any one of these systems to provide fall protection.
- **Lanyard** means a flexible line of rope, wire rope or strap which generally has a connector at each end for connecting the body harness to a deceleration device, lifeline or anchorage.
- **Leading edge** means the edge of a floor, roof, formwork for a floor or other walking/working surface (such as the deck) which changes location as additional floor, roof, decking or formwork sections are placed, formed or constructed. A leading edge is considered to be an "unprotected side or edge" during periods when it is not actively and continuously under construction.
- **Lifeline** means a component consisting of a flexible line for connection to an anchorage at one end to hang vertically (vertical lifeline), or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.
- **Low-slope roof** means a roof having a slope less than or equal to 3 in 12 (vertical to horizontal).
- **Lower levels** mean those areas or surfaces to which an employee can fall. Such areas or surfaces include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavations, pits, tanks, material, water, equipment, structures, or portions thereof.
- **Mechanical equipment** means all motor or human propelled wheeled equipment used for roofing work, except wheelbarrows and mop carts.
- **Opening** means a gap or voids 30 inches (76 cm) or more high and 18 inches (48 cm) or more wide, in a wall or partition, through which employees can fall to a lower level.
- **Overhand bricklaying and related work** means the process of laying bricks and masonry units such that the surface of the wall to be jointed is on the opposite side of the wall from the mason, requiring the mason to lean over the wall to complete the work. Related work includes mason tending and electrical installation incorporated into the brick wall during the overhand bricklaying process.
- **Personal fall arrest system** means a system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body harness and may include a lanyard, deceleration device, lifeline or suitable combinations of these. As of 1/1/98, the use of body belts for fall arrest is prohibited.

- **Positioning device system** means a body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning.
- **Qualified person** means a person 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.
- **Rope grab** means a deceleration device which travels on a lifeline and automatically, by friction, engages the lifeline and locks so as to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/level locking, or both.
- **Roof** means the exterior surface on top of a building. This does not include floors or formwork which, because a building has not been completed, temporarily becomes the top surface of a building.
- **Roofing work** means the hoisting, storage, application and removal of roofing materials and equipment, including related insulation, sheet metal and vapor barrier work, but not including the construction of the roof deck.
- **Safety-monitoring system** means a safety system in which a competent person is responsible for recognizing and warning employees of fall hazards.
- **Self-retracting lifeline/lanyard** means a deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which, after onset of fall, automatically locks the drum and arrests the fall.
- **Snap hook** means a connector comprised of a hook-shaped member with a normally closed keeper, or similar arrangement, which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object.
- **Steep roof** means a roof having a slope greater than 3 in 12 (vertical to horizontal).
- **Toeboard** means a low protective barrier that will prevent the fall of materials and equipment to lower levels and provide protection from falls for personnel.
- **Unprotected sides and edges** mean any side or edge (except at entrances to points of access) of a walking/working surface, e.g., floor, roof, ramp or runway where there is no wall or guardrail system at least 39 inches (1.0 m) high.
- **Walking/working surface** means any surface, whether horizontal or vertical, on which an employee walks or works, including, but not limited to, floors, roofs, ramps, bridges, runways, formwork and concrete reinforcing steel, but not including ladders, vehicles or trailers, on which employees must be located in order to perform their job duties.
- **Warning line system** means a barrier erected on a roof to warn employees that they are approaching an unprotected roof side or edge, and which designates an area in which roofing work may take place without the use of guardrail, body belt or safety net system to protect employees in the area.
- **Work area** means that portion of a walking/working surface where job duties are being performed.

The Elimination of falls is the first and best line of defense against falls from heights. This requires careful assessment of the workplace and the work itself. The concept of elimination is to design fall protection into the work process itself and not add fall protection as an afterthought to an inherently unsafe work procedure. You must ask yourself “is there a way to do this job without having to expose myself or my workers to falling?”

The Prevention of falls is the second line of defense when fall hazards cannot be completely eliminated. This requires the assessment of the workplace and the work process. Prevention of falls requires employees to install equipment upon recognizing a fall hazard at the jobsite.

Controlling falls is the last line of defense. It should be considered only after determining that the fall hazard cannot be eliminated or the possibility of falling prevented. This is where fall protection equipment comes into play and the use of safety nets, lanyards, body harnesses, retractable lifelines, anchorage connectors, etc. are utilized. Controlling fall protection also necessitates workplace and work process assessment and planning in order to select the proper equipment, installing, and using the gear correctly.

OSHA 1926.501 -Duty to have Fall Protection

This section sets forth the minimum requirements for employers to provide fall protection system.

- a. The employer shall determine if the walking/working surfaces on which its employees are to work have the strength and structural integrity to support employees safely. Employees shall be allowed to work on those surfaces only when the surfaces have the requisite strength and structural integrity.
- b. Unprotected sides and edges
 - Each employee on a walking/working surface (horizontal and vertical) with an unprotected edge or side which is six (6) feet (1.8m) or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems or personal fall arrest systems.
- c. Leading edges
 - Each employee who is constructing a leading edge six (6) feet (1.8m) or more above lower levels shall be protected from falling by guardrail systems, safety net systems or personal fall arrest systems. Exception: When the employer can demonstrate that it is infeasible or creates a greater hazard to use these systems, the employer shall develop and implement a fall protection plan which meets the requirements of paragraph (k) of OSHA 1926.502.
 - Each employee on a walking/working surface 6 feet (1.8 m) or more above a lower level where leading edges are under construction, but who is not engaged in the leading edge work, shall be protected from falling by a guardrail system, safety net system, or personal fall arrest system. If a guardrail system is chosen to provide the fall protection, and a controlled access zone has already been established for leading edge work, the control line may be used in lieu of a guardrail along the edge that parallels the leading edge.
- d. Hoist areas
 - Each employee in a hoist area shall be protected from falling six (6) feet (1.8m) or more to lower levels by guardrail, safety net or personal fall arrest systems. If guardrail systems are removed to facilitate the hoisting operation, and an employee must lean through the access opening, that employee shall be protected from fall hazards by a personal fall arrest system.

- e. Holes
- Each employee on walking/working surfaces shall be protected from falling through holes more than six (6) feet (1.8m) above lower levels by personal fall arrest systems, covers or guardrail systems erected around such holes.
 - Each employee on a walking/working surface shall be protected from tripping in or stepping into or through holes by covers.
 - Each employee on a walking/working surface shall also be protected from objects falling through holes by covers.
- f. Formwork and reinforcing steel
- Each employee on the face of formwork or reinforcing steel shall be protected from falling six (6) feet (1.8m) or more to lower levels by personal fall arrest systems, safety net systems or positioning device systems.
- g. Ramps, runways and other walkways
- Each employee on ramps, runways and other walkways shall be protected from falling six (6) feet (1.8m) or more to lower levels by guardrail systems.
- h. Excavations
- Each employee at the edge of an excavation six (6) feet or more in depth shall be protected by guardrail systems, fences or barricades when the excavations are not readily seen because of plant growth or other visual barrier.
 - Similarly, each employee at the edge of a well, pit, shaft or similar excavation six (6) feet or more in depth shall be protected from falling by guardrail systems, fences, barricades or covers.
- i. Dangerous equipment
- each employee less than six (6) feet above dangerous equipment shall be protected by guardrail systems or by equipment guards.
 - Each employee six (6) feet or more above this equipment shall be protected from fall hazards by guardrail, personal fall arrest or safety net systems.
- j. Overhand bricklaying and related work
- Each employee performing bricklaying and related 6 feet or more above lower levels shall be protected from falling by guardrail, safety net or personal fall arrest system, or shall work in a CAZ.
 - Each employee reaching more than 10 inches below the level of the walking/working surface on which they are working, shall be protected from falling by a guardrail system, safety net system, or personal fall arrest system.
 - Note: Bricklaying operations performed on scaffolds are regulated by 1926 Subpart L
- k. Roofing work on low slope roofs
- Each employee engaged in roofing activities on low- slope roofs with unprotected sides and edges 6 feet or more above lower levels shall be protected from falling by guardrail systems, safety net systems, personal fall arrest systems or a warning line system incorporated with one of the above systems. On roofs 50-feet or less in width, the use of safety monitoring alone (i.e., without the warning line system) is permitted.

- i. Steep roofs
 - Each employee on a steep roof with unprotected sides and edges 6 feet or more above lower levels shall be protected from falling by guardrail systems with toeboards, safety net systems or personal fall arrest systems.
- m. Precast Concrete Erection
 - Each employee engaged in the erection of precast concrete members (including, but not limited to the erection of wall panels, columns, beams, and floor and roof "tees") and related operations such as grouting of precast concrete members, who is 6 feet (1.8 m) or more above lower levels shall be protected from falling by guardrail systems, safety net systems, or personal fall arrest systems, unless another provision in 1926.501(b) provides for an alternative fall protection measure. Exception: When the employer can demonstrate that it is infeasible or creates a greater hazard to use these systems, the employer shall develop and implement a fall protection plan which meets the requirements of paragraph (k) of 1926.502. Note: There is a presumption that it is feasible and will not create a greater hazard to implement at least one of the above-listed fall protection systems. Accordingly, the employer has the burden of establishing that it is appropriate to implement a fall protection plan which complies with 1926.502(k) for a particular workplace situation, in lieu of implementing any of those systems.
- n. Residential Construction
 - Each employee engaged in residential construction activities 6 feet (1.8 m) or more above lower levels shall be protected by guardrail systems, safety net system, or personal fall arrest system unless another provision in 1926.501(b) provides for an alternative fall protection measure. Exception: When the employer can demonstrate that it is infeasible or creates a greater hazard to use these systems, the employer shall develop and implement a fall protection plan which meets the requirements of paragraph (k) of 1926.502. Note: There is a presumption that it is feasible and will not create a greater hazard to implement at least one of the above-listed fall protection systems. Accordingly, the employer has the burden of establishing that it is appropriate to implement a fall protection plan which complies with 1926.502(k) for a particular workplace situation, in lieu of implementing any of those systems.
- o. Wall openings
 - Each employee working on, at, above or near wall openings where the outside bottom edge of the wall opening is 6 feet or more above lower levels and the inside bottom edge of the wall opening is less than 39 inches above the walking/working surface, shall be protected from falling by the use of a guardrail, safety net or personal fall system.
- p. Walking / working surfaces not otherwise addressed
 - Except as provided in 1926.500(a)(2) or in 1926.501 (b)(1) through (b)(14), each employee on a walking/working surface 6 feet (1.8 m) or more above lower levels shall be protected from falling by a guardrail system, safety net system, or personal fall arrest system.
- q. Protection from falling objects
 - When an employee is exposed to falling objects, the employer shall have each employee wear a hard hat and shall implement one of the following measures:

- Erect toeboards, screens or guardrail systems to prevent objects from falling from higher levels.
- Erect a canopy structure and keep potential falling objects far enough from the edge of the higher level so that those would not go over the edge if they were accidentally displaced.
- Barricade the area to which objects could fall, prohibit employees from entering the barricaded area and keep objects that may fall far enough away from the edge of a higher level so that those objects would not go over the edge if they were accidentally displaced.

12.1 Guardrail Systems

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

Guardrail system requirements:

1. Top edge height of top rails, or equivalent guardrail system members, shall be 42 inches plus or minus 3 inches above the walking/working level. When conditions warrant, the height of the top edge may exceed the 45-inch height, provided the guardrail system meets all other criteria.
2. Midrails, screens, mesh, intermediate vertical members or equivalent intermediate structural members shall be installed between the top edge of the guardrail system and the walking/working surface when there is no wall or parapet wall at least 21 inches high.
3. Guardrail systems shall be capable of withstanding, without failure, a force of at least 200 pounds applied within 2 inches of the top edge, in any outward or downward direction, at any point along the top edge.
4. Midrails or equivalent intermediate structural members shall be capable of withstanding, without failure, a force of at least 150 pounds applied in any downward or outward direction at any point along the midrail or other member.
5. Guardrail systems shall be so surfaced as to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.
6. The ends of top rails and midrails shall not overhang the terminal posts, except where such overhang does not constitute a projection hazard.
7. Steel banding and plastic banding shall not be used as top rails or midrails.
8. Top rails and midrails shall be at least one-quarter inch (1/4") nominal diameter or thickness to prevent cuts and lacerations. If wire rope is used as top rails, it shall be flagged at not more than 6-foot intervals with high-visibility material.
9. When guardrail systems are used at hoisting areas, a chain, gate or removable guardrail section shall be placed across the access opening between guardrail sections when hoisting operations are not taking place.
10. When guardrail systems are used at holes, they shall be erected on all unprotected sides or edges of the hole.
11. When guardrail systems are used around holes used for the passage of materials, the hole shall have not more than two sides provided with removable guardrail sections to allow the passage of materials. When the hole is not in use, it shall be closed over with a cover, or a guardrail system shall be provided along all unprotected sides or angles.

12. When guardrail systems are used around holes which are used as points of access (such as ladder ways), they shall be provided with a gate, or be so offset that a person cannot walk directly into the hole.
13. Guardrail systems used on ramps and runways shall be erected along each unprotected side or edge.
14. Rope used for top rails or midrails shall be inspected as frequently as necessary to ensure that it continues to meet the above said strength requirements.

12.2 Safety Net Systems

Safety Net System requirements:

1. Safety nets shall be installed as close as practicable under the walking/working surface on which employees are working, but in no case more than 30 feet below such level.
2. Safety nets shall extend outward from the outermost projection of the work surface from 8 to 13 feet, depending on the vertical distance from the working level to the horizontal plane of the net.
3. Safety nets shall be installed with the sufficient clearance under them to prevent contact with the surface or structures below when subjected to an impact force equal to the drop test (see next).
4. Jobsite drop tests shall be done after initial installation, before being used as a fall protection system, whenever relocated, after a major repair or at 6-month intervals if left on the same job. A 400-pound bag of sand is used for the test and is dropped from the highest walking/working surface employees are exposed to fall hazards.
5. Defective nets shall not be used and shall be inspected regularly.
6. Remove all materials, scraps, equipment and tools which have inadvertently fallen into the safety net.
7. The maximum size of each safety net mesh opening shall not exceed 36 square inches nor be longer than 6 inches on any side, and the opening, measured center to center of mesh ropes or webbing, shall be no longer than 6 inches.
8. Each safety net shall have a border rope for webbing with a minimum breaking strength of 5,000 pounds.

12.3 Personal Fall Arrest Systems

Personal Fall Arrest System Requirements:

1. Connectors shall be drop forged, pressed or formed steel, or made of equivalent materials.
2. Connectors shall have a corrosion-resistant finish, and all surfaces and edges shall be smooth to prevent damage to interfacing parts of the system.
3. O-rings and snaphooks shall have a minimum tensile strength of 5,000 pounds.
4. O-rings and snaphooks shall be proof-tested to a minimum tensile load of 3,600 pounds without cracking, breaking or deforming.
5. Snaphooks shall be sized to be compatible with the members to which they are connected to prevent unintentional disengagement of the snaphook by depression of the snaphook keeper by the connected member or shall be a locking type snaphook designed and used to prevent disengagement. Only locking type snaphooks shall be used as of 1/1/98.

6. On suspended scaffolds or similar work platforms with horizontal lifelines which may become vertical lifelines, the devices used to connect to a horizontal lifeline shall be capable of locking in both directions on the lifeline.
7. Horizontal lifelines shall be designed, installed, and used, under the supervision of a qualified person, as part of a complete personal fall system, which maintains a safety factor of at least two.
8. Lanyards and vertical lifelines shall have a minimum breaking strength of 5,000 pounds.
9. Lifelines shall be protected against being cut or abraded.
10. Self-retracting lifelines and lanyards which limit free fall distance to 2 feet or less shall be capable of sustaining a minimum tensile load of 3,000 pounds applied to the device with the lifeline or lanyard in the fully extended position. Those that do not limit the free fall distance to 2 feet or less shall be capable of sustaining a minimum tensile load of 5,000 pounds. Anchorages used for attachment of personal fall arrest equipment shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds per employee attached.
11. Personal fall arrest systems, when stopping a fall, shall:
 - Limit maximum arresting force on an employee to 900 pounds when used with a body belt.
 - Limit maximum arresting force on an employee to 1,800 pounds when used with a body harness.
 - Be rigged such that an employee can neither free fall more than 6 feet, nor contact any lower level.
 - Bring an employee to a complete stop and limit maximum deceleration distance to 3.5 feet. The attachment point of the body belt shall be located in the center of the wearer 's back.
12. The attachment point of the body harness shall be located in the center of the wearer 's back near shoulder level, or above the wearer's head.
13. Body harnesses and components shall only be used for employee protection as part of the personal fall arrest system.
14. Personal fall arrest systems and components subjected to impact loading shall be immediately removed from service and not used again until approved by a competent person.
15. The employer shall provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves.
16. Personal fall arrest systems shall be inspected before each use. Body belts shall be at least one and five-eighths (1-5/8) inches wide. Personal fall arrest systems shall not be attached to guardrail systems.
17. When a personal fall arrest system is used at hoist areas, it shall be rigged to allow the movement of the employee only as far as the edge of the walking/working surface.

12.4 Positioning Device Systems

Positioning Device Systems Requirements

1. Positioning devices shall be rigged such that an employee cannot free fall more than 2 feet.
2. Positioning devices shall be secured to an anchorage capable of supporting at least twice the potential impact load of an employee's fall or 3,000 pounds.

3. Connectors shall be drop forged, pressed or formed steel or made of equivalent materials.
4. Connectors shall have a corrosion-resistant finish, and all surfaces and edges shall be smooth to prevent damage to interfacing parts of the system. Connecting assemblies shall have a minimum tensile strength of 5,000 pounds.
5. D-rings and snaphooks shall be proof-tested to a minimum tensile load of 3,600 pounds without cracking, breaking or deforming.
6. As of 1/ 1/98, only locking type snaphooks shall be used.
7. Positioning devices shall be inspected before each use.
8. Body belts, harnesses and components shall only be used for employee protection as part of the personal fall arrest system.

12.5 Warning Line Systems

Warning Line System Requirements

1. The warning line shall be erected around all sides of the roof work area.
 - When mechanical equipment is not being used, the warning line shall be erected not less than 6 feet from the roof edge.
 - When mechanical equipment is being used, the warning line shall be erected not less than 6 feet from the roof edge which is parallel to the direction of mechanical equipment operation, and not less than 10 feet from the roof edge which is perpendicular to the direction of mechanical equipment operation.
 - Points of access, material handling areas, storage areas and hoisting areas shall be connected to the work area by an access path formed by two warning lines.
 - When the path to a point of access is not in use, a rope, wire, chain or other barricade equivalent in strength and height to the warning line, shall be placed across the path at the point where the path intersects the warning line erected around the work area, or the path shall be offset such that a person cannot walk directly into the work area.
2. Warning lines shall consist of ropes, wires or chains, and supporting stanchions erected as follows:
 1. The rope, wire or chain shall be flagged at not more than 6-foot intervals with high-visibility material.
 2. The rope, wire or chain shall be rigged and supported in such a way that its lowest point (including sag) is no less than 34 inches from the walking/working surface and 39 inches at its highest point.
 3. The rope, wire and chain shall have a minimum tensile strength of 500 pounds.
3. No employee shall be allowed in the area between a roof edge and a warning line unless the employee is performing roofing work in the area.
4. Mechanical equipment on roofs shall be used or stored only in areas where employees are protected by a warning line system, guardrail system or personal fall arrest system.

12.6 Controlled Access Zones

Controlled Access Zones Requirements

1. When used to control access to areas where leading edge and other operations are taking place the CAZ shall be defined by a control line or by any other means that restricts access. They shall be erected not less than 6 feet from the unprotected or leading edge and shall extend the entire length of the edge. The control line shall be connected on each side to a guardrail system or wall.
2. Control lines shall consist of ropes, wires, tapes or equivalent materials, and supporting stanchions. Each line shall be flagged or otherwise clearly marked at not more than 6-foot intervals with high-visibility material, with a minimum breaking strength of 200 pounds.
3. On floors and roofs where guardrail systems are in place but need to be removed to allow overhand bricklaying work or leading-edge work to take place, only that portion of the guardrail necessary to accomplish that day's work shall be removed.

12.7 Safety Monitoring Systems

Safety monitoring system requirements

1. The employer shall designate a competent person to monitor the safety of other employees.
 - The safety monitor shall be competent to recognize fall hazards.
 - The safety monitor shall warn employees when it appears they are unaware of a fall hazard or acting unsafely.
 - The safety monitor shall be on the same working level and within sight of the employee being monitored.
 - The safety monitor shall be close enough to communicate orally with the employee.
 - The safety monitor shall not have other responsibilities which could take away attention from the employee.
2. Mechanical equipment shall not be used or stored in areas where safety monitoring systems are being used to monitor employees engaged in roofing operations on low-slope roofs.
3. No employee, other than an employee engaged in roofing work (on low-sloped roofs) or an employee covered by a fall protection plan, shall be allowed in an area where an employee is being protected by a safety monitoring system.
4. Each employee working in a controlled access zone shall be directed to comply promptly with fall hazard warnings from safety monitors.

12.8 Covers

Covers for holes in floors, roofs and other walking/working surfaces shall meet the following requirements:

1. Covers located in roadways and vehicular aisles shall be capable of supporting, without failure, at least twice the maximum axle load of the largest vehicle expected to cross over the cover.

2. All other covers shall be capable of supporting, without failure, at least twice the weight of employees, equipment and materials that may be imposed on the cover at any one time.
3. All covers shall be secured when installed so as to prevent accidental displacement by the wind, equipment or employees.
4. All covers shall be color coded or they shall be marked with the word "HOLE" or "COVER" to provide warning of the hazard.

12.9 Protection from Falling Objects

Falling Object Protection Requirements

1. Toeboards, when used as falling object protection, shall be erected along the edge of the overhead walking/working surface for a distance sufficient to protect employees below.
2. Toeboards shall be capable of withstanding, without failure, a force of at least 50 pounds applied in any downward or outward direction at any point along the toeboard.
3. Toeboards shall be a minimum of 3-1/2 inches in vertical height from the top edge to the level of the walking/working surface. They shall have not more than one-quarter (1/4) inch clearance above the walking/working surface and shall be solid or have openings not over 1 inch in greatest dimension.
4. Guardrail systems, when used as falling object protection, shall have all openings small enough to prevent passage of potential falling objects.
5. During the performance of roofing work, materials and equipment shall not be stored within 6 feet of a roof edge unless guardrails are erected at the edge. Also, materials which are piled, grouped or stacked near a roof edge shall be stable and self-supporting.

12.10 Fall Protection Plans

Fall Protection Plan Requirements

This option is only available to employees engaged in leading edge work and who can demonstrate that it is infeasible, or it creates a greater hazard to use conventional fall protection equipment. The fall protection plan must meet the requirements of [paragraph \(k\) of OSHA 1926.502](#) and conform to the following provisions:

1. The fall protection plan must be prepared by a qualified person (Safety Director) and developed specifically for the site where the leading-edge work is being performed. The plan must also be kept up to date.
 - Specific Fall Protection Plan is required from:
 - Precast Erector
 - Steel Erector
 - Framers
 - Roofers

NOTE: Call Safety Director for template.

2. Any changes to the fall protection plan must be approved by the qualified person (Safety Director).

3. A copy of the fall protection plan with all approved changes shall be maintained at the jobsite.
4. The implementation of the fall protection plan shall be under the supervision of a competent person.
5. The fall protection plan shall document the reasons why the conventional systems would be infeasible. Reference MNOSHA Instruction STD3-11.4 dated August 14, 2013
6. The fall protection plan shall include a written discussion of other measures that will be taken to reduce or eliminate the fall hazard for workers who cannot be provided with protection from conventional fall protection methods.
7. The fall protection plan shall identify each location where conventional methods cannot be used. These locations shall then be classified as CAZ's.
8. The fall protection plan must include a statement which provides the name or other method of identification for each employee who is designated to work in CAZ's. No other employees may enter CAZ's.
9. The Safety Director will investigate all incidents, serious or good catch, to determine if the fall protection plan needs changes.

12.11 Ladders

Ladders are uncomplicated devices; unfortunately, they cause more than their share of accidents. Accidents typically happen when the wrong ladder is selected for a job; an employee fails to inspect it before use, or is careless during its use. The basics of ladder safety are a combination of knowledge and commonsense.

Portable ladders will be used for access where there is a change in elevation of 19 inches or more, except where permanent stairways, temporary stairways, suitable ramps, or runways are provided. In addition, the guidelines for the safe use of ladders listed below should be followed.

General Safe Ladder Use Requirements

1. Ladders shall not be used for a work platform
2. Ladders shall only be used for the purpose for which they were designed. Never use a ladder in a horizontal position or as scaffolding. Do not place ladders on top of boxes, barrels, crates, etc.
3. Secure all straight ladders at the top. When practical, also secure the bottom of the ladder.
4. Ladder rungs, cleats and steps shall be parallel, level, and uniformly spaced when the ladder is in position for use.
5. Single portable ladders must not exceed 30 feet in length.
6. Ladders shall not be loaded beyond the maximum intended load for which they were built, nor beyond the manufacturer's rated capacity.
7. Ladders used for access to a floor platform must extend at least 3 feet above the landing. They must be secured at the top and be connected to the guardrail system or have a spring loaded gate. Note: Any method is acceptable, if personnel are prevented from walking directly into the opening.

8. Ladders should be inspected daily before use. Defective ladders must not be used. Destroy, discard, or replace them.
9. Set the base of the ladder back 1 foot for every 4 feet of ladder length. For example a 12' ladder should be set back 3' at the base.
10. Face the ladder when ascending or descending. Note: Follow the "Three Point of Contact" rule: At least one hand should hold on the ladder at all times.
11. Always move the ladder to avoid reaching. All work shall be done without having the middle of your body cross over the side rails of the ladder.
12. Do not stand on the top two steps of a step ladder.
13. Portable straight ladders used on smooth surfaces must be equipped with non-slipping feet or be otherwise prevented from slipping.
14. Use a job-made double gang ladder for two-way traffic or when a ladder provides the only access for more than 25 employees.
15. Do not position ladders in planform boxes that are mounted on mobile equipment to reach work areas.
16. When moving an extension ladder more than 10 feet, first reduce the ladder height then raise it again at the next work area. This will help prevent back strain.
17. Do not carry any object up a ladder that would prevent you from always grasping the ladder with at least one hand.
18. The cross bracing or back of the ladder must not be used for climbing unless specifically designed for that use.
19. The ladder must be made of non-conductive materials when used near electrical equipment.
20. The ladder must not be moved while occupied, or when it would leave a person stranded on a higher level.
21. Only one person shall be on a ladder at one time, unless the ladder is designed for multiple personnel.
22. The area around the top and bottom of the ladder must be kept clean.
23. All feet of the ladder will be in use unless the ladder is designed differently. (e.g., If the ladder has four feet, then all four feet need to be on the ground when the ladder is used.) Step ladders must not be used as extension ladders.

Ladder Classifications (Note the duty rating is the combined weight of the worker, tools, materials, and any other weight transmitted onto the ladder)

- Type 1AA means it can hold 375 lbs. (Special duty)
- Type 1A holds 300 lbs. (Extra heavy duty)
- Type I holds 250 lbs. (heavy duty)
- Type II holds 225 lbs. (medium duty)
- Type III holds just 200 lbs. (light duty)

Do not overextend a ladder. A minimum overlap of section is required as follows:

- Ladder size up to and including 32 feet – 3 foot overlap

- Ladder over 32 feet up to and including 36 feet – 4 foot overlap
- Ladder over 36 feet up to and including 48 feet – 5 foot overlap
- Ladders over 48 feet – 6 foot overlap

13.1 Temporary Site Fence

- 1) A temporary site fence shall be installed and maintained for the duration of the project at each Lyon Contracting Inc. job site as soon as conditions will allow.
- 2) Site fence shall serve to keep construction activities secure and confined within the site as well as to keep pedestrians and traffic out of the site.
- 3) Fence shall be chain link style and a minimum of 6' high and be located just outside the construction limits of the project.
- 4) Site Supervisors shall coordinate installation timing, location, and type of posts with the fence installation contractor so as not to impede installations of utility work.
- 5) Project Superintendents shall verify with local jurisdiction permissible locations and or any restrictions for placing a fence in a public right of way. Note that municipalities and county roadways may have specific limits as to how close a temporary fence can be placed adjacent to a sidewalk or roadway.
- 6) If the construction work is such that the fence must be placed in a location that it impedes pedestrian traffic, obtain specific direction from local authorities prior to installations. Follow their direction with regard to sidewalk or roadway closure as they apply. See notes on site signage with regard to sidewalk and road closures.
- 7) Fence shall have at least one (1) 24' wide lockable access gate. Gates shall be locked during non-working hours. Keys shall be made available to responsible subcontractors to allow access for working during non-standard hours or weekends.

13.2 Barricades:

- 1) Barricades shall be placed to provide temporary separation from specific work or hazards and pedestrian traffic. Pedestrian traffic also applies to on-site workers.
- 2) Barricades shall be a minimum of 36" tall and have high visibility paint or markings.
- 3) Barricades shall be securely placed so as to withstand normal weather conditions.
- 4) Project Superintendents shall work with subcontractors to ensure barricades are being used when indicated.
 - a. Roadway or drive lane excavations(on or off site)
 - b. Sidewalk work.
 - c. Any situation where pedestrians or workers need to be blocked from entering specific work areas for safety reasons.
 - d. Around mobile cranes and or related equipment

13.3 Site Signage:

- 1) A site sign (typical 4' x 8' shall be placed on each Lyon Contracting Project at or near the main entrance containing the following information:
 - a. Name of the Project
 - b. Company Name (Lyon Contracting Inc.)
 - c. Company contact information(phone number)

- 2) Additional signage to be placed at the main entrance to the site shall indicate:
 - a. Construction site , Authorized Personnel Only
 - b. Unauthorized persons must check in at the job office
- 3) “No Trespassing” signs shall be placed on the perimeter of the site fence approximately at 75’ intervals. Additional “No Trespassing signs shall also be placed at each building entrance once the entrances have been defined. NOTE: These signs act as a deterrent and warning that unauthorized persons are not allowed on the site or in the building.
- 4) “Overhead Work” signs shall be placed at all exits to warn workers leaving the building where overhead work is being conducted.
- 5) Other signage to be placed:
 - a. No Smoking or smoking in designated areas only
 - b. Fueling station “No Smoking”
 - c. “Do Not Open” signs shall be placed on patio or other exterior doors on upper floors when there is no deck and or railing installed.
 - d. “Concrete Wash out” signs
 - e. Site MPCA Sign

13.4 Flaggers:

Site Supervisor shall be responsible to work with subcontractors and suppliers to ensure deliveries can be made safely without endangering pedestrian or vehicle traffic. If conditions are such that traffic or pedestrian traffic must be interrupted or will result in a hazardous condition then “flaggers shall be used. Dangerous conditions would apply to :

- a) Making turns off a busy or higher speed limit roads
- b) Blind intersections
- c) Offloading on the adjacent roadway.
- d) Working in the right-of way.

Subcontractors shall be responsible for providing their own flaggers.

Flaggers and related signage shall comply with the requirements of all authorities having jurisdiction. Site Superintendents shall confirm requirements prior to the point conditions are such they should be employed.

MATERIAL HANDLING & STORAGE

14.1 General Material Handling Guidelines

Material accounts for a large portion of the most common injuries on the construction site. Proper handling of materials can prevent strains & other injuries. The following general guidelines are to be used by all employees to ensure safe working practices when handling materials.

- If you are not trained on how to properly operate a piece of material handling equipment, do not use it & find someone with the proper training.
- Always read labels on packages or containers for special handling instructions and precautions.
- Think through the entire route a load must travel onsite. Can the distance be shortened? Is there a clear path of travel?
- Use lifting aids (handles, straps, etc.) whenever possible that are adequate to support the required load.
- Mechanically move materials as much as possible. Use carts, hand trucks, lulls, etc. that are adequate for the load & operation.
- Keep hands free of oils & grease.
- Keep fingers and hands away from pinch points.

14.2 Safe Lifting Techniques

Safe lifting techniques should be followed when manual lifting is necessary. The approved method is described below:

1. Know the weight of any object to be lifted. If the weight is excessive, get help or use a lifting aid.
2. Place your feet as close to the object as possible. Squat by bending the knees while keeping the back straight, chin in, looking forward.
3. Get a good grip on the load using the palms of the hand, not just the fingers, for maximum grip.
4. Lift with the legs, keeping the back straight, and the load as close to the body as possible.
5. DO NOT twist the back or bend sideways.
6. DO NOT lift or lower the load awkwardly.
7. DO NOT jerk the load up or continue lifting when the load is too heavy.
8. DO NOT lift with the arms extended in front of you.
9. Plan for changes in speed or direction during the lift. Avoid quick or sudden motions.
10. Minimize the frequency of lifts during the workday. Avoid overexertion and give your body a chance to recover.

14.3 Docks & Loading Areas

- Keep areas clear, picked up, neat, and orderly to eliminate hazards
- Shall be constructed and maintained with sufficient strength to support the required loads.
- Fall protection measures shall be in place for any area six feet or higher above the lower level.
- All loading areas are to be signed as necessary.
 - o Overhead work signs shall be located on the ground on each side of any overhead loading area.
 - o Signage documenting the necessary fall protection measures for any area six feet above the lower level.

14.4 Temporary and Permanent Material Storage

Temporary and permanent storage of materials should be secure, neat, and orderly to eliminate hazards and conserve space. Follow the general guidelines listed below:

- Materials should always be stored in accordance with their MSDS Handling and Storage requirements.
- Materials should be piled on a sound base, straight and steady, and at a reasonable height.
- Materials should be stored safely to prevent them from falling.
- If shelves or storage racks are used:
 - o Check them for defects. If a defect exists, do not use.
 - o Verify the shelving or rack is of the proper strength to support the load.
 - o Store heavy and bulky objects close to the floor and lighter, smaller object higher.
 - o Position objects securely on shelves or racks so they won't shift and fall off.

14.5 Material Handling Equipment

Material handling equipment is an essential component to ensure safe working practices when handling materials.

- Prior to the use of any material handling equipment employees using the equipment are required to be trained in the proper operation of the equipment.
- Hand operated and motorized material handling equipment shall be maintained in a safe operating condition in accordance with the manufactures operating instructions.
- Material handling equipment includes but is not limited to the following:
 1. Pallet Jack
 2. Carts
 3. All Terrain Forklift (Lull) – See AWAIR Section 31
 4. Cranes – See AWAIR Section 19
 5. Earthwork Equipment

14.6 Refuse Baskets & Dumpsters

Roll-Off Dumpsters:

- Position Dumpsters in an area as to enable ease of use without compromising jobsite safety.
- Wear gloves when placing waste into dumpsters.
- Wear eye protection when placing waste into dumpsters.
- Be cognizant of wind that can pick up dust & particles.

PREVENTING STRAINS & INJURY:

- Never over-fill trash bags or waste containers.
- Team lift heavy objects or waste containers.
- Avoid lifting bags or containers overhead.
- Open the dumpster door if available.
- Never “throw” trash in a way that could cause shoulder injury.

Break down odd shaped waste as to prevent awkward positions that could lead to strain.

USE OF FORKLIFT/BASKET:

- Basket Requirements:
 - Should be clearly labeled “REFUSE ONLY.”
 - Width not to exceed 10” beyond outside of tires.
 - Basket should be chained to forklift mast.
 - Plywood to be secured as to not allow debris to spill out.
 - At no time should any person be in the basket.
 - Loading should be done with basket secularly against platform or structure without gap between it and the basket.
 - Any persons should have proper fall protection (Harness...) in place before attempting to load basket.
 - Do not use basket to compact debris in dumpster.

TOOLS

Most tool accidents and OSHA citations are due to misuse, poor maintenance, or lack of concentration of the part of the user. Before each use, it is a good practice to inspect and regularly maintain every tool. A tool can become damaged between uses without your knowledge. If any sign of damage is identified, take the tool out of use and physically tag it to let others know that it is unusable. The tool should then be either repaired or replaced.

15.1 Portable Hand Tools

- The correct tool should be used for the job and used in the correct manner.
- If a job requires excessive force or bending of the wrist creating stress, a powered tool or a differently shaped tool should be used.
- Tools should be kept in a good working condition. Damaged, worn, or defective tools can cause injuries and should not be used.
- Keep tools in a safe place. Do not leave tools on the floor or above work areas.
- Sharpened tools should not be carried in pockets or left in tool boxes with cutting edges exposed.
- Appropriate personal protective equipment, such as safety goggles and gloves, should be worn to protect against hazards that may be encountered while using hand tools.
- Keep impact tools, such as chisels and punches, free of mushroomed heads.
- Keep wooden handles free of splinters or cracks, and assure a tight connection between the tool head and the handle.
- Tools shall be kept clean, sharp, oiled, dressed, adjusted, etc.

15.2 Electric Power Tools

- Prior to the use of any power tool, employees using the equipment are required to be trained in the proper operation of the tool. If you are not trained on how to properly operate a piece of material handling equipment do not use it & find someone with the proper training.
- Electric power operated tools must have grounded cords or be of an approved double insulated type. Double insulated tools must be easily identified.
- Temporary electrical cords must be covered or elevated to protect the cord from damage & to avoid tripping hazards.
- Guards on any power tool shall not be removed without authorization & documentation on file specifically identifying why it is safer to use the tool without the guard.
- Power tool guards should never be blocked up.
- Power tools should be off and motion stopped before the tool is set down.
- Disconnect the tool from its power source before changing bits or blades, or attempting any repair or adjustment.

- Never leave a running tool unattended.
- All fixed power driven woodworking tools should be provided with a disconnect switch that can either be locked or tagged in the off position.
- Power tools shall be hoisted or lowered by a hand line and never by the cord or hose. Cords and hoses must be kept out of walkways, off stairs and ladders.
- Eye protection is mandatory when using any power tool.
- Oil & maintain tools per manufacturer's instructions.
- Employees must use face shields (safety glasses are NOT sufficient) when using hand or power tools and are exposed to:
 - The hazard of falling, flying, abrasive, and splashing material.
 - Harmful dusts, fumes, mists, vapors, or gases.
- Temporary Electrical Cords & Ground-Fault Protection
 - All corded tools shall be plugged into a GFCI Pigtail.
 - Temporary electrical cords must be covered or elevated to protect the cord from damage & to avoid tripping hazards.
 - Inspect electrical extension cords and other wiring daily to be certain they are properly insulated and grounded. Do not use frayed or damaged cords.

15.3 Powder-Actuated Tools

- Only authorized persons may use tools. OSHA requires that all operators have a certificate of training in order to operate a powder-actuated tool.
- Powder-actuated tools operate much like a loaded gun and should be treated with the same respect and precautions.
- Store the tool in a locked tool case.
- Inspect the tool for cleanliness, freely operating parts, damage, and barrel obstruction.
- All power actuated tools will be tested daily before use (loading) according to manufacturer's recommendations to make sure safety devices are function correctly. Defects discovered before and during use will be corrected immediately.
- Make sure the correct shield, guard, or attachment recommended by the manufacture is used.
- Tools will not be loaded until immediately before use.
- Shells must be stored & disposed of properly.
- Treat the tool carefully, as if it were a loaded gun.
 - Do not point the tool at anyone.
 - Keep hands clear of the barrel end.
 - Do not leave the tool unattended.
- Do not use a tool in explosive or flammable areas.
- Wear ear, eye, face, and foot protection.
- Post a warning sign that reads: "Powder-actuated tool in use" when using a tool.
- If a misfire occurs, follow the manufactures instructions.
- Do not fire fasteners into material that would allow them to pass through to the other side.

- Do not drive fasteners into very hard or brittle materials which might chip or splatter, or make the fastener ricochet.

15.4 Grinders

- Adjust the work rest and keep it within 1/8" of the wheel. Keep the adjustable tongue on the top side of the grinder adjusted to within ¼" of the wheel.
- Side guards should cover the spindle, nut, flange and 75% of the wheel diameter
- Bench and pedestal grinders should be permanently mounted.
- Goggles and face shields should always be worn when grinding.
- The maximum RPM rating of each abrasive wheel should be compatible with the RPM rating of the grinder. Before abrasive wheels are mounted they should be visually inspected and ring tested.
- Fixed or permanently mounted grinders should be connected to their electrical supply system with metallic conduit or other permanent wiring method and each should have an individual on and off switch.
- Dust collectors and powered exhausts should be provided on grinders used in operations that produce large amounts of dust.
- Splash guards should be mounted on grinders that use coolant to prevent the coolant from reaching the employees.
- For small piece work, pliers or equivalent must be used to hold the piece against the wheel.
- Maintain good housekeeping around grinders.
- Do not use around flammable materials.
- A fire extinguisher is required to be in the vicinity when grinding materials.

15.5 Pneumatic Air Hose

- Before operating an air hose:
 - Check the hose carefully to make sure that it is in good condition.
 - Examine all connections to make sure they are tight and will not come loose under pressure.
- When air hoses are connected together, or attached to tools or compressors, couplers must be secured to prevent accidental separation.
- Keep air hoses out of aisles and areas where they can be damaged by traffic or be a tripping hazard.
- Don't kink the hose to stop the air flow. Always turn off the air at the control valve.
- Compressed air should never be used for any type of cleaning purposes.
- Never point a compressed air hose nozzle at any part of your body or at another person and never use compressed air for a practical joke!

15.6 Fuel-Powered

- Fuel-powered tools must be shut down while being refueled. Refueling must be conducted away from any possible sources of ignition.
- Using fuel-powered tools indoors should be the last option available. If this option is used, the air quality must be monitored continuously.

HOT WORK, WELDING & CUTTING

16.1 Hot Work Operations

- Pre-planning must be conducted with the appropriate permitting and procedures in place to assure all possible exposures are addressed. Before welding, cutting or hot work is permitted the area will be inspected by the responsible supervisor and precautions followed with a written permit.
- Risk of Fire
 - The most prevalent hazard in cutting, welding, grinding, brazing, soldering and thawing operations is that of sparks setting fire to combustible materials in the vicinity of the work activity. When such operations are conducted, all combustible materials within 35 feet must be removed / relocated or protected or shielded from hazards with flame-proof covers.
 - A permit may be required in specific areas.
 - Monitor area with L.F.L (Lower Flammable Limit) analyzer.
 - A suitable fire extinguisher must be located within 20 feet of the hot work operation.
 - During all welding operations, Precautions must also be taken for the falling slag. (i.e. watering down the area, fire watch, housekeeping, etc.)
- Fire Watch / Hot Work Area Monitoring
 - A fire watch must be maintained at the hot work sites until 30 minutes after all hot work is finished including and coffee or lunch breaks or as deemed necessary by Lyon Contracting, Inc.
 - Fire watch is supplied with an extinguisher.
 - Fire watch is trained in use of this equipment and familiar with location of sounding alarm.
 - Fire watch may be required for opposite side of walls, above, and below floors and ceilings.
- Fire Protection
 - All cables, hoses, cylinders, and welding machines must be located away from sources of ignition, including falling slag and sparks.
 - All combustible materials must be removed or protected from the hot work area before starting work.
 - A fire watch must be established if the sparks fall below the floor where the welder is working.
 - Cover or shield all duct, walls, and floor openings with flame-proof covers.
 - Cover floor drains, trenches, manholes and sewers.
 - If the object being welded or cut cannot be moved and if all the fire hazards cannot be removed, then guards shall be used to confine the heat, sparks, and slag and to protect the immovable fire hazards.

- If fire hazards cannot be taken to a safe place or guards cannot be used to confine heat, sparks, slag and protect the immovable fire hazards, the welding or cutting shall not be performed.
- Monitor sewers, trenches, manholes, floor drains, elevator pits, sumps and low areas with a L.F.L Analyzer.
- A fire watch must be maintained for 30 minutes after all hot work operations end, or as deemed necessary by Lyon Contracting, Inc.

16.2 Gas Welding Equipment

- All personnel will be trained in the safe operation and safe use of processes before using gas welding or cutting operations.
- Fuel gas and oxygen hoses must be easily distinguishable and not interchangeable.
 - Red for the acetylene hose
 - Green or black for the oxygen hose.
- When used, hoses and torches must be inspected daily for worn spots or defective connections. Repair or replace if defective. All defective equipment must be tagged and removed from service.
- Proper procedures must be used when lighting or extinguishing the torch set-up.
 - Only approved friction or spark type lighter may be used.
- Acetylene may never be used at more than 15 pounds per square inch gauge pressure or 30 pounds per square inch absolute pressure.
- Each cylinder must be equipped with a back flow check valve.
- To secure the equipment when not in use:
 - The torch must be extinguished.
 - Both acetylene and oxygen cylinder valves must be closed and hoses cracked open one at a time momentarily to allow the line to discharge.
 - Always store cylinders properly on a welding cart or secured to a wall with a chain.
 - No cylinders may be stored or used in the horizontal position. In the horizontal position, the safety valve does not allow the excess gas to escape, but does allow the liquid to escape; this can result in an explosion.
- A suitable fire extinguisher should be readily available when welding, cutting or heating operations are being conducted.
- Always clear the area below cutting or welding operations so hot slag will not drop on hoses, cables, or employees.
- Do not cut or weld around gasoline tanks or attempt to weld or cut a container that has stored a flammable or combustible liquid.

16.3 Arc Welding Equipment

- All personnel will be trained in the safe operation and safe use of processes before using Arc Welding Equipment.
- Welding equipment must be maintained in good operating condition.
- Arc welding and cutting operations will be shielded by noncombustible or flame-proof shields to protect employees from direct rays.
- Only electrode holders that are fully insulated and in good condition may be used.
- Before starting operations, the operator must make certain that all electrical connections are securely made. The ground connection must be attached firmly to the work, not merely laid loosely upon it. Ground connections must never be made through pipelines carrying gases or flammable liquids.
- Inspect cables for worn spot or exposed bare conductors. If such conditions are found repair or replace if defective. All defective equipment must be tagged and removed from service.
- Protect cables that must be laid on the floor. When possible, suspend cables at least 8 feet or higher.
- Keep cables away from power supply cables or high-tension wires.
- Cables must be placed so the falling sparks will not come in contact with them.
- When electrode holders are left unattended, electrodes should be removed and the holder should be placed or protected so it cannot make electrical contact.
- A suitable fire extinguisher should be readily available when welding, cutting or heating operations are being conducted.
- Always clear the area below cutting or welding operations so hot slag will not drop on hoses, cables, or employees.
- Do not cut or weld around gasoline tanks or attempt to weld or cut a container that has stored a flammable or combustible liquid.

16.4 Personal Protection Equipment

- Wear proper eye safety protection during welding & cutting operations.
- Always wear required eye protection to guard against slag while chipping, grinding and dressing of welds.
- Always wear a welding hood to protect eyes from flash burn.

16.5 Ventilation

- Ventilation should be provided whenever welding, cutting or heating is being performed.
- Due to harmful gases and fumes given off during welding operations, adequate ventilation is critical. If local ventilation is not sufficient, forced ventilation must be used.
- Hot work performed in confined spaces introduces various hazards precautions such as ventilation issues, securing cylinders, lifelines, electrode removal, gas cylinder shutoff, and

warning signs must be addressed. Consult with the safety director prior to cutting or welding in any confined spaces.

- Any welding, cutting, or burning of lead based metals, zinc, cadmium, mercury, beryllium, exotic metals, or paints requires proper ventilation and/or adequate respiratory protection.
- Pure oxygen, such as bottled or line fed must never be used for ventilation.

16.6 Competent Person Training

**IS HOT WORK NECESSARY? IS THERE A SAFER WAY?
CAN HOT WORK BE AVOIDED?**

HOT WORK PERMIT

This Hot Work Permit is required for any temporary operation or activity that creates heat, flame, sparks or smoke. This includes, but is not limited to: welding (gas or arc), cutting, brazing, grinding, soldering, thawing pipe, open flame heaters in buildings and hot asphalt applied roofing.

This Permit should be prominently displayed at the worksites.

JOBSITE INSPECTION AND COMMUNICATION		
Project Name:		Job #
Project Supervisor Name:		
Date:	Start Time:	Permit Expires:
Hot Work Performed by:	<input type="checkbox"/> Employee	<input type="checkbox"/> Subcontractor (Name)
Name of Person(s) Doing Hot Work:		
Hot Work Description:		
Location(s):	Primary Ignition Sources:	
Fire Watch Needed:	<input type="checkbox"/> Yes (Print Name)	<input type="checkbox"/> No
A fire watch should be posted when:		
<input type="checkbox"/> Combustible materials within 35' radius of hot work cannot be removed		
<input type="checkbox"/> Wall or floor openings within a 35' radius of hot work expose combustible materials in adjacent areas, including concealed spaces in walls or floors		
<input type="checkbox"/> Combustible materials are adjacent to the opposite side of patricians, walls, ceilings or roofs and are likely to be ignited		
<input type="checkbox"/> It is deemed necessary by the Permit Authorizing Individual (Lyon Supervisor)		
Training Verified:	<input type="checkbox"/> Yes	
HOT WORK PRE-TASK PLAN CHECKLIST		
<input type="checkbox"/> Are available sprinklers, hose and extinguishers operable?	<input type="checkbox"/> Hot work equipment in good condition? Inspected?	<input type="checkbox"/> Have combustible materials been removed or protected by fire blankets?
<input type="checkbox"/> Are spark and flash screens in place?	<input type="checkbox"/> Has the work area been isolated and roped off?	<input type="checkbox"/> Is spark or flames controlled-protected from reaching lower levels?
<input type="checkbox"/> Is ventilation adequate?	<input type="checkbox"/> Are fire watch personnel needed on multiple floors?	<input type="checkbox"/> Have remote alarms been disabled?
<input type="checkbox"/> Is flammable or combustible testing required?	<input type="checkbox"/> Other	<input type="checkbox"/> Other
FIRE WATCH/HOT WORK AREA MONITORING		
<input type="checkbox"/> Fire watch will be provided by the contractor during and for a minimum of 30 minutes after work or as deemed necessary, including during coffee and lunch breaks		<input type="checkbox"/> Fire watch provided with suitable extinguishing equipment
<input type="checkbox"/> Fire watch shall report any and all incidents to the project supervisor	<input type="checkbox"/> Fire watch shall not have any other duties that could impact their ability to do their job	<input type="checkbox"/> Fire watch signoff: I have monitored the work area for 30 minutes and have determined the area to be fire safe.
PERMIT CLOSEOUT		
The information on this permit has been evaluated, the site has been examined and all safety measures are in place.		
Lyon Supervisor Sign off:	Fire Watch Sign off:	Person Conducting Hot Work Sign off:

ELECTRICAL SAFETY

- The OSHA construction standard related to Electrical is 1926 Subpart K – Electrical 1926.400 – 1926.449
- This policy covers electrical safety work practices for unqualified people working on, near, or with electrical wiring. Unqualified people are those with little or no electrical training. Qualified people are those who have training in avoiding the electrical hazards of working on or near exposed energized parts.
- No Lyon Contracting employee will be permitted to work on energized electrical parts or take part in any activity that would require them to be a qualified person regarding electrical work. If this nature or work is in the scope of work for a contract the work will be performed by a qualified subcontractor and this qualified subcontractor will abide by this safety manual.

17.1 Work Practices

- Safety related work practices must be employed to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts, when work is performed near or on equipment or circuits which are or may be energized. The specific safety related work practices must be consistent with the nature and extend to the associated electrical hazards.
- Live parts to which an employee may be exposed must be de-energized before the employee works on or near them, unless:
 - A qualified electrician can demonstrate that de-energizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations. Live parts that operate at less than 50 volts to ground need not be de-energized if there will be no increased exposure to electrical burns or to explosion due to electrical arcs.
 - If the exposed live parts are not de-energized, other safety-related work practices must be used to protect employees who may be exposed to the electrical hazards involved. Such work practices must protect employees against contact with energized circuit parts directly with a part of their body or indirectly through some other conductive object.
 - The work practices that are used must be suitable for the conditions under which the work is to be performed and for the voltage level of the exposed electric conductors or circuit parts.
- Maintain a ten (10) foot minimum clearance from overhead power lines.

17.2 Working On or Near Exposed De-Energized Parts

- Conductions and parts of electric equipment that have been de-energized but have not been locked out & tagged must be treated as energized parts.

- While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been de-energized, the circuits energizing the parts must be locked out & tagged in accordance with Lyon's lockout – tagout procedure.
- Safe procedures for de-energizing circuits and equipment must be determined before circuits or equipment are de-energized.
 - The circuits and equipment to be worked on must be disconnected from all electric energy sources. Control circuit devices, such as push buttons, selector switches, and interlocks may not be used as the sole means for de-energizing circuits or equipment. Interlocks for electric equipment may not be used as a substitute for lock out – tag out procedures.
 - Stored electric energy which might endanger personnel must be released. Capacitors must be discharged and high capacitance elements must be short-circuited and grounded, if the stored electric energy might endanger personnel.
 - Stored non-electrical energy in devices that could re-energize electric circuit parts must be blocked or relieved to the extent that the circuit could not be accidentally energized by the device.
- A lock and a tag must be placed on each disconnecting means used to de-energize circuits and equipment on which work is to be performed. The lock must be attached so as to prevent persons from operating the disconnecting means unless they resort to undue force or the use of tools.
 - Each tag must meet the requirements of the Lyon Contracting Lockout-Tagout Procedure.
 - A tag used without a lock must be supplemented by at least an additional safety measure that provides a level of safety equivalent to that obtained by the use of a lock. Additional safety measures include the removal of an isolating circuit element, blocking of a controlling switch, or opening of a controlling switch, or opening of an extra disconnecting device.
- A qualified person must operate the equipment operating controls or otherwise verify that the equipment cannot be restarted.
 - A qualified person must use test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed and must verify that the circuit elements and equipment parts are de-energized.
 - The test must also determine if an energized condition exists as a result of inadvertently induced voltage or unrelated voltage back feed even through specific parts of the circuit have been de-energized and presumed to be safe.
 - If the circuit to be tested is over 600 volts, nominal, the test equipment must be checked for proper operation immediately before and immediately after this test.
- A qualified person must conduct tests and visual inspections as necessary, to verify that all tools, electrical jumpers, shorts, grounds, and other such devices have been removed so that the circuits and equipment can be safely energized.
- Employees exposed to the hazards associated with re-energizing the circuit or equipment must be warned to stay clear of circuits and equipment.

- Each lock and tag must be removed by the employee who applied it. Removal of the lock or tag must be made in accordance with the Lyon Contracting Lockout – Tagout Procedure. If removal must be made in the employee’s absence, the Lockout-Tagout Procedure must be followed.
- There must be a visual determination that all employees are clear of the circuits and equipment.

17.3 Working On or Near Exposed Energized Parts

- Only qualified persons may work on electric circuit parts or equipment that has not been de-energized. These qualified persons must be capable of working safely on energized circuits and must be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.
- If work is to be performed near overhead un-insulated lines or insulated lines of 600 volts or greater, the lines must be de-energized and grounded, or other protective measures provided before work is started. If protective measures are provided (such as guarding, isolating, or insulating), these precautions must prevent employees from contacting such lines directly with any part of their body or indirectly through conductive materials, tools or equipment. When a qualified person is working in the vicinity of overhead lines, whether in an elevated position or on the ground, the person may not approach or touch any conductive object without an approved insulating handle. The qualified person may not come closer to the exposed energized parts than shown in the following table:

<u>Voltage Range (Phase to Phase)</u>	<u>Minimum Approach Distance</u>
300V. and less	Avoid contact
300V. up to 750V	1 ft. 0 in.
750V. up to 2kV.	1 ft. 6 in.
2kV. up to 15kV	2 ft. 0 in.
15kV. up to 37kV.	3 ft. 0 in.
37kV. up to 87.5kV.	3 ft. 6 in.
87.5kV. up to 121kV.	4 ft. 0 in.
Over 121kV., not over 140kV.	4 ft. 6 in.

- These qualified persons must be insulated from the energized part (gloves, with sleeves if necessary, rated for the voltage involved are considered to be insulation for the person from the energized part on which work is performed).
- The qualified person must be insulated from the energized part and from all other conductive objects at a potential different from that of the energized part.
- Any qualified vehicle, persons or mechanical equipment capable of having parts of its structure elevated near energized overhead lines must be operated so that a clearance of ten (10) feet is maintained. If the voltage is higher than 50kV, the clearance must be increased four (4) inches for every 10kV. over that voltage.

- Employees may not enter spaces containing exposed energized parts unless illumination is provided that enables the employees to perform the work safely.
- Where lack of illumination or an obstruction precludes observation of the work to be performed, employees may not perform tasks near energized parts. Employees may not reach blindly into areas which may contain energized parts.
- When an employee works in a confined or enclosed space that contains exposed energized parts, the Qualified Contractor will provide, and the employee must use, protective shields, protective barriers, or insulating materials as necessary to avoid inadvertent contact with these parts. Doors, hinged panels, and the like must be secured to prevent their swinging into an employee and causing the employee to contact exposed energized parts.
- Conductive materials and equipment that are in contact with any part of an employee's body must be handled in a manner that will prevent them from contacting exposed energized conductors or circuit parts. If an employee must handle long dimensional conductive objects in areas with exposed live parts, then qualified contractor must institute work practices (insulation, guarding, material handling techniques, etc.) which minimize, or eliminate, the hazard.
- Portable ladders must have nonconductive side rails due to the potential of contact with exposed energized parts. Metal ladders are not allowed in the work area.
- Conductive articles of jewelry and clothing may not be worn if they might contact exposed energized parts.
- Where live parts present an electrical contact hazard, employees may not perform housekeeping duties at such close distances to the parts that there is a possibility of contact unless adequate safeguards are provided.
- The following alerting techniques must be used to warn and protect employees from hazards which could cause injury due to electric shock, burns, or failure of electric equipment parts:
 - Safety signs, safety symbols, or accident prevention tags must be used where necessary to warn employees about electrical hazards which may endanger them.
 - Barricades must be used in conjunction with safety signs where necessary to prevent or limit employee access to work areas exposing employees to un-insulated energized conductors or circuit parts. Conductive barricades may not be used where they might cause an electrical contact hazard.
- If signs and barricades do not provide sufficient warning and protection from electrical hazards, an attendant must be stationed to warn and protect employees.
- Energy sources including electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other sources in machines and equipment can be hazardous to workers. During the servicing and maintenance of machines and equipment, the unexpected start-up or release of stored energy could cause injury to employees. Proper lockout / tagout (LOTO) practices and procedures need to be used to safeguard workers from the release of hazardous energy.
 - Do not start any adjustment, service or repair without verifying that the tag/lock out switch or control cannot be by-passed or over-ridden.
 - Do not remove a lock from any equipment unless you placed it there yourself. Each person shall place their own lock / tag when required to isolate an energy source.

- Test the equipment to be certain that the locked-out switch is de-energized and not simply malfunctioning.
- Press all start buttons to see if the equipment starts.
- Ensure the system you will be working on is the same one that has been locked out.
- Before restarting the equipment, verify the following:
 - All tools and other items have been removed.
 - All machine guards are in place.
 - All electric systems are reconnected.
 - All employees are clear of equipment.

17.4 GFCI Protection or Assured Grounding Program

- OSHA ground-fault protection rules and regulations have been determined necessary and appropriate for employee safety and health. Therefore, it is the employer's responsibility to provide either: (a) GFCIs on construction sites for receptacle outlets in use and not part of the permanent wiring of the building or structure; or (b) a scheduled and recorded assured equipment grounding conductor program on construction sites, covering all cord sets, receptacles which are not part of the permanent wiring of the building or structure, and equipment connected by cord and plug which are available for use or used by employees.
- GFCI Protection
 - All 120 volt, single-phase, 15 and 20 ampere receptacle outlets which are not part of the permanent wiring of the building or structure, must have approved ground fault circuit interrupters for personnel protection.
 - If a receptacle or receptacles are installed as part of the permanent wiring of the building or structure and they are used for temporary electric power, GFCI protection shall be provided.
 - Receptacles on the ends of extension cords are not part of the permanent wiring and, therefore the cord's receptacle must be of the GFCI type whether or not the extension cord is plugged into permanent wiring.
 - Work areas which contain water or moisture must be provided with ground fault protection.
- Assured Equipment Grounding Program
 - If an Assured Equipment Grounding Conductor Program (AEGCP) is used in place of ground-fault circuit interrupters (GFCIs) for ground-fault protection, the following minimum requirements apply, though additional tests or procedures are encouraged
 - The following tests must be conducted at intervals not to exceed three months on all cord sets, receptacles which are not part of the permanent wiring of the building or structure, and any company-owned cord and plug-connected equipment required to be grounded.
 - Grounding conductors must be tested for continuity and be electrically continuous.

- Each receptacle and attachment cap or plug must be tested for correct attachment of the equipment grounding conductor.
 - The equipment grounding conductor must be connected to its proper terminal.
- The above required tests shall be performed before first use, before equipment is returned to service following repairs, or before equipment is used after an incident which can be reasonably suspected to have caused damage.
- The above requirements must be adhered to prior to the use of any equipment by employees.
- Tests performed as required in this program must then be color coded. The color code will identify each receptacle, cord set, and plug-connected equipment that passed the tests and indicates the appropriate calendar quarter for which it was tested.
- Employees assigned with the testing requirements of the program will be properly trained and be a competent person as defined by OSHA CFR 1926.32 (f)
- Color code by quarter
 - January 1 to March 31 White
 - April 1 to June 30 Green
 - July 1 to September 30 Red
 - October 1 to December 31 Orange
- Identification must be by the appropriate colored tape which will adhere to the cord set and corded and plug connected equipment (electrical tape is recommended).
- Colors are to be located on the cord set and equipment as follows:
 - Cord Sets – Next to each end of the set
 - Cord and Plug Connected Equipment – On the plug end of the cord.
- Quarterly Notification to Employees: All cord sets and plug-connected equipment must have this color identification on it. If not properly identified by color, it must be removed, test and properly identified prior to use. Privately-owned cords and equipment cannot be used on Lyon Contracting projects prior to testing and proper identification.

17.5 Temporary Wiring / Lighting

- General Construction area lighting minimum illumination is five (5) foot-candles.
- All lamps for general illumination shall be protected from accidental contact or breakage.
- Breakers are only to be turned on by the electrician.
- Electrical enclosures such as switches, receptacles, or junction boxes should be covered with tight fitting covers or plates. Do not remove covers from equipment or electrical boxes that would expose live wires.
- If you don't know, assume all electrical wires are live wires.
- Immediately report any unprotected live wires to your supervisor.

17.6 Extension Cords / Cord Sets

- A daily visual inspection must be made of all extension cords, plug and receptacle of cord sets, and any other equipment connected by cord and plug. Inspect to determine any external defects or indications of internal damage prior to use. Such as deformed or missing pins, crushed or damaged plugs, and/or insulation damage. Equipment found to be damaged must be tagged "DO NOT USE" and removed from service until repaired and tested.
- Flexible cords and cables shall be protected from damage. Sharp corners and projections shall be avoided. Flexible cords and cables may pass through doorways or other pinch points, if protection is provided to avoid damage.
- GFCI pigtails should be used with all extension cords.
- Extension cords should have grounded conductors and insulation in good condition
- Do not fasten or hang electrical cords from non-insulated staples or nails and do not suspend them by wire.
- Repairs with electrical tape are not allowed on electrical cords.
- Do not use extension cords or other three pronged power cords that have a missing ground prong.
- Do not use an adapter such as a cheater plug that eliminates the ground.
- Do not use cords that have splices, exposed wires, or cracked or frayed cords.
- Damaged cords must be replaced.

SCAFFOLDING

18.1 General Scaffolding Safety Work Practices

Employees will adhere to the following general scaffolding safe work practices.

1. Each employee who works on a scaffold must be trained on the hazards and the procedures to control the hazards.
2. When erecting and dismantling supported scaffolds, a competent person must determine the feasibility of providing a safe means of access and fall protection for these operations.
3. Before each work shift and after any occurrence that could affect the structural integrity, a competent person must inspect the scaffold and scaffold components for visible defects.
4. The footing or anchorage for scaffolds shall be level, sound, rigid and capable of carrying the maximum intended load without settling or displacement. The legs, poles, frames, and uprights shall bear on base plates and mud sills. Unstable objects such as barrels, boxes, loose brick, or concrete blocks shall not be used to support scaffolds or planks.
5. Scaffolds and scaffold components must support at least 4 times the maximum intended load. Suspended scaffold rigging must support at least 6 times the intended load.
6. Each employee more than 6 feet above a lower level shall be protected from falls by guardrails or a fall arrest system, except those on single-point and two-point adjustable suspension scaffolds. Each employee on a single-point and two-point adjustable suspended scaffold shall be protected by both a personal fall arrest system and a guardrail.
7. The height of the top rail for scaffolds manufactured and placed in service after January 1, 2000 must be between 38 inches and 45 inches. The height of the top rail for scaffolds manufactured and placed in service before January 1, 2000 can be between 36 inches and 45 inches. When the cross-point of cross-bracing is used as a top rail, it must be between 38 inches and 48 inches above the working platform.
8. Midrails must be installed approximately halfway between the top rail and the platform surface. When a cross-point of cross bracing is used as a midrail, it must be between 20 inches and 30 inches above the work platform.
9. Supported scaffold platforms shall be fully planked or decked.
10. Supported scaffolds with a height-to-base of more than 4:1 shall be restrained from tipping by guying, tying, bracing, or the equivalent.
11. The poles, legs, or uprights of scaffolds must be plumb and securely and rigidly braced to prevent swaying and displacement.
12. Overhead protection must be provided for men on scaffold exposed to overhead hazards. If tools, materials, or equipment could fall from a scaffold and strike others, the area below the scaffold must be barricade or a toe board must be placed along the edge of the scaffold platform. Paneling or screening must protect persons below when tools, materials, or equipment are piled higher than the top edge of the toe board. Alternatively, guardrail systems, canopies, or catch platforms may be installed to retain materials.

13. A safe distance from energized power lines shall be maintained.
14. Ladders and other devices shall not be used to increase working heights on scaffold platforms.
15. Scaffolds shall not be moved while employees are on them.

18.2 Scaffolding Types

There are several different built-in-place scaffold systems found in a variety of configurations. A list of the major scaffold systems includes:

- Frame
- Tube and clamp
- System
- Adjustable masonry
- Tower system
- Suspension
- Shoring
- Rolling tower
- Elevated work platform

18.3 Scaffolding Procedure

1. Scaffold Design
 - a. All scaffolding must be designed by a qualified person. All persons involved in designing the scaffolding will have the experience and qualifications evaluated by management to ensure they meet the requirements to be designated as a qualified person.
 - b. All scaffolding must be designed in accordance with the requirements of OSHA Standard 1910.28 and 1926.450-454. The scaffolding selected must be appropriate for the type of work being performed.
2. Pre-Installation Training
 - a. Prior to scaffolding construction, all involved employees must be trained on the erection and maintenance of the scaffolding.
3. Scaffolding Construction
 - a. Scaffolding must be erected in accordance with the design of the qualified person under the direct supervision of the competent person.
 - b. Only appropriately trained employees are allowed to work on the scaffold construction.
 - c. During scaffold construction the scaffold shall be signed / tagged "Under Construction, Trained Authorized Personal Only".
4. Pre-Work Inspection
 - a. Prior to the scaffoldings first use, it must be inspected and approved for use by a competent person.
 - b. Upon completion of their inspection the competent person shall sign / tag the scaffold "Trained Personal Only".

5. Employee Training
 - a. Prior to working on scaffolding, all employees must be trained to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards.
 - b. Supervisors must verify the training records of employees prior to allowing them to work on scaffolding.
6. Periodic Inspections
 - a. Scaffolding inspections must be completed by a competent person.
 - b. Inspections must occur in the following situations:
 - i. Prior to every work shift.
 - ii. Whenever employees cite concerns with the scaffolding.
 - iii. After any occurrence which could affect a scaffold's structural integrity.
7. Scaffolding Disassembly
 - a. Scaffolding must be disassembled under the direct supervision of the competent person.
 - b. Only appropriately trained employees are allowed to work on the scaffold disassembly.
 - c. During scaffold disassembly the scaffold shall be signed / tagged "Under Constriction, Trained Authorized Personal Only".

18.4 Training Requirements

1. Professional Engineer: A registered professional engineer is required to perform the following duties in these circumstances for scaffolding:
 - a. To design scaffolds that are to be moved when employees are on them.
 - b. To design pole scaffolds over 60 feet in height.
 - c. To design tube and coupler scaffolds over 125 feet in height above their base plates.
 - d. To design brackets on fabricated frame scaffolds used to support cantilevered loads in addition to works.
 - e. To design outrigger scaffolds and scaffold components.
 - f. To design the direct connections of masons' multi-point adjustable suspension scaffolds.
2. Qualified Person: A qualified person is defined as one who by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience has successfully demonstrated their ability to solve or resolve problems related to the subject matter, the work of the project. A qualified person is required to perform the following duties in these circumstances for scaffolding:
 - a. In General:
 - i. To design and load scaffolds in accordance with that design.
 - b. For Training:
 - i. To train employees working on scaffolds to recognize the associated hazards and understand procedures to control or minimize those hazards.
 - c. For Suspension Scaffolds:
 - i. To design the rigging for single-point adjustable suspension scaffolds.

- ii. To design platforms on two-point adjustable suspension types that are less than 36 inches wide to prevent instability.
 - iii. To make swaged attachments or spliced eyes on wire suspension ropes.
 - d. For Components and Design:
 - i. To design scaffold components construction in accordance with design.
- 3. Competent Person: A competent person is defined as one who is capable of identifying existing and predictable hazards in the surroundings or working conditions, which are unsanitary, hazardous to employees, and who has authorization to take prompt corrective measures to eliminate them. A competent person is required to perform the following duties in these circumstances for scaffolding:
 - a. In General:
 - i. To select and direct employees who erect, dismantle, move, or alter scaffolds.
 - ii. To determine if it is safe for employees to work on or from a scaffold during storms or high winds and to ensure that a personal fall arrest system or wind screens protect these employees. (Note: Windscreens should not be used unless the scaffold is secured against the anticipated wind forces imposed).
 - b. For Training:
 - i. To train employees involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting scaffolds to recognize associated work hazards.
 - c. For Inspections:
 - i. To inspect scaffolds and scaffold components for visible defects before each work shift and after any occurrence which could affect the structural integrity and to authorize prompt corrective actions.
 - ii. To inspect ropes on suspended scaffolds prior to each work shift and after every occurrence which could affect the structural integrity and to authorize prompt corrective actions.
 - iii. To inspect manila or plastic (or other synthetic) rope being used for top rails or mid-rails.
 - d. For Suspension Scaffolds:
 - i. To evaluate direct connections to support the load.
 - ii. To evaluate the need to secure two-point and multi-point scaffolds to prevent swaying.
 - e. For Erectors and Dismantlers:
 - i. To determine the feasibility and safety of providing fall protection and access.
 - ii. To train erectors and dismantlers to recognize associated work hazards.
 - f. For Scaffold Components:
 - i. To determine if a scaffold will be structurally sound when intermixing components from different manufactures.
 - ii. To determine if galvanic action has affected the capacity when using components of dissimilar metals.

4. Employees involved in erecting, disassembling, repairing or maintaining Scaffolding: Employees who are involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting a scaffold must be trained by a competent person who can recognize any hazards associated with the work in question. This training must include the following topics:
 - a. The nature of scaffolding hazards.
 - b. The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question.
 - c. The design criteria, maximum intended load-carrying capacity and intended use of the scaffold.
 - d. The relevant requirements of the OSHA scaffolding standard.
5. Employees performing work on Scaffolding: Employees performing work on scaffolding must be trained by a person who is qualified in the subject matter to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards. The training must include:
 - a. The nature of electrical hazards in the work area.
 - b. The nature of fall hazards in the work area.
 - c. Fall Protection
 - d. The nature of falling objects hazards in the area.
 - e. The correct procedures for dealing with electrical hazards.
 - f. The correct procedures for erecting, maintaining, and disassembling the fall protection system.
 - g. The correct procedures for erecting, maintaining, and disassembling falling object protection systems.
 - h. The proper use of scaffolding and the proper handling of materials on scaffolding.
 - i. The maximum intended load and load carrying capacities of the scaffolding.
 - j. The relevant requirements of the OSHA scaffolding standard.
6. Training Frequency: Employees must be trained before their first assignment to work duty or re-trained when:
 - a. Changes at the worksite present a hazard about which an employee has not be previously trained.
 - b. Changes in the types of scaffold, fall protection, falling object protection, or other equipment present a hazard about which an employee has not been previously trained.
 - c. Inadequacies in an affected employee's work involving scaffolds indicated that the employee has not retained the requisite proficiency.

18.5 Inclement Weather

1. The following special requirements apply to work on scaffolding during inclement weather conditions.
 - a. Snow / Ice – Employees may not work during snowing conditions, unless the snow has stopped, and all ice and snow has been removed from the work platforms.

- b. High Winds – Employees may not work during high wind situations unless special precautions are taken. A competent person must determine that work can proceed safely by recommending the use of fall protection system and wind screens that are used in accordance with OSHA Standards.
- c. Lightening – Employees are not allowed to perform work on scaffolding while lighting conditions exist. And must wait a suitable amount of time after storm passage to recommence work.

18.6 Aerial Lift Operation:

1. Tie Off:
 - a. 100% tie off is required at all times.
 - b. Must tie off while entering the basket before any operation begins.
2. Travel / Operation:
 - a. Make sure your path is to be clear of objects where work will be performed.
 - b. Confirm access doors are locked.
 - c. Do not travel while platform is raised.
 - d. Do not haul objects bigger than the platform.
 - e. Do not exceed vertical or horizontal reach limits.
 - f. Be aware of the overhead objects that could be in your work area.
 - g. Do not operate lower controls unless given permission by the operator of the lift except for emergencies.

3. Certification:

Questions for the Superintendent to ask:

- a. There is no Certification required by OSHA to operate an aerial lift.
 - i. If an operator were to choose to get a certification through OSHA, the certification needs to be renewed every 3 years.
- b. Only trained persons should be operating an aerial lift.
 - i. How to perform an inspection on the equipment.
 - ii. How frequently an inspection should be done.
 - iii. Explanation on how the controls work and falling hazards for each piece of equipment.
 - iv. Knowledge of the load capacity and how to read the load chart.
 - v. Recognizing unsafe conditions.
 - vi. Skills / operation test.
 - vii. Manufacturer's requirements.

18.7 All Terrain Forklift/ Basket Operation

All Operators must be certified to operate lift and have documentation available on site with Lyon Supervisor

1. Refuse Baskets
 - a. Basket length not to extend more than 10" on either side of the wheelbase.

- b. Refuse baskets are required to have plywood on the floor and all three sides. The plywood must be secured to the basket railings and floor as to not come loose.
 - c. Prior to use check that all railings are secure.
 - d. Prior to use check that the basket itself is secured to the forks and mast of the forklift.
2. Material Handling Baskets
- a. Basket length not to extend more than 10” on either side of the wheelbase.
 - b. Prior to use check that all railings are secure.
 - c. Prior to use check that the basket itself is secured to the forks and mast of the forklift.
 - d. No persons are allowed to ride in the basket with the materials.
3. Man Basket:
- a. A **Site-Specific** fall protection plan must be in place with the job supervisor on site before any operation is attempted. If you do not have one contact the Lyon Contracting Safety Director for a template.
 - b. Basket length not to extend more than 10” on either side of the wheelbase.
 - c. Basket must have “D” ring or another approved anchor point to affix lanyard.
 - d. Basket must have railings on all four sides in place and be 42” high with a center horizontal rail at 24”.
 - e. An Exception is when the basket is located 4” from the vertical wall of the building. A worker must not step into the basket until it is in place.
 - f. Prior to use check that all railings are secure.
 - g. Prior to use check that the basket itself is secured to the forks and mast of the forklift.
4. Loading:
- a. Load materials in a manageable balanced load.
 - b. **DO NOT OVERLOAD!!**
 - c. Secure load inside basket.
5. Lifting:
- a. Prior to raising load, make sure the “Caution Overhead Work” signs are placed properly.
 - i. One facing any exit from building and one on either side of the lifting lane.
 - b. Deploy outriggers on secure soil or mudsills.
 - c. Do Not leave lift unattended while boom is extended.
6. Unloading:
- a. Follow Loading door instructions:
 - i. Tie off before opening the door.
 - ii. Do not open door until basket is in place.
 - iii. The tie offs should be as short as possible to access materials.
 - iv. When Loading with debris, no one should enter basket. The tie off should be shortened accordingly.
7. Lowering Basket:
- a. Make sure that loading door is closed and that no persons are in the basket.
 - b. Check 360* around the lift area to make sure that no one is in the danger area.
 - c. Sound horn and lower slowly the entire way down before moving Forklift in any direction.

CRANES

19.0 Crane Safety

- The OSHA construction standard related to Cranes is 1926 Subpart CC – Cranes & Derricks in Construction 1926.1400 – 1926.1442
- Lyon Contracting as the “Controlling entity” on the jobsite must ensure:
 - That ground conditions are firm, drained, and graded to a sufficient extent so that, in conjunction (if necessary) with the use of supporting materials, the equipment manufacturer’s specifications for adequate support and degree for level of the equipment are met.
 - That the user of the equipment and the operator are informed of the location of hazards beneath the equipment set-up area (Such as voids, tanks, utilities) if those hazards are identified in documents (such as drawings, as-built drawings, and soil analyses) that are in the possession of the controlling entity (weather at the site or off-site) of the hazards are otherwise known to that controlling entity.

19.1 General Crane Safety Work Practices

Employees will adhere to the following general crane safety work practices.

1. The operator shall be physically and mentally capable of operating in a safe manner.
2. Operators of cranes over 5 ton are required to be NCCO Certified.
3. The operator shall have read and understood the operation manual for the crane being operated.
4. The operator shall have inspected the annual inspection records for the crane being operated.
5. The operator shall be familiar with the function and operation of all controls and operator aids.
6. The operator shall verify that the crane is assembled, moved, and set-up properly.
7. The operator shall verify that all safety equipment is operational.
8. All accessible areas within the swing radius of the superstructure of the crane are to be barricaded to prevent personnel from being struck or crushed.
9. Toolboxes, oil cans, choker racks, water cooler, or similar objects shall not be placed, nor shall personnel be allowed in the barricaded radius of the swing of the counterweight, where a person could possibly be crushed while the crane is operating.
10. Truck and crawler-type cranes shall not be moved unless a designated signal-person is in full view of the operator giving signals.
11. The operator shall have access to procedures applicable to the operation of the equipment. Procedures include rated capacities (load charts), recommended operating speeds, special hazards warnings, instructions and operator’s manual.

12. Everyone, especially the operator, shall be aware of site hazards, such as underground utilities, overhead power lines, etc. and shall verify that proper precautions are put in place, e.g. barricades, warning signs, wire watchers, etc. & followed.
13. Daily inspections are to be completed, documented and signed before each shift / use.
14. All monthly inspections and required maintenance needs to be properly completed and documented.
15. Prior to a lift being made the correct load weight, boom length, and load radius shall be determined and the operator informed.
16. Critical lifts shall be identified and handled in accordance with the critical lift procedures.
17. A signal person (at a minimum) must be provided for the following situations:
 - a. The point of operation is not in full view of the operator
 - b. The view is obstructed when the equipment is traveling
 - c. The operator or the person handling the load determines it is necessary due to site specific concerns.

OPERATION OF MOBILE EARTH-MOVING EQUIPMENT

Scope: This section identifies minimum safety requirements for the safe operation of mobile earth-moving equipment used for earth moving, building, or road construction or demolition, including, but not limited to, bulldozers, motor graders, scrapers, loaders, skid-steer loaders, compaction equipment, backhoes, end dumps, side dumps, and dump trucks. This part pertains to operators of the equipment and exposed employees, including, but not limited to, grade checkers, grade persons, rod persons, stake hops, stake jumpers, and blue toppers working in the area.

20.1 Training requirements:

- A. Mobile earth-moving equipment operators and all other employees working on the ground exposed to mobile earth-moving equipment shall be trained in the safe work procedures pertaining to mobile earth-moving equipment and in the recognition of unsafe or hazardous conditions.
- B. Training programs shall be developed and instructed by competent individuals who have knowledge, training, experience, and the demonstrated ability to identify existing and predictable hazards related to the subject matter.
- C. Training programs must include the following elements:
 - (1) safe work procedures on how to approach mobile earth-moving equipment, whether in use or idling, including:
 - (a) visual, voice, or signal communication that shall be made with the operator prior to approaching earth-moving equipment;
 - (b) maintaining one's visibility to the operator while approaching the equipment; and
 - (c) operator responsibilities, such as placing the transmission in neutral, setting the parking brake, and indicating that it is safe to approach the equipment;
 - (2) identification of the operator's blind spots on various earth-moving equipment used;
 - (3) instruction for mobile earth-moving equipment operators in conducting daily equipment inspections according to the manufacturer's recommendations, and checking the area around the equipment for a clear path prior to beginning operation;
 - (4) safe operating procedures of equipment, including traveling, backing, parking, loading for transport, maintenance, and operation;
 - (5) safe work procedures when working around or adjacent to overhead or underground utilities, as described in Code of Federal Regulations, title 29, parts 1926.600(a)(6) and 1926.651(b); and
 - (6) additional hazards that could be created by changing conditions.

20.2 Training frequency: Employees shall be trained initially before beginning work that exposes them to mobile earth-moving equipment. Employee training records shall be retained by the employer for the duration of the project.

20.3 High visibility personal protective equipment:

- A. Each employee working on the ground who is exposed to mobile earth-moving equipment shall be provided with and required to wear a high visibility warning vest or other high visibility garments. A high visibility garment is defined as being a Performance Class 2 garment or greater as specified by ANSI/ISEA Standard 107-2004.
- B. High visibility apparel, as described in item A, shall comply with the specifications in part [5207.0100](#).

20.4 Equipment requirements:

- A. All mobile earth-moving equipment shall comply with Code of Federal Regulations, title 29, part 1926.602(a)(9)(ii) for back-up alarms or signal persons if applicable.
- B. When mobile earth-moving equipment is operated during times of darkness or low light conditions, the equipment, if designed to function equally in both forward and reverse directions, such as compaction equipment, bulldozers, motor graders, loaders, and skid-steer loaders, shall be equipped with at least two headlights for forward travel and adequate rear lights for reverse travel unless other adequate lighting is provided.

20.5 Contractor responsibility:

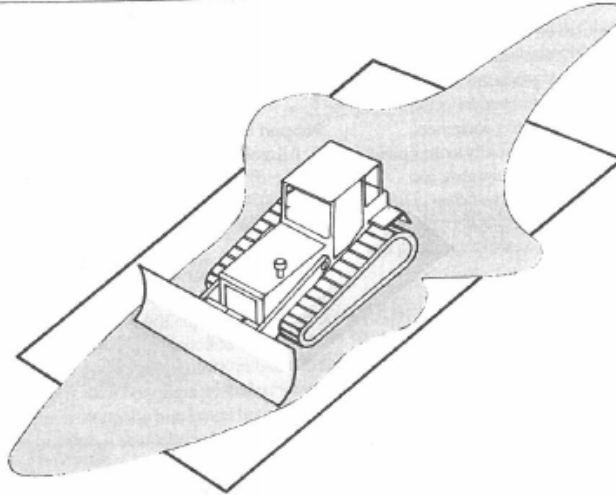
- A. If the mobile earth-moving equipment contractor exposes other contractor's employees to the hazard of mobile earth-moving equipment, the controlling employer, such as general contractor or construction manager, for the project shall coordinate a joint contractor-employee safety awareness meeting between contractors and employees on site. Discussion elements for employee awareness training can be found in subparts 2, item C; and 4.
- B. The employee safety awareness meeting shall be documented, identifying when the meeting was held and who attended, including a brief summary of what was reviewed. Documentation shall be retained for the duration of the project.

20.6 Electrical work: For work within the flash protection boundary as defined by NFPA 70E, high visibility garments constructed of material that complies with NFPA 70E may be worn.

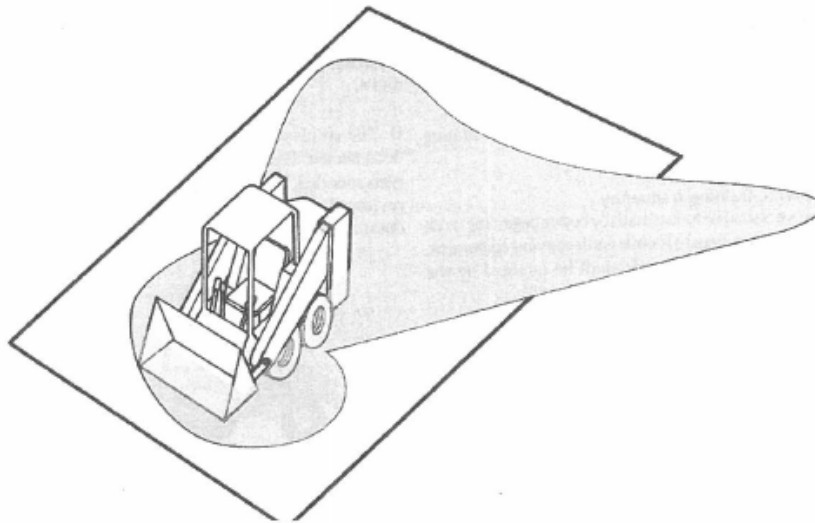
20.7 Procedures to Approach a Piece of Heavy Equipment:

- A. Do not enter the danger zone (25 foot radius) of a piece of equipment without first making eye contact with the machine operator. Never approach a piece of equipment from behind or in the blind spots.

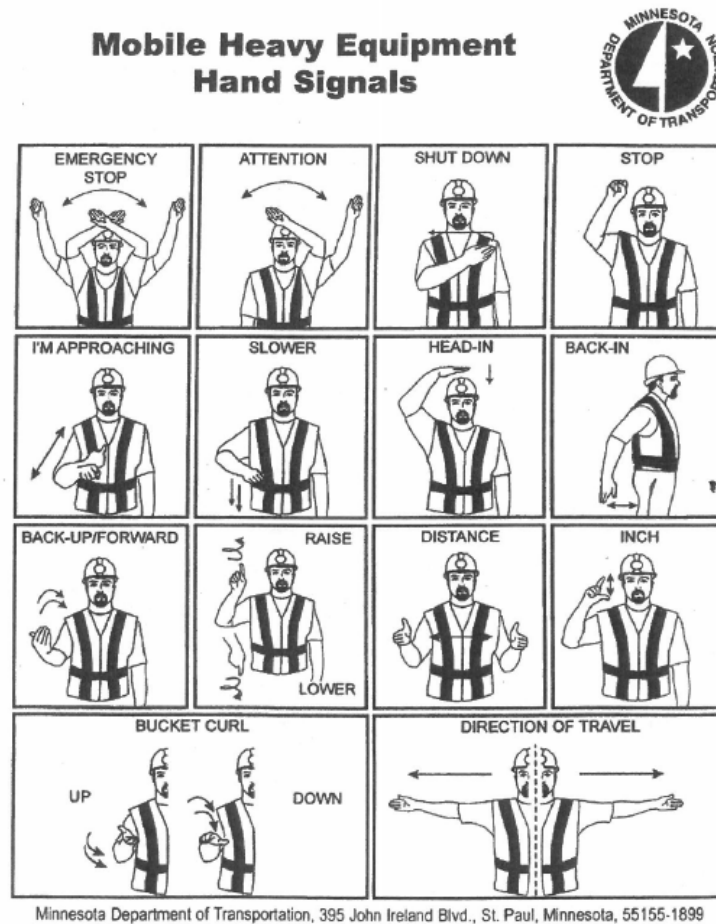
Operator sight distances from eye level to ground, (Find the blind spots)



Operator sight distances from eye level to ground, (Find the blind spots)



- B. Use hand signals (see below list) to signal your intention. Use a mobile radio if there is one on the site to communicate with the operator.



- C. If an employee or worker must approach a piece of equipment the operator must place the blade or bucket on the ground. The operator will signal to the employee to come forward. The machine must be placed in neutral and the parking break set.
- D. The employee walking towards the piece of equipment must maintain eye contact with the operator and machine.
- E. If a worker is to work in the immediate zone of the machine, a high visibility garment must be worn at all times.
- F. The backup warning device on the machines must be operational at all times.
- G. Equipment must be equipped with at least two headlights and adequate rear lights if used in periods of darkness or low light conditions.

20.8 General Safety Requirements for Equipment:

- A. Before any machinery is placed in use, it shall be inspected and tested on a daily basis by a competent person and certified to be in safe operating condition.

- B. Whenever any machinery is found to be unsafe, or whenever a deficiency, which affects the safe operation of equipment is observed, the equipment shall be immediately taken out of service and its use prohibited until unsafe conditions have been corrected.
- C. Only designated qualified personnel shall operate machinery and equipment.
- D. Getting on or off the equipment while it is in motion is prohibited.
- E. The use of electronic devices, including mobile phones, while operating is prohibited.
- F. Seats must be provided for each person required to ride on the equipment. NO RIDERS!
- G. Mobile equipment shall have a service brake system and a parking brake system capable of stopping and holding the equipment while fully loaded on the grade of operation.
- H. All machinery or equipment shall be shut down and positive means taken to prevent its operation while repairs or manual lubrications are being done. Equipment designed to be serviced while running are exempt from this requirement.
- I. Heavy machinery, equipment, or parts thereof which are suspended or held apart by slings, hoist, jacks also shall be substantially blocked or cribbed before personnel are permitted to work underneath or between them.
- J. Personnel shall not work or pass under or ride in the buckets or booms of loaders in operation.
- K. All self-propelled construction equipment shall be equipped with a reverse signal alarm. The alarm must be audible and sufficiently distinct to be heard under prevailing conditions. Alarms shall be continuous during the backward movement.
- L. A signal person shall be used where there is danger to persons from moving equipment, swinging loads, buckets, booms, etc.
- M. Seatbelts are mandatory for use in all heavy equipment.
- N. All bulldozers, tractors, or similar equipment used in clearing operations shall be provided with falling object protective structures (FOPS) to protect the operator from falling and flying objects.
- O. Roll over protection structures (ROPS) are required on all self-propelled construction equipment.

20.9 Safe Operating Procedures for Skid Steer Loaders:

- A. Operate the equipment from the operators compartment – Never from the outside.
- B. Stay seated when operating the equipment controls.
- C. Work with the seat belt fastened and the restraint bar in place.
- D. Keep your arms, legs and head inside the cab while operating the equipment.
- E. When possible, plan to load, unload, and turn on level ground.
- F. For maximum stability, travel and turn with the bucket in the lowest position possible.
- G. Never exceed the manufacturer's recommended load capacity for the machine.
- H. Operate on stable surfaces only.
- I. Avoid traveling across slopes; travel straight up or down with the heavy end of the machine pointed uphill.
- J. Always face the direction of travel.
- K. Keep bystanders away from the work area.
- L. Never modify or bypass safety devices.
- M. Entering and Exiting for the Loader Safely:

- (1) Enter only when the bucket or other attachment is flat on the ground – or when the lift-arm supports are in place. Use supports supplied or recommended by the manufacture.
 - (2) When entering the loader, face the seat and keep a three-point contact with handholds and steps.
 - (3) Never use foot or hand controls for steps or handholds.
 - (4) Keep all walking and working surfaces clean and clear of debris.
 - (5) Before leaving the operators seat; lower the bucket or other attachment flat to the ground, set the parking break, and turn off the engine.
 - (6) If you are unable to exit through the front of the machine, use the emergency exit through the roof or across the back.
- N. Follow the manufactures instruction for maintaining the equipment.

EXCAVATION AND SHORING OSHA 1926.650-652

INTRODUCTION

- This chapter applies to all employees supervising and performing work in or around excavations and trenches on Rachel Contracting, Inc. projects. It also applies to subcontractor personnel performing work for Rachel Contracting, Inc.
- Each Project Manager or Superintendent shall ensure that all excavation and trenching work performed by employees or subcontractors under his or her control shall be executed in accordance with this procedure and CFR 1926. Subpart “P” excavations.
- The objective of this program is to explain to our employees the potential hazards of working in or around trenches and excavations. This program will also outline the actions that need to be taken in order to protect our workers. Protection of employees through removal and support is required. The protection can be from sloping, benching, shoring, scaling loose material, trench boxes, etc.

I. DEFINITIONS

- A. ACCEPTED ENGINEERING PRACTICES are procedures compatible with the standards of practice required of a registered professional engineer.
- B. ADJACENT STRUCTURE STABILITY refers to the stability of the foundation(s) of adjacent structures whose location may create surcharges, changes in soil conditions, or other disruptions that have the potential to extend into the failure zone of the excavation or trench.
- C. COMPETENT PERSON is an individual who is capable of identifying existing and predictable hazards or working conditions that are hazardous, unsanitary, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate or control these hazards and conditions.
- D. CONFINED SPACE is a space that, by design and/or configuration, has limited openings for entry and exit, unfavorable natural ventilation, may contain or produce hazardous substances, and is not intended for continuous employee occupancy.
- E. EXCAVATION. An Excavation is any man-made cut, cavity, trench, or depression in an earth surface that is formed by earth removal. A Trench is a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth of a trench is greater than its width, and the width (measured at the bottom) is not greater than 15 ft (4.6 m). If a form or other structure installed or constructed in an excavation reduces the distance between the form and the side of the excavation to 15 ft. (4.6 m) or less (measured at the bottom of the excavation), the excavation is also considered to be a trench.
- F. HAZARDOUS ATMOSPHERE is an atmosphere that by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen-deficient, toxic, or otherwise harmful may cause death, illness, or injury to persons exposed to it.
- G. INGRESS AND EGRESS mean “entry” and “exit,” respectively. In trenching and excavation operations, they refer to the provision of safe means for employees to enter or exit an excavation or trench.
- H. PROTECTIVE SYSTEM refers to a method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, and from the collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide the necessary protection.

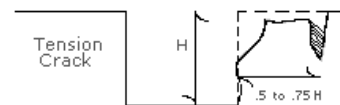
- I. REGISTERED PROFESSIONAL ENGINEER is a person who is registered as a professional engineer in the state where the work is to be performed. However, a professional engineer who is registered in any state is deemed to be a "registered professional engineer" within the meaning of Subpart P when approving designs for "manufactured protective systems" or "tabulated data" to be used in interstate commerce.
- J. SUPPORT SYSTEM refers to structures such as underpinning, bracing, and shoring that provide support to an adjacent structure or underground installation or to the sides of an excavation or trench.
- K. SUBSURFACE ENCUMBRANCES include underground utilities, foundations, streams, water tables, transformer vaults, and geological anomalies.
- L. SURCHARGE means an excessive vertical load or weight caused by spoil, overburden, vehicles, equipment, or activities that may affect trench stability.
- M. TABULATED DATA are tables and charts approved by a registered professional engineer and used to design and construct a protective system.
- N. UNDERGROUND INSTALLATIONS include, but are not limited to, utilities (sewer, telephone, fuel, electric, water, and other product lines), tunnels, shafts, vaults, foundations, and other underground fixtures or equipment that may be encountered during excavation or trenching work.
- O. UNCONFINED COMPRESSIVE STRENGTH is the load per unit area at which soil will fail in compression. This measure can be determined by laboratory testing, or it can be estimated in the field using a pocket penetrometer, by thumb penetration tests, or by other methods.
- P. DEFINITIONS THAT ARE NO LONGER APPLICABLE. For a variety of reasons, several terms commonly used in the past are no longer used in revised Subpart P. These include the following:
 - **Angle of Repose** Conflicting and inconsistent definitions have led to confusion as to the meaning of this phrase. This term has been replaced by **Maximum Allowable Slope**.
 - **Bank, Sheet Pile, and Walls** Previous definitions were unclear or were used inconsistently in the former standard.
 - **Hard Compact Soil and Unstable** Soil the new soil classification system in revised Subpart P uses different terms for these soil types.

II. OVERVIEW: SOIL MECHANICS

A number of stresses and deformations can occur in an open cut or trench. For example, increases or decreases in moisture content can adversely affect the stability of a trench or excavation. The following diagrams show some of the more frequently identified causes of trench failure.

- A. TENSION CRACKS. Tension cracks usually form at a horizontal distance of 0.5 to 0.75 times the depth of the trench, measured from the top of the vertical face of the trench. See the accompanying drawing for additional details.

FIGURE 5:2-1. TENSION CRACK.



- B. SLIDING or sluffing may occur as a result of tension cracks, as illustrated.

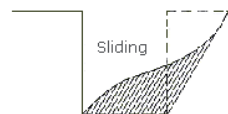
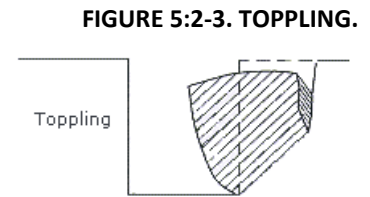


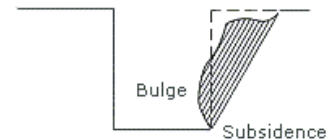
FIGURE 5:2-2. SLIDING.

- C. **TOPPLING.** In addition to sliding, tension cracks can cause toppling. Toppling occurs when the trench's vertical face shears along the tension crack line and topples into the excavation.



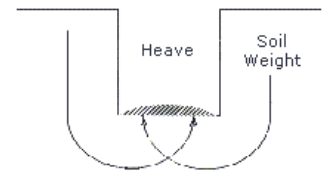
- D. **SUBSIDENCE AND BULGING.** An unsupported excavation can create an unbalanced stress in the soil, which, in turn, causes subsidence at the surface and bulging of the vertical face of the trench. If uncorrected, this condition can cause face failure and entrapment of workers in the trench.

FIGURE 5:2-4. SUBSIDENCE AND BULGING.



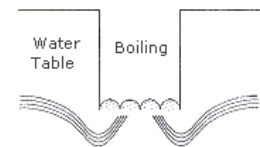
- E. **HEAVING OR SQUEEZING.** Bottom heaving or squeezing is caused by the downward pressure created by the weight of adjoining soil. This pressure causes a bulge in the bottom of the cut, as illustrated in the drawing above. Heaving and squeezing can occur even when shoring or shielding has been properly installed.

FIGURE 5:2-5. HEAVING OR SQUEEZING.



- F. **BOILING** is evidenced by an upward water flow into the bottom of the cut. A high water table is one of the causes of boiling. Boiling produces a "quick" condition in the bottom of the cut, and can occur even when shoring or trench boxes are used.

FIGURE 5:2-6. BOILING.



- G. **UNIT WEIGHT OF SOILS** refers to the weight of one unit of a particular soil. The weight of soil varies with type and moisture content. One cubic foot of soil can weigh from 110 pounds to 140 pounds or more, and one cubic meter (35.3 cubic feet) of soil can weigh more than 3,000 pounds.

III. **DETERMINATION OF SOIL TYPE**

OSHA categorizes soil and rock deposits into four types, A through D, as follows:

- A. **STABLE ROCK** is natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed. It is usually identified by a rock name such as granite or sandstone. Determining whether a deposit is of this type may be difficult unless it is known whether cracks exist and whether or not the cracks run into or away from the excavation.
- B. **TYPE A SOILS** are cohesive soils with an unconfined compressive strength of 1.5 tons per square foot (tsf) (144 kPa) or greater. Examples of Type A cohesive soils are often: clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. (No soil is Type A if it is fissured, is subject to vibration of any type, has previously been disturbed, is part of a sloped, layered system where the layers dip into the excavation on a slope of 4 horizontal to 1 vertical (4H:1V) or greater, or has seeping water.)

- C. TYPE B SOILS are cohesive soils with an unconfined compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa). Examples of other Type B soils are: angular gravel; silt; silt loam; previously disturbed soils unless otherwise classified as Type C; soils that meet the unconfined compressive strength or cementation requirements of Type A soils but are fissured or subject to vibration; dry unstable rock; and layered systems sloping into the trench at a slope less than 4H:1V (only if the material would be classified as a Type B soil).
- D. TYPE C SOILS are cohesive soils with an unconfined compressive strength of 0.5 tsf (48 kPa) or less. Other Type C soils include granular soils such as gravel, sand and loamy sand, submerged soil, soil from which water is freely seeping, and submerged rock that is not stable. Also included in this classification is material in a sloped, layered system where the layers dip into the excavation or have a slope of four horizontal to one vertical (4H:1V) or greater.
- E. LAYERED GEOLOGICAL STRATA. Where soils are configured in layers, i.e., where a layered geologic structure exists, the soil must be classified on the basis of the soil classification of the weakest soil layer. Each layer may be classified individually if a more stable layer lies below a less stable layer, i.e., where a Type C soil rests on top of stable rock.

IV. TEST EQUIPMENT AND METHODS FOR EVALUATING SOIL TYPE

Many kinds of equipment and methods are used to determine the type of soil prevailing in an area, as described below.

- A. POCKET PENETROMETER. Penetrometers are direct-reading, spring-operated instruments used to determine the unconfined compressive strength of saturated cohesive soils. Once pushed into the soil, an indicator sleeve displays the reading. The instrument is calibrated in either tons per square foot (tsf) or kilograms per square centimeter (kPa). However, Penetrometers have error rates in the range of ± 20 -40%.
- B. Shearvane (Torvane). To determine the unconfined compressive strength of the soil with a shearvane, the blades of the vane are pressed into a level section of undisturbed soil, and the torsional knob is slowly turned until soil failure occurs. The direct instrument reading must be multiplied by 2 to provide results in tons per square foot (tsf) or kilograms per square centimeter (kPa).
- C. Thumb Penetration Test. The thumb penetration procedure involves an attempt to press the thumb firmly into the soil in question. If the thumb makes an indentation in the soil only with great difficulty, the soil is probably Type A. If the thumb penetrates no further than the length of the thumb nail, it is probably Type B soil, and if the thumb penetrates the full length of the thumb, it is Type C soil. The thumb test is subjective and is therefore the least accurate of the three methods.
- D. Dry Strength Test. Dry soil that crumbles freely or with moderate pressure into individual grains is granular. Dry soil that falls into clumps that subsequently break into smaller clumps (and the smaller clumps can be broken only with difficulty) is probably clay in combination with gravel, sand, or silt. If the soil breaks into clumps that do not break into smaller clumps (and the soil can be broken only with difficulty), the soil is considered unfissured unless there is visual indication of fissuring.
- E. PLASTICITY OR WET THREAD TEST. This test is conducted by molding a moist sample of the soil into a ball and attempting to roll it into a thin thread approximately 1/8 inch (3 mm) in diameter (thick) by 2 inches (50 mm) in length. The soil sample is held by one end. If the sample does not break or tear, the soil is considered cohesive.

- F. VISUAL TEST. A visual test is a qualitative evaluation of conditions around the site. In a visual test, the entire excavation site is observed, including the soil adjacent to the site and the soil being excavated. If the soil remains in clumps, it is cohesive; if it appears to be coarse-grained sand or gravel, it is considered granular. The evaluator also checks for any signs of vibration.

During a visual test, the evaluator should check for crack-line openings along the failure zone that would indicate tension cracks, look for existing utilities that indicate that the soil has previously been disturbed, and observe the open side of the excavation for indications of layered geologic structuring.

The evaluator should also look for signs of bulging, boiling, or sluffing, as well as for signs of surface water seeping from the sides of the excavation or from the water table. If there is standing water in the cut, the evaluator should check for "quick" conditions. In addition, the area adjacent to the excavation should be checked for signs of foundations or other intrusions into the failure zone, and the evaluator should check for surcharging and the spoil distance from the edge of the excavation.

Penciling

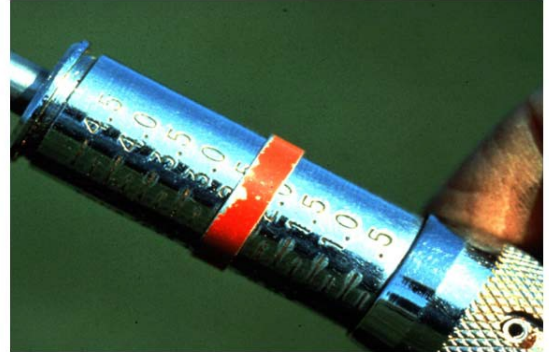


Pocket Penetrometer

- Push red ring on the barrel all the way toward the handle.
- Push shaft into the soil up to the red ring.
- Hold barrel so as to not to interfere with the spring inside the barrel.
- NOTE slip ring moved on the barrel as barrel was pushed back into the handle.



Test # 4 - Pocket Penetrometer



Pocket Penetrometer Test

- Device is designed to work on saturated clay soil
- Measures unconfined compressive strength of soil
- Twice the value of shear strength of same soil
- Note machine ring about a quarter of an inch



Torvane Shear Test

- Select fresh clod or block of undisturbed soil from spoil pile
- Cut a smooth surface on the clod
- Insert vanes of device into the soil
- Retract vanes to show foot imprint
- Set indicator at zero
- Hold device firmly against soil and twist in clockwise manner until soil fails in shear



The Ribbon Test

- Mix soil + water to make into plastic mass
- Roll mass into cylindrical shape 1/2 to 3/4 inch diameter
- Lay across palm of hand
- Press between thumb and second joint of index finger



V. SHORING TYPES

Shoring is the provision of a support system for trench faces used to prevent movement of soil, underground utilities, roadways, and foundations. Shoring or shielding is used when the location or depth of the cut makes sloping back to the maximum allowable slope impractical. Shoring systems consist of posts, wales, struts, and sheeting. There are two basic types of shoring, timber and aluminum hydraulic.

VI. SHIELDING TYPES

- A. **TRENCH BOXES** are different from shoring because, instead of shoring up or otherwise supporting the trench face, they are intended primarily to protect workers from cave-ins and similar incidents. The excavated area between the outside of the trench box and the face of the trench should be as small as possible. The space between the trench boxes and the excavation side are backfilled to prevent lateral movement of the box. Shields may not be subjected to loads exceeding those which the system was designed to withstand.

FIGURE V:2-10. TRENCH SHIELD.

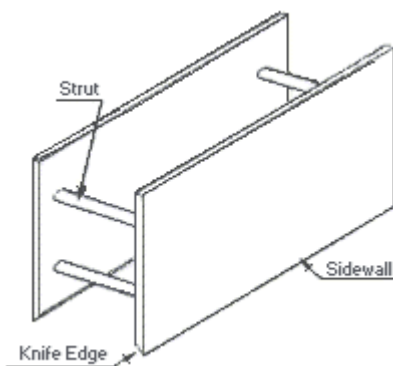
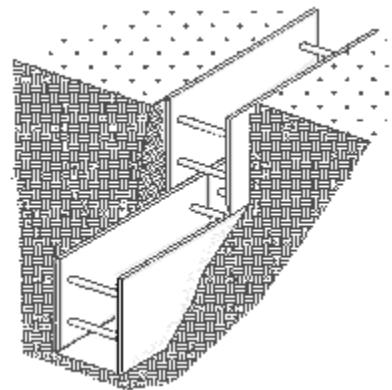
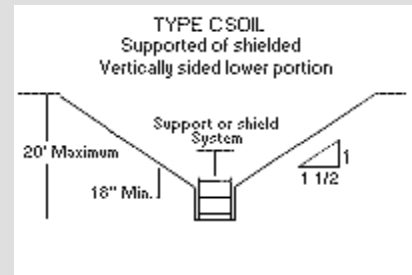
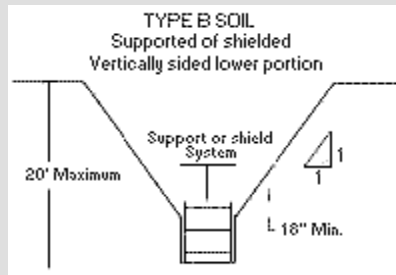
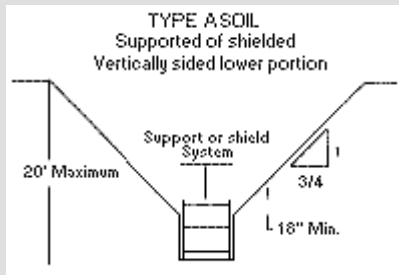


FIGURE V:2-11. TRENCH SHIELD, STACKED.



- B. **COMBINED USE.** Trench boxes are generally used in open areas, but they also may be used in combination with sloping and benching. The box should extend at least 18 in (0.45 m) above the surrounding area if there is sloping toward excavation. This can be accomplished by providing a benched area adjacent to the box.
- Earth excavation to a depth of 2 ft. (0.61 m) below the shield is permitted, but only if the shield is designed to resist the forces calculated for the full depth of the trench and there are no indications while the trench is open of possible loss of soil from behind or below the bottom of the support system. Conditions of this type require observation on the effects of bulging, heaving, and boiling as well as surcharging, vibration, adjacent structures, etc., on excavating below the bottom of a shield. Careful visual inspection of the conditions mentioned above is the primary and most prudent approach to hazard identification and control.

FIGURE V:2-12. SLOPE AND SHIELD CONFIGURATIONS.



VII. SLOPING AND BENCHING

A. SLOPING. Maximum allowable slopes for excavations less than 20 ft (6.09 m) based on soil type and angle to the horizontal are as follows:

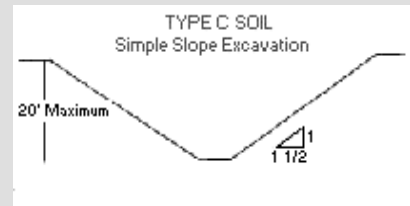
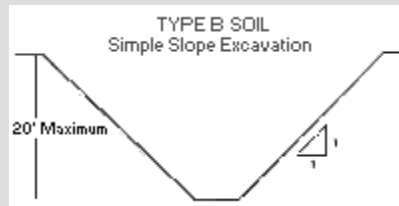
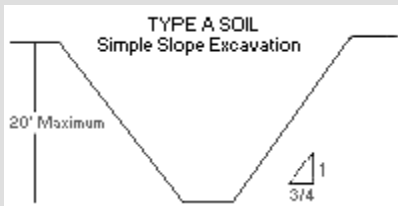
*Excavations greater than 20' must have a stamped engineers plan.

TABLE V:2-1. ALLOWABLE SLOPES.

Soil type	Height/Depth ratio	Slope angle
Stable Rock	Vertical	90°
Type A	¾:1	53°
Type B		
Type C	1:1	45°
Type A (short-term)	1½:1	34°
	½:1	63°

(For a maximum excavation depth of 12 ft)

FIGURE V:2-13. SLOPE CONFIGURATIONS: EXCAVATIONS IN LAYERED SOILS.



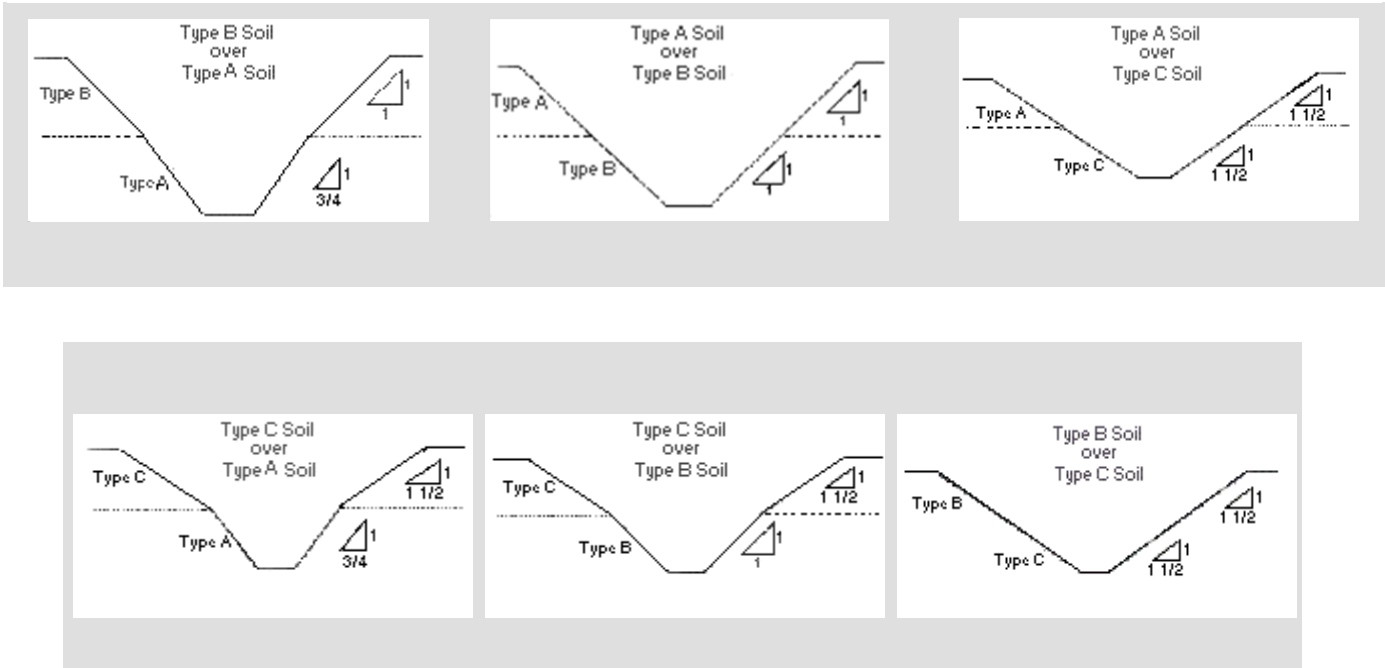
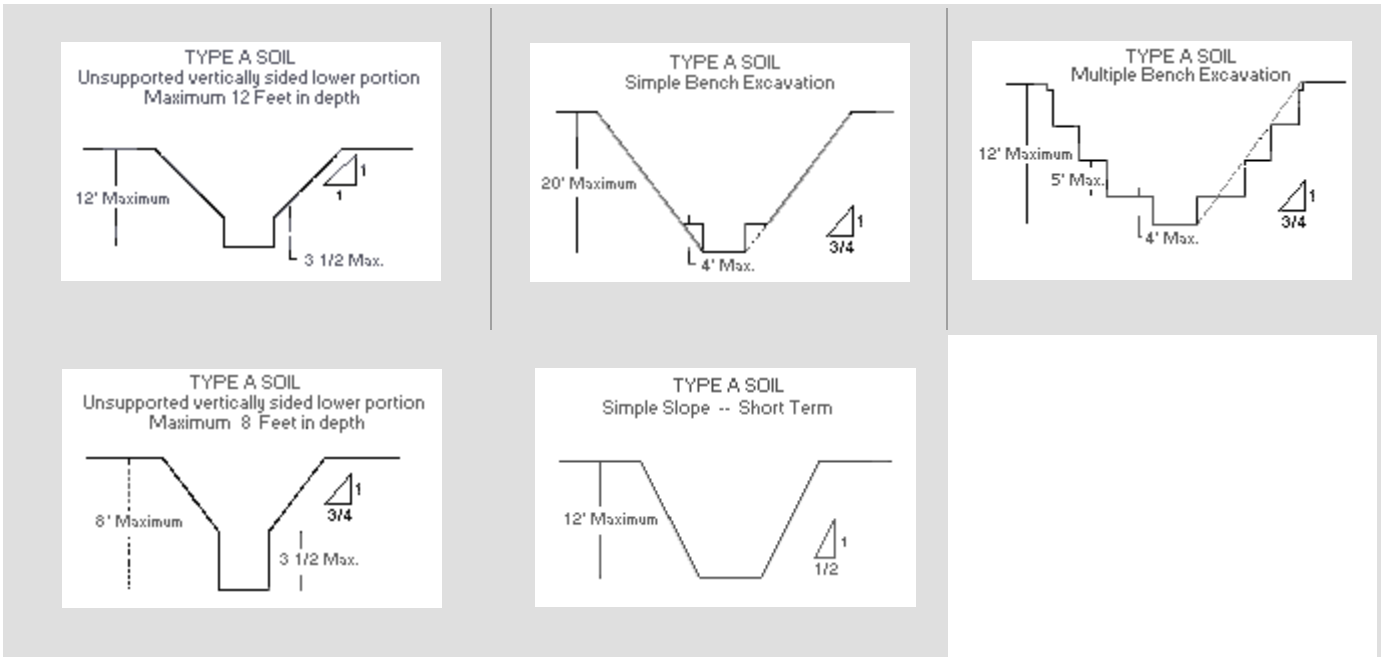


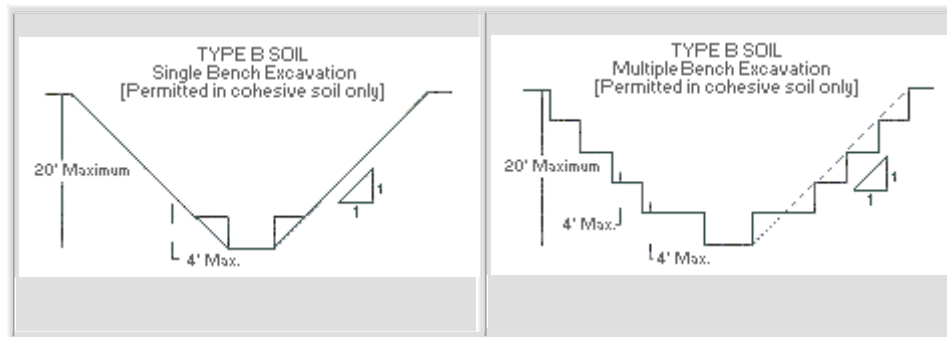
FIGURE V-2-14. EXCAVATIONS MADE IN TYPE A SOIL



B. BENCHING. There are two basic types of benching, simple and multiple. The type of soil determines the horizontal to vertical ratio of the benched side.

As a general rule, the bottom vertical height of the trench must not exceed 4 ft (1.2 m) for the first bench. Subsequent benches may be up to a maximum of 5 ft (1.5 m) vertical in Type A soil and 4 ft (1.2 m) in Type B soil to a total trench depth of 20 ft (6.0 m). All subsequent benches must be below the maximum allowable slope for that soil type. For Type B soil the trench excavation is permitted in cohesive soil only.

FIGURE V:2-15. EXCAVATIONS MADE IN TYPE B SOIL.

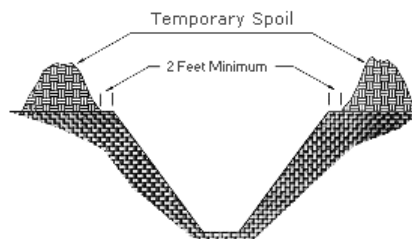


VIII. SPOIL

- A. **TEMPORARY SPOIL.** Temporary spoil must be placed no closer than 2 ft (0.61 m) from the surface edge of the excavation, measured from the nearest base of the spoil to the cut. This distance should not be measured from the crown of the spoil deposit. This distance requirement ensures that loose rock or soil from the temporary spoil will not fall on employees in the trench.

Spoil should be placed so that it channels rainwater and other run-off water away from the excavation. Spoil should be placed so that it cannot accidentally run, slide, or fall back into the excavation.

FIGURE V:2-16. TEMPORARY SPOIL.



- B. **PERMANENT SPOIL.** Permanent spoil should be placed at some distance from the excavation. Permanent spoil is often created where underpasses are built or utilities are buried. The improper placement of permanent spoil, i.e. insufficient distance from the working excavation, can cause an excavation to be out of compliance with the horizontal-to-vertical ratio requirement for a particular excavation. This can usually be determined through visual observation. Permanent spoil can change undisturbed soil to disturbed soil and dramatically alter slope requirements.

IX. SPECIAL HEALTH AND SAFETY CONSIDERATIONS

- A. COMPETENT PERSON. The designated competent person should have and be able to demonstrate the following:
- Training, experience, and knowledge of:
 - soil analysis;
 - use of protective systems; and
 - requirements of 29 CFR Part 1926 Subpart P.
 - Ability to detect:
 - conditions that could result in cave-ins;
 - failures in protective systems;
 - hazardous atmospheres; and
 - other hazards including those associated with confined spaces.
 - Authority to take prompt corrective measures to eliminate existing and predictable hazards and to stop work when required.
- B. SURFACE CROSSING OF TRENCHES. Surface crossing of trenches should be discouraged; however, if trenches must be crossed, such crossings are permitted only under the following conditions:
- Vehicle crossings must be designed by and installed under the supervision of a registered professional engineer.
 - Walkways or bridges must be provided for foot traffic. These structures shall:
 - have a safety factor of 4;
 - have a minimum clear width of 20 in (0.51 m);
 - be fitted with standard rails; and
 - extend a minimum of 24 in (.61 m) past the surface edge of the trench.
- C. INGRESS AND EGRESS. Access to and exit from the trench require the following conditions:
- Trenches 4 ft or more in depth should be provided with a fixed means of egress.
 - Spacing between ladders or other means of egress must be such that a worker will not have to travel more than 25 ft laterally to the nearest means of egress.
 - Ladders must be secured and extend a minimum of 36 in (0.9 m) above the landing.
 - Metal ladders should be used with caution, particularly when electric utilities are present.
- D. EXPOSURE TO VEHICLES. Procedures to protect employees from being injured or killed by vehicle traffic include:
- Providing employees with and requiring them to wear warning vests or other suitable garments marked with or made of reflectorized or high-visibility materials.
 - Requiring a designated, trained flag person along with signs, signals, and barricades when necessary.
- E. EXPOSURE TO FALLING LOADS. Employees must be protected from loads or objects falling from lifting or digging equipment. Procedures designed to ensure their protection include:
- Employees are not permitted to work under raised loads.
 - Employees are required to stand away from equipment that is being loaded or unloaded.
 - Equipment operators or truck drivers may stay in their equipment during loading and unloading if the equipment is properly equipped with a cab shield or adequate canopy.

- F. WARNING SYSTEMS FOR MOBILE EQUIPMENT. The following steps should be taken to prevent vehicles from accidentally falling into the trench:
- Barricades must be installed where necessary.
 - Hand or mechanical signals must be used as required.
 - Stop logs must be installed if there is a danger of vehicles falling into the trench.
 - Soil should be graded away from the excavation; this will assist in vehicle control and channeling of run-off water.
- G. HAZARDOUS ATMOSPHERES AND CONFINED SPACES. Employees shall not be permitted to work in hazardous and/or toxic atmospheres. Such atmospheres include those with:
- Less than 19.5% or more than 23.5% oxygen;
 - A combustible gas concentration greater than 20% of the lower flammable limit; and
 - Concentrations of hazardous substances that exceed those specified in the Threshold Limit Values for Airborne Contaminants established by the ACGIH (American Conference of Governmental Industrial Hygienists).
 - All operations involving such atmospheres must be conducted in accordance with OSHA requirements for occupational health and environmental controls (see Subpart D of 29 CFR 1926) for personal protective equipment and for lifesaving equipment (see Subpart E, 29 CFR 1926). Engineering controls (e.g., ventilation) and respiratory protection may be required.

When testing for atmospheric contaminants, the following should be considered:

- Testing should be conducted before employees enter the trench and should be done regularly to ensure that the trench remains safe.
- The frequency of testing should be increased if equipment is operating in the trench.
- Testing frequency should also be increased if welding, cutting, or burning is done in the trench.

Employees required to wear respiratory protection must be trained, fit-tested, and enrolled in a respiratory protection program. Some trenches qualify as confined spaces. When this occurs, compliance with the Confined Space Standard is also required.

- H. UNDERGROUND UTILITIES Trenching operations, whether done with mechanical equipment or by hand, have long been a source of serious property damage, injuries, and fatalities due to striking underground utilities.
- All underground utility installations are to be located prior to the start of any work. To establish location of utilities (electric, gas, water, sewer, phone, etc.) call the 811 hotline or the One Call agency applicable to the state you are working in.
 - Underground utilities are to be protected, supported, or removed while the trench is open.
 - Move or support all surface encumbrances (trees, boulders, fire hydrants, light poles etc.) that may create a hazard to employees.
- I. EMERGENCY RESCUE EQUIPMENT. Emergency rescue equipment is required when a hazardous atmosphere exists or can reasonably be expected to exist. Requirements are as follows:
- Respirators must be of the type suitable for the exposure. Employees must be trained in their use and a respirator program must be instituted.

- Attended (at all times) lifelines must be provided when employees enter bell-bottom pier holes, deep confined spaces, or other similar hazards.
 - Employees who enter confined spaces must be trained.
- J. STANDING WATER AND WATER ACCUMULATION. Methods for controlling standing water and water accumulation must be provided and should consist of the following if employees are permitted to work in the excavation:
- Use of special support or shield systems approved by a registered professional engineer.
 - Water removal equipment, i.e. well pointing, used and monitored by a competent person.
 - Safety harnesses and lifelines used in conformance with 29 CFR 1926.104.
 - Surface water diverted away from the trench.
 - Employees removed from the trench during rainstorms.
 - Trenches carefully inspected by a competent person after each rain and before employees are permitted to re-enter the trench.
- K. INSPECTIONS. Inspections shall be made daily by a competent person and should be documented. The following guide specifies the frequency and conditions requiring inspections:
- Daily and before the start of each shift;
 - As dictated by the work being done in the trench;
 - After every rainstorm;
 - After other events that could increase hazards, e.g. snowstorm, windstorm, thaw, earthquake, etc.;
 - When fissures, tension cracks, sloughing, undercutting, water seepage, bulging at the bottom, or other similar conditions occur;
 - When there is a change in the size, location, or placement of the spoil pile; and
 - When there is any indication of change or movement in the adjacent structure.

RESPIRABLE CRYSTALLINE SILICA PROGRAM

PURPOSE

This Respirable Crystalline Silica Program was developed to prevent employee exposure to hazardous levels of Respirable Crystalline Silica that could result through construction activities or nearby construction activities occurring on worksites. Respirable Crystalline Silica exposure at hazardous levels can lead to lung cancer, silicosis, chronic obstructive pulmonary disease, and kidney disease. It is intended to meet the requirements of the Respirable Crystalline Silica Construction Standard (29 CFR 1926.1153) established by the Occupational Safety and Health Administration (OSHA).

All work involving chipping, cutting, drilling, grinding, or similar activities on materials containing Crystalline Silica can lead to the release of respirable-sized particles of Crystalline Silica (i.e. Respirable Crystalline Silica). Crystalline Silica is a basic component of soil, sand, granite and many other minerals. Quartz is the most common form of Crystalline Silica. Many materials found on construction sites include Crystalline Silica; including but not limited to – cement, concrete, asphalt, pre-formed structures (inlets, pipe, etc.) and others. Consequently, this program has been developed to address and control these potential exposures to prevent our employees from experiencing the effects of occupational illnesses related to Respirable Crystalline Silica exposure.

SCOPE

This Respirable Crystalline Silica Program applies to all employees who have the potential to be exposed to Respirable Crystalline Silica when covered by the OSHA Standard. The OSHA Respirable Crystalline Silica Construction Standard applies to all occupational exposures to Respirable Crystalline Silica in construction work, except where employee exposure will remain below 25 micrograms of Respirable Crystalline Silica per cubic meter of air ($25 \mu\text{g}/\text{m}^3$) as an 8-hour time-weighted average (TWA) under any foreseeable conditions.

RESPONSIBILITIES

Lyon Contracting Inc. firmly believes protecting the health and safety of our employees is everyone's responsibility. This responsibility begins with upper management providing the necessary support to properly implement this program. However, all levels of the organization assume some level of responsibility for this program including the following positions.

Safety Committee:

- Conduct job site assessments for Silica containing materials and perform employee Respirable Crystalline Silica hazard assessments in order to determine if an employee's exposure will be above $25 \mu\text{g}/\text{m}^3$ as an 8-hour TWA under any foreseeable conditions
- Select and implement into the project's ECP the appropriate control measures in accordance with the Construction Tasks identified in OSHA's Construction Standard Table 1; and potentially including (but not limited to) - a written Exposure Control Plan (ECP), exposure monitoring, Hazard Communication training, medical surveillance, housekeeping and others.

NOTE: OSHA's Construction Standard Table 1 is a list of 18 common construction tasks along with acceptable exposure control methods and work practices that limit exposure for those tasks.

- Ensure that the materials, tools, equipment, personal protective equipment (PPE), and other resources (such as worker training) required to fully implement and maintain this Respirable Crystalline Silica Program are in place and readily available if needed.
- Ensure that Project Managers, Superintendents, Competent Persons, and employees are educated in the hazards of Silica exposure and trained to work safely with Silica in accordance with OSHA's Respirable Crystalline Silica Construction Standard and OSHA's Hazard Communication Standard. Managers and Competent Persons may receive more advanced training than other employees.
- Maintain written records of training (for example, proper use of respirators), ECPs, inspections (for equipment, PPE, and work methods/practices), medical surveillance (under lock and key), respirator medical clearances (under lock and key) and fit-test results.
- Conduct an annual review (or more often if conditions change) of the effectiveness of this program and any active project ECP's that extend beyond a year. This includes a review of available dust control technologies to ensure these are selected and used when practical.
- Coordinate work with other employers and contractors to ensure a safe work environment relative to Silica exposure.

Project Manager:

- Ensure all applicable elements of this Respirable Crystalline Silica Program are implemented on the project including the selection of a Competent Person.
- Assist the Safety Committee in conduct job site assessments for Silica containing materials and perform employee Respirable Crystalline Silica hazard assessments in order to determine if an ECP, exposure monitoring, and medical surveillance is necessary.
- Assist in the selection and implementation of the appropriate control measures in accordance with the Construction Tasks identified in OSHA's Construction Standard Table 1; and potentially including (but not limited to) - a written Exposure Control Plan (ECP), exposure monitoring, Hazard Communication training, medical surveillance, housekeeping and others.
- Ensure that employees using respirators have been properly trained, medically cleared, and fit-tested in accordance with the company's Respiratory Protection Program. This process will be documented.
- Ensure that work is conducted in a manner that minimizes and adequately controls the risk to workers and others. This includes ensuring that workers use appropriate engineering controls, work practices, and wear the necessary PPE.
- Where there is risk of exposure to Silica dust, verify employees are properly trained on the applicable contents of this program, the project-specific ECP, and the applicable OSHA Standards (such as Hazard Communication). Ensure employees are provided appropriate PPE when conducting such work.

Competent Person and/or Superintendent

- Make frequent and regular inspections of job sites, materials, and equipment to implement the written ECP.
- Identify existing and foreseeable Respirable Crystalline Silica hazards in the workplace and take prompt corrective measures to eliminate or minimize them.
- Notify the Project Manager and/or Safety Committee of any deficiencies identified during inspections in order to coordinate and facilitate prompt corrective action.

- Assist the Project Manager and Safety Committee in conducting job site assessments for Silica containing materials and perform employee Respirable Crystalline Silica hazard assessments in order to determine if an ECP, exposure monitoring, and medical surveillance is necessary.

Employees:

- Follow recognized work procedures (such as the Construction Tasks identified in OSHA's Construction Standard Table 1) as established in the project's ECP and this program.
- Use the assigned PPE in an effective and safe manner.
- Participate in Respirable Crystalline Silica exposure monitoring and the medical surveillance program.
- Report any unsafe conditions or acts to the Site Manager and/or Competent Person.
- Report any exposure incidents or any signs or symptoms of Silica illness.

DEFINITIONS

If a definition is not listed in this section, please contact your supervisor. If your supervisor is unaware of what the term means, please contact the Competent Person or your Safety Committee.

- Action Level means a concentration of airborne Respirable Crystalline Silica of 25 $\mu\text{g}/\text{m}^3$, calculated as an 8-hour TWA.
- Competent Person means an individual who is capable of identifying existing and foreseeable Respirable Crystalline Silica hazards in the workplace and who has authorization to take prompt corrective measures to eliminate or minimize them.
- Employee Exposure means the exposure to airborne Respirable Crystalline Silica that would occur if the employee were not using a respirator.
- High-Efficiency Particulate Air (HEPA) Filter means a filter that is at least 99.97 percent efficient in removing monodispersed particles of 0.3 micrometers in diameter.
- Objective Data means information, such as air monitoring data from industry-wide surveys or calculations based on the composition of a substance, demonstrating employee exposure to Respirable Crystalline Silica associated with a particular product or material or a specific process, task, or activity. The data must reflect workplace conditions closely resembling or with a higher

exposure potential than the processes, types of material, control methods, work practices, and environmental conditions in the employer's current operations.

- Permissible Exposure Limit (PEL) means the employer shall ensure that no employee is exposed to an airborne concentration of Respirable Crystalline Silica in excess of $50 \mu\text{g}/\text{m}^3$, calculated as an 8-hour TWA.
- Physician or Other Licensed Health Care Professional (PLHCP) means an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide or be delegated the responsibility to provide some or all of the particular health care services required by the Medical Surveillance Section of the OSHA Respirable Crystalline Silica Standard.
- Respirable Crystalline Silica means Quartz, Cristobalite, and/or Tridymite contained in airborne particles that are determined to be respirable by a sampling device designed to meet the characteristics for respirable-particle size- selective samplers specified in the International Organization for Standardization (ISO) 7708:1995: Air Quality-Particle Size Fraction Definitions for Health-Related Sampling.
- Specialist means an American Board Certified Specialist in Pulmonary Disease or an American Board Certified Specialist in Occupational Medicine.

REQUIREMENTS

Specified Exposure Control Methods

When possible and applicable, Lyon Contracting Inc. will conduct activities with potential Silica exposure to be consistent with OSHA's Construction Standard Table 1. Supervisors will ensure each employee under their supervision and engaged in a task identified on OSHA's Construction Standard Table 1 have fully and properly implemented the engineering controls, work practices, and respiratory protection specified for the task on Table 1 (unless Lyon Contracting Inc. has assessed and limited the exposure of the employee to Respirable Crystalline Silica in accordance with the Alternative Exposure Control Methods Section of this program).

The task(s) being performed by Lyon Contracting Inc. identified on OSHA's Construction Standard Table 1 is/are: None

Table 1: Specified Exposure Control Methods When Working With Materials Containing Crystalline Silica

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
1	Stationary masonry saws	<ul style="list-style-type: none"> Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	None	None
2a	Handheld power saws (any blade diameter) when used outdoors	<ul style="list-style-type: none"> Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	None	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
2b	Handheld power saws (any blade diameter) when used indoors or in an enclosed area	<ul style="list-style-type: none"> Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
3	Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less) for tasks performed outdoors only	<ul style="list-style-type: none"> Use saw equipped with commercially available dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency. 	None	None
4a	Walk-behind saws when used outdoors	<ul style="list-style-type: none"> Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	None	None
4b	Walk-behind saws when used indoors or in an enclosed area	<ul style="list-style-type: none"> Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
5	Drivable saws for tasks performed outdoors only	<ul style="list-style-type: none"> Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	None	None

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
6	Rig-mounted core saws or drills	<ul style="list-style-type: none"> Use tool equipped with integrated water delivery system that supplies water to cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	None	None
7	Handheld and stand-mounted drills (including impact and rotary hammer drills)	<ul style="list-style-type: none"> Use drill equipped with commercially available shroud or cowling with dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes. 	None	None
8	Dowel drilling rigs for concrete for tasks performed outdoors only	<ul style="list-style-type: none"> Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes. 	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
9a	Vehicle-mounted drilling rigs for rock and concrete	<ul style="list-style-type: none"> Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector. 	None	None
9b	Vehicle-mounted drilling rigs for rock and concrete	<ul style="list-style-type: none"> Operate from within an enclosed cab and use water for dust suppression on drill bit. 	None	None
10a	Jackhammers and handheld powered chipping tools when used outdoors	<ul style="list-style-type: none"> Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact. 	None	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
10b	Jackhammers and handheld powered chipping tools when used indoors or in an enclosed area	<ul style="list-style-type: none"> Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact. 	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
10c	Jackhammers and handheld powered chipping tools when used outdoors	<ul style="list-style-type: none"> Use tool equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust 	None	N95 (or Greater Efficiency) Filtering

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
		emissions. <ul style="list-style-type: none"> Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. 		Facepiece or Half Mask
10d	Jackhammers and handheld powered chipping tools when used indoors or in an enclosed area	<ul style="list-style-type: none"> Use tool equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. 	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask
11	Handheld grinders for mortar removal (i.e., tuckpointing)	<ul style="list-style-type: none"> Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism. 	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask	Powered Air-Purifying Respirator (PAPR) with P100 Filters
12a	Handheld grinders for uses other than mortar removal for tasks performed outdoors only	<ul style="list-style-type: none"> Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	None	None
12b	Handheld grinders for uses other than mortar removal when used outdoors	<ul style="list-style-type: none"> Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism. 	None	None
12c	Handheld grinders for uses other than mortar removal when used indoors or in an enclosed area	<ul style="list-style-type: none"> Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of 	None	N95 (or Greater Efficiency) Filtering Facepiece or Half Mask

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
		wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.		
13a	Walk-behind milling machines and floor grinders	<ul style="list-style-type: none"> Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. 	None	None
13b	Walk-behind milling machines and floor grinders	<ul style="list-style-type: none"> Use machine equipped with dust collection system recommended by the manufacturer. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes. 	None	None
14	Small drivable milling machines (less than half-lane)	<ul style="list-style-type: none"> Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions. 	None	None
15a	Large drivable milling machines (half-lane and larger) for cuts of any depth on asphalt only	<ul style="list-style-type: none"> Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions. 	None	None
15b	Large drivable milling machines (half-lane and larger) for cuts of four inches in depth or less on any substrate	<ul style="list-style-type: none"> Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions. 	None	None
15c	Large drivable milling machines (half-lane and larger) for cuts of four inches in depth or less on any substrate	<ul style="list-style-type: none"> Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions. 	None	None
16	Crushing machines	<ul style="list-style-type: none"> Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points). Operate and maintain machine in accordance with manufacturer's instructions to minimize 	None	None

Construction Task or Equipment Operation		Engineering and Work Practice Control Methods	Required Respiratory Protection	
			≤ 4 hours/shift	>4 hours/shift
		<ul style="list-style-type: none"> dust emissions. Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station. 		
17a	Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	<ul style="list-style-type: none"> Operate equipment from within an enclosed cab. 	None	None
17b	Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	<ul style="list-style-type: none"> When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions. 	None	None
18a	Heavy equipment and utility vehicles for tasks such as grading and excavating but not including demolishing, abrading, or fracturing silica-containing materials	<ul style="list-style-type: none"> Apply water and/or dust suppressants as necessary to minimize dust emissions. 	None	None
18b	Heavy equipment and utility vehicles for tasks such as grading and excavating but not including demolishing, abrading, or fracturing silica-containing materials	<ul style="list-style-type: none"> When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab. 	None	None

When implementing the control measures specified in Table 1, Lyon Contracting Inc. shall:

- For tasks performed indoors or in enclosed areas, provide a means of exhaust as needed to minimize the accumulation of visible airborne dust;
- For tasks performed using wet methods, apply water at flow rates sufficient to minimize release of visible dust;
- For measures implemented that include an enclosed cab or booth, ensure that the enclosed cab or booth:
 - Is maintained as free as practicable from settled dust;
 - Has door seals and closing mechanisms that work properly;
 - Has gaskets and seals that are in good condition and working properly;
 - Is under positive pressure maintained through continuous delivery of fresh air;
 - Has intake air that is filtered through a filter that is 95% efficient in the 0.3-10.0 μm range (e.g., MERV-16 or better); and
 - Has heating and cooling capabilities.
- Where an employee performs more than one task included on OSHA's Construction Standard Table 1 during the course of a shift, and the total duration of all tasks combined is more than four hours, the required respiratory protection for each task is the respiratory protection specified for more than four hours per shift. If the total duration of all tasks on Table 1 combined is less than four hours, the required respiratory protection for each task is the respiratory protection specified for less than four hours per shift.

Alternative Exposure Control Methods

Alternative Exposure Control Methods apply for tasks not listed in OSHA's Construction Standard Table 1, or where Lyon Contracting Inc. cannot not fully and properly implement the engineering controls, work practices, and respiratory protection described in Table 1.

First, Lyon Contracting Inc. will assess the exposure of each employee who is or may reasonably be expected to be exposed to Respirable Crystalline Silica at or above the Action Level in accordance with either the Performance Option or the Scheduled Monitoring Option.

- **Performance Option** – Lyon Contracting Inc. will assess the 8-hour TWA exposure for each employee on the basis of any combination of air monitoring data or objective data sufficient to accurately characterize employee exposures to Respirable Crystalline Silica.
- **Scheduled Monitoring Option:**

- Lyon Contracting Inc. will perform initial monitoring to assess the 8-hour TWA exposure for each employee on the basis of one or more personal breathing zone air samples that reflect the exposures of employees on each shift, for each job classification, and in each work area. Where several employees perform the same tasks on the same shift and in the same work area, Lyon Contracting Inc. will plan to monitor a representative fraction of these employees. When using representative monitoring, Lyon Contracting Inc. will sample the employee(s) who are expected to have the highest exposure to Respirable Crystalline Silica.
- If initial monitoring indicates that employee exposures are below the Action Level, Lyon Contracting Inc. will probably discontinue monitoring for those employees whose exposures are represented by such monitoring.
- Where the most recent exposure monitoring indicates that employee exposures are at or above the Action Level but at or below the PEL, Lyon Contracting Inc. will repeat such monitoring within six months of the most recent monitoring.
- Where the most recent exposure monitoring indicates that employee exposures are above the PEL, Lyon Contracting Inc. will repeat such monitoring within three months of the most recent monitoring.
- Where the most recent (non-initial) exposure monitoring indicates that employee exposures are below the Action Level, Lyon Contracting Inc. will repeat such monitoring within six months of the most recent monitoring until two consecutive measurements, taken seven or more days apart, are below the Action Level, at which time Lyon Contracting Inc. will probably discontinue monitoring for those employees whose exposures are represented by such monitoring, except when a reassessment is required. Lyon Contracting Inc. will reassess exposures whenever a change in the production, process, control equipment, personnel, or work practices may reasonably be expected to result in new or additional exposures at or above the Action Level, or when Lyon Contracting Inc. has any reason to believe that new or additional exposures at or above the Action Level have occurred.

Lyon Contracting Inc. will ensure that all Respirable Crystalline Silica samples taken to satisfy the monitoring requirements of this program and OSHA are collected by a qualified individual (i.e. a Certified Industrial Hygienist) and the samples are evaluated by a qualified laboratory (i.e. accredited to ANS/ISO/IEC Standard 17025:2005 with respect to Crystalline Silica analyses by a body that is compliant with ISO/IEC Standard 17011:2004 for implementation of quality assessment programs).

Within five working days after completing an exposure assessment, Lyon Contracting Inc. will individually notify each affected employee in writing of the results of that assessment or post the results in an appropriate location accessible to all affected employees.

Whenever an exposure assessment indicates that employee exposure is above the PEL, Lyon Contracting Inc. will describe in the written notification the corrective action being taken to reduce employee exposure to or below the PEL.

Where air monitoring is performed, Lyon Contracting Inc. will provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to Respirable Crystalline Silica. When observation of monitoring requires entry into an area where the use of protective clothing or equipment is required for any workplace hazard, Lyon Contracting Inc. will provide the observer with protective clothing and equipment at no cost and shall ensure that the observer uses such clothing and equipment.

Once air monitoring has been performed, Lyon Contracting Inc. will determine its method of compliance based on the monitoring data and the hierarchy of controls. Lyon Contracting Inc. will use engineering and work practice controls to reduce and maintain employee exposure to Respirable Crystalline Silica to or below the PEL, unless Lyon Contracting Inc. can demonstrate that such controls are not feasible. Wherever such feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the PEL, Lyon Contracting Inc. will nonetheless use them to reduce employee exposure to the lowest feasible level and shall supplement them with the use of respiratory protection.

In addition to the requirements of this program, Lyon Contracting Inc. will comply with other programs and OSHA standards (such as 29 CFR 1926.57 [Ventilation]), when applicable where abrasive blasting is conducted using Crystalline Silica-containing blasting agents, or where abrasive blasting is conducted on substrates that contain Crystalline Silica.

Control Methods

Lyon Contracting Inc. will provide control methods that are either consistent with Table 1 or otherwise minimize worker exposures to Silica. These exposure control methods can include engineering controls, work practices, and respiratory protection. Listed below are control methods to be used when Table 1 is not followed:

List and discuss control methods

Respiratory Protection

Where respiratory protection is required by this program, Lyon Contracting Inc. will provide each employee an appropriate respirator that complies with the requirements of the company's Respiratory Protection Program and the OSHA Respiratory Protection Standard (29 CFR 1910.134).

Respiratory protection is required where specified by the OSHA Construction Standard Table 1, for tasks not listed in Table 1, or where the company has not fully and properly implemented the engineering controls, work practices, and respiratory protection described in Table 1. Situations requiring respiratory protection include:

- Where exposures exceed the PEL during periods necessary to install or implement feasible engineering and work practice controls;
- Where exposures exceed the PEL during tasks, such as certain maintenance and repair tasks, for which engineering and work practice controls are not feasible; and

- During tasks for which an employer has implemented all feasible engineering and work practice controls and such controls are not sufficient to reduce exposures to or below the PEL.

Housekeeping

Lyon Contracting Inc. does not allow dry sweeping or dry brushing where such activity could contribute to employee exposure to Respirable Crystalline Silica unless wet sweeping, HEPA-filtered vacuuming, or other methods that minimize the likelihood of exposure are not feasible.

Lyon Contracting Inc. does not allow compressed air to be used to clean clothing or surfaces where such activity could contribute to employee exposure to Respirable Crystalline Silica unless:

- The compressed air is used in conjunction with a ventilation system that effectively captures the dust cloud created by the compressed air; or
- No alternative method is feasible.

Written Exposure Control Plan

When employee exposure on a construction project is expected to be at or above the Action Level, a Written Exposure Control Plan (ECP) will be established and implemented. This ECP will contain at least the following elements:

- A description of the tasks in the workplace that involve exposure to Respirable Crystalline Silica;
- A description of the engineering controls, work practices, and respiratory protection used to limit employee exposure to Respirable Crystalline Silica for each task;
- A description of the housekeeping measures used to limit employee exposure to Respirable Crystalline Silica; and
- A description of the procedures used to restrict access to work areas, when necessary, to minimize the number of employees exposed to Respirable Crystalline Silica and their level of exposure, including exposures generated by other employers or sole proprietors.

The written ECP will designate a Competent Person to make frequent and regular inspections of job sites, materials, and equipment to ensure the ECP is implemented.

The written ECP will be reviewed at least annually to evaluate the effectiveness of it and update it as necessary. Having said this, ECP's are project specific and most project durations do not exceed a year. The written ECP will be readily available for examination and copying, upon request, to each employee covered by this program and/or ECP, their designated representatives, and OSHA.

Medical Surveillance

Medical surveillance will be made available for each employee who will be required to use a respirator for 30 or more days per year due to their Respirable Crystalline Silica exposure. Medical surveillance (i.e. medical examinations and procedures) will be performed by a PLHCP and provided at no cost to the employee at a reasonable time and place.

Lyon Contracting Inc. will make available an initial (baseline) medical examination within 30 days after initial assignment, unless the employee has received a medical examination that meets the requirements of the OSHA Respirable Crystalline Silica Construction Standard within the last three years. The examination shall consist of:

- A medical and work history, with emphasis on past, present, and anticipated exposure to Respirable Crystalline Silica, dust, and other agents affecting the respiratory system in addition to any history of respiratory system dysfunction, including signs and symptoms of respiratory disease (e.g., shortness of breath, cough, wheezing), history of tuberculosis, and smoking status and history;
- A physical examination with special emphasis on the respiratory system;
- A chest X-ray (a single postero-anterior radiographic projection or radiograph of the chest at full inspiration recorded on either film [no less than 14 x 17 inches and no more than 16 x 17 inches] or digital radiography systems) interpreted and classified according to the International Labour Office (ILO) International Classification of Radiographs of Pneumoconiosis by a NIOSH-certified B Reader;
- A pulmonary function test to include forced vital capacity (FVC) and forced expiratory volume in one second (FEV1) and FEV1/FVC ratio, administered by a spirometry technician with a current certificate from a NIOSH-approved spirometry course;
- Testing for latent tuberculosis infection; and
- Any other tests deemed appropriate by the PLHCP.

Lyon Contracting Inc. will make available medical examinations that include the aforementioned procedures (except testing for latent tuberculosis infection) at least every three years. If recommended by the PLHCP, periodic examinations can be more frequently than every three years.

Lyon Contracting Inc. will ensure that the examining PLHCP has a copy of the OSHA Respirable Crystalline Silica Construction Standard, this program, and the following information:

- A description of the employee's former, current, and anticipated duties as they relate to the employee's occupational exposure to Respirable Crystalline Silica;
- The employee's former, current, and anticipated levels of occupational exposure to Respirable Crystalline Silica;

- A description of any personal protective equipment (PPE) used or to be used by the employee, including when and for how long the employee has used or will use that equipment; and
- Information from records of employment-related medical examinations previously provided to the employee and currently within the control of Lyon Contracting Inc. .

Lyon Contracting Inc. will ensure that the PLHCP explains to the employee the results of the medical examination and provides each employee with a written medical report within 30 days of each medical examination performed. The written report shall contain:

- A statement indicating the results of the medical examination, including any medical condition(s) that would place the employee at increased risk of material impairment to health from exposure to Respirable Crystalline Silica and any medical conditions that require further evaluation or treatment;
- Any recommended limitations on the employee's use of respirators;
- Any recommended limitations on the employee's exposure to Respirable Crystalline Silica; and;
- A statement that the employee should be examined by a Specialist if the chest X-ray is classified as 1/0 or higher by the B Reader, or if referral to a Specialist is otherwise deemed appropriate by the PLHCP.

Lyon Contracting Inc. will also obtain a written medical opinion from the PLHCP within 30 days of the medical examination. The written opinion shall contain only the following in order to protect the employee's privacy:

- The date of the examination;
- A statement that the examination has met the requirements of the OSHA Respirable Crystalline Silica Construction Standard; and
- Any recommended limitations on the employee's use of respirators.

If the employee provides written authorization, the written opinion shall also contain either or both of the following:

- Any recommended limitations on the employee's exposure to Respirable Crystalline Silica; and/or
- A statement that the employee should be examined by a Specialist if the chest X-ray is classified as 1/0 or higher by the B Reader, or if referral to a Specialist is otherwise deemed appropriate by the PLHCP.

If the PLHCP's written medical opinion indicates that an employee should be examined by a Specialist, Lyon Contracting Inc. will make available a medical examination by a Specialist within 30 days after

receiving the PLHCP's written opinion. Lyon Contracting Inc. will ensure that the examining Specialist is provided with all of the information that the employer is obligated to provide to the PLHCP.

Lyon Contracting Inc. will ensure that the Specialist explains to the employee the results of the medical examination and provides each employee with a written medical report within 30 days of the examination. The written report will contain:

- A statement indicating the results of the medical examination, including any medical condition(s) that would place the employee at increased risk of material impairment to health from exposure to Respirable Crystalline Silica and any medical conditions that require further evaluation or treatment;
- Any recommended limitations on the employee's use of respirators; and
- Any recommended limitations on the employee's exposure to respirable crystalline Silica.

In addition, Lyon Contracting Inc. will obtain a written opinion from the Specialist within 30 days of the medical examination. The written opinion shall contain the following:

- The date of the examination;
- Any recommended limitations on the employee's use of respirators; and
- If the employee provides written authorization, the written opinion shall also contain any recommended limitations on the employee's exposure to Respirable Crystalline Silica.

Hazard Communication

Lyon Contracting Inc. will include Respirable Crystalline Silica in the company's Hazard Communication Program established to comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Lyon Contracting Inc. will ensure that each employee has access to labels on containers of Crystalline Silica and those containers respective Safety Data Sheets (SDS's).

All employees will be trained in accordance with the provisions of the OSHA Hazard Communication Standard and the Training Section of this program. This training will cover concerns relating to cancer, lung effects, immune system effects, and kidney effects.

Lyon Contracting Inc. will ensure that each employee with the potential to be exposed at or above the Action Level for Respirable Crystalline Silica can demonstrate knowledge and understanding of at least the following:

- The health hazards associated with exposure to Respirable Crystalline Silica;
- Specific tasks in the workplace that could result in exposure to Respirable Crystalline Silica;

- Specific measures Lyon Contracting Inc. has implemented to protect employees from exposure to Respirable Crystalline Silica, including engineering controls, work practices, and respirators to be used;
- The contents of the OSHA Respirable Crystalline Silica Construction Standard;
- The identity of the Competent Person designated by Lyon Contracting Inc. ; and
- The purpose and a description of the company's Medical Surveillance Program.

Lyon Contracting Inc. will make a copy of the OSHA Respirable Crystalline Silica Construction Standard readily available without cost to any employee who requests it.

Recordkeeping

Lyon Contracting Inc. will make and maintain an accurate record of all exposure measurements taken to assess employee exposure to Respirable Crystalline Silica. This record will include at least the following information:

- The date of measurement for each sample taken;
- The task monitored;
- Sampling and analytical methods used;
- Number, duration, and results of samples taken;
- Identity of the laboratory that performed the analysis;
- Type of personal protective equipment (PPE), such as respirators, worn by the employees monitored; and
- Name, social security number, and job classification of all employees represented by the monitoring, indicating which employees were actually monitored.

Lyon Contracting Inc. will ensure that exposure records are maintained and made available in accordance with 29 CFR 1910.1020. Exposure records will be kept for at least 30 years.

The employer shall make and maintain an accurate record of all objective data relied upon to comply with the requirements of the OSHA Respirable Crystalline Silica Construction Standard. This record shall include at least the following information:

- The Crystalline Silica-containing material in question;
- The source of the objective data;
- The testing protocol and results of testing;

- A description of the process, task, or activity on which the objective data were based; and
- Other data relevant to the process, task, activity, material, or exposures on which the objective data were based.

Lyon Contracting Inc. will ensure that objective data are maintained and made available in accordance with 29 CFR 1910.1020. Objective data records will be kept for at least 30 years.

Lyon Contracting Inc. will make and maintain an accurate record for each employee enrolled in the Medical Surveillance portion of this program. The record shall include the following information about the employee:

- Name and social security number;
- A copy of the PLHCPs' and/or Specialists' written medical opinions; and
- A copy of the information provided to the PLHCPs and Specialists.

Lyon Contracting Inc. will ensure that medical records are maintained and made available in accordance with 29 CFR 1910.1020. Medical records will be kept under lock and key for at least the duration of employment plus 30 years. It is necessary to keep these records for extended periods because Silica-related diseases such as cancer often cannot be detected until several decades after exposure. However, if an employee works for an employer for less than one year, the employer does not have to keep the medical records after employment ends, as long as the employer gives those records to the employee.

PROGRAM EVALUATION

This program will be reviewed and evaluated on an annual basis by the Safety Committee unless changes to operations, the OSHA Respirable Crystalline Silica Construction Standard (29 CFR 1926.1153), or another applicable OSHA Standard require an immediate re-validation of this program.

APPLICABLE FORMS

The following lists applicable forms relating to this program.

APPENDICES

APPENDIX A - Written Exposure Control Plan (ECP) template

Operation of All-Terrain Forklifts (Lull, Skytrack, etc.)

Scope: The purpose of this section is to define the requirements for safely operating an All-Terrain Forklift (i.e. Lull, Skytrack, etc.). All employees, subcontractors, and suppliers shall operate these devices in accordance with this policy.

Certified Operators: Operators of All-Terrain Forklifts (including supervisors) will be trained and certified in the safe operation of the device in accordance with this policy, the manufacture's recommendations, OSHA CFR 1910.178, and ANSI 92.2. Subcontractors are responsible for the training and certification of their own operators in conformance with this policy. Proof of certification is required to be on file with the Lyon Jobsite Superintendent. Lyon will provide training for our employees via an outside qualified trainer.

Inspection / Maintenance: Lyon requires operators to perform pre-use equipment inspections prior to operation of the forklift to ensure the safe operating condition of the machine. The inspection shall be completed by each operator prior to operating the equipment using the forklift operators inspection checklist & sign-off. If an equipment inspection reveals that the forklift is in need of maintenance it will be taken out of service immediately. All repairs and maintenance will be organized, scheduled, and documented by the Lyon Jobsite Superintendent. All repairs will only be made by authorized personnel.

Personal Protective Equipment (PPE): The seat belt provided in the forklift's operators compartment shall be worn at all times while operating the forklift. All other PPE requirements will be followed as indicated in the Personal Protective Equipment program of this manual.

Pedestrians: Forklifts are commonly used near public places and pedestrians, which is why it is important for operators and public pedestrians to be aware of each other and potential traffic intersections. Forklift operators must remember to: Communicate with Pedestrians to assure they are aware of the travel path; Look in the direction of travel; Honk horn when going through blind intersections or around corners; and use a spotter if vision is impaired. All pedestrians must: Be aware of the forklift operator; Stay clear of forklift operations; and communicate with the operator if they need to enter the work area prior to entering.

Carbon Monoxide Awareness: All equipment powered by internal combustion engines produce Carbon Monoxide (CO). Carbon Monoxide is an odorless, colorless, and deadly gas produced by the incomplete burning of any material that contains carbon. These materials include gasoline, natural gas, propane, coal, and wood. The most common source of CO is the internal combustion engine. Trucks, Cars, Forklifts, Pressure Washers, Generators, or any other machine powered by fossil fuels generate CO. If inhaled, CO restricts the ability of your blood stream to carry oxygen to the body tissues that need it. Overexposure can result in asphyxia and carbon monoxide poisoning. Mild poisoning can result in headaches, tightness in the chest, dizziness, drowsiness, inattention, fatigue, flushed face, or nausea. If you continue exposure, lack of coordination, confusion, weakness, or loss of consciousness may result. A heart condition, smoking, taking drugs or alcohol, and pregnancy can aggravate CO poisoning. Physical activity can also make the symptoms worse. Severe poisoning can kill you within minutes, sometimes without warning symptoms. The greater the CO exposure is, the greater the danger is to a person. Always keep ventilation a priority when operating a forklift indoors or where there may be limited natural ventilation.



Forklift Pre-use Inspection Checklist											
Operator:					Make & Model:						
Company:					Hour Meter Reading:						
Location:					Date:			Unit No.:			
POWER OFF CHECKS			Status			POWER ON CHECKS			Status		
			OK	NO	N/A				OK	NO	N/A
1) Wheels and Tires						20) Unit starts and runs properly					
2) Lights/Strobes						21) Instruments/Gauges					
3) Mirrors/Visibility aids						22) Warning lights/audible alarms					
4) Engine/Engine compartment:						23) Fuel level					
a) Belts/Hoses						24) Horn/audible warning device(s)					
b) Clean/Dry/Secure						25) Function controls:					
c) Debris						a) Boom & carriage – raise/lower/tilt/extend/retract					
5) Battery/Batteries						b) Lifting attachment – proper movement					
a) Terminals tight						c) Drive – forward/reverse					
b) Clean/Dry/Secure						d) Steer – left/right					
6) Hydraulics:						e) Frame level					
a) Cylinders/Rods						f) Outriggers					
b) Hoses/Lines/Fittings						26) Braking:					
7) Fluids:						a) Service/De-clutch					
a) Engine oil Levels Leaks						b) Parking					
b) Engine coolant Levels Leaks						27) Other:					
c) Hydraulic oil Levels Leaks											

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d) Fuel	Levels	Leaks				GENERAL	OK	NO	N/A
8) Data/Capacity Plate/Load Charts						28) Housekeeping			
9) Windows/Glass/Doors						29) Manufacturer's operating manuals			
10) Lifting Attachment(s)						30) Decals/Warnings/Placards			
11) Counterweight/Counterweight bolt(s)						31) Misc. parts – loose/missing/broken			
12) Hood/Covers/Panels						WORKPLACE INSPECTION			
13) Air filter indicator						32) Drop-offs or holes			
14) Boom Sections – damage/wear pads						33) Bumps and floor/ground obstructions			
15) Boom Angle Indicator-free movement						34) Debris			
16) ROPS/Cab						35) Overhead obstructions			
17) Frame level indicator						36) Energized power lines			
18) Seatbelt						37) Hazardous locations			
19) Other:						38) Ground surface and support conditions			
						39) Pedestrian/vehicle traffic			
						40) Wind and weather conditions			
						41) Other possible hazards			
Report any problems found to your supervisor/employer. ALWAYS lock/tag-out unsafe equipment.									
COMMENTS									
Operator's initials:									
Alternative operator's initials:									



Web: www.lyoncontractingmn.com

BLOOD BORNE PATHOGENS EXPOSURE CONTROL PLAN

SECTION 1

PURPOSE

To limit occupational exposure to blood and other potentially infectious materials. Since any exposure could result in transmission of blood borne pathogens which could lead to disease or death. This plan includes exposure determination, methods of compliance, engineering work practice control, personal protective equipment, housekeeping, Hepatitis B Virus (HBV) vaccination post-exposure evaluation and follow-up information training and record keeping that, coupled with employee education, will help reduce on-the-job risks for all employees exposed to blood or other body fluids.

EXPOSURE DETERMINATION

OSHA requires employers to perform an exposure determination concerning which employees may incur occupational exposure to blood or other potentially infectious materials. The exposure determination is made without regard to the use of personal protective equipment. The following job classifications in which some employees have occupational exposure because they have received training in First Aid and/or CPR or are responsible for housekeeping, including:

- ◆ Any volunteer employee who is designated as first aid and/or CPR responder. All names are posted in the main office.
- ◆ _____
- ◆ _____

The task and procedures are as follows:

- ◆ Cardiopulmonary resuscitation
- ◆ First Aid for choking victim
- ◆ Treatment of injury
- ◆ Wound care
- ◆ First Aid for strokes or seizures
- ◆ Cleaning and decontaminating an area after exposure to blood or other potentially infectious material.

SECTION 2

GENERAL PROGRAM MANAGEMENT

RESPONSIBLE PERSONS

1. Safety Manager

This person will be responsible for the overall management and support of the Blood Borne Pathogens Exposure Control Plan (BPECP). Activities will include, but not be limited to:

- ◆ Overall responsibility for implementing the BPECP.
- ◆ Development of additional related policies as needed.
- ◆ Revisions and updating of plans as necessary.
- ◆ Keeping abreast of legal requirements concerning blood borne pathogens.

2. Local Coordinator

- ◆ Locate and provide training on BPECP as needed on an annual basis.
- ◆ Responsible for reporting incident to Safety Manager.
- ◆ Will work with the Safety Manager to develop specific exposure control procedures in their separate localities.

3. CPR/First Aid Responders and Housekeeping Staff

- ◆ Knowing which tasks they perform are potentially hazardous for blood borne pathogen exposure.
- ◆ Attending the blood borne pathogen training session.
- ◆ Using all work practice controls.

AVAILABILITY OF THE EXPOSURE CONTROL PLAN

The BPECP is available to all employees at any time. Employees will be advised of this availability during their training session. Employees will also be informed of the BPECP through the employee handbook.

SECTION 3

METHOD OF COMPLIANCE

In the office location the requirements for compliance will be carried out by the Safety Manager and/or designated coordinator.

Universal precautions will be observed at this facility in order to prevent contact with blood and other potentially infectious material. All blood or other potentially infectious material will be considered infectious regardless of the perceived status of the source individual.

ENGINEERING, WORK PRACTICE CONTROLS AND PPE

Hand washing facilities are readily accessible to employees who incur exposure to blood or other potentially infectious material. Hand washing facilities are located outside of all bathrooms.

Engineering and work practice controls will be utilized to eliminate or minimize exposure to company employees where occupational exposure remains after institution of these controls, personal protective equipment shall also be utilized.

The following engineering controls will be utilized:

- ◆ Disposable latex/vinyl gloves shall be worn where it is reasonably anticipated that employees will have hand contact with blood, non-intact skin, mucous membranes or other potentially infectious material.
- ◆ Microshields with one way valves will be required to be used if blood or other infectious materials can reasonably be anticipated.
- ◆ The protective equipment will be considered appropriate only if it does not permit blood or other potentially infectious materials to pass through or reach the employees clothing, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used. Personal protective equipment (PPE) is readily accessible to each employee listed in the job classification. The PPE will be kept in first aid kits located in marked sites around the facility and other designated locations. The housekeeping staff will keep the appropriate PPE in a visible location in their storage rooms.
- ◆ The coordinator will be responsible to oversee that after the removal of personal protective gloves, the employees wash their hands and any other potentially contaminated skin area immediately or as soon as feasible, with soap and water.
- ◆ PPE Accessibility - All personal protective equipment used at this facility will be provided without cost to employees and the appropriate size is readily accessible at the work site.
- ◆ PPE Use - The coordinator shall oversee that the employee uses the appropriate PPE unless the supervisor shows that the employee temporarily and briefly declined the use of PPE when under rare and extraordinary circumstances, it was the employee's professional judgment that in the specific instance its use would have prevented the delivery of health care or posed an increased hazard to the safety of the worker or co-worker. When the employee makes this judgment, the circumstances shall be investigated and documented in order to determine whether changes can be instituted to prevent such occurrences in the future.

HOUSEKEEPING

The coordinator will follow approved disposal methods for handling regulated waste which has been used in an exposure incident. The coordinator will follow local procedures for disposal.

Regulated waste refers to the following categories of waste which require special handling, at a minimum:

- ◆ Liquid or semi-liquid blood or other potentially infectious materials;
- ◆ items contaminated with blood or other potentially infectious materials and which would release substances in a liquid or semi-liquid state if compressed;
- ◆ items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling.
- ◆ Any contamination of equipment surfaces shall be cleaned and disinfected using a 1:10 bleach solution.

Hard surfaces - 1:10 bleach solution

Carpeted surfaces - Absorbent bleach material (i.e. Zep Chlor-retain)

All other non-regulated waste shall be disposed of in a lined waste container.

LAUNDRY

Any laundry that is contaminated with blood or other potentially infectious materials will be handled as little as possible. Such laundry will be placed in appropriately marked bags at the location where it was used. Such laundry will not be sorted or rinsed in the area of use. The laundry service will take the appropriate measures to handle these items.

SECTION 4

POST EXPOSURE EVALUATION & FOLLOW-UP

All exposure incidents shall be reported, investigated and documented. When an employee incurs an exposure incident, it shall be reported to the coordinator, who will forward the information to the Safety Manager before the end of the workday.

All employees who experience an exposure will be offered a confidential post-exposure evaluation and follow-up in accordance with OSHA standards at no charge to the employee.

Following a report of an exposure incident, the exposed employee shall immediately receive a confidential medical evaluation and follow-up. Cost of testing and counseling will be borne by Lyon Contracting, Inc. The follow up will include 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, unless it can be established that identification is not feasible or prohibited by state or local law.
- 3) The source individual's blood shall be tested as soon as feasible and after consent is obtained in order to determine HBV and Human Immunodeficiency Virus (HIV) infectivity. If consent is not obtained, the coordinator shall establish that legally required consent cannot be obtained. When the source individual's consent is not required by law, the source individual's blood, if available, shall be tested and the results documented.
- 4) When the source individual is already known to be infected with HBV or HIV, testing for the source individual's known HBV or HIV status need not be repeated.
- 5) 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.

The coordinator evaluating an employee after an exposure incident shall ensure that the health care professional responsible for the employee's Hepatitis B vaccination is provided the following information:

- ◆ Written documentation of the route of exposure and circumstances under which the exposure occurred; (see attached exposure incident report).

- ◆ Results of the source individual's blood testing, if available.
- ◆ All medical records relevant to the appropriate treatment of the employee, including vaccination status.

The coordinator shall obtain and provide the employee with a copy of the evaluating healthcare professional's written opinion within fifteen (15) days of the completion of the evaluation.

The health care professional's written opinion for HBV vaccination shall be limited to whether HBV vaccination is indicated for an employee, and if the employee has received such vaccination.

The healthcare professional's written opinion for post exposure follow-up shall be limited to the following information:

- ◆ A statement that the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.
- ◆ A statement that the employee has been informed of the results of the evaluation.
- ◆ All other findings and diagnosis shall remain confidential.

INFORMATION AND TRAINING

The coordinator shall ensure that training is provided at the time of initial assignment to tasks where occupational exposure may occur, and that it shall be repeated within twelve (12) months of the previous training. Training shall be tailored to the education and language level of the employee, and offered during the normal work shift. The training will be interactive and cover the following:

- 1) A copy of the standard and an explanation of its contents;
- 2) A discussion of the epidemiology and symptoms of blood borne diseases;
- 3) An explanation of the modes of transmission of blood borne pathogens;
- 4) An explanation of the Lyon Contracting, Inc. Blood Borne Pathogen Exposure Control Plan and a method for obtaining a copy;
- 5) The recognition of tasks that may involve exposure;
- 6) An explanation of the use and limitations of methods to reduce exposure, for example: engineering controls, work practices, and personal protective equipment;
- 7) Information on the types, use, location, removal, handling, decontamination, and disposal of PPE's;
- 8) An explanation of the basis and selection of PPE's;
- 9) Information on the Hepatitis B vaccination, including efficacy, safety, method of administration, benefits, and that it will be offered free of charge;
- 10) Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials;
- 11) An explanation of the procedures to follow if an exposure incident occurs, including the method of reporting and medical follow-up;
- 12) Information on the evaluation and follow-up required after an employee exposure incident.

The person conducting the training shall be knowledgeable in the subject matter.

Employees who have received training on blood borne pathogens in the twelve months preceding the effective date of this policy shall only receive training in provisions of the policy that were not covered. Additional training shall be provided to employees when there are any changes of tasks or procedures affecting the employee's occupational exposure.

RECORDKEEPING

Training Records - The coordinator is responsible for maintaining the following training records. These records will be kept in the above named individual's office.

Training records shall be maintained for three years from the date of training. The following information shall be documented:

- 1) The dates of the training sessions;
- 2) An outline describing the material presented;
- 3) The names and qualifications of persons conducting the training;
- 4) The names and job titles of all personal attending the training sessions.

Availability - All employee records shall be made available to the employee in accordance with 29 CFR 1910.20.

All employee records shall be made available to the Assistant Secretary of Labor for the Occupational Safety and Health Administration and the Director of the National Institute for Occupational Safety and Health upon request.

Medical Records - The Safety Manager/Coordinator is responsible for maintaining medical records as indicated below. These records shall be kept in the Safety Manager/Coordinator's office.

Medical records shall be maintained in accordance with OSHA Standard 29 CFR 1910.20. These records shall be kept confidential, and must be maintained for at least the duration of employment plus thirty (30) years. These records shall include the following:

- 1) The name and social security number of the employee;
- 2) A copy of the employee's HBV vaccination status, including the dates of vaccination or a declaration statement indicating they choose not to be vaccinated;
- 3) A copy of all legally accessible results of examinations, medical testing, and follow-up procedures;
- 4) A copy of the information provided to the healthcare professional, including a description of the employee's duties as they relate to the exposure incident, and documentation of the routes of exposure and circumstances of the exposure.

EVALUATION AND REVIEW

The Safety Manager and or designated coordinator is responsible for annually reviewing this program, and its effectiveness, and for updating this program as needed.

DATES

All provisions required by this standard will be implemented by _____.

EXPOSURE INCIDENT REPORT

(To be completed by the coordinator)

Date _____

Name of exposed employee(s) _____

Explain in detail how exposure occurred. (What body fluids were involved, which body part was exposed, what was size of exposure, etc.)

Explain the source of exposure

Did the exposed employee(s) use PPE? _____ Yes _____ No If no, please explain.

Individuals who witnessed the exposure.

MEDICAL RECORDS
BLOOD BORNE PATHOGEN EXPOSURE

Employee's Name _____

Social Security Number _____

Attached are the following:

- ◆ Copy of the employee's HBV vaccination status, including **dates of vaccinations** or a declaration statement indicating they choose not to be vaccinated.
- ◆ **Copy of information provided to the health care professional including description of employee's duties as they are related to the exposure incident** and circumstances of the exposure.

BLOODBORNE PATHOGEN EXPOSURE CONTROL PLAN

COORDINATORS RESPONSIBILITIES

- 1) Read and understand the Blood Borne Pathogen Exposure Control Plan.
- 2) Inform CPR responders in your business that you are the coordinator and that you must be contacted immediately if an exposure occurs.
- 3) Inform CPR responders that you have a copy of the Exposure Control Plan and they may review it or receive a copy at any time.
- 4) Locate a qualified trainer to conduct your annual Blood Borne Pathogen Review Training and maintain training records in your office for three (3) years from the date of training. Training records will include:
 - ◆ Dates of training;
 - ◆ Outline describing material presented;
 - ◆ Names and qualifications of persons conducting training;
 - ◆ Names and job titles of all persons attending the training session.
- 5) You, as the responsible person, will oversee that the Blood Borne Exposure Control Plan is implemented and followed as described. This includes the following responsibilities:
 - ◆ Distribute microshields and latex gloves to all trained CPR responders. This personal protective equipment is to be stored by the responder. Make sure all gloves are the proper size.
 - ◆ Monitor first aid supplies and re-supply as necessary.
 - ◆ If an exposure incident occurs, you must follow all post evaluation and follow-up procedures.
 - ◆ Ensure that all regulated and non-regulated waste at the exposure scene is handled safely and disposed of properly.

POST EVALUATION AND FOLLOW-UP

If a first responder or housekeeping staff person responds to any situation involving the presence of blood or other potential infectious material (OPIM) the following steps must be taken:

- 1) If responder has exposure (direct contact with skin, eyes, mucous membrane) to blood or OPIM, wash all affected areas with disinfecting soap immediately, or rinse with running water. When in doubt if an exposure occurred, call the nearest clinic.
- 2) Contact the coordinator as soon as possible, but no later than the end of the exposed person's work shift.
- 3) Offer to send the employee to the nearest health care clinic to have a confidential medical evaluation. Specifically request that all charges be billed directly to **Lyon Contracting, Inc.** The employee can decline this service.

Bring a copy of the medical evaluation form with you to the clinic and give it to the attending licensed health care professional and ensure that all information has been covered with the exposed employee.

- 4) Complete the Exposure Incident Report as soon as possible and forward it to the Safety Manager.
- 5) Obtain and provide the employee with a copy of the evaluating health care professional's written opinion for HBV vaccination and whether the employee has received such HBV vaccination within fifteen (15) days of the completion of the evaluation.

The health care professional must also provide a statement indicating that the exposed employee has been told of any medical conditions resulting from the exposure and that the employee has been informed of the results of the evaluation.

CONFIDENTIAL MEDICAL EVALUATION FORM

All charges are to be billed directly to Lyon Contracting, Inc.

- 1) Provide written documentation of route of exposure.
- 2) Test source individual for HBV and HIV infectivity if consent is given.
- 3) Test exposed individual for HBV and HIV infectivity if consent is given.
Document if consent is not given to test.
- 4) Provide information identifying whether the HEP B vaccination was recommended for the exposed employee and whether or not the employee received the vaccination. Any added findings must be kept confidential.
- 5) Provide a written statement that the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.
- 6) Provide a statement that the employee has been informed of the results of the evaluation.
- 7) Offer the employee counseling with the appropriate health care professional.

CONFINED SPACE ENTRY PROCEDURE

DEFINITION

Confined space - any area that is difficult to enter, leave, or work in, and is not intended for full-time employee occupancy. Confined spaces include, but are not limited to such areas as: storage vessels, furnaces, railroad tank cars, manholes, bulk material hoppers, water towers, autoclaves, and boilers.

POLICY

The main purpose of all confined space entry standards is to protect the people working in confined spaces where toxic, explosive, and asphyxiating atmospheres may exist and from possible engulfment by loose materials.

If at least one (1) of the four (4) following conditions exist in the designated work area, it is considered a confined space:

1. Contains or has the potential to contain a **hazardous atmosphere**;
2. Contains a material that has the potential for **engulfing** an entrant;
3. Has an internal configuration such that the entrant could be trapped or **asphyxiated**;
4. Contains any other recognized **serious safety or health hazard**.

All employees of **Lyon Contracting, Inc.** are prohibited from entering a confined space until a confined space entry permit is issued and signed by the client's entry supervisor in charge of that confined space work area.

Anyone working within a confined space should take necessary precautions to guard against this hazard. This would include independent subcontractors as well.

Company procedure at **Lyon Contracting, Inc.** requires that at least these minimum criteria be met prior to commencing any work:

1. Testing and continuously monitoring conditions in the permit space;
2. Stationing an attendant outside the permit space during entry and while work is being performed in the confined space. The responsibilities of the attendant are as follows, but not limited to:
 - A. Monitoring authorized entrants in the confined space;
 - B. Being familiar with the hazard(s) in the confined space and the behavioral effects of the hazard(s);
 - C. Staying in contact with entrants making sure they are not experiencing any negative effects;

- D. Ordering entrants out of the confined space if deemed necessary;
 - E. Summoning rescuers, preventing unauthorized entry, and performing non-entry rescues;
 - F. Staying in position and not attempting any entry of the confined space, should any rescue situation occur;
 - G. Not performing any other duties that might divert attention away from monitoring and protecting the safety of the authorized entrants of the confined space.
3. Establishing procedures to summon rescuers and prevent unauthorized personnel from attempting any rescue;
 4. Requiring a permit including the following information:
 - A. Identification of the space;
 - B. Purpose of the entry;
 - C. Date and duration of the permit;
 - D. List of authorized entrants;
 - E. Names of current attendants and entry supervisor;
 - F. List of hazards in the permit space;
 - G. List of measures to isolate permit space and eliminate or control hazards;
 - H. Explanation of acceptable entry conditions;
 - I. Results to test, including initials;
 - J. Rescue and emergency services and means to summon such services;
 - K. Communication plan for entrants and attendants;
 - L. List of required equipment (i.e., respirators, communication systems, lighting, alarms);
 - M. Any additional permits required (i.e., hot work, lock out/tag out);
 - N. Any other necessary information, as required.

Note: If work is stopped or interrupted by a change in conditions, the original permit must be canceled, and a new permit issued following the standard procedure.

5. Training employees to ensure initial understanding, with annual refresher training, as mandated by the standard;
6. Requiring the people involved in confined space entry know and do the following:
 1. Know the hazards they face;
 2. Recognize signs or symptoms of exposure;
 3. Understand the consequences of exposure;
 4. Know the use of any needed equipment;
 5. Have passed medical tests required to wear needed equipment;
 6. Communicate with attendants, as necessary;
 7. Exit as quickly as possible whenever ordered or altered by alarm, warning sign, prohibited condition, or other;
 8. The entry supervisor must verify that all conditions and procedures have been met before he/she signs the permit for work to begin.
7. Ventilating the confined space and monitoring the atmosphere at all times. Employees must wear all necessary personal protective equipment and follow permit procedures every time they enter the confined space;

8. Providing explosion proof lighting inside the confined space (12 volt or battery powered/or with ground fault interrupters);
9. Testing the atmosphere inside the confined space, before each shift change and after each work interruption, to ensure the following ranges: oxygen 19.5% to 22.0%, hydrogen sulfide 0%, and explosive vapors 0%;
10. Requiring personnel entering confined spaces to wear a safety body harness with life line attached, to permit rapid exit or rescue;
11. Ensuring all electrical power has been locked out and tagged out, and all process lines, including sewer and drain connections have been discontinued or otherwise plugged;
12. Locking out and tagging out all power driven and agitating equipment serving the confined space;
13. Requiring that personal protective safety equipment be worn in areas other than the confined space and that equipment may include respirators, fire retardant clothing, or rubber steel-toed boots.

CONFINED SPACE ENTRY PERMIT

NAME OF CONFINED SPACE BEING ENTERED

DEPARTMENT _____ DATE _____ TIME _____

PURPOSE FOR ENTERING

ENTRY CERTIFIED FOR: _____ SHIFT

CHECKLIST: ATMOSPHERE TESTS

(Record results)

1. Oxygen deficiency test (Minimum 19.5%) _____ (Maximum 22.0%)
2. Toxic gas tests:
 - H2S _____ ppm CO2 _____ ppm CO _____ ppm Cl _____ ppm
 - Other _____ ppm _____ ppm
3. Explosion meter test (Below 20% L.F.L.) _____ % L.E.L. _____ % U.E.L.
4. Low voltage lamps, and air tools required? _____ Yes _____ No
5. Lockouts and/or blind flange on all connecting pipes? __ Yes __ No
6. Monitoring employee designated _____
7. Harness and lifelines present? _____ Yes _____ No
8. Hoisting equipment in place, if required to perform rescue? _____ Yes _____ No

26.1 Fleet Management Program

FLEET MANAGEMENT PROGRAM

PURPOSE: To help Reduce vehicle accidents
Reduce employee injuries
Protect the public
Increase profit by decreasing losses

FLEET SAFETY SUPERVISOR:

Appoint a fleet safety supervisor. This may be the owner, office manager or one of the senior drivers. This specific individual should be designated to be in charge of fleet safety. The fleet safety supervisor should possess knowledge and understanding of safe driving so that he or she can educate and train new and experienced drivers. The fleet safety supervisor should also be able to communicate well with drivers and management on matters related to fleet safety.

UNDERAGE DRIVERS:

Commercial trucks should not be driven by any person under age 21. Truck tractor units must not be driven by any person under age 25. Experience shows that youthful operators of these types of units are more prone to be involved in motor vehicle accidents than older, more experienced operators.

DRIVER SELECTION:

Decision making strategies to avoid accidents depend on hiring drivers who have the skills and behaviors critical to safe driving. Awareness is possibly the most important single factor separating good drivers from others. There are several aspects to awareness, including situational awareness and awareness of one's own capabilities and limitations. Situational awareness refers to the immediate driving environment, which includes weather and road conditions, and other factors that can cause sudden changes in the situation. Those drivers who have good situational awareness are usually able to anticipate probable actions of others and choose potential escape paths. A good driver might be defined as one who avoids dangerous situations, a distinction that may be based on strategic decision making done outside the driving environment. Try to determine, during an interview, if the prospective driver has behaviors such as impulsiveness or anger.

HIRING:

A motor vehicle report should be obtained on all prospective drivers and the employer should personally interview these applicants. In this interview, the employer should ask questions regarding previous work experience, educational background, knowledge of basic working rules, and past driving records. A schedule to reorder motor vehicle reports should be maintained. Unless each driver is continuously monitored with some form of reporting to management, annual reorders should be considered.

TRAINING:

Institute a program to properly train all new employees drivers. Statistics show that properly trained drivers are less likely to become involved in accidents than those with little or no training.

- A. All new drivers of commercial vehicles with gross vehicle weights of over 10,000 lbs. should be accompanied by either the fleet safety supervisor or by an experienced driver for a minimum of three days of driving.
- B. When an employee driver changes from driving a single rear axle unit to a dual rear axle unit or to a truck tractor unit, the driver should be accompanied by the fleet safety supervisor or an experienced driver for at least one day.

COUNSELING EMPLOYEES:

Employee evaluation should be conducted by the fleet safety supervisor. The supervisor should recognize those drivers who establish good driving records. An employee whose record reveals violations and/or at fault accidents approaching the maximum allowed by the company driving policy should be counseled by the fleet safety supervisor.

Any driver with an impaired driving charge should immediately be counseled by the fleet safety supervisor. That employee should not be allowed to drive a company vehicle for at least three years and until proper and adequate counseling (defensive driving, alcohol or drug rehabilitation) has been completed.

LEASING OR LOANING VEHICLES:

Leasing or loaning business vehicles to anyone under the age 25 is not allowed, including:

- Under age 25 child of an employee
- Under age 25 customer unless accompanied by an employee (such as a demonstration drive).

SAFETY MEETINGS:

The fleet safety supervisor should periodically hold meetings with all drivers to discuss new issues or problems that are being encountered.

NEGLIGENT ENTRUSTMENT

- Involves negligent hiring, supervision, and retention of employees.
- Is directly related to the severity of risk to a third party by an incompetent employee.
- Focuses of pre-employment investigation into an employee's background and exhibited behaviors while employed.
- Business owners have a responsibility to ensure that employee drivers are competent to operate vehicles.
- Expensive judgments and punitive damages have been awarded that far exceed insurance coverages.
- A logical method to limit liability is to review motor vehicle records regularly.

- Checking records gives the employer a defense: "We ran the MVR. The driver has a good record. How could we have known? What else could we have done?"

MOTOR VEHICLE RECORD (MVR) POLICY

It is the policy of **Lyon Contracting, Inc.** to obtain and review the Motor Vehicle Record (MVR) on each prospective driver* before an offer for employment is extended to the individual. Management will review the Motor Vehicle Record to ascertain the applicant or employee holds a valid license and their driving record is within the parameters set by company driving policy.

* A "driver" is someone who could not perform the duties assigned to them without driving a vehicle.

Management will conduct an annual review of each employee's driving performance, where driving is a part of his or her job. Based upon the outcome of the annual review, the driving exposure, and the losses experienced during the past year, MVRs may then be ordered and reviewed. As a company policy MVRs are checked each three years on all employees where driving is part of their job description, annually on drivers under the age of 25, and annually on drivers identified during the annual driving review. If the employee's driving record does not meet the criteria set by management, driving privileges may be revoked, or other disciplinary action may be taken.

Lyon Contracting, Inc.

Date

MOTOR VEHICLE RECORD REVIEW

NAME: _____

SOCIAL SECURITY #: _____

I have reviewed the driving record of the above named driver and have carefully considered the accident record: any evidence he/she has violated laws governing the operation of motor vehicles, especially such violations as: speeding, reckless driving, and operation while under the influence of alcohol or drugs, indicating the driver has exhibited a disregard for the safety of the public. The Motor Vehicle Record (MVR) results were also applied to the standards of this company as found in **Lyon Contracting, Inc.** Driving Policy. Having done the above, I find that:

- the driver meets the minimum requirements for safe driving; or
- the attached sheet outlines the disciplinary action taken; or
- the driver is disqualified from driving a motor vehicle.

Reviewed by: _____ Date: _____

Title: _____

Reviewed by: _____ Date: _____

Title: _____

Reviewed by: _____ Date: _____

Title: _____

DRIVING POLICY

Lyon Contracting, Inc. has made a commitment of safety, service, and quality to both our employees and customers. **Lyon Contracting, Inc.** mandates that both our employees and non-employees operate all vehicles owned by or used by **Lyon Contracting, Inc.** in a safe and economical manner. The following summarizes policy guidelines:

- 1) Vehicles are not to be operated unless in a safe operating condition.
- 2) Drivers must be physically and mentally able to drive safely.
- 3) Drivers must conform to all traffic laws with allowances made for adverse weather and traffic conditions.
- 4) Respect the rights of other drivers and pedestrians. Courtesy is contagious.
- 5) Drivers may not use drugs or alcohol, or be under the influence of drugs or alcohol, while operating a vehicle owned by or used by **Lyon Contracting, Inc.**

ACCIDENTS

All accidents are to be reported to management of **Lyon Contracting, Inc.** within twenty-four (24) hours after the accident occurs. All accidents will be reviewed and determination made as either preventable or non-preventable. *A preventable accident is defined as an accident in which the driver failed to do everything reasonably possible to avoid it.*

MVR STANDARDS

Motor Vehicle Records (MVRs) will periodically be checked on all employees where driving is a part of their job. The MVR will be reviewed to ascertain the employee holds a valid license and their driving record is within the parameters set by company management. MVR checks which reveal:

- 1) Three (3) or more traffic violations and/or at fault accidents over a three (3) year period for drivers age 25 and older, two (2) traffic violations and/or at fault accidents for drivers age 18 through 24, or one (1) traffic violation and/or at fault accident for drivers 17 and under; or
- 2) One or more of the following type of serious traffic convictions within the past 3 years:
 - driving while under the influence or while disabled by use of drugs;
 - driving while under the influence or while disabled by use of drugs;
 - refusal to take a breath analyzer test;
 - leaving the scene of an accident without reporting it;
 - homicide, assault, or criminal negligence resulting from the operation of a vehicle;
 - driving while license is suspended or revoked;
 - reckless or dangerous driving, which results in injury to a person;
 - racing; and/or
 - passing a stopped school bus;

will disqualify the employee from driving company operated vehicles, or those vehicles in the care and custody of **Lyon Contracting, Inc.**

Violations include seat belt violations, but do not include such non-moving violations as weight violations or improper or inadequately maintained equipment.

RADAR DETECTORS

The use of radar detectors is forbidden in all vehicles owned or used by **Lyon Contracting, Inc.** Drivers using radar detectors will have their driving privileges revoked.

PASSENGERS

Hitchhikers and passengers, other than company employees, are not permitted.

SEAT BELTS

All occupants must wear seat belts whenever the vehicle is in motion.

SECURING CARGO

Cargo will be secured and all doors locked while in route and while the vehicles are parked.

"Company Name"

Date



Safe Driving Pledge

Our employees are committed to promoting safe driving practices on a professional and personal basis. In that spirit the company has adopted the following principles to be shared by all.

I Will Be a Safe Driver By:

- ✓ Driving without texting
- ✓ Driving without using a handheld device of any kind
- ✓ Reducing, with the goal of eliminating, all/most cell phone use, including hands-free or Bluetooth
- ✓ Letting calls go to voicemail when I am driving and safely pulling over to retrieve messages and to make calls
- ✓ Ending phone calls/texting once I learn that the recipient is driving
- ✓ Reducing or eliminating other distractions while driving, including eating, reading, programming the GPS while moving, personal grooming, and other activities that take my mind and eyes of the task of driving
- ✓ Being a good role model for co-workers, friends and family by driving in a non-distracted manner

I Will Encourage My Drivers and Co-Workers to Drive Safer By:

- ✓ Waiting until they have stopped driving to contact them
- ✓ Being patient and not expecting immediate responses to calls or texts, recognizing that they may be driving
- ✓ Working together to implement responses to calls or texts, recognizing that they may be driving
- ✓ Working together to implement a plan for acceptable response time when they will be driving
- ✓ Sharing responsibility with my driver for arriving safely and offering solutions when my driver attempts to drive distracted
- ✓ Obeying all traffic laws
- ✓ Not driving under the influence of drugs or alcohol

Distracted driving is a choice. Today I chose to not drive distracted. I will keep my #eyesUP and on the road.

I _____ (signature & printed name) pledge to drive safe.

VEHICLE USAGE POLICY

Lyon Contracting, Inc. has developed a vehicle usage policy. Company owned vehicles and/or those used by company employees will be operated in a safe and economical manner. The guidelines are:

- 1) Operate vehicles in a manner consistent with the Driving Policy of **Lyon Contracting, Inc.** Operating any vehicle outside outlined rules in the Driving Policy may result in forfeiture of all driving privileges;
- 2) All traffic violations received while operating the assigned vehicle will be paid by the employee;
- 3) Report vehicle defects and needed repairs to company management so necessary repairs can be made;
- 4) The employee is not to give permission for the vehicle to be driven by any other person, including family members. Specific permission must be obtained from company management for any personal use of the vehicle; and
- 5) Report all accidents to the manager consistent with **Lyon Contracting, Inc.** "Accident Reporting Policy." Employees are responsible for reimbursing **Lyon Contracting, Inc.** for all damages to the vehicle that are not covered by insurance, provided that **Lyon Contracting, Inc.** accident review shows a preventable type accident.

I have read, understand, and agree to the terms set forth in this Vehicle Usage Policy.

Signed

Date

NOTIFICATION OF COUNSELED DRIVER

Name of Driver

Company Name

Job Duties

Address

City, State

REASON:

ACTION TAKEN:

Fleet Safety Supervisor

Date

Driver

Date

DRIVER INFORMATION FORM

Lyon Contracting, Inc.

Policy #: _____

Date: _____

Fax #: _____

- 1) Driver _____ DOB _____
Type Of Vehicle _____ D.L. # _____
Job Title _____
- 2) Driver _____ DOB _____
Type Of Vehicle _____ D.L. # _____
Job Title _____
- 3) Driver _____ DOB _____
Type Of Vehicle _____ D.L. # _____
Job Title _____
- 4) Driver _____ DOB _____
Type Of Vehicle _____ D.L. # _____
Job Title _____
- 5) Driver _____ DOB _____
Type Of Vehicle _____ D.L.# _____
Job Title _____
- 6) Driver _____ DOB _____
Type Of Vehicle _____ D.L.# _____
Job Title _____
- 7) Driver _____ DOB _____
Type Of Vehicle _____ D.L.# _____
Job Title _____
- 8) Driver _____ DOB _____
Type Of Vehicle _____ D.L.# _____
Job Title _____
- 9) Driver _____ DOB _____
Type Of Vehicle _____ D.L.# _____
Job Title _____
- 10) Driver _____ DOB _____
Type Of Vehicle _____ D.L.# _____
Job Title _____

26.2 Fleet Safety Guidelines**FLEET SAFETY GUIDELINES**

- 1) Anyone who operates a licensed vehicle owned or controlled by their company must maintain a current driver's license as required by Federal and/or State regulations.
- 2) Transportation of non-employee passengers is prohibited. Use of company vehicles by non-employees or unqualified employees is prohibited, unless permission has been given by an authorized official of the company.
- 3) All drivers are required to inspect their vehicle at the beginning of each work day. A vehicle check list will be provided to all drivers. Vehicles must be kept clean.
- 4) Obey all traffic laws. All fines are the responsibility of the driver. Traffic citations are to be reported to your supervisor in writing. Repeated violations are cause for disciplinary action, which may include suspension and/or dismissal.
- 5) Seat belts will be worn by all occupants, at all times.
- 6) Unattended vehicles shall have the keys removed, brakes set, windows rolled up and the doors locked.
- 7) Consumption of alcohol or non-prescribed drugs is grounds for immediate dismissal whether reporting for work or while on the job. If anyone is taking prescribed medication which may affect their ability to perform their duties safely, they must notify their supervisor when reporting to work.
- 8) All incidents involving damage to company property, property of others, personal injury of employee or to others must be reported to the safety director or supervisor immediately. Failure to report any accident involving a company vehicle is grounds for termination.
- 9) No radar equipment will be permitted in any company vehicle.
- 10) Courtesy should be extended to other motorists. The vehicle and you are a rolling billboard for your company.
- 11) All drivers should use good DEFENSIVE DRIVING TECHNIQUES while operating company vehicles.
- 12) Any employee that is in charge of a truck is also responsible for all tools and equipment assigned to that truck.
- 13) All vehicles should be equipped with an appropriate fire extinguisher and a first aid kit.

Employees who violate these safety guidelines may be subject to disciplinary action.

26.3 Vehicle Accident Report

VEHICLE ACCIDENT REVIEW

Section A (To be completed by driver)

Name _____ Date _____

Date, time and location of accident _____

Weather conditions _____

Description of accident _____

Primary cause of accident _____

How to prevent future accidents _____

Signed _____ Date _____

Section B (To be completed by driver's supervisor)

I have reviewed this accident with the driver involved and have the following comments:

Name _____ Date _____

Section C (Safety Committee Review)

The Committee has reviewed this accident and has found that it should be judged:

_____ Preventable _____ Non-Preventable

Consideration of the facts indicated the following action should be taken to prevent such an accident in the future: _____

_____ Driver notified in writing _____ Driver notified verbally

Name _____ Position _____ Date _____

26.4 Safe Backing

SAFE BACKING

- Whenever possible, avoid backing situations. Find a parking spot that will allow you to leave without backing.
- Avoid blocking the rearward, inside view with equipment and stock. Does the cargo safety cage block the view? How high is the load stacked?
- Increase the size of the side mirrors to gain a larger, clearer picture of hazards behind the vehicle.
- Install a wide-view, convex mirror on the upper rear driver's side of the vehicle.
- Drivers should walk completely around the vehicle, looking for dangers. Watch for overhangs too.
- When preparing to back, roll down the window and turn off the radio. The driver should check all mirrors and look over both shoulders before starting to back. Sound the horn twice to provide further warning for pedestrians. Back up s-l-o-w-l-y!
- If a second person is available, use this person to guide the backing vehicle. The guide should stand at the left rear driver's side of the vehicle (if room) and use full motion arm signals . . . not hand signals . . . to assist the driver. If the driver loses visual contact of the ground guide, backing should stop at once.
- Add dashboard stickers highlighting, "LOOK BEFORE YOU BACK".
- Provide paycheck stuffers and posters covering safe driving tips.
- Hold safety meetings covering safe/unsafe driving techniques and driving rules.
- Provide orange traffic cones to be set out behind the vehicle, if backing will be required upon leaving.
- Add a reward/recognition program for safe drivers.
- Set up an obstacle driving course in a parking lot and hold a "driving rodeo" with score sheets and trophies for the best drivers.
- If a driver has trouble backing, have his/her eyes tested for depth perception.

26.5 Motor Vehicle Inspection Checklist



Vehicle Conditions and Inspection Report



Inspection Frequency: Complete this form **quarterly**, however, daily inspection of vehicles before use is required but no form completion is required.

Company Name		Vehicle Inspected
Date	Inspected by	Odometer Reading



Inspection Checklist



Condition

	Satisfactory	Unsatisfactory
1. Tires: Adequate tread, inflation and condition. Tread Depth = RF ____/32 LF ____/32 LR ____/32 RR ____/32	<input type="checkbox"/>	<input type="checkbox"/>
2. Glass: Clean, clear and free of defects (no cracks or chips in driver vision area).	<input type="checkbox"/>	<input type="checkbox"/>
3. Lights: All bulbs good, signals all work, flashers work, high and low beams work.	<input type="checkbox"/>	<input type="checkbox"/>
4. Mirrors: Good condition and can be adjusted for the driver.	<input type="checkbox"/>	<input type="checkbox"/>
5. Horn: Easily operated and loud enough.	<input type="checkbox"/>	<input type="checkbox"/>
6. Steering: Responsive and holds the road with no pull to right or left.	<input type="checkbox"/>	<input type="checkbox"/>



Inspection Checklist

		Condition	
		Satisfactory	Unsatisfactory
7.	Brakes: Will bring the vehicle to a smooth stop with normal pressure on brake pedal and does not pull hard to right or left.	<input type="checkbox"/>	<input type="checkbox"/>
8.	Engine and transmission: Good condition, starts well, doesn't stall, accelerates well, shifts smoothly, no unusual noise.	<input type="checkbox"/>	<input type="checkbox"/>
9.	Exhaust: No excessive noise or smoke.	<input type="checkbox"/>	<input type="checkbox"/>
10.	Safety Equipment: Three reflective triangles and fire extinguisher in vehicles over 10,000 pounds and news vans.	<input type="checkbox"/>	<input type="checkbox"/>
11.	Interior: Clean and good condition, instruments work well, seat belts are in good condition.	<input type="checkbox"/>	<input type="checkbox"/>
12.	Exterior: Is free of accident damage.	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

OFFICE SAFETY

- Each office should have fire extinguishing equipment available and a training program on how to use extinguishers.
- An evacuation plan should be in place with periodic fire drills and training.
- Inspect the work place using an inspection form.
- Exit signs should be lighted and clearly visible and emergency lighting should be installed.
- Aisles should be kept clear to allow for easy travel and exit in the event of an emergency.
- Doors to stairwells and to exits should not be blocked. These areas should be clearly marked.
- Store inks, solvents and any other flammable or combustible liquid properly and use in small amounts only.
- Trash and rubbish should be properly stored and discarded daily.
- Machines should be grounded and the use of extension cords should be avoided.
- Non-carpeted walking surfaces should be swept and mopped frequently to prevent grease and dirt buildup. Carpeted floors should be vacuumed regularly.
- Spills should be cleaned immediately.
- Use signs or barriers to warn of wet floors.
- Loads of 40 pounds or more should not be lifted manually. Proper lifting techniques should be utilized.
- Chairs should never be used in place of a ladder.
- Chairs should be stable and have at least a 5 point base.
- Adjustable seating should be used for different builds of people and for different tasks.
- Armrests for chairs should be low and short enough to fit the chair under the work surface and allow the user to get close enough to the work surface to use the chair backrest.
- Thin keyboards should be used to minimize wrist deviation or keyboard palm rests should be used.
- A short rest break should be encouraged after each hour of video display work is performed.
- A physician approved first aid kit should be available for emergency use.
- Work areas should be well illuminated; however, glare should be reduced by lowering the lighting.
- Window glare can be reduced by providing drapes or blinds.
- Items stored on racks and shelves should not be overhanging or protruding so as to cause personal injury.
- Available heating, air conditioning and ventilation systems should be kept in proper working order.
- Do not leave file drawers open and unattended.

SLIPS AND FALLS

Slips, trips and falls can happen to anyone, anytime, anywhere. No single method can be used to prevent all slips and falls.

The most common causes of slips and falls include: unsafe use of ladders, jumping on or off lift gates, slippery surfaces, inappropriate footwear, poor lighting, and obstacles on walkways, inattention and haste.

- Mop floor in area of spills immediately and post a sign stating "**WET FLOOR**". Never leave spills unattended.
- An oil absorbing material should be used to control small oil spills in the work place.
- During inclement weather keep rugs, mats, and floors dry. Snow and ice should be removed from all sidewalks, drives and access points used by the general public or employees. **Post wet floor signs.**
- Keep all floors, stairs, ladders, walkways, sidewalks and driveways in good repair.
- Be aware that electrical cords cause many tripping injuries.
- Good housekeeping is a must in accident prevention.
- Stairs, aisles and walkways should be clearly marked and kept free of any material.
- Look at each job and work area to consider the possible hazards.

COMMON HAZARDS

- Slippery areas
- Proper footwear
- Blocked walkways and stairs
- Warning signs
- Ladders
- Non-skid surface

PREVENTATIVE MEASURES

- Electrical cords
- Correct use of tools and ladders
- Poor lighting
- Floor mats
- Housekeeping conditions
- Proper lighting

FIRST AID PROCEDURES FOR VICTIMS OF SLIPS AND FALLS

Employees should know:

- What to do in the event of an injury until help arrives.
- Name of person in organization who is trained in first aid.

The following is a list of basic first aid procedures for various types of slips and fall injuries. Be aware of your organization's first aid procedures and policies which may differ from those listed.

Fractures

- Symptoms: Swelling, deformity, pain and tenderness, loss of use.
- Gently remove clothing from area around injury. Avoid moving the injured area if at all possible. Check for symptoms.
- Control bleeding, but do not attempt to push any protruding bones back beneath the skin.
- Seek medical attention immediately.

Bleeding

- Control bleeding by gently applying direct pressure with a dry sterile dressing. If it becomes saturated, do not remove it, add another dressing.
- If possible, wear latex gloves or use other methods to protect against transmission of infection from the person's blood.
- Do not remove any impaled objects. Immobilize the object instead.
- Seek medical attention immediately.

Neck and spinal injuries

- Symptoms: Painful movement of the arms and/or legs, numbness, tingling, or weakness in arms or legs, loss of bowel or bladder control, paralysis to arms or legs, deformity of head and neck.
- Check heart rate and breathing; administer CPR if necessary, but do not use head tilt.
- Do not move victim unless he is in immediate danger.
- Stabilize victim to prevent any movement. Immobilize head and neck by placing objects on either side.
- Protect victim against shock or hypothermia.
- Do not attempt to splint a victim. Await professional EMS help.

Toolbox Safety Talk – Topics

Toolbox talks refer to existing books until a suitable app or other program is found.

Hearing Safety

Hearing Conservation Program

Lyon Contracting recognizes that exposure to loud noise can damage employees’ hearing. The following work practices have been implemented to minimize the potential risks. In all cases where the sound levels exceed the values shown herein, a continuing, effective hearing conservation program shall be administered.

TABLE D-2 - PERMISSIBLE NOISE EXPOSURES

Duration per day, hours	Sound level dBA slow response
8.....	90
6.....	92
4.....	95
3.....	97
2.....	100
1 1/2.....	102
1.....	105
1/2.....	110
1/4 or less.....	115

Introduction

- Appropriate hearing protection will be worn as specified by project supervisors. Hearing protection will be worn when it will provide greater safety and protection benefits.
- When working at a client’s site, employees will adhere to the hearing protection requirements of either the client or Lyon Contracting, whichever requirements are more stringent.
- The requirements outlined below are mandatory while working in this company’s workshop or on its projects. They apply to all employees, visitors and contractors.

Identification of Noise Sources

- Noise levels will be determined for all high-noise areas and equipment.
- Representative monitoring will be performed to determine personnel exposures where appropriate.
- Equipment or areas with noise levels equal to or exceeding 85 dBA will be identified with labels or signs, which will be posted on the individual pieces of equipment (whether owned and leased) or at the entrance to noisy areas.

- The sign or label will state either “Hearing Protection Is Required While the Equipment Is Operating” or “Hearing Protection Is Required While Working in the Area” or similar wording, as appropriate.
- Equipment typically requiring labels includes but is not limited to compressors, forklifts, generators and pneumatic tools.
- Labels will be placed where the operator can readily see the warning, such as next to power switches.
- The requirements of this policy will be included in specifications when purchasing, renting or leasing equipment.

Reduction of Noise Levels

- Whenever practical, noise levels identified as exceeding 85 BA will be reduced by means of engineering or administrative controls, including isolation, enclosure and application of noise-reduction materials.
- Noise reduction ratings (NRRs) must be considered when selecting the type of hearing protection (ear plugs, ear muffs or both) for a particular job.

Hearing Protection

- Only company-approved hearing protection will be used.
- Hearing protection will be worn at all times when noise levels are suspected of equaling or exceeding 90 dBA.
- Use of portable radios with earphones is prohibited at all times.

Training

- A current copy of the Occupational Noise Standard, 29 CFR 1926.52, will be posted in the company’s main office. Copies will be made available to employees on request. https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10625
- Once each calendar year, training will be conducted for all employees who may be exposed to noise levels of 85 dBA or greater.
- At a minimum, the training program will include a discussion of the following:
 - The purpose of hearing protection
 - The effectiveness, advantages and disadvantages of various types of hearing protection
 - Pertinent noise-monitoring results
 - Specific equipment and/or operations that produce high noise levels
 - The purpose of audiometric testing and an explanation of testing procedures
- Training records will be kept at the main office.

Responsibilities

- Each employee is responsible for:
 - Following the instructions received in the training program

- Wearing proper hearing protection when needed
- Foremen and supervisors are responsible for ensuring:
 - Hearing protection is used in areas or operations where such use is required
 - Affected employees receive appropriate training and participate in annual audiometry as required
 - High-noise areas and equipment are identified and labeled accordingly
- Management is responsible for:
 - Determining whether noise reduction is feasible by means of engineering controls
 - Ensuring adequate supplies of ear plugs or other well maintained hearing protection devices are available
 - Determining the adequacy of hearing-protection devices
 - Assisting in training as necessary
 - Coordinating and overseeing all audiometric testing

Hearing Conservation Checklist

Procedures to be taken

1. Have all employees been monitored for exposure to noises?
2. Do monitoring results indicate that employees are overexposed?
3. If testing indicates overexposure, circle the types of controls implemented: Engineering
Administrative Work Practices
4. Have employees been provided with hearing protectors?
5. If hearing protectors have been provided, circle the type being used. If multiple types are used, list employees and types being used in the space below. Ear Muffs Disposable Ear Plugs Fitted Ear Plugs
6. Have employees been trained to understand noise hazards and the measures taken to control noise, including wearing protectors?
7. Have employees received baseline audiometry?
8. For those employees who have received a baseline, has an annual audiogram been given?
9. If an employee has suffered hearing loss, have procedures been developed to prevent further hearing loss from occurring?
10. Has a record-keeping system been developed to track information from physicians and training?

Additional Information:

<https://www.osha.gov/Publications/osha3074.pdf>

Respirator Safety

Respirator Protection Program

The OSHA Standard for respiratory protection for general industry and construction is (29 CFR 1910.134) https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=12716

Lyon Contracting recognizes that there is the potential for employees to be exposed to respiratory hazards during various operations at a construction jobsite. These hazards include dust, particulates, and vapors that in some cases represent Immediately Dangerous to Life or Health (IDLH) conditions. The purpose of this program is to ensure that all Lyon employees & subcontractors are protected from exposure to these respiratory hazards.

Engineering controls, such as ventilation and substitution of less toxic materials, are the first line of defense at Lyon Contracting; however, engineering controls are not always been feasible for some operations, or may not always completely control the identified hazards. In these situations, respirators and other protective equipment must be used. Prior to starting the work, work processes requiring engineering controls or respirator use at Lyon Contracting Jobsites will be reported to the Lyon Jobsite Superintendent by the Trades performing the work so that all necessary precautions can be implemented.

Lyon Contracting is not aware of any tasks performed by Lyon Employees that will require them to wear respirators. If it is determined that respirators are required for a Lyon Employee the OSHA Small Entity Compliance Guide for the Respiratory Protection Standard will be followed. <https://www.osha.gov/Publications/3384small-entity-for-respiratory-protection-standard-rev.pdf#page=103>

If subcontractors or other trades onsite are performing work that requires respiratory engineering controls and/or respirators these work areas are to be identified, communicated & isolated so that Lyon employees, visitors, subcontractors or other trades onsite are not exposed to the respiratory hazards. Subcontractors or other trades onsite wearing respirators onsite shall do so in accordance with their own companies Respirator Protection Program.

In addition, some Lyon employees may express a desire to wear respirators during certain operations that do not require respiratory protection. As a general policy, Lyon Contracting will review each of these requests on a case-by-case basis. If the use of respiratory protection in a specific case will not jeopardize the health or safety of the employee(s).

Appendix D to §1910.134: Information for Employees Using Respirators When Not Required Under the Standard (Mandatory)

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

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

[63 FR 1152, Jan. 8, 1998; 63 FR 20098, 20099, April 23, 1998; assembled at 69 FR 46993, Aug. 4, 2004, 71 FR 16672, April 3, 2006; 71 FR 50187, August 24, 2006]

June 7, 2021



COVID-19 Preparedness Plan for Lyon Contracting Inc.

Lyon Contracting Inc. (Lyon) is committed to providing a safe and healthy workplace for all our employees. To ensure that, we have developed the following Preparedness Plan in response to the COVID-19 pandemic. All Office and Field employees are all responsible for implementing this plan. Our goal is to mitigate the potential for transmission of COVID-19 in our workplaces, and that requires full cooperation among all employees and management. Only through this cooperative effort can we establish and maintain the safety and health of our employees and workplaces. Please be respectful of others by following the rules, requirements, and guidelines to help ensure our continued health and safety.

Management, office, and field employees are responsible for implementing and complying with all aspects of this Preparedness Plan. Lyon managers and supervisors have our full support in enforcing the provisions of this policy.

Our employees and are our most important assets. We are serious about safety and health and keeping our employees working at Lyon. Employee involvement is essential in developing and implementing a successful COVID-19 Preparedness Plan. We have involved our employees in this process by asking them how to implement our engineering and administrative controls for the office & jobsites. Our Preparedness Plan follows Centers for Disease Control and Prevention (CDC) and Minnesota Department of Health (MDH) guidelines and federal OSHA standards related to COVID-19.

Screening and policies for employees exhibiting signs and symptoms of COVID-19

Employees have been informed of and are encouraged to self-monitor for signs and symptoms of COVID-19.

- Fever
- Shortness of Breath
- Coughing/Sneezing
- Severe Headache and Body
- Loss of Taste or Sense of Smell
- All symptoms also consistent with the common cold.

If an employee has a history of and symptoms consistent with **seasonal allergies**, they should contact Abe Hofmeister or Sally Petron. Itchy/watery eyes and clear/runny mucus from the nose is a symptom consistent with seasonal allergies. These cases shall be evaluated on a case by case basis.

Any office employee experiencing any of the COVID-19 symptoms should not come to the office or their jobsite & should call Abe Hofmeister or Sally Petron to let them know that they will be working from home.

Any field employee experiencing any of the COVID-19 symptoms should not come to the jobsite, should call their Project Manager & implement their jobsite supervision contingency plan until they are able to return to the jobsite.

Any subcontract employee experiencing any of the COVID-19 symptoms should not come to the jobsite and should follow their companies sick leave policies.

Any office, field, or subcontract employee who develops any of the COVID-19 symptoms while at work should report to their immediate supervisor and leave immediately! Any area where the employee was working shall be cleaned and disinfected.

Any office, field, or subcontract employee with symptoms should contact their health professional and is not allowed to return to the office &/or jobsite until symptoms are no longer present for at least 72 hours.

Any office, field, or subcontract employee who has been confirmed to have tested positive for COVID-19 or has been in direct contact for fifteen minutes or greater with a person confirmed to have tested positive will not be allowed in the office or on the jobsite until one of the following occur:

- A minimum of 10 days from the date of the positive test date & symptom free for a minimum of 72 hours.
- A minimum of 10 days from the date of the date of contact with the person who tested positive & you have been symptom free for a minimum of 72 hours.
- A negative test result & you remain symptom free.

In the event any Lyon office, field, or subcontract employee is confirmed to have tested positive for COVID-19 the following steps will be taken:

1. Contact Lyon Management: Abe Hofmeister, abeh@lyonmn.com, (320) 406-0394, Sally Petron, sallyp@lyonmn.com, (320) 250-3639, or the Project Manager for the Project.
2. Information Gathering:
 - a. Collect the employees contact information and HR representative.
 - b. Determine what area(s) the employee has been working and how widespread their contact may have been throughout the office &/or jobsite. This needs to include common areas (break area, toilets, etc.) the employee was using.
3. Temporary Shutdown:
 - a. The office or jobsite area(s) where employee has been working will be shutdown (quarantined) off for a minimum of 72 hours.
 - b. The shutdown areas will be cleaned and disinfected in accordance with CDC and OSHA Guidelines.
 - c. During the temporary shutdown, only essential employees will be allowed to access the areas as required to clean, maintain jobsite safety, or perform other essential tasks.
4. Notice:
 - a. Notice will be provided via email of all factual data relevant to the shutdown to all Lyon employees.
 - b. Notice will be provided via email of all factual data relevant to the shutdown to

Lyon's main office contact with the subcontractors on the affected jobsite. Lyon expects that the subcontractors will pass the necessary information onto their employees.

- c. Notice will be provided via email of all factual data relevant to the shutdown to the owners representative on the affected jobsite.
- d. In any notice given, Lyon will try to protect the privacy of all workers' health status and health information. Names of individual workers will not be provided!

Handwashing

Basic infection prevention measures are being implemented at our workplaces at all times. Office employees are instructed to wash their hands for at least 20 seconds with soap and water frequently throughout the day, but especially at the beginning and end of their shift, prior to any mealtimes and after using the toilet. Jobsite employees are instructed to wash their hands via the jobsite hand-sanitizer dispensers throughout the day, but especially at the beginning and end of their shift, prior to any mealtimes and after using the toilet. In addition to the hand-sanitizer dispensers in the portable restrooms there will be a minimum of two additional hand-sanitizer dispensing stations onsite, 1 at the job trailer & 1 at each main entrance (access point) to the building. All visitors required to wash their hands upon entering the office or jobsite.

Respiratory etiquette: Cover your cough or sneeze

Employees and visitors are being instructed to cover their mouth and nose with their sleeve or a tissue when coughing or sneezing and to avoid touching their face, in particular their mouth, nose and eyes, with their hands. When tissues are used dispose of tissues in the trash and wash or sanitize their hands immediately afterward.

Face Coverings, Social distancing & housekeeping

Lyon Office – Every office employee has their own office or work station that is isolated from the other office employees. Respect everyone's personal work space & do not use other employees phones, computers, iPad, etc. The office is professionally cleaned weekly. In addition to the professional cleaning employees are expected to clean and disinfect frequently touched surface at the end of each work day. This includes tables, doorknobs, light switches, countertops, handles, desks, phones, keyboards, etc.

Lyon Jobsites – Active jobsites are considered a "Lower Exposure Risk" per OSHA in part because subcontractors onsite should be able to practice social distancing.

1. Jobsite Offices
 - a. Restrict access to the jobsite office to a limited number that allows for social distancing.
 - b. Do not allow persons to enter the jobsite office unannounced. Implement a "walk-up" protocol for everyone to adhere to like the following:

- i. Knock & wait for instructions prior to entering.
 - ii. If possible, speak through window as opposed to allowing random individuals to enter the office such as delivery personnel.
 - iii. Cordon off or demarcate an area near the doorway to limit persons entering.
2. Jobsite Orientations
 - a. Jobsite Orientations are an essential meeting but need to be conducted in small groups where social distancing can be maintained.
 - b. A review of the subcontractors COVID-19 Jobsite plan needs to be discussed as part of the Jobsite Orientation. The subcontractors plans need to address:
 - i. COVID-19 Training.
 - ii. Stay at home if you are sick.
 - iii. Reporting & return to work policies for those people who are sick.
 - iv. Social Distancing
 - v. Procedures for when Social Distancing isn't practical for the task the trade is performing.
 - vi. Respiratory etiquette
 - vii. Personal Hygiene protocol (Handwashing or Hand Sanitizers in addition to those provided by Lyon)
 - viii. Cleaning of tools & equipment
 - ix. Reporting of any safety and health concerns.
 - c. Due to COVID-19, allowing others to touch your phone or iPad is not allowed. Therefore, signatures are no longer required when you conduct the Jobsite Orientation, take down the employee's name along with a photo (in lieu of a signature) of the person being orientated instead.
3. Do not have any unessential group meetings.
 - a. If you can talk with each foreman individually & communicate the critical information between trades this way in lieu of having a group meeting please do so.
 - b. If your project is at a point where group meetings are absolutely necessary, do not hold the meetings in your job trailers, hold them outside or in large areas within the building structure where social distancing can be maintained.
 - c. If you do not have a large enough area for meetings to be held without social distancing then the meetings need to be held via Zoom or Microsoft Teams.
4. Separate Trades
 - a. Schedule work onsite so that the trades have sufficient time to complete their work prior to the next trade coming in.
 - b. Do not schedule multiple trades within the same area (unit) at the same time. Only 1 trade is allowed in a unit at a time.
 - c. Any Trade (Crew) with 10 or more employees onsite shall have their own dedicated (labeled) toilet onsite for that crew. There should be an average of 1 portable toilet per 10 workers onsite & all portable toilets shall be cleaned & sanitized a minimum or

2x per week.

- d. Each Trade shall be designated their own break area onsite. Break areas need to be able to facilitate social distancing. In each trades break area, the subcontractor that they are working for is responsible to provide them with a means to clean & sanitize their hands / tools / equipment and a means to dispose of their own personal (household) trash at the end of each shift.
- e. Each Trade is expected to clean their work areas at the end of each day in addition to when they have completed their task in that work area.

Communications and training

This updated Preparedness Plan was communicated **via e-mail & a Microsoft Teams meeting** to all employees on **6/7/21**. Additional communication and training will be ongoing **via e-mail &/or Microsoft Teams Meetings**. All employees are to monitor how effective the program is being implemented and communicate via email to abeh@lyonmn.com or Sallyp@lyonmn.com with any suggestions to modify & improve the program. Everyone needs to work through this program together and update the training as necessary. This Preparedness Plan has been certified by **Lyon Contracting Inc.** management and was posted throughout the workplace on **6/7/21**. It will be updated as necessary.

Certified by:

Abe Hofmeister

Vice President

Appendix A – Guidance for developing a COVID-19 Preparedness Plan

General

www.cdc.gov/coronavirus/2019-nCoV

www.health.state.mn.us/diseases/coronavirus

www.osha.gov

www.dli.mn.gov

Handwashing

www.cdc.gov/handwashing/when-how-handwashing.html

www.cdc.gov/handwashing

<https://youtu.be/d914EnpU4Fo>

Respiratory etiquette: Cover your cough or sneeze

www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html

www.health.state.mn.us/diseases/coronavirus/prevention.html

www.cdc.gov/healthywater/hygiene/etiquette/coughing_sneezing.html

Social distancing

www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html

www.health.state.mn.us/diseases/coronavirus/businesses.html

Housekeeping

www.cdc.gov/coronavirus/2019-ncov/community/disinfecting-building-facility.html

www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/disinfecting-your-home.html

www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2

www.cdc.gov/coronavirus/2019-ncov/community/organizations/cleaning-disinfection.html

Employees exhibiting signs and symptoms of COVID-19

www.cdc.gov/coronavirus/2019-ncov/if-you-are-sick/steps-when-sick.html

www.health.state.mn.us/diseases/coronavirus/basics.html

Training

www.health.state.mn.us/diseases/coronavirus/about.pdf

www.cdc.gov/coronavirus/2019-ncov/community/guidance-small-business.html

www.osha.gov/Publications/OSHA3990.pdf

WORKPLACE STRESS & MENTAL HEALTH IN THE WORKPLACE

OVERVIEW

Mental health challenges can include clinical mental illness, substance use disorders, as well as other emotions like stress, grief, feeling sad and anxious, where these feelings are temporary and not part of a diagnosable condition. While there are many things in life that induce stress, work can be one of those factors. However, workplaces can also be a key place for resources, solutions, and activities designed to improve our mental health and well-being.

Workplace stress and poor mental health can negatively affect workers through:

- Job performance
- Productivity
- Work engagement and communication
- Physical capability and daily functioning

STATISTICS

- Nearly one in five US adults live with a mental illness.
 - mental illness: any of a broad range of medical conditions (such as major depression, schizophrenia, obsessive compulsive disorder, or panic disorder) that are marked primarily by sufficient disorganization of personality, mind, or emotions to impair normal psychological functioning and cause marked distress or disability and that are typically associated with a disruption in normal thinking, feeling, mood, behavior, interpersonal interactions, or daily functioning.
 - Workplace stress has been reported to cause 120,000 deaths in the US each year. This results in nearly 190 billion in health care costs each year. While In comparison, in 2017 366 fatalities out of 971 total fatalities were from falls, the Number #1 leading “Cause” or #1 on the fatal four.
 - Forbes reports that “overall employee stress levels have risen nearly 20% in three decades.”
- Approximately 65% of U.S. workers surveyed have characterized work as being a very significant or somewhat significant source of stress in each year from 2019-2021.
- 83% of US workers suffer from work-related stress
54% of workers report that work stress affects their home life.

UNDERSTANDING THE PROBLEM

Loneliness. Isolation. Uncertainty. Grief. Fear. Stress can increase these and other mental health challenges and can be harmful to our health. The amount and type of stress experienced varies from person to person due to many factors, including those experienced at work.

While there are many things in life that induce stress, work can be one of those factors. Workplace stress and poor mental health can negatively affect workers through their job performance and productivity, as well as with their engagement with others at work. It can also impact worker physical health, given that stress can be a risk factor for various cardiovascular diseases. However, workplaces can also be a key place for resources, solutions, and activities designed to improve our mental health and well-being.

Work has always presented various stress. Workers are constantly dealing with new stressors introduced to the workplace, and in some instances, these stressors have amplified other issues at work. Workplace stressors may include:

- Concerns about job security (e.g., potential lay-offs, reductions in assigned hours).
- Lack of access to the tools and equipment needed to perform work safely.
- Fear of employer retaliation
- Facing confrontation from customers, patients, co-workers, supervisors, or employers.
- Adapting to new or different workspace and schedule or work rules.
- Having to learn new or different tasks or take on more responsibilities.
- Having to work more frequent or extended shifts or being unable to take adequate breaks.
- Physically demanding work.
- Learning new communication tools and dealing with technical difficulties.
- Blurring of work-life boundaries, making it hard for workers to disconnect from the office.
- Finding ways to work while simultaneously caring for children including overseeing online schooling or juggling other caregiving responsibilities while trying to work, such as caring for sick, elderly, or disabled household members.
- Concerns about work performance and productivity.
- Concerns about the safety of using public transit as a commuting option.

These, and many other, work-related stressors can take a toll on a person's sense of well-being and negatively impact their mental health. For some, these stressors can contribute to serious problems, such as the development or exacerbation of mental health challenges (e.g., anxiety disorder, depression disorder or substance use disorders.) Psychologists and psychiatrists are sounding the alarm about a mental health crisis forming, and data supporting their concerns have started to emerge. As one example, survey results from the Centers for Disease Control and Prevention (CDC) suggest that about 40 percent of U.S. adults were experiencing negative mental or behavioral health effects in June 2020, including symptoms of anxiety disorder or depressive disorder, trauma-related symptoms, new or increased substance use, or suicidal thoughts.

Because of the many potential stressor's workers may be experiencing, a comprehensive approach is needed to address stressors throughout the community, and employers can be part of the solution. More than 85% of employees surveyed in 2021 by the American Psychological Association reported that actions from their employer would help their mental health. The goal is to find ways to alleviate or remove stressors in the workplace to the greatest extent possible, build coping and resiliency supports, and ensure that people who need help know where to turn.

GUIDANCE AND TIPS FOR EMPLOYERS

Key things Employers can do include:

- **Be aware** and acknowledge that people can carry an emotional load that is unique to their own circumstances. They may be experiencing heightened levels of loneliness, isolation, uncertainty, grief, and stress; and some may face additional demands, such as parents caring for children or elderly household members; and those with existing mental health or substance use challenges.
- **Identify factors that are making it harder for workers to get their jobs done** and determine if adjustments can be made.
- **Show empathy.** Ensure workers that 1) they are not alone, 2) their employer understands the stress they are under, 3) there is no shame in feeling anxious, and 4) asking for help is important.

Employers can reassure employees they are open and receptive to discussions about employees' work stress, by creating a safe and trustworthy space.

- **Provide access** to coping and resiliency resources, workplace and leave flexibility without penalty, or other supportive networks and services. Research from the American Psychological Association suggests 50 % of employees find that a lack of paid time off or sick leave has a negative impact on stress levels at work.

Lyon's Health Insurance provides access to an **EMPLOYEE ASSISTANCE PROGRAM (EAP)**. This program can help you get support and resources to help you in a wide range of stressful situations. It's free and completely confidential. Get support with:

- Adopting a child
- Finding childcare
- Grieving
- And more!
- Making a budget
- Managing stress
- Knowing your legal options

Life doesn't always go as planned. When you need extra support, Health partners EAP is there to help. Whether it's an issue at work or home, get support and resources to help you with life's challenges. Call or go online anytime day or night.

- Call 866-326-7194
- Log on to hpeap.com using password **hpeap** and chat through instant message.
- Download the iConnectYou mobile app and use passcode: 111032 when creating your account.

Visit: [Healthpartners.com/resilience](https://healthpartners.com/resilience) for more information on building emotional resilience.

Additional resources related to Mental Health & Workplace Stress:

[Mental Health and Stress in the Workplace \(cdc.gov\)](https://www.cdc.gov/mentalhealth/workplace)

[Workplace Stress - Overview | Occupational Safety and Health Administration \(osha.gov\)](https://www.osha-slc.gov/workplace-stress-overview)