ROLLING OWNER CONTROLLED INSURANCE PROGRAM (ROCIP)

ROCIP 4
Safety Manual

Program Term: February 1, 2022 to February 1, 2027
Version 1.4

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1. Introduction & General Information

The ROCIP Safety Manual was developed to ensure proactive safety processes are established and implemented on ROCIP projects to prevent incidents and injuries to all employees and the public while working at DEN. Contractors and subcontractors of any tier are responsible for full compliance with this ROCIP Safety Manual and all applicable laws, statutes, ordinances, rules, regulations and/or orders of any public authority (federal, state, local) as they relate to safety of persons, environment, public, or property.

This ROCIP Safety Manual is not an attempt to reiterate applicable health and safety standards, instead is prepared to provide a uniform framework for safety and health management at DEN. DEN may make changes to these standards during the duration of the construction contract upon written notice to the contractor without further agreement or approval by the Contractor and these changes will become immediately binding and enforceable by DEN. All applicable OSHA, ANSI, FAA, NEC, and NFPA standards are incorporated into this ROCIP Safety Manual, and the construction contract by reference if not incorporated specifically.

Throughout the duration of this project, the Contractor and their subcontractors, of any tier, shall be responsible for administering their own safety program. Neither this document, nor the safety services provided by DEN or others associated with this project, is intended to serve as a substitute for the control and responsibility of the Contractor and subcontractor(s) to provide a safe work environment for their employees, staff and the public. The Contractor is responsible for overseeing the safety of all employees, including their subcontractors, on the project. This is required regardless of its subcontractors' eligibility for coverage under the ROCIP program; however, this does not relieve the subcontractor of its safety responsibilities.

The ROCIP has specific safety requirements that, in many instances, exceed current federal, state, or local safety and environmental standards. The Contractor and its subcontractors must comply with the ROCIP's safety and environmental standards if they exceed other standards. In the event of a conflict between any Contract Documents for this project and the ROCIP Safety Manual, DEN will determine which safety procedures will be followed.

The Contractor and subcontractors must thoroughly review this document and the appropriate portions of the Contract Documents, including all exhibits and incorporated documents such as Division 1, to understand the risks inherent in the project and the safety measures needed to adequately protect employees and the public from harm. No accommodations or changes in time or cost of the work will be made to Contractors and subcontractors, due to ignorance, regarding safety program requirements. The cost of compliance shall be borne solely by the Contractor and subcontractors.

This document is part of the Contract Documents. The requirements contained herein are binding. Failure to comply with these requirements will be deemed as non-compliance or default of the contract. Payments of monthly pay applications may be withheld until compliance is deemed satisfactory. Failure to comply may result in removal of a person or company from the project or termination of the contract.

DEN reserves the right to make any changes and modifications to this document which may be transmitted via bulletin, memo, or other written communication and are effective without further approval or acceptance by the Contractor.

ALL CONTRACTORS PERFORMING WORK ON A ROCIP PROJECT, REGARDLESS OF ELIGIBILITY FOR INSURANCE ENROLLMENT, MUST FOLLOW THE SAFETY REQUIREMENTS OF THE CONTRACT AND THIS MANUAL.

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2. Definitions

The following acronyms and titles may not reflect the actual titles and acronyms in use by all entities on this project and do not have any force or effect beyond their use in the Safety Manual. Due to such differences in nomenclature among Owners and Contractors, the following are used throughout the ROCIP Safety Manual to establish the functional framework for the ROCIP Safety Program. Terms of the ROCIP govern where there is conflict with other referenced definitions.

a. **Accident** An undesired event causing injury, illness, property damage or loss of life.
b. **Contractor** The entity with which the City and County of Denver enters into this contract.
c. **Contractor Safety Representative** Safety professional, meeting minimum requirements and approved by DEN, assigned fulltime and dedicated to the project to monitor the safety of Contractor employees and subcontractors under the scope of work of the contract.
d. **DEN ROCIP Safety Team** This is the management team that represents the safety and health interests of the ROCIP in the prevention of insurable loss on Department of Aviation ROCIP projects. The team members are declared in Section 3.
e. **Drug/Substance** Includes illicit drugs, misused, or abused prescribed or over-the-counter medications, controlled substances, marijuana, and alcohol.
f. **Employee** Person employed by an Employer as defined by this section.
g. **Employer** Firm or entity that has Employees working on the ROCIP site. The term Employer includes the Contractor and Subcontractors of all tiers.
h. **Job Hazard Analysis (JHA)** Documented process by which the steps (procedures) required to accomplish a work activity are outlined, the actual or potential hazards of each step are identified, and measures for the elimination or control of those hazards are developed.
i. **Near Miss Incident** Incident that had the potential to cause harm or injury but because of circumstances resulted in no harm or damage.
j. **Project Manager** The individual designated by DEN to serve as the owner's representative for all project-related matters. Note that this position is not to be confused with the contractor's project manager.
k. **Relevant Construction Safety and Health Experience** Full site safety program management including field and office responsibilities for similar programs for construction projects of similar scope and size.
l. **ROCIP Broker** Marsh, Inc. herein referred to as the "Broker" providing risk management consulting and being a consultant for safety to the project.
m. **ROCIP Insurer** The insurance companies providing DEN ROCIP coverages.
n. **Rolling Owner Controlled Insurance Program (ROCIP)** Owner's wrap-up insurance program which provides insurance coverage for eligible and enrolled owner's representatives, Contractors, and Subcontractors of any tier, working on City and County of Denver ROCIP project sites. The Owner and Broker identifies program participants.
o. **Site-Specific Safety Program (SSSP)** The Employer's Site-Specific Safety Program prepared in accordance with the requirements of this document and the Contract. This incorporates the Contractor's Corporate Safety Manual or Policies which at a minimum must meet OSHA and this ROCIP Safety Manual's standards.
p. **Subcontractor** Firm or other entity awarded work by a Contractor on the ROCIP project. Subcontractor as used herein shall apply to all tiers of Subcontractors, as well as vendors and service providers performing work for the benefit of the Contractor. For the purposes of the Safety Standards, vendors,

suppliers, and service providers on the project for the furtherance of the project are covered by this definition and *are subject to the provisions of the Safety Standards regardless of insurance enrollment*.

Note: OSHA definitions apply for: authorized person; competent person; hole; qualified person, attendant, or operator; and walking and working surface. FAA Definitions can be found here.

3. DEN ROCIP Safety Team Directory

Following is a list of key safety and loss control contacts for the DEN ROCIP.

DEN KEY CONTACTS

CONSTRUCTION SAFETY SUPERVISOR

Suezann Bohner	303.342.2363	Suezann.Bohner@flydenver.com

SENIOR CONSTRUCTION SAFETY PROFESSIONALS

Tony McCrimmon	303.342.2138	Russell.McCrimmon@flydenver.com
Danielle Chavez	303.342.2135	Danielle.Chavez2@flydenver.com
Kenneth Roberts	303.342.2638	Kenneth.Roberts@flydenver.com
Group Email		ROCIPSafety@flydenver.com

DEN RISK (INSURANCE & CLINIC ASSISTANCE – See ROCIP Insurance Manual for more)

Hope Olthuis	303.342.2137	Hope.Olthuis@flydenver.com

MARSH KEY CONTACTS – ROCIP ADMINISTRATOR/INSURANCE BROKER

SAFETY and LOSS CONTROL

Mark Schaaf	303.549.2499	Mark.Schaaf@marsh.com

ZURICH KEY CONTACTS – ROCIP INSURER

SAFETY and LOSS CONTROL

Amir Vafaee	619.654.9330	Amir.Vafaee@zurichna.com

For environmental questions, please contact your DEN PM or DEN Sustainability at 303-342-4200.

For enrollment, workers compensation/medical treatment authorization, or other claims questions, please refer to the ROCIP Insurance Manual.

FOR ALL EMERGENCIES: CALL 303-342-4211

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4. Safety Responsibilities & Representative Qualifications

4.1 Statement of Authority

All persons who come into the work area for any reason during construction will be required to comply with the established safety regulations that govern the ROCIP Project. The DEN ROCIP Safety Team, ROCIP Broker, and ROCIP Insurer shall directly review and manage the requirements of the ROCIP Safety Plan.

If the DEN ROCIP Safety Team finds the Contractor controlled areas of work or individuals in noncompliance with OSHA, the Site-Specific Safety Plan, ROCIP Safety Manual requirements, Airport Rules or Regulations, or any other applicable regulations, **DEN in its sole discretion shall have the authority to order immediate correction and to stop work**.

Noncompliance with Contractor Site-Specific Safety Plan or this Manual may be grounds for Contractor dismissal and/or employee(s) being forbidden entry onto any DEN project. All costs of correction shall be borne by the Contractor. Nothing contained herein shall serve to relieve the Contractor of its liabilities and/or obligations to comply with the requirements set forth by OSHA, or other applicable Federal, State and Local requirements. The most stringent regulation shall apply if a conflict arises in the interpretation of the safety requirements of the ROCIP Safety Manual, the Contractor's SSSP, or Federal, State, or Local Government laws or regulations.

Variances to specific requirements in this Manual may be granted at the sole discretion of the DEN ROCIP Safety Team. Any variance must be in writing, signed by the DEN Safety Supervisor. DEN may revise or revoke any variance in its sole discretion.

4.1.1 DEN ROCIP Safety Team Responsibilities

The DEN ROCIP Safety Team is responsible for generating and maintaining a high level of commitment for safe operations among all personnel assigned to the project site. Responsibilities and duties of The DEN ROCIP Safety Team may include, but are not limited to, the following:

a. Review and accept Site Specific Safety Plans and Task Specific Safety Plans, review and approve Contractor Safety Representative qualifications, and evaluate variance requests.
b. Compile, follow-up, and maintain safety performance statistics for the project. Communicate information to the project's management to ensure they are informed of the safety program.
c. Keep apprised of new regulations and developments to keep the safety policies and procedures current and effective. Update and disseminate ROCIP Safety Manual.
d. Observe Contractors' and Subcontractors' activities to evaluate safety performance and make appropriate recommendations and ensure compliance with approved plans.
e. Review and communicate methods and procedures to foster the highest level of accident prevention performance possible.
f. Participate in Contractor Safety Representatives incident investigations as deemed necessary. Review all accident investigation and near miss reports to ensure thorough

investigations were conducted to control future accidents and communicate lessons learned.

g. Periodically attend Contractor safety toolbox meetings, orientations, and review JHA's or SOP's to ensure content and quality are being achieved.
h. Review and evaluate Contractors' safety program to ensure it meets the standards of this Manual and all approved pre-planning safety documents.
i. Conduct periodic Contractor Safety Meetings to discuss current work activities, review ROCIP Safety Manual revisions and/or share lessons learned.
j. Periodically conduct audits to ensure contractor compliance with and enforcement of the terms of the ROCIP Safety Manual.
k. Respond to Contractor inquiries regarding ROCIP language interpretation and requests for safety variance requests. Any safety variance may be granted and/or revoked at any time at DEN's sole discretion.

4.2 Contractor Safety Requirements

Contractors and Subcontractors, of any tier, have the explicit responsibility to perform work in accordance with the Contract Documents, federal law (including but not limited to both 29CFR1910 and 29CFR1926 and their relevant statutes), the City and County of Denver's ROCIP Safety Manual requirements, and any applicable statutes and regulations related to the Federal Aviation Administration, Transportation Safety Administration, Homeland Security or United States Customs. Before construction can begin, the Contractor must have the following in place:

a. Site Specific Safety Plan reviewed and accepted by the DEN ROCIP Safety Team
b. Contractor Safety representative reviewed and accepted by the DEN ROCIP Safety Team
c. Each employer enrolled in ROCIP Insurance Plan (see ROCIP Insurance Manual)
d. Where required, employees must obtain SIDA badge before pre-employment drug test is administered
e. Negative drug test results for all workers, including subcontractors, on file with Contractor
f. Completed Site Safety Orientation training for all workers and acknowledgement on file
g. Contractor will issue project sticker provided by DEN to be displayed on hard hat at all times
h. Employees' first and last names displayed on the front of their hard hats
i. Applicable task-specific safety plans and JHAs reviewed with all employees

4.3 Contractor Safety Representative

The Contractor shall assign a fulltime on-site safety professional to the project, meeting the qualifications in Section 4.3.2, to monitor the safety of their employees and subcontractors under the scope of work of the contract. A contractor safety representative must be present for entire duration of work activities with the expectation that they spend most of the shift on site to ensure adherence to safe work practices. More oversight, including one or more additional safety personnel, may be requested by DEN depending on contractor performance and adherence to safe work practices as observed by DEN or their representatives during safety inspections. The cost of additional oversight requested by DEN because of the Contractor's performance and adherence to safe work practices shall be borne by Contractor and shall not be the subject of a Contractor Change Request or Change Order.

4.3.1 Contractor Safety Representative Ratios and Shift Representation

If the manpower loading exceeds 125 employees on the project, a second fulltime safety professional shall be retained. If the project exceeds 225 employees, the Contractor will discuss with DEN the need for adding additional safety personnel to ensure the safety requirements of the ROCIP are fully met.

A full-time safety professional accepted by the DEN Safety Team meeting the minimum qualification outlined below shall be assigned to *each shift* when contractor is engaged in multiple shifts.

4.3.2 Safety Representative Qualifications

The qualifications and resume of the Contractor's Safety Representative candidate(s) must be submitted to the DEN ROCIP Safety Team for review and acceptance within 3 days of Notice to Proceed (NTP).

The DEN ROCIP Safety Team will schedule an interview with the candidate.

The Contractor Safety Representative must at a minimum:

a. Hold a Board of Certified Safety Professionals CSP with at least 4 years of full-time relevant construction safety and health experience; **or**
b. Hold a Board of Certified Safety Professionals ASP, GSP, or SMS with at least 6 years of full-time relevant construction safety and health experience; **or**
c. Hold a Board of Certified Safety Professionals CHST or OHST with at least 8 years of full-time relevant construction safety and health experience.

AND have all of the following training/knowledge:

a. Completed the OSHA 500 course for construction within the last 24 months, remaining current for the duration of the project.
b. Provide proof of non-expired completion of a Red Cross or approved equal for Cardio–Pulmonary Resuscitation (CPR), First Aid, and Automated External Defibrillation (AED).
c. Provide proof of completion of FMCSA compliant 2-hour drug and alcohol reasonable suspicion supervisory training.
d. Knowledge of and ability to fulfill contractor safety representative's responsibilities set forth in this Manual and the Contractor's CSPP where applicable.

Additional training required for projects requiring landside traffic control:

a. Valid Colorado Traffic Control Supervisor (TCS) or Traffic Control Technician (TCT) Certification or Endorsement, or
b. A full-time traffic manager/engineer is assigned during all working shifts with above credential or better and is tasked with continuous oversight of safe condition of TTC.

This oversight role cannot be fulfilled by traffic control subcontractor.

To determine 'relevant' construction experience, a list of projects, their approximate valuation and scope, and the safety representative's duration on the projects needs to be submitted along with the CSR's resume and copies of all their required certifications to the DEN ROCIP Safety Team.

The DEN ROCIP Safety Team has sole discretion regarding disqualification of the candidate based on credentials, opinion of relevancy of experience, the interview, demonstrated aptitude during the project and/or past DEN project performance, attitude, and partnering. Qualification of the Contractor Safety Representative may be revoked by DEN at any time for failure to fulfill the responsibilities or perform to the standards set forth in this manual.

4.3.3 Safety Representative Responsibilities

Specific responsibilities of the Contractor's Safety Representative are listed in the following sections. These responsibilities cannot be abdicated or assigned. The Contractor Safety Representative and General Contractor are tasked with site safety program management and subcontractor oversight, development, training, and mentoring necessary to meet the safety performance and planning standards set forth in this manual.

4.3.3.1 Employee Safety Orientation, Training, and Instruction

a. Conduct safety orientation sessions for all Contractor, Subcontractor, and DEN employees or representatives prior to them starting work on site.
b. Apprise all employees of their safety rights and responsibilities in accordance with regulations and this manual.
c. Participate in weekly toolbox safety meetings.
d. Assist field supervisors with meetings as requested.
e. Conduct monthly supervisor safety meetings.
f. Participate in Job Hazard Analysis development and Pre-Task Planning activities, to include assisting and mentoring subcontractors to refine their programs.
g. Instruct employees concerning special procedures (e.g., lock-out, excavation, confined space entry, fall protection, FAA, TSA, DHS, etc.) as required by OSHA or this manual.
h. Evaluate employee performance and knowledge of safety rules and standards.
i. Conduct regulatory training as required or necessary for all employees on site.
j. Conduct emergency action plan training.

4.3.3.2 Record Keeping

a. Complete and maintain OSHA, state, federal, company, and required ROCIP project specific documents and retain for the duration of the project or as required by law.
b. Complete incident investigations, including near misses, to include causal factor analysis and corrective actions for distribution to Contractors, Subcontractors, DEN ROCIP Safety Team, and DEN Project Manager within 72 hours.
c. Complete daily inspection reports/audits.
d. Maintain training documentation.
e. Maintain drug test results for all employees on the project. Respond to drug test audits within 24 hours.
f. Respond to all other safety documentation audit requests within 72 hours.

4.3.3.3 Safety Standards, Rules and Regulations Enforcement

a. Authority to take immediate corrective action, including authority to stop work. The CSR shall be deemed a "competent person" pursuant to OSHA by the Contractor. The Contractor shall ensure that the CSR meets the OSHA definition of 'competent person.'
b. Organizational freedom necessary to implement and enforce Contractor and Subcontractor safety and health programs.

c. Implement, maintain, and update, as required, conditions and project site specific safety policies and procedures.
d. Interpret and implement site specific safety policies and procedures.
e. Demonstrate, by example, proper safety behavior.
f. Ensure that Contractor management personnel enact appropriate company disciplinary action in response to unsafe behavior.

4.3.3.4 First Aid/Medical Treatment

a. Ensure first aid supplies are adequate.
b. Lead and facilitate all incident investigations and complete incident analysis reports. Submit final report to DEN within 72 hours.
c. Coordinate/facilitate employee injury treatment for all workers on site, ensure modified duty is provided within restrictions, and have minimum weekly check-ins with injured employees.
d. After ensuring treatment of the injured worker and securing the work site, inform the DEN ROCIP Safety Team and DEN Project Manager immediately of all injuries, including first aid.
e. Prior to non-emergency medical treatment, or prior to follow-up care following emergency treatment, provide the injured employee with the Designated Medical Provider list form found in the ROCIP Insurance Manual. Ensure that the injured employee selects an authorized treatment facility. Employee must circle their choice on the document, sign/date, and return to the Contractor.
f. If an employee reports an injury and wishes to deny treatment, or they only wish to receive/administer first aid on site, they must circle that they are denying treatment from a medical provider on the Designated Medical Provider Form found in the ROCIP Insurance Manual, sign/date, and return to the Contractor.
g. File the first report of injury with the insurance carrier for all employee injuries, including subcontractor employee injuries. This must be completed within 12 hours of any employee seeking medical care.

4.3.3.5 General Responsibilities

a. Keep the DEN ROCIP Safety Team and Project Manager apprised of any safety related issues that have or may develop.
b. Maintain ongoing proactive, professional, and collaborative safety partnering with DEN.
c. Contractor Safety Representative shall review all safety submittals to ensure they meet contract requirements before they are submitted to DEN. All submittals are to come directly from the General Contractor through the project's assigned document control software. Submissions coming directly from subcontractors will not be accepted.
d. Conduct daily work area safety inspections and provide results to the DEN ROCIP Safety Team upon request. DEN may require the Contractor to utilize a specific form or program.
e. Respond to all safety issues logged in BIM360 within 24 hours.
f. Compile safety statistical information and send to the DEN ROCIP Safety Team.
g. Participate in scheduled weekly construction meetings with DEN.
h. Attend quarterly safety meetings scheduled by DEN ROCIP Safety Team.

4.4 Subcontractor Safety Representative

Subcontractors of any tier are responsible for complying with all safety requirements addressed in the ROCIP Safety Manual, the Contractor's SSSP, along with applicable Federal, State and Environmental, Safety and Health rules and regulations. In the case of conflict, the most stringent applies.

4.4.1 Subcontractor Safety Representative Qualifications- Less than 50 employees

Each Subcontractor on site with a manpower loading less than 50 employees shall have an employee assigned as a safety representative (this employee may be the foreman) meeting the following minimum requirements:

a. Completed at least an OSHA 10 Construction Outreach Training Course within the last twenty-four (24) months before being assigned to this project.
b. Provide proof of non-expired completion of a Red Cross or approved equal for Cardio–Pulmonary Resuscitation (CPR), First Aid, and Automated External Defibrillation (AED).
c. Employer will designate and affirm that they are a competent person for the work being performed.

4.4.2 Subcontractor Safety Representative Qualifications- More than 49 Employees

When a Subcontractor's manpower loading is equal to or exceeds 50 employees, the Subcontractor is required to have a full time Subcontractor safety representative onsite. This employee may not be the foreman/superintendent, but solely dedicated to safety on the project. The qualifications for the full-time safety representative shall meet the following minimum requirements:

a. Completed at least an OSHA 30 Construction Outreach Training Course within the last twenty-four (24) months before being assigned to this project.
b. Provide proof of non-expired completion of a Red Cross or approved equal for Cardio–Pulmonary Resuscitation (CPR), First Aid, and Automated External Defibrillation (AED).
c. Provide proof of completion of FMCSA compliant 2-hour drug and alcohol reasonable suspicion supervisory training.
d. Employer will designate and affirm that they are a competent person for the work being performed.

4.4.3 Subcontractor Safety Representative Responsibilities

Duties of the Subcontractor Safety Representative include the following regardless of manpower loading:

a. Participation in accident and incident investigation facilitated by the Contractor Safety Representative involving their work and employees.
b. Have the right and authority to stop any and all hazardous work being performed by their employer whenever imminent danger to life and health exists.
c. Organizational freedom necessary to implement and enforce Subcontractor's safety and health program and report to their own direct supervisor all cases of employees who, in their opinion, are not qualified for the work to which they have been assigned or who engage in unsafe practices.
d. Attend safety meetings scheduled by Contractor or DEN ROCIP Safety Team.
e. Counsel and train the employees when the JHA or Daily Pre-Task Planning does not adequately identify the key hazards and controls of the risk. Update JHA.

4.5 Field Supervisor Requirements

Field supervisors, typically referred to as foremen or superintendents, have the responsibility for overall training, control, and conduct of employees on site. As first line supervisors, their role in the safety and health program is crucial as they set the example by which their employees work. Contractor shall remove supervisors from the project who do not obey or enforce safety rules.

4.5.1 Field Supervisor Qualifications

All Contractor and Subcontractor field supervisors, both foreman and superintendents, that are not acting as the Subcontractor Safety Representative must have completed the following training:

a. An OSHA 10 Construction Outreach Program within the last 24 months or OSHA 30 Construction Outreach Program within the last 60 months
b. Provide proof of non-expired completion of a Red Cross or approved equal for Cardio–Pulmonary Resuscitation (CPR), First Aid, and Automated External Defibrillation (AED).

General Contractor Superintendents must also provide:

e. Provide proof of completion of FMCSA compliant 2-hour drug and alcohol reasonable suspicion supervisory training.

4.5.2 Field Supervisor Responsibilities

The field supervisors' safety responsibilities include, but are not limited to:

a. Authority to stop work when employees or are exposed to hazardous conditions or potentially hazardous conditions.
b. Capable of developing and leading JHA's, Daily Pre-Task Planning activities, and toolbox talks.
c. Conduct task specific safety training.
d. Capable of performing safety inspections and aiding incident investigations.
e. Capable of implementing the crisis management plan.

4.6 Employee Responsibilities

All employees on DEN ROCIP projects have safety responsibilities and rights which includes:

a. Employees shall use safety equipment, personal protective equipment, and other devices and procedures provided, as directed, and as necessary for their protection.
b. Each employee shall comply with the safety standards, rules, regulations, and orders issued by their Employer and the Contractor.
c. Employees shall have the right to stop work and report unsafe and unhealthful working conditions to appropriate project staff or other officials.
d. Employees shall alert appropriate project staff if they have questions or concerns related to the safety of the work or if they believe they may need more safety training before proceeding.

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5. Drug and Alcohol Testing and Education Requirements

Denver International Airport (DEN) operates all projects as a drug-free work environment. Contractors and subcontractors will maintain a drug-free environment. All contractors and subcontractors are responsible for testing all employees who work on DEN projects for the presence of drugs or alcohol as well as providing a drug-free awareness program that educates them on the requirements of this manual and any applicable contractor policies.

DEN will pay the cost of pre-project drug testing. Contractors and subcontractors are responsible for payment for post-incident drug testing, reasonable suspicion drug testing, return to duty, or other testing mandated by contractor policy or applicable laws.

Contractors and subcontractors shall test their employees, as appropriate, throughout the construction process including pre-project testing (referred to as pre-employment testing), testing following an injury or accident in accordance with OSHA's guidance, reasonable suspicion, and to the extent necessary to implement drug-free work standards in accordance with DOT requirements or this manual. Contractors are responsible for ensuring that all their subcontractors drug test their employees prior to reporting to work on a project.

The DEN ROCIP Safety Team, Risk Management Department, DEN project management teams, or their representatives have the right to audit the test records at any time to confirm that each employee who works on a project has been drug tested. It is at the Contractors discretion on how to track and maintain records, but they must be able to produce them within 24 hours from time of request.

Contractor and Subcontractor employees on ROCIP projects are hereby advised that full compliance with these policies shall be a condition of employment and continued employment on this or any DEN construction project.

All records regarding employee drug testing will be maintained by the contractors and subcontractors in a manner consistent with Federal, State, and Local law.

5.1 Drug-Free Workplace Policy

Implementation and enforcement of this policy is in addition to applicable Federal, State, and Local laws, rules, and orders.

5.1.1 Prohibition Against Unlawful Presence of Controlled Substances in the Workplace

The unlawful possession, manufacture, distribution, dispensation, possession of controlled substances and/or drug paraphernalia or the illegal use of a controlled substance on the project premises including defined rest areas, contractor parking areas, in company vehicles or while engaged in company activities on the project is strictly prohibited. The use of controlled substances includes being "under the influence".

5.1.2 Sanctions for Violation of the Drug-Free Workplace Policy

Employees who violate the foregoing drug-free workplace policy and engage in the use, sale, possession, or purchase of illicit drugs on the worksite shall be subject to disciplinary action up to and including termination of employment on the project; and, where necessary, restraining orders may prevail.

5.1.3 Contractor Substance Abuse Policy

Contractor shall maintain a substance abuse policy that outlines how they will meet the criteria of Section 5 in accordance with all applicable laws. Contractors may choose to allow subcontractors to participate in or duplicate their Substance Abuse Policy.

5.2 Notification Requirements

Contractors will provide written notice when anyone on site has undergone testing for drugs or alcohol, excepting pre-employment, unless the result is non-negative. Notices must be sent to your assigned DEN Safety Team member and ROCIPSafety@flydenver.com.

The Contractor and employer must remove the employee from all DEN construction sites for violation of the Drug Free Workplace Policy.

Excepting for pre-employment drug tests, if the result is negative, the contractor must submit the results prior to employee returning to the project.

DEN Safety must be notified of all positive, non-negative, or refusal results (including pre-employment) within 24 hours and include a copy of the results from the Medical Review Officer.

5.3 Required Drug Testing

Contractors and Subcontractors of any tier regardless of enrollment in the ROCIP Insurance program are responsible for testing all employees who work on the project for the presence of drugs or alcohol. ROCIP requires pre-employment, post-incident, reasonable suspicion, and return to duty drug testing as outlined in this section.

5.3.1 Pre-employment Drug Testing

All employees must receive negative results for a pre-employment drug screen before beginning work on the project. DEN will pay for the cost of pre-employment drug and alcohol testing. **Any employee who fails the test or refuses to test will be disqualified from working on any DEN construction project for five (5) years. Retesting of an employee who previously failed or refused a drug test before that duration has passed will not be authorized.** It is the Contractor's responsibility to confirm all project personnel, including subcontractor's employees, meet the qualifications of this Section.

It is up to the Contractor to determine how pre-employment drug testing records will be maintained so that they may be audited by authorized parties while maintaining individual privacy and confidentiality. If audited, the Contractor will be required to demonstrate proof of a negative drug test result within 24 hours. Employees that do not have negative pre-employment drug tests on file (or if the Contractor cannot produce the records) shall be disqualified from working on DEN construction projects.

Pre-employment drug tests must be on file and auditable for each project. Employees must go through the Contractor orientation and begin work within 30 days of the pre-employment drug test on the initial project and within 120 days of any subsequent ROCIP IV project. The contractor must reimburse DEN for any drug test performed where the employee does not start within 30 days.

5.3.1.1 Drug Screening Authorization Form

The Authorization form found in Appendix P must be emailed to the clinic in advance of the employee visit.

The form must be completed electronically (not handwritten) and the subject of the email line must include employee name, contractor name, and project number.

5.3.1.2 Pre-employment Drug Screening Locations

DEN has a specific list of approved medical providers to select from to accomplish pre-employment drug screening. Please see the full listing on the Drug Screen Requisition and Authorization Form (See Appendix P) with addresses for each location.

For convenience, DEN provides an on-airport drug screening provider option located near the DEN Badging Office.

ONLY APPROVED LOCATIONS MAY BE USED FOR PRE-EMLOYMENT DRUG SCREENING.

PRE-EMPLOYMENT DRUG SCREENING LOCATIONS VARY FROM APPROVED MEDICAL PROVIDERS FOR TREATING INJURED WORKERS.

REFER TO THE ROCIP CLAIMS GUIDE FOR DETAILS ON LOCATIONS FOR TREATING WORKERS COMPENSATION RELATED INJURIES

5.3.2 Post-Incident and Reasonable Suspicion Testing

The cost of post-incident and reasonable suspicion testing shall be borne by the contractor. Testing must be a screen performed to the identified testing standards established for ROCIP pre-employment drug and alcohol test as carried out by the designated ROCIP drug testing providers (11 panel- Point of Care drug screen including THC, COC, AMP, METH, OPI, PCP, BZO, BAR, MDMA, OXY, MTD and BAT breath alcohol test).

Utilizing a third party not listed in this manual must be submitted and approved by DEN and outlined in the Contractor's Drug and Alcohol Policy prior to completing the testing. Contractors may not self-perform drug and alcohol tests. Contractor is solely responsible for ensuring compliance with any regulatory authority that may ensure validity of test or rights of the employee.

Employees reasonably suspected of being under the influence of drug(s), or otherwise in violation of this policy, will submit to a drug test as determined by the Contractor or DEN. The reasonable suspicion test should be performed as soon as possible, but no later than

12 hours after the determination to test has been made, or in accordance with federal regulations.

As soon as possible, but no later than 12 hours after an incident, a post-incident drug and alcohol test will be required of any employee whose performance did or may have contributed to the incident. The employer may also deem that a reasonable suspicion drug test needs to be performed based on their training. For the purposes of post-incident drug testing, "incident" is defined as follows:

a. An event resulting in one or any combination of the following:
    - Death
    - Loss of consciousness
    - Injury requiring professional medical treatment
    - Disability which prevents the discharge of normal activities beyond the day of the accident
b. Property damage, resulting in cost of recovery value, for loss of product and/or damage to the property of the ROCIP project or others, without regard to monetary value.

5.3.3 Return to Duty Testing

Employees will be subject to immediate dismissal for refusal to submit to testing upon return to duty, or if the employee tests positive upon return to duty. Return to duty is defined as an employee previously tested and accepting employment for the DEN ROCIP Project and who has left the project for a period of greater than 14 (fourteen) consecutive calendar days due to a work-related injury or illness.

5.4 Confidentiality

The ROCIP will carefully consider the expectations of individual privacy and confidentiality in retaining records under this policy. Except for the testing laboratory, employer, the ROCIP Safety Team, and the ROCIP Broker, drug test results may not be divulged to anyone without the expressed written authorization of the tested individual, unless legally requested by state or Federal agencies as part of an accident investigation.

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6. Safety Pre-Planning Requirements

This section of the Safety Manual draws attention to pre-planning requirements unique to this ROCIP program, that may or may not be included in standards of regulatory authorities. The Contractor will ensure they are familiar with this manual in its entirety when considering the safety scope of this project.

6.1 Pre-Planning Requirements

6.1.1 Contractor's Site-Specific Safety Plan (SSSP)

30 DAYS

The SSSP is essential to the successful and consistent implementation of the ROCIP Safety Program. The Contractor and each Subcontractor will be responsible for costs to establish and maintain a safety program that meets or exceeds the requirements contained in this manual.

The Contractor's written site-specific safety plan meeting the ROCIP requirements must be submitted for review by DEN within three (3) days of NTP.

Each SSSP must be tailored to the risks of the project. Some projects involve a variety of complex hazards and require substantial SSSP development with comprehensive guidance.

- See specific Site-Specific Safety Plan requirements in Appendix A.

The Contractor must be prepared to discuss, in detail, the procedures to control the hazards likely to occur during major phases of the work, and the organizational assignments involved in administering the program. **The Contractor's principal onsite project representative, general superintendent, and safety representative must attend this meeting.** The list of required elements below is not exhaustive, and DEN may require the Contractor to provide additional safety planning documents or provide more detailed information before acceptance of the SSSP.

NOTE: Subcontractors are required to develop their own SSSP and submit it to the Contractor. The Contractor is responsible for reviewing their Subcontractor's SSSP and maintaining the document for DEN ROCIP Safety Team review.

After DEN accepts the Contractor's written SSSP, a meeting must be scheduled within ten days to review the plan with the DEN Project Manager and the DEN ROCIP Safety Team.

Review and acceptance of the Contractor's SSSP shall not impose any liability on the Owner, broker, or insurance carrier.

The SSSP must address the following elements and be presented in the exact order below. If additional sections are required or requested, they will appear after the sections listed. See Appendix A for formatting and detailed requirements for each section.

1. Contractor's Commitment to Safety
2. Accountability & Responsibility of Key Project Personnel by position and name
3. Accountability & Responsibility of Key Corporate/District Leadership
4. Identification of Competent & Qualified Persons (format- see Appendix A)
5. Scope of Work Evaluation
6. Hazard/Risk/Exposure Assessment (for item 5)
7. Control Measures (for item 6)
8. Task-Specific Pre-planning Documents or Schedule of Activities/Submissions as required in ROCIP Section 6.3
9. Contractor Daily Safety Inspections
10. Contractor Oversight and Safety Management of Subcontractors
11. Night Work/Alternate Shift Plan
12. Fatigue Management Plan
13. Safety Accountability Program (Reward/Discipline)
14. Training and Instruction List
15. Emergency Action Plan and HAZWOPER Plan
16. Material Laydown (on/off-site)
17. Haul Route Maps
18. Project Safety Forms
19. List of Contractor Safety Standards that Exceed OSHA or the Contract Documents

Include each of the following in their own separate submittals from the SSSP:

20. Subcontractor Onboarding and Job Hazard Analyses (ongoing submittals)
21. New Employee Orientation (submit copy of training materials)
22. Corporate Safety Manual

6.1.1.1 Media and External Communications on DEN Projects

Projects at Denver International Airport (DEN) involve many active partners and present unique communication challenges. Therefore, to provide a unified message, and unless otherwise directed by DEN in writing, DEN will lead all external communications with the media, public, staff, and other stakeholders who may be impacted by a project or a crisis-related event.

If it is determined that contractors or other subject matter experts need to be involved in the communications, that will be arranged on a case-by-case basis. No one outside of DEN should speak on behalf of DEN or DEN projects, including using the DEN logo or branding in communications, without prior approval by the Deputy Manager or their delegated representative, in compliance with the Contract Documents.

To assist in managing crisis communications successfully, the contractor will be readily available to coordinate with DEN and provide all necessary information promptly.

If the Contractor would like to use proactive external communications, the Contractor must comply with the Contract Documents, including obtaining approval from the Deputy Manager or their delegated representative as provided in the General Conditions. DEN requires a 14-day review period of all materials that will be distributed. DEN has the right to refuse any communications and messaging. DEN must review and approve any release of material to the public.

6.2 Pre-Work Hazard Mitigation Planning Requirements

6.2.1 Daily Pre-Task Planning and Job Hazard Analysis

It is the responsibility of the Contractor's project superintendent, competent personnel, and safety representative to ensure a job hazard analysis is completed for all work tasks before work commences. The JHA must be used by the field supervisor/foreman to participate in discussions with employees before work commences and at intervals appropriate to the hazard/scope. If new or previously unidentified hazards are identified during the operation, the Contractor must stop the task, modify the JHA, and review the new plan with all impacted personnel.

Daily pre-task planning enables Contractor field supervisors and employees to participate in a discussion regarding the day's activities, associated risks, and the relevant control measures as well as site-specific conditions that may not be addressed in the JHA. Contractor and Subcontractor foremen assigned competent persons, and all employees performing the work shall participate in the discussion to complete a daily pre-task plan.

Both the JHA and Daily Pre-Task Plans will be signed and dated by all employees acknowledging they understand the hazards and how to mitigate them. The daily pre-task plan shall be kept with the foreman during the shift and then retained on file for a minimum of 30 days. JHA(s) shall be kept for the duration of the project.

The daily pre-task plan and JHAs shall be made available on-site to employees and produced upon request by the DEN ROCIP Safety Team, Administrators, Insurers, or DEN Project Teams.

- See Appendix B for sample JHA form and example.
- See Appendix C for Daily Pre-Task Plan sample form.

6.2.2 Subcontractor Pre-Mobilization Meeting

The Contractor will conduct a Subcontractor pre-mobilization safety meeting on or before mobilization to review the Subcontractor's job hazard analysis, discuss site safety issues and requirements, and address any special concerns. The Contractor shall present their approach to managing safety on high-risk tasks. The sample Subcontractor Premobilization Safety Meeting checklist in Appendix E will be used to discuss and document this meeting. All attendees shall acknowledge understanding by their signature, and the Contractor shall retain the meeting minutes for the duration of the project. The following are the minimum required attendees:

- Contractor's project manager, safety representative, and supervisors
- Subcontractor's safety representative and competent persons

Contractors are required to invite their DEN ROCIP Safety Team representative to any premobilization meeting where the subcontractor, or any tier performing the scope of work, has an Experience Modification Rating (EMR) over 1.25 or when requested; however, attendance will be based on scheduling availability.

The Contractor shall submit the signed Pre-Mobilization checklist, meeting minutes, and associated JHAs to DEN prior to subcontractor performing work on site. DEN will review

this documentation, but this review does not constitute DEN's approval or confirmation that the documentation complies with the Contract Documents, this Manual, or applicable law or regulations. However, in the event that DEN determines that the documentation does not conform to the Contract Documents, this Manual, or applicable law or regulations, DEN reserves the right to request revisions to or reject all or part of the documentation.

6.3 Task Specific Pre-Planning Requirements

The below list of required task specific pre-planning requirements is not exhaustive. DEN may, in its sole discretion, require additional pre-planning or pre-work meeting requirements based on Contractor safety performance, prior adherence to safety plans, safety audit results, previously unidentified risks, work sequencing that may introduce new risks, or any other condition that results in unique safety hazards or increased risk.

As described in the Schedule Contract Specification 013210, Contractor must incorporate the submittal requirements found in these Manual Section 6.3 subsections for all high-hazard work to be performed. A list of upcoming task specific pre-planning submittals will be reviewed in the weekly project meeting.

6.3.1 Crane Operations

6.3.1.1 Critical Lift Plans

A critical lift plan is required to be completed, approved in writing by the Contractor and submitted for review by DEN seven working days prior to critical lifts taking place if:

a. The gross load exceeds 75% of the crane's total lifting capacity
b. The gross load at any point during the lift exceeds 75% of the crane's lifting capacity.
c. The lift requires multiple cranes.
d. The load will be swung over occupied areas, unprotected plant, equipment, or utility service.
e. The lift is performed in proximity of live electrical lines.
f. Hoisting of personnel.
g. DEN deems there is potential for negative impact to airport operations.

The critical lift plan must include:

a. The Critical Lift Plan Form in Appendix F
b. A sketch of the crane set-up location (including outriggers) and radius, as well as the crane's lift chart, and
c. A rigging diagram showing each component and its capacity, the sling angles, and the load calculations demonstrating reduction factors where appropriate.

The Critical Lift Plan must be specific for the crane brought on site by the Contractor. If a different model/type of crane is brought on site, then the lift plan is void and another lift plan must be submitted for the specific crane to be used on site.

6.3.1.2 Crane Operators

Crane operators must be certified by an accredited third-party testing entity prior to operating the type of crane assigned. Crane operator certification must be from an accredited organization, such as NCCCO, and submitted to DEN at least seven days prior to crane assembly/operation.

The crane operator shall not be responsible for hazards or conditions that are not under his direct control and that adversely affect the lift operations. Whenever the operator has doubt as to the safety of crane operations, the operator shall stop the crane's functions in a controlled manner. Lift operations shall resume only after safety concerns have been addressed or the continuation of crane operations is directed by the lift supervisor.

6.3.1.3 Rigger and Signal Person

Describe what types of signals will be used, how ground personnel will be kept clear of loads in the air, and provide rigger and signal person training and qualification documentation at least 7 days prior to crane operation.

6.3.1.4 Third-Party Inspection

A third-party inspector must oversee the erection of any crane being assembled on site. All cranes requiring assembly onsite must be inspected and certified by a third-party inspector prior to use.

Where cranes do not require assembly before inspection (i.e. mobile cranes), third-party inspections may be conducted on site before lifting or conducted off-site within the last 3 days prior to mobilization to the worksite.

Any deficiencies noted that prohibit the use of the crane that requires mechanical or technical repair must be corrected prior to any lift activities and a NEW 3rd party inspection showing no deficiencies must be submitted. Corrections signed by the crane owner will not be permitted.

Third Party Inspection documentation showing no deficiencies that preclude operation must be submitted to and accepted by DEN prior to operation.

6.3.1.5 Shared Space Agreement

When two Contractors/Subcontractors have common or shared airspace with the potential for two crane booms and/or associated rigging to collide, a Shared Space Agreement must be developed by the two affected Contractors and submitted to DEN seven days before lifting operations.

- See Appendix G for sample Shared Space Agreement.

6.3.1.6 Hoisting Personnel

The use of a crane for hoisting personnel may only be used where no other option provides a safer alternative, in accordance with federal regulations. See Section 10.2.6 for those pre-planning and submittal requirements.

6.3.2 Elevated Work

7 DAYS

6.3.2.1 Written Elevated Work Plan

Preparing and following a written, site specific elevated work plan is required for employees working at heights of six feet or more, including during steel erection. The plan must be submitted to DEN seven days in advance of upcoming work for review and acceptance. Changes to the plan must be discussed with the DEN ROCIP Safety Team. The plan will include the following information in the order listed:

a. Names of competent and qualified persons for fall protection systems and scaffolding.
b. Identification of the specific fall hazards in the work area (including location of fall hazards).
c. Methods to be used for fall arrest or fall restraint.
d. Equipment to be used and design of fall protection systems, scaffolding, or guardrails, including make and model of anchorage devices and lanyards.
e. Where necessary, phasing plans that identify which fall prevention/protection methods will be used for specific tasks.
f. Overhead hazard protection measures; including tool tethers or canopy protection for employees and/or public.
g. Description of rescue methods and equipment.
h. Enforcement and the disciplinary actions for non-conformance.

Contractor shall set up a meeting with the DEN ROCIP Safety Team member assigned to the project to discuss the details of site-specific elevated work plan prior to commencement of work activity with at least a 72 hour notice.

6.3.3 Lock-Out Tag-Out

7 DAYS

6.3.3.1 Lock-Out Tag-Out Written Procedure

A written lock-out tag-out procedure is required for all applicable work and is to include controls for any type of stored energy. Written procedures must be submitted to DEN for acceptance 7 days in advance of work. See Section 10.15 for minimum requirements.

6.3.3.2 Multi-Employer Lock-Out Tag-Out Coordination Meetings

When one or more employees of another Contractor or Subcontractor may be exposed to danger in the event power is either interrupted or restored unexpectedly, the Contractor must hold a coordination meeting with all affected Contractors and Subcontractors, of any tier, at least 24 hours in advance of the lock-out. See Section 10.15 for requirements.

You must inform your assigned member of the DEN ROCIP Safety Team 72 hours in advance of the meeting. They may attend the meeting or monitor the actual lock-out.

6.3.4 Utility Damage Prevention- Ground & Concrete Penetration

6.3.4.1 Utility Damage Prevention Work Plan

7 DAYS

The Contractor shall provide a written utility damage prevention work plan to DEN for acceptance seven days prior to coordinating a pre-work meeting. Utility damage prevention plans will be submitted for all earthwork, including penetrative work, and cutting or drilling of concrete slabs with utilities. The work plan must be on site with the crew performing the work. The work plan at a minimum shall include the following as applicable in the order listed:

a. Locate tickets and verification from all utility owners that locations have been marked.
b. Name of the third party SUE or utility designation firm including training (minimum 60 hour program) or degree and experience of the technician who has performed the utility designation via ground penetrating radar or x-ray as well as make and model of equipment and frequencies used. Contractor must submit documentation from third party showing area swept/scope and utilities located or confirmed.
c. Verification that all utilities marked by the utility owners and third party sweep were positively located via potholing or other non-destructive means in accordance with Section 10.8.
d. A contingency plan to restore service to all utilities including cables that may be placed out of service or damaged during performance of the work.
    - A list of qualified Subcontractors such as plumber, electrician, fiber optical cable splicer, and others as applicable for emergency repair purposes. Due to current FAA/TSA/Airport security requirements, the Contractor shall ensure that these Subcontractors have passed any airport security and registration requirement so they can be presented immediately at the job site when emergency repair is warranted.
e. The Contractor shall investigate and provide sketches/drawings to all disconnects to electrical circuits, jet fuel lines, natural gas, and main water sources that feed the services in the project area and its vicinity.
    - All disconnects and shut-off valves shall be noted with special notation and procedures if required by the utility owners/operators.
f. Name of the excavator including training and experience of the equipment operator who will be doing the work.

6.3.4.2 Excavation/Trenching Pre-Work Meeting

The Contractor shall coordinate a pre-work meeting for all excavation work, with the DEN ROCIP Safety Team and other responsible parties, to walk the excavation area and review applicable documentation before work begins. You must inform your assigned member of the DEN ROCIP Safety Team 72 hours in advance of the meeting.

6.3.5 Trenching

7 DAYS

6.3.5.1 Trenching Work Plan

In addition to the Utility Damage work Plan which outlines utility damage prevention, the Contractor shall provide a written Trenching Work Plan to DEN seven days in advance of anticipated work. The work plan must be on site with the crew performing the work and they must be trained on its content. The plan will include the following information in the order listed:

a. The planned location, width, length, and maximum depth of the trench.
b. Protective measures utilized when workers will enter the trench. If shielding or shoring is to be used, tabulated or engineering data must be provided.
c. How workers will safely access the trench, especially where falls are a concern.
d. How the trench edges will be delineated and protected.
e. Names of competent persons performing inspections.
f. Copy of Trench Inspection Form to be utilized on site.

6.3.6 Confined Space

6.3.6.1 Confined Space Identification and Entry Plan

The Contractor or Subcontractor performing confined space entry shall submit an exposure-specific Confined Space Entry Procedure to DEN seven days prior to proposed entry date. The plan will include the following information in the order listed:

a. Contractor shall identify all confined spaces.
   - All confined spaces on DEN property are considered "permit-required confined spaces, unless the contractor requests a variance in writing outlining their assessment of the space and justification for being downgraded. In no instance will a contractor be allowed to designate fuel vaults, below-ground pits, or active sewer systems as non-permit required confined spaces.
   - Permit-required confined spaces must be posted with signs stating, "Danger: Permit Confined Space. Do Not Enter." Non-Permit required confined spaces must be posted with signs stating, "Confined Space."
b. How the employer will implement the measures necessary to prevent unauthorized entry
c. Identification and evaluation of the hazards of permit spaces before employees enter them
d. Equipment needed to perform a safe entry operation
e. Procedures for atmospheric testing of the space
f. Provision of at least one attendant outside the space
g. Provision for responding to emergencies
h. Description of rescue method and equipment to be used
i. Designation of all persons with active roles (e.g. entrants, attendants, persons who test and monitor) and provision of required training
j. Procedures for summoning rescue and emergency services
k. System for the preparation, issuance, use and cancellation of entry permits
l. The system developed and implemented for the closing off the permit space and cancellation of entry permits
m. Procedures to coordinate operation where more than one Contractor (such as a Subcontractor) is involved
n. Procedure for evaluation and correction of entry operations when the Contractor has reason to believe that the program is not sufficiently protective
o. The mechanism by which the confined space permit entry program is reviewed
p. Name of contractor or subcontractor performing the entry
q. Number of entrants
r. Name and mobile phone number of the attendant or entry supervisor
s. Start date and time of the entry operation

t. Duration of confined space operation
u. Work to be performed in the confined space

6.3.6.2 Entry Notification Requirements

For entries into permit required confined spaces lasting four hours or more, or for entries into the Utility Tunnel, the four Denver Fire Department Red Chiefs at DEN must be informed by emailing the information from parts p thru u above.

The following emails may change and are provided here for Contractor's convenience only:

- Ryan Nuanes: Red Chief (A) Ryan.Nuanes@flydenver.com
- Randy Stewart: Red Chief (B) Randy.Stewart@flydenver.com
- Mark Allen: Red Chief (C) Mark.Allen@flydenver.com
- Donn Bower: ARFF Training Chief Donn.Bower@flydenver.com
- Alex Paez: Division Chief Alberto.Paez@flydenver.com

6.3.6.3 Denver Fire Department Confined Space Permit

Contractors must also obtain a confined space entry permit from the Denver Fire Department prior to entering a confined space. This permit must remain valid for the duration of the project and be posted at or near the confined space. Contractors are responsible for meeting the requirements needed to obtain the fire department permit.

6.3.6.4 Designation of Rescue Method

Where entry must be made for rescue, OSHA allows rescue to be performed either with the facility's trained in-house rescuers or by contracting to an outside rescue service. The Contractor must identify on their permit the type of rescue to be performed for each confined space.

a. In-house Rescue**:** The Contractor's rescuers must have extensive training. No employee is authorized to enter a space to rescue an entrant unless he or she has had extensive training in personal protective and rescue equipment. This includes actual practice in making simulated rescues and CPR.
   NOTE: A trained attendant may not enter a space to make a rescue until another attendant has arrived.
b. Outside Rescue**:** If the Contractor is relying on an outside agency to perform a rescue, the rescue service must be informed of the hazards they may confront, and the rescue service must have access to all permit spaces so that the rescue service can develop appropriate rescue plans and practice rescues before a rescue must be made.

If the Contractor is expecting to use an outside agency to perform rescue they must have and make available a written agreement between the agency and the Contractor. The Contractor will obtain written verification from the rescue service, prior to each entry that they would be readily available to respond in a timely manner.

6.3.7 Demolition

6.3.7.1 Demolition Plans for Employee and Adjacent People or Property Safety

Contractors shall develop a demolition safety plan and submit to DEN for acceptance 14 days prior to commencing work. The plan must contain the following sections in the exact order below:

a. Means of fire prevention.
b. Evacuation plan and first aid and medical services if different from SSSP.
c. An assessment of hazards (including hazardous materials) and how they will be mitigated.
d. Minimum PPE requirements.
e. Public and adjacent worker protection measures that will be provided.

Where structural demolition occurs, the Contractor's plan must include sections that meet OSHA and other Contract Document requirements.

6.3.8 Hot Work

6.3.8.1 Hot Work Permits

Contractors shall obtain a hot work permit from the Denver Fire Department, to be renewed annually, and submitted to DEN prior to hot work taking place. See Section 10.19 for on-site daily permitting requirements for hot work.

6.3.9 Traffic Control

6.3.9.1 Method of Handling Traffic (MHT)

MHTs shall be developed in accordance with the Colorado Department of Transportation and the Manual of Uniform Traffic Control Devices (MUTCD) for all locations, including but not limited to roadways, airside including vehicle service roads, baggage tunnels, and as necessary for safe pedestrian movement. All MHTs must be submitted for review and acceptance by DEN 14 calendar days prior to proposed implementation. MHTs shall be provided that will be utilized for phasing and short duration closures that are regulatorily compliant and also include the following:

a. The type, number, and location of all traffic control devices and signs required for the work. Contractor will also describe and/or illustrate all safety measures to be used during traffic control set-up, traffic switches, and worker protection for short duration work. This shall include the following as applicable and necessary for ensuring worker and public safety:
    - Use of truck-mounted attenuators (TMAs) and Uniformed Traffic Control officers (UTCs).
    - Temporary and/or worker lighting locations
    - Specialty and Variable Message Board signage
    - Driver visibility limitations where known or predicted.
    - Access provisions to private property, businesses, and activities.
b. List of personnel that will staff traffic operations, including Contractor on-site representative, Traffic Control Supervisor, and Flaggers. Include copies of TCS and Flagger certifications.

c. Pedestrian traffic control where applicable, as well as means of mitigating any adverse effect upon individuals requiring accommodations to services under the Americans with Disabilities Act.

6.3.9.2 Haul Routes Signage

Haul routes will be appropriately communicated to all drivers with the expectation that they do not deviate from the route. All drivers (not just delivery drivers) going to and from the site must have a paper copy of the haul route in their vehicle at all times. A copy of the route map must be submitted to DEN prior to work commencing and as updated.

Airfield haul routes must have appropriate signage, in type and count, to safeguard against surface deviations and an MHT must be submitted to DEN for acceptance.

6.3.9.3 Adjustments for Safety

If accepted haul and access routes, traffic plans, or MHTs are observed to cause traffic or other safety issues, then Contractor will propose a corrective action plan or alternate plan to DEN within 24 hours or take immediate corrective action where life safety warrants such response.

6.3.10 Silica

6.3.10.1 Silica Exposure and Slurry Control Program

Contractors and/or Subcontractors shall submit a written silica exposure and slurry control program for review by the DEN ROCIP Safety Team 7 calendar days prior to performing work that could create potential exposure. In addition to their own employees and subcontractors, Contractors are expected to protect nearby workers and the public from silica exposure. The plan must be submitted with the following sections in the exact order that they appear or marked N/A where not applicable:

a. Describe portion of OSHA 1926.1153(c)(1) to be utilized OR provide a description of air monitoring to determine silica levels generated and provide a description of:
    - engineering controls,
    - respiratory protection,
    - work practices to reduce dust, and
    - if a medical surveillance program is necessary.
b. Description of engineering controls which are proposed for the project to eliminate or reduce the amount of silica dust or slurry on equipment and surfaces.
c. Description of equipment and processes to be used by employees to vacuum or wet clean work areas and equipment.
d. Description of warning signs and other barriers proposed to identify work areas where respirable silica may be present and to limit access to only authorized employees and/or how adjacent worker or public exposures will be mitigated.
e. Description of personal protective equipment and clothing to be provided to employees and changing facilities if necessitated by the level of silica dust exposure.

7

7. Safety Training and Meeting Requirements

7.1 Weekly Joint Safety Meeting

The Contractor Safety Representative and designated members of the respective staff must participate in scheduled weekly safety meetings. This requirement shall be met during weekly construction progress meetings unless DEN directs otherwise. The Contractor must complete the Weekly Safety Look-Ahead and Progress Review Form (Appendix D) and be prepared to review safety items for the week, including but not limited to, incidents and injuries and their corrective actions, resolution of safety issues, and upcoming safety submittal requirements.

Prepare Appendix D weekly for review.

7.2 Employee Orientation Training

One of the requirements of the Contractor and their safety representatives or designees is to conduct a complete safety orientation for anyone who will be working/entering the construction site including but not limited to employees, subcontractors, inspectors, and DEN representatives and employees. The orientation is required before an employee can enter the construction area. The purpose of the orientation is to provide employees an awareness of what they can expect and what is expected of them on site. At a minimum, the orientation will include:

a. Employee jobsite safety and health requirements and policies to include expected high-hazard tasks associated with the employees' work on site and mitigation strategies including but not limited to those for: fall protection, trenching/excavation, heavy equipment, confined space, LOTO, silica, respiratory protection, hot work, demolition, crane operations, etc.
b. Review of site-specific safety plan to include emergency action plan procedures and phone numbers
c. Employer and employee rights and responsibilities under ROCIP and DEN rules and regulations
d. Hazard communication
e. PPE and work attire
f. Personal conduct and accountability programs
g. Authorized access and parking
h. Good housekeeping practices
i. Daily Pre-Task Planning and Job Hazard Analysis (JHA)
j. Return to work programs, workers compensation requirements, and designated provider information.
k. Drug free workplace and substance abuse testing.
l. Injury and illness reporting procedures, including near misses

All employees will complete the Project Safety Orientation Training Acknowledgement Form in Appendix J at the end of the orientation training session. The contractor must maintain a copy of the completed form for the duration of the project and provided to DEN upon request.

7.3 Tour & Visitor Guidelines

Non-construction personnel, visitors (including contractor personnel not assigned nor performing work for the project), or groups shall always be accompanied by an authorized representative of DEN, the Contractor, or other designee that is familiar with the site hazards and properly badged on the project. All visitors must wear the required PPE and display a visitor's badge.

Tours that do not involve technical inspections shall be cleared 7 calendar days in advance through the DEN Project Manager or designated representative.

Before entering the project, all visitors shall receive a brief safety orientation from the Contractor Safety Representative on site-specific hazards expected to be encountered during the tour or visit. The number of escorted persons on tours should be proportionate to the degree of the hazards and operating space involved but may not exceed ten (10) visitors per authorized group representative.

The "Waiver and Release" provided in Appendix I shall be signed by all visitors prior to accessing the project. This applies to Contractor employees touring the site and not assigned to the project.

7.4 Regulatory Training

The Contractor is responsible for providing or ensuring effective training has been provided for all employees, including subcontractor employees, working on the project as required by any regulatory authority having oversight of the work or employer and as outlined in this Manual.

7.5 Weekly Safety Toolbox Meeting

Every employee on site shall attend a weekly safety toolbox meeting. Contractors must document the toolbox meeting, including attendee signatures, and maintain a copy onsite for review. At its discretion, DEN may require the Contractor to submit the weekly discussion and roster.

- See Sample Weekly Toolbox Safety Meeting Report in Appendix L.

7.6 Supervisory Safety Meetings

The Contractor must conduct regularly scheduled (at least monthly) supervisory safety meetings for all levels of job supervision.

The Contractor will maintain a summary report containing subject matter and signatures of all attendees and submit it to DEN by the first Tuesday of each month.

7.7 ROCIP Safety Meetings

A meeting may be held to review project safety performance with the DEN Project Manager and staff and Contractor's Project Manager and Safety Representative on either a monthly or quarterly basis, as determined necessary by the DEN ROCIP Safety Team.

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8. Safety/Loss Reporting and Inspection Requirements

8.1 Post-Incident Reports

8.1.1 Incident Notification

The Contractor shall report all incidents by phone immediately to the DEN Project Manager or designee and the assigned DEN ROCIP Safety Team member.

8.1.2 Investigations, Reporting, and Review Requirements

3 DAYS

8.1.2.1 Injury, Near Miss, Vehicle/Pedestrian Deviations, Vehicle or Equipment Accidents, and Live Utility Hit Investigations and Reports

All incidents that can or have impacted individual safety, whether they involve injury or not ("near-miss") must be reported to the DEN ROCIP Safety Team and DEN Project Manager immediately. The Contractor and Subcontractor Safety Representative shall immediately investigate and document the incident. The preliminary report must be completed and submitted to the DEN ROCIP Safety Team within twenty-four hours of the incident.

The final investigative report and supporting documentation is due three calendar days after the date of the incident or near-miss incident. All costs associated with work stoppage, delays in completion of work, increased costs resulting from the incident, investigation, and implementation of corrective actions, including completing reporting and review requirements shall be borne by the contractor.

The Contractor Safety Representative shall provide a professionally written narrative with the following elements:

a. Facts of the incident including but not limited to: date, time, names of employees involved, witnesses, company, job title, and injury or damage specifics
b. Sequence of events before, during, and after the event
c. Analysis of event and list of all causal factors, both human and organizational
d. Corrective actions implemented or to be implemented
e. Photos of the scene and safely conducted reenactment photos are REQUIRED.
f. Diagrams or drawings of the location, including multiple if necessary, to describe the sequence of events

The Contractor shall also provide evidence of employee training given prior to the incident and proof of compliance with the ROCIP Safety Manual, including but not limited to:

a. Signed Orientation Acknowledgement form
b. Signed JHAs and daily pre-task plans
c. Proof of any relevant regulatory training
d. Copy of pre-employment drug screen
e. Copy of post-accident drug screen (when required)
f. Copies of Subcontractor Safety Representative required training as outlined in Section 4.4.1 or 4.4.2 if incident involved subcontractor employee.

Most incidents and near-miss incidents relate to system failure rather than individual. The Contractor must have an open and fair reporting system so that employees can report problems without fear of reprisal. Lessons learned from accidents, incidents and near-miss incidents will be shared with employees.

- See sample accident investigation forms in Appendix M.
- See Section 9.2 for Lesson Learned Program Requirements
- See Section 9.4 for Employee Near Miss Reporting Program Requirements

8.1.2.2 Property Damage or Other Non-Injury Claim Events

The Contractor shall submit a professionally written narrative within 14 calendar days of property damage or any employer on-site filing a claim, other than injury, with the following required elements:

a. Facts of the claim including, but not limited to, date, time, names of employees involved, witnesses, company, job title, damage specifics
b. Sequence of events that contributed to the damage or claim
c. Analysis of event and list of causal factors
d. Corrective actions implemented or to be implemented to prevent recurrence of loss or damage
e. Situational, reenactment, and/or damage photos
f. Diagrams or drawings of the location, including multiple if necessary, to describe the sequence of events
g. Evidence that applicable ROCIP requirements have been met.

8.1.2.3 Claim and Incident Review Process

For any worker's compensation claim estimated to be over $2,500, any near miss that arises to potential for severe injury or catastrophic loss, any utility strike, any other ROCIP claim estimated to be over $25,000, or when notified by DEN, the Contractor shall meet with DEN Safety, DEN Risk, and DEN Project Manager within 7 days to review the findings of their investigation and resolutions, including ROCIP compliance and mitigation efforts to prevent similar occurrences.

The Contractor's and Subcontractor's (if applicable) Project Manager, Safety Representative(s), involved supervisor/foremen and employee(s), and witnesses may be required to attend and present investigative findings, causes, underlying factors, and corrective actions. Contractor may be tasked with further fact-finding or plan development to satisfy safety and risk preventative measure requirements. Contractor may need to implement further corrective actions beyond those that were initially accepted as part of the contractor's independent investigation and report.

8.2 Jobsite Safety Inspections

The Contractor's safety representative will conduct and document daily jobsite inspections of work site to evaluate compliance with SSSP, ROCIP Safety Manual, and regulations and identify and correct jobsite hazards. Inspection reports must be documented daily, and the results reviewed at the weekly meetings with DEN. See Appendix A, part 9.

A member of the Contractor's management group (Project Manager, Field Supervisor, Foreperson, etc.) must attend and participate in at least one jobsite inspection per week. Attendance must be documented.

Contractor may be directed to use a software program or Software-as-a-Service (SaaS) solution that will enable the Contractor to perform jobsite safety audits and measure the effectiveness of their safety programs. If directed to use the software, Contractor would not occur any costs for the software.

8.3 Safety Observations and Contractor Response Requirements

8.3.1 DEN Safety Observations

DEN will provide written notice of work activities that are not in compliance with the established safety policies and procedures via BIM360 safety issue log. If the Contractor receives a notice, they must immediately correct the hazard, document the corrective action, or reason for delayed abatement, and reply to the issue in BIM360 within 24 hours.

8.3.2 ROCIP Broker or Insurer Safety Observations

The ROCIP Broker and Insurer are also committed to the success of ROCIP projects. They may at their discretion and chosen timeframe perform safety assessments of the project. It is a best practice during these observations to have the Contractor Safety Representative and/or Superintendent in attendance.

These assessments will result in a written record of their findings. If deficiencies are found, the Contractor is to immediately correct the hazard, document the corrective action, or reason for delayed abatement, and return the report to the DEN ROCIP Safety Team within 24 hours from time of report delivery.

8.4 OSHA Inspections

Inspections by OSHA compliance officers may be initiated for many reasons, including employee complaints, serious or fatal accidents, special emphasis programs or planned audits. When a Contractor or Subcontractor receives notification of an inspection, contact the DEN ROCIP Safety Team and Project Manager so a representative of the DEN ROCIP Safety Team can be present during the opening conference, inspection and closing conference. It is the policy of DEN to fully cooperate with OSHA compliance officers.

Contractor must submit to DEN any OSHA inspection findings, citations, or correspondence related to the project.

8.5 Miscellaneous Inspections

Inspections may also be conducted by other interested DEN parties such as but not limited to Environmental, Operations, or Denver Fire Department. Deficiencies found regarding life safety or that will negatively impact DEN operations must be corrected immediately.

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9. Additional Safety Program Requirements

9.1 Safety Awareness

Communication and awareness are essential to developing a proactive project safety culture. The goal of the safety awareness program is to raise awareness of day-to-day risks, hazards, and exposures in the field and drive employee engagement. The Contractor is responsible for developing and submitting innovative ideas for improving safety awareness. Safety awareness program initiatives have included:

a. Project specific safety stickers
b. Volunteer safety stewards
c. Safety posters
d. Guest speakers for employee meetings
e. Banners addressing specific hazards on the project
f. Whiteboards for employees to identify *Today's Biggest Risk in This Area*
g. Employee-led safety committees
h. Foremen and Superintendents completing Safety Leadership training
i. Methods for employees to report safety hazards on the job site

9.2 Lessons Learned

The goal of this program is to share and use experience-based information to promote the recurrence of desirable activities and prevent the recurrence of undesirable activities. All Contractors and Subcontractors are expected to plan and execute their work based on best available practices. Through their work experiences, all personnel are expected to identify opportunities for improvement and best practices and share these with their colleagues using the form in Appendix O. Actions taken as a result of a Lesson Learned may include:

a. Corrective actions taken as a result of the analysis of an actual experience
b. Preventive actions taken to prevent a negative situation from occurring
c. Improvement actions taken to improve the efficiency and safety of operations

Lessons Learned Programs include two basic processes:

a. A development process that includes identification, documentation, validation, and dissemination of a Lesson Learned.
b. A utilization and incorporation process that includes identification of applicable Lessons Learned, distribution to the DEN ROCIP Safety Team, identification of actions as a result of the Lesson Learned, and follow-up to ensure that appropriate actions were taken.

9.3 Stretch and Flex Program

The Contractor will implement a stretch and flex program that is conducted prior to the start of each shift and after the lunch break where all employees will participate, to include Subcontractors. Contractor shall ensure program is developed in accordance with sound ergonomic or medical guidance and that proper safe practices are followed during stretching activities. Contractor will inform employees that they should exercise judgment to the extent that their physical capabilities allow, that they should not perform motions that may aggravate previous injuries or other physical conditions, and to consult a medical professional when necessary prior to participating.

9.4 Employee Near Miss Reporting Program

A “near miss” is an unplanned event that did not result in injury, illness, or damage, —but had the potential to do so. Only a fortunate break in the chain of events prevented an injury, fatality or damage. Although human error is commonly an initiating event, a faulty process or system invariably permits or compounds the harm and should be the focus of improvement.

Near Miss Report forms are to be made readily available onsite to employees to report near misses. It is the responsibility of the Contractor to encourage near miss reporting, investigate and report findings to DEN ROCIP Safety Team.

- See sample Near Miss Report Form in Appendix K.
- See Section 8.1. for Contractor investigation and reporting requirements

9.5 Safety Accountability Program

Accountability is the key to achieving superior accident prevention results. The first step in this process is to recognize that accident prevention is a management responsibility and must be managed just like productivity and quality. Responsibilities must be defined in Section 2 of the Contractor’s SSSP and measured. The best safety accountability programs assign responsibility and measure performance and key indicators at every level of the organization. Every manager and employee plays an important role in accident prevention efforts.

The ROCIP has established various rules and requirement, which serve as guidelines to acceptable employee behavior. In addition, specific job site rules may be established to meet the needs of the project. In either case, the rules and regulations of the ROCIP, and jobsite rules, are subject to change, without prior notice, at the sole discretion of the DEN ROCIP Safety Team.

All supervisors and employees need to be aware of, enforce, and abide by the Airport, ROCIP and Contractor’s work rules and regulations. Rules have been developed to assist the efficient operation of the Project and for the benefit and safety of all employees and the general public. In general, any employee found to be in violation of or found not to be enforcing Airport or ROCIP Project rules will be subject to disciplinary action, including immediate suspension or permanent discharge.

DEN Safety and Operations have the authority to assign infractions to any employees via points assessed against their badge. Assessment of points is at the discretion of DEN and may result in barring an employee from working on any DEN construction project or revocation of airfield driving privileges (See Airport Rules and Regulations, Part 35 Infraction Accountability Program and Appeals Process).

The following is a description of the ROCIP Project policy for dealing with discipline and termination:

a. Corrective discipline is normally the responsibility of the job foreman or superintendent. One purpose of discipline is to motivate an employee to change his/her behavior. Discipline can be effective in helping an employee develop a more acceptable level of job performance. In every case, the DEN ROCIP Safety Team reserves the right, in its sole discretion, to determine the appropriate level of discipline.
b. In the event discipline is considered, the foreman or superintendent will identify the severity of the problem and determine the appropriate level of discipline, recognizing that the seriousness of offenses may vary. When violations of a less serious nature occur, a discussion between the employee and the supervisor will often be sufficient.

c. In the case of more serious violation, a written warning will may be issued. On some occasions, because of the seriousness of the offense, a written warning may be given even though a verbal warning has not been issued. Certain other offenses will be of such a serious nature that they will be grounds for immediate suspension and /or discharge.
d. Verbal or written warnings are often appropriate for minor infractions and first-time offenses. A warning should include an explanation of the problem, which has been identified, with an opportunity for the employee to respond.
e. Discharge of an employee will be considered if the desired change in an employee's conduct is not accomplished through prior actions.
f. Employee misconduct may be of such a high level of seriousness that immediate termination will result. Examples of more serious misconduct include, but are not limited to, violation of the Substance Abuse Policy, blatant disregard for personal and public safety, disregard of the ROCIP Safety Plan or putting oneself or others in a situation that is or can be immediately dangerous to life or health, fighting, theft, and falsification of records.
g. In any given case, the DEN ROCIP Safety Team or the Contractor may find it appropriate to impose greater or lesser disciplinary action, based on individual circumstances.

Nothing in this policy should be construed as limiting the Contractor's discretion to impose any level of discipline at any time, up to and including discharge, as circumstances warrant.

Nothing in this policy alters an employee's status as an "at will" employee of his or her Employer or creates any contractual rights, either expressed or implied for the employee. This is part of the City's contract with the Contractor only. This Policy will be applied in a manner that is consistent with the requirements of appropriate local, state, and federal laws.

The Contractor and employer shall remove any employee from all DEN construction projects due to a violation of this manual or safety regulation upon request by DEN.

10. Safety Provisions

The safety provisions in this section may meet or exceed OSHA or other regulatory requirements. Recognizing that local, state, and federal regulations may change, in the event of a conflict between the ROCIP Safety Manual, the Contract Documents, and any regulatory authority, the more stringent standard prevails. See applicable pre-planning requirements in Section 6.

10.1 Airport Rules and Regulations

There are regulations specific to working on or near airports that contractors need to be aware of. Note that the information in this section is not exhaustive, and Contractors and Subcontractors are responsible for compliance with all applicable current and future airport regulations on the project.

10.1.1 Badging Requirements

Airports subject to 49 CFR Part 1542, Airport Security, must meet standards for access control, movement of ground vehicles, and identification of construction contractor and tenant personnel.

10.1.2 Airfield Driver Training and Badging

Any driver with a Driver Authorization must comply with all applicable rules and regulations of DEN, including Rule 35 and Rule 130 as well as any applicable FAA Part 139 (14 CFR Part 139) requirements.

Companies with Drivers are:

a. Required to ensure that their Drivers obtain the proper badge from DEN before driving on the airfield or any other location where badge or other authorized access is required.
b. Required to create and have approved a company driver training program that has been approved by DEN Driver Training and Parent/Sponsor company if applicable.
c. Required to have their drivers watch any Safety Alert videos from DEN and communicate any changes to assigned routes in a timely manner.
d. Required to take drivers out annually for driver familiarization/training which includes what was covered routes (haul or delivery), gate access and approved areas to drive on the airfield.
e. Maintain records for each of these drivers for a period of 24 months and be able to provide these records to Airport Operations and/or Federal Aviation Administration (FAA) upon request.

Individual Drivers must:

a. Obtain an appropriate DEN badge for the driving expected to be required.
b. Watch the Non-Movement Driver Training video during the badging process.
c. Complete training with a DEN Driver Trainer or a company driver trainer that has completed the Train the Trainer course with DEN Driver Training.
d. Complete Non-Movement Area Driving evaluation, update and maintain records yearly with an approved intercompany trainer or the General Contractor.

e. Have in their possession a current project site map(s) and haul route map(s) (with alternative routes) clearly defined. Contractor is responsible for orienting all drivers to their approved haul route.
f. Comply with all rules regarding airfield driving and vehicle markings.

10.1.3 Vehicle and Equipment Identification

Refer FAA AC 150/5210-5D or your CSPP for vehicle identification requirements.

10.1.4 Wildlife Management

Construction contractors must carefully control and continuously remove waste or loose materials that might attract wildlife. Contractor personnel must be aware of and avoid construction activities that can create wildlife hazards on airports, such as trash, standing water, tall grass, poorly maintained fencing and gates, or disruption of wildlife habitat.

10.1.5 Foreign Object Debris (FOD) Management

Waste and loose materials, commonly referred to as FOD, are capable of causing damage to aircraft landing gears, propellers, and jet engines. Construction contractors must not leave or place FOD on or near active aircraft movement areas. Materials capable of creating FOD must be continuously removed during the construction project. Fencing (other than security fencing) or covers may be necessary to contain material that can be carried by wind into areas where aircraft operate. See AC 150/5210-24, Foreign Object Debris (FOD) Management.

10.1.6 Coordination with Denver Fire Department

Contractor must coordinate with DEN, including the Denver Fire Department, mutual aid providers, and other emergency services if construction requires:

- The deactivation and subsequent reactivation of water lines or fire hydrants, or
- The rerouting, blocking and restoration of emergency access routes, or
- The use of hazardous materials on the airfield.

10.1.7 Airport Operations

It is important to recognize that permissions and forms may be required by the FAA for certain operations or construction processes which can cause delays if not communicated with DEN Operations and Project Team in a timely fashion. Pre-planning is of utmost importance for activities which may disrupt airport operations or the safety of the airfield. The Contractor should be aware of limitations the FAA or DEN may have on construction activities, such as, but not limited to:

a. No use of tall equipment (cranes, concrete pumps, drill rig, and so on) unless a 7460-1 determination letter is approved for such equipment or structures.
b. No use of open flame welding or torches unless fire safety precautions are provided, and DEN has approved their use.
c. Construction may be subject to suspension during specific airport operations.
d. Areas that cannot be worked on simultaneously or failing to follow phasing plans.
e. Day, night, or seasonal construction restrictions.
f. Work zone lighting requirements for nighttime construction.

g. Temporary signs requiring Airport Operations approval.
h. Grades changes that could result in unplanned effects on NAVAIDs.
i. Requirements for delineation of construction zones and haul route approvals.
j. Erosion control standards.
k. Stockpiling of construction materials.
l. Potential modifications to the MUTCD requirements on the airfield.
m. Denver Fire Department permitting requirements.
n. Objects, regardless of whether they are marked or flagged, or activities anywhere on or near an airport that could be distracting, confusing, or alarming to pilots during aircraft operations.
o. Regulatory requirements as outlined in the current Advisory Circular 150/5370 for "Operational Safety on Airports During Construction."

Working on the airfield can also present unique safety hazards, such as jet blast. Contractors shall review their worksite location in relation to airline and airport operations to determine what mitigation measures are necessary to protect their employees from jet blast, moving equipment, and any other present or possible exposures.

10.2 Cranes

Crane operators and riggers must be given the opportunity to pre-inspect crane lift and load placement areas. If loads are transferred onto or within a building structure, the Contractor must coordinate with the DEN Project Manager to identify safe, structurally suitable lift and drop zone locations, including assessment of potentially occupied areas and subterranean utility systems. Notification, and evacuation if warranted, of occupied areas under lift and drop zones must occur prior to lift.

10.2.1 Crane Assembly/Disassembly

Work is to be directed by an A/D (Assembly/Disassembly) director. The A/D director must meet the criteria for both a "competent person" and a "qualified person," or must be a "competent person" assisted by a "qualified person."

a. The A/D director must understand the applicable procedures.
b. The A/D director must review the procedures immediately prior to beginning work unless he or she understands the procedures and has used them before for that equipment type and configuration.
c. The A/D director must ensure that each member of the crew understands his or her tasks, the hazards of the tasks, and any hazardous positions or locations to avoid and be documented on the Pre-Task Planning sheet.
d. Address hazards associated with the operation, including 12 specified areas of concern: site and ground conditions, blocking material, proper location of blocking, verifying assist crane loads, boom & jib pick points, center of gravity, stability upon pin removal, snagging, struck by counterweights, boom hoist brake failure, loss of backward stability, and wind speed and weather.
e. The A/D director must verify all capacities of any equipment used, including rigging, lifting lugs, etc.
f. Any lifting accessory must be designed by a professional engineer, with design criteria available on site, and capacities legibly marked on the device.

10.2.2 Shift Crane Inspections

Cranes shall be inspected by the operator prior to each shift in accordance with 29 CFR 1926.1412(d). If a deficiency is noted and determined to constitute a safety hazard, the equipment must be taken out of service until it has been corrected. After any safety deficiency has been corrected, the Contractor must perform another 3rd party inspection as required in Section 6.3.1.3 of this Manual prior to operation of the crane. Shift inspections shall be documented and available for review on site and for 30 days following operation.

10.2.3 Qualified Riggers

Employers must use qualified riggers during hoisting activities for assembly and disassembly work. Additionally, qualified riggers are required whenever workers are within the fall zone and hooking, unhooking, or guiding a load, or doing the initial connection of a load to a component or structure.

Contractors using riggers shall make available upon request, proof of documentation supporting the expertise of their qualified rigger.

10.2.4 Qualified Signal Person Requirements

A signal person is required when:

a. The point of operation is not in full view of the operator.
b. The operator's view is obstructed in the direction the equipment is traveling.
c. Either the operator or the person handling the load determines that a signal person is needed because of site-specific safety concerns.

Contractor must use one of the following options to ensure that a signal person is qualified:

a. Third party qualified evaluator. The signal person has documentation from a third-party qualified evaluator showing that he or she meets the qualification requirements.
b. The employer's qualified evaluator (not a third-party) assesses the individual, determines the individual meets the qualification requirements, and provides documentation of that determination. This assessment may not be relied on by other employers.

Employers must make the documentation of the signal person's qualifications available at the worksite in paper form for review by the DEN ROCIP Safety Team. The documentation must specify each type of signaling (e.g., hand signals, radio signals, etc.) for which the signal person is qualified under the requirement of ASME B30.5-2007 and ASME B30.3-2009.

10.2.5 Outriggers and stabilizers

When outriggers or stabilizers are used or are necessary:

a. The Contractor must evaluate the soil bearing capacity at the lift site to ensure that the crane, including the maximum intended loads is compatible with the location and placement of the crane. Review of any underground installations shall be part of the evaluation.
b. Outriggers and stabilizers must be fully extended or, if permitted by manufacturer procedures, deployed as specified in the load chart.
c. Outriggers must be set to remove equipment weight from the wheels.

d. Outrigger floats, if used, must be attached to the outriggers; stabilizer floats, if used, must be attached to the stabilizers.
e. Each outrigger or stabilizer must be visible to the operator or to a signal person during extension and setting.
f. Outrigger and stabilizer blocking must be placed under the float/pad of the jack or, if there is no jack, under the outer bearing surface of the outrigger or stabilizer beam. Blocking must also be sufficient to sustain the loads and maintain stability and must be properly placed, per manufacturer's specifications.
g. Horizontal distance for crane setup from an excavation must be greater than the depth of the hole.

10.2.6 Work Platforms Suspended from Cranes

The use of a crane or derrick to hoist employees on a personnel platform is prohibited, except when the erection, use, and dismantling of conventional means of reaching the worksite, such as a personnel hoist, ladder, stairway, aerial lift, elevating work platform or scaffold, would be more hazardous or is not possible because of structural design or worksite conditions.

Contractor shall submit a written variance request to DEN ROCIP and receive acceptance before using a suspended personnel work platform identifying the rationale for selecting a suspended personnel work platform and explanation why conventional methods would be more hazardous or infeasible. Prior to the use of a work platform suspended from a crane, the Contractor and/or Subcontractor will complete the Suspended Personnel Platform Checklist in Appendix H for each such operation and will maintain a file documenting its operation for the duration of the project. Each record is good only for lifts made from a single crane set-up location. Traveling, repairs or modifications of the crane will require a new record. Each record is to:

a. Be initiated by the supervisor of the employee who will be working from the platform
b. Describe the work to be performed and its exact location
c. List all required inspections, certifications, tests, and pre-lift meetings
d. Be signed by the crane operator, rigger, and initiating supervisor
e. Note the name of the person who will flag or signal the crane operator
f. Remain with the crane while the personnel hoist is in progress
g. Section 4 (Weight Calculation Sheet) of the Suspended Personnel Work Platform Checklist must be submitted to the DEN ROCIP Safety Team for review 7 days in advance of scheduled work.

10.3 Elevated Work - Fall Protection

Contractors and Subcontractors of any tier shall provide an appropriate fall prevention or fall protection system whenever employees are exposed to falls in excess of six feet or higher. Examples of exposures include, drilled shafts, steel erection, walking/working surfaces, etc. Controlled access zones are not permitted as appropriate means of fall prevention or protection on this project. All fall protection equipment must be inspected by employees before each use. This equipment shall also be inspected by a competent person at least monthly and documented. Damaged and worn equipment must be removed from service and the project site immediately.

10.3.1 Types of Fall Protection Systems

a. Personal fall arrest system is a means used to arrest an employee in a fall from a work level. It consists of an anchorage, full body harness, and connectors.
b. Positioning device system allows an employee to be safely supported on an elevated vertical surface (such as a wall) and work with both hands free. The positioning device is not to be used as a primary anchor point.
c. Warning line system is a barrier erected to warn employees that they are approaching an unprotected edge. It also designates an area in which work may not take place without the use of a guardrail, personal fall arrest system or a safety net to protect employees. The warning line must be a minimum of 15 feet from the unprotected edge.
d. The use of safety monitors is prohibited.
e. Guardrail system is a barrier erected to prevent employees from falling to lower levels. All guardrails must meet the requirements of 29 CFR 1926.502.
f. Safety net system can be used when workplaces are more than 25 feet above the ground, water surface or other surfaces where the use of ladders, scaffolds, catch platforms, temporary floors, safety lines or a safety harness is impractical.

10.3.2 Safety Harness

The only permissible fall arrest system on this project is a full body harness, subsystem and components meeting ANSI requirements. In order to maintain 100 percent fall protection, two lanyards may be required. The use of body belts is prohibited.

Safety harnesses must be secured to an anchor point, preferably overhead, of substantial capacity capable of supporting at least five thousand pounds per worker attached (e.g. pipe, structure, cable, or rope lifeline). Anchorage not secured overhead may require additional sharp or leading-edge protection. Anchorages must be engineered and drawings available at the work location.

10.3.3 Lanyards and Lifelines

Lanyard and lifeline selection will be determined by the type of work as well as the environmental conditions. If lanyards, connectors, or lifelines may be damaged by welding, chemical cleaning, sandblasting, or sharp edges, either protect the components or use a more appropriate type of securing system.

Lanyards and lifelines must incorporate or be used with an appropriate deceleration device. Deceleration devices include rope grabs, rip-stitch lanyards, specially woven lanyards, tearing or deforming lanyards, automatic self-retracting lifelines and lanyard, etc., which dissipate or otherwise limit the energy imposed on an employee during fall arrest. Lanyards and lifelines must only use locking snap hooks. Under no circumstances may two lanyard snap hooks be connected to each other.

Once in use, the system's effectiveness is to be monitored by a qualified person. In some cases, a program for cleaning and maintaining the system may be necessary. Anchor points, other than those installed by equipment manufacturers, must be inspected and approved by a qualified person.

Horizontal lifelines (HLL) and catenary lines shall be designed by a registered professional engineer. HLLs shall be installed and maintained, per the design, by a competent person.

- Horizontal Lifeline and Catenary Line Fall Distance. The primary factor that is critical to the design of HLL or catenary line system is calculating the dynamic point loading and deflection of the line and end connection points. Other factors that must be accounted for include freefall of the worker, the deceleration distance of the worker's shock-absorbing lanyard or retractable lifeline and any other considerations that increase the worker's total fall distance. The sum of these factors shall not be so great that the worker can contact an obstruction or lower level. The registered professional engineer or manufacturer of an HLL or catenary line system shall provide a method of calculating minimum clearances for temporary systems that can be installed in multiple configurations.
- Horizontal Lifeline and Catenary Line Designed Load Factor. When HLL's or catenary lines are used, the Contractor shall include in their fall protection plan the appropriate and specific engineered calculations for the system based on the number of workers attached. The load requirement is often confused with the 5,000-pound OSHA requirement for personal fall arrest systems (PFAS). The Contractor shall take into consideration in the design of the HLL and catenary line, the maximum arresting force on a worker's lanyard may be greater than 1,800 pounds depending on the line's geometry, angle of sag, the lines elasticity and the dynamic deflection to the end loads at the anchorage points or stanchions.

NOTE: Catenary lines shall be elevated, not at or below walking level, unless a variance is granted and approved in writing before the execution of the contract. This includes steel work.

10.3.4 Training

Contractor must provide a fall prevention training program for each employee who might be exposed to fall hazards. The training program must include recognition of the hazards of falling and procedures to follow to minimize these hazards. Training materials must be reviewed to verify that each employee has been trained, as necessary, by a competent person knowledgeable in the following areas:

a. The nature of fall hazards in the work area
b. The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used
c. The use and operation of guardrail systems, restraint systems, personal fall arrest systems, safety net systems, warning line systems, CAZS, and other protection to be used
d. The limitations on the use of mechanical equipment during the performance of roofing work on low sloped roofs
e. The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection
f. The role of employees in fall protection plans
g. The requirements contained in 29 CFR 1926 Subpart M.

Contractor must maintain a written certification record of employee training on site at all times for review. The record must contain the following information:

- The name or other identity of the employee trained
- The date(s) of the training
- Topics reviewed
- Trainer and trainee signatures

10.4 Scaffolding

All scaffolds and platforms must meet the following requirements:

10.4.1 General Requirements

a. Scaffolds shall be erected, moved, dismantled, or altered only under the supervision and direction under a competent person qualified in scaffold moving, erecting, dismantling or alteration. Such activities shall be performed only by experienced and trained employees selected for such work by the competent person.
b. The competent person will determine the feasibility and safety of providing fall protection for employees erecting or dismantling support scaffolds. The Contractor is required to provide fall protection for employees erecting or dismantling support scaffolds where the installation and use of such protection is feasible and does not create a greater hazard.
c. Scaffolds six (6) feet or more above the ground or floor are to be completely decked and have handrails, mid-rails and toe-boards installed. If for some reason, a platform or scaffold cannot be equipped with standard handrails or completely decked, safety harnesses must be worn and properly tied off.
d. Chain guardrails on scaffolding are not permitted.
e. Overhead protection for employees on a scaffold is required if they are exposed to overhead hazards.
f. Barricade the area beneath the scaffold and post “working overhead” signs in all approach directions.
g. Materials will not be stored on scaffolding, excepting supplies needed for immediate use. All debris and tripping hazards will be removed immediately.
h. Contact the DEN ROCIP Safety Team if any special scaffolding issues arise.

10.4.2 Rolling Scaffolds

a. No one is to ride on a rolling scaffold while it is being moved.
b. All materials and tools must be secured prior to moving a rolling scaffold.
c. No rolling scaffolds will be utilized to support other scaffolds.

10.4.3 Scaffold Planking

a. Paint or stamp scaffold planks within 12” on each end or edge to denote use for scaffold decking only.
b. Use only 2” X 10” or 2” X 12” scaffold grade material for scaffold planking.

10.4.4 Scaffold Tagging

The most effective means of communication between the scaffold builder and the scaffold user is a scaffold tag. The tagging procedures are as follows:

a. The crew that erects the scaffold must complete and attach the appropriate scaffold tag.
b. The scaffold tag must be placed at eye level on or near the access ladder, so it is easy to locate and plainly visible.
c. If the scaffold needs to be altered in any way, the person who signed the tag must be contacted to authorize the change and re-tag if necessary.
d. An untagged scaffold must not be used.

e. Scaffolds shall be inspected and documented by a competent person before each shift. Scaffolds passing inspection shall have a green tag applied with the date of inspection and the inspector's signature.
   - A green "Scaffold Use" tag shall be used for pre-shift inspections. Note: This tag shall be attached by the qualified person upon completion of the scaffold erection.
   - A yellow tag is completed and attached to scaffolds that cannot be erected with all the components complete. The yellow tag allows the erecting crew to note what portion of the scaffold is incomplete and cautions the user. A yellow tag also informs the user fall protection may be required.
   - A red tag means the scaffold is being dismantled not yet completely erected or for some reason not safe and shall not be used.

10.5 Mobile Elevating Work Platforms- formerly Scissor Lifts (Group A) and Aerial Lifts (Group B))

a. A full body harness and lanyard shall be worn by persons working in a mobile elevating work platform (MEWP) and the fall protection system shall be attached to the manufacturer's approved anchorage point on the boom or basket. It is the responsibility of the employer and user to review the manufacture's operator's manual for approved tie-off locations.
b. Fall protection shall not be secured to an adjacent pole, equipment, or structure when work is being performed from the basket of the aerial lift.
c. Employees shall always stand firmly on the floor of the basket and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices.
d. The area below shall be protected in the case of overhead hazards.
e. MEWPs must be inspected prior to each shift by each operator using the lift. This will be documented on a standard inspection form supplied by the contractor who is responsible for the MEWP. Daily inspection records shall be available for review with the lift for the duration of the work shift and maintained for the duration of the project.
f. Employees shall not use MEWPs to transfer bulk materials or tools. MEWPs cannot be moved or driven to another location without lowering the basket first. Incremental adjustments are allowed in Group A MEWPs if and as allowed by the Manufacturer.
g. When operating where uneven surfaces exist or the potential for drop-off, a curb or other positive means of protection will be installed to prevent the MEWP from driving off an edge and/or tipping.

10.5.1 Supervisor MEWP Training Requirements

Supervisors overseeing MEWP operations must have training in the following areas:
a. Proper selection of the correct MEWP for the work to be performed
b. The rules, regulations and standards that apply to MEWPs, including the provisions for safe use and the work being performed
c. Potential hazards associated with use of MEWPs and the means to protect against identified hazards
d. Knowledge that the manufacturer's operating manuals are an integral part of the equipment and need to be stored properly in the weather resistant compartment on the MEWP.

10.5.2 Employee and Operator MEWP Training Requirements

The MEWP operator must have training in accordance with OSHA requirements and as outlined in ANSI A92. All occupants in the platform must have a basic level of knowledge to work safely on the MEWP and be trained on:

a. the requirement to use fall protection and the location of fall protection anchors
b. Factors including how their actions could affect stability
c. Safe use of any MEWP accessories that they are assigned to use
d. Any site specific work procedures the occupants must follow related to the operation of the MEWP
e. Hazards related to the task at hand and their avoidance
f. Manufacturer's warnings and instructions
g. At least one of the occupants must be provided with the knowledge to operate the controls in an emergency where the operator cannot. This is emergency training only and does not constitute operator training.

10.6 Floor and Roof Openings

Floor and roof hole covers shall be installed and maintained by the Contractor creating the hole. In the event a Contractor alters or removes a hole cover to complete work, they shall replace it, or make it safe, prior to leaving the work area. The covers must be capable of supporting twice the maximum intended load, secured against displacement or lifting, and labeled as a "hole" or "cover."

10.7 Ladders

The purpose of this policy is to establish minimum expectations for personnel working with portable ladders. This policy applies to all work performed by Contractor's and their Subcontractors including, but not limited to the following activities: construction, installation, demolition, remodeling, relocation, refurbishing, testing, servicing or maintenance of equipment or machines, and any time ladders are required.

10.7.1 Fall protection

All personnel using fall protection must be properly trained. If a job being performed on a ladder is rendered more hazardous using personal fall protection, then the employee must:

a. Ascend/descend the ladder, always maintaining at least three points of contact with the ladder
b. Maintain his/her center of gravity between the rails while performing work on the ladder
c. Always face the ladder while working, ascending, and descending

10.7.2 General Requirements

a. **Only Class 1A or 1AA fiberglass and wood ladders are allowed on site.** Metal ladders (other than fixed building ladders) are prohibited on the DEN Project.
b. Use a ladder for its intended purpose ONLY.
c. Inspect ladder prior to use according to manufacturer's recommendations.
d. Tag and dispose of defective ladders immediately.
e. Identify every ladder with company name.

10.7.3 Usage

a. Ladders shall be used only on stable and level surfaces. All ladders must have slip resistant feet.

b. Ladders placed in any location where they can be displaced by workplace activities or traffic, such as in passageways, doorways, or driveways, shall be secured to prevent accidental displacement.
c. The area around the top and bottom of a ladder shall be kept clear and shall not be used for storage of unattended materials.
d. The top of a straight ladder shall be placed with the two rails supported equally unless it is equipped with a single support attachment.
e. Straight/extension ladders shall extend a minimum of 3 rungs or 36" above the surface to be accessed and shall be secured. Where supplying long-term access, walk through extensions with self-closing gates must be used.
f. Folding step ladders shall ONLY be used in the fully open position, with spreaders locked.

10.7.4 Storage

a. Ladders are to be stored in a secure manner that will not allow them to fall.
b. Storage methods:
   - Chained together upright
   - Laid down flat stacked in a manner so they cannot tip/fall. Maximum of 4 stacked on top. (Head to toe)
   - On supported wall racks designated for ladder storage
c. When shift work is complete, the ladders will be returned to a designated storage area.

10.7.5 Job Built Ladders.

Job built ladders shall comply with ANSI A14.4 – Safety Requirements for Job Made Ladders

10.8 Excavations and Trenching

Excavation and trenching are among the most hazardous construction operations. Excavations are defined as any man-made cut, cavity, trench, or depression in the earth's surface formed by earth removal. A trench is defined as a narrow underground excavation that is deeper than it is wide and is no wider than 15 feet.

Contractors shall never enter an unprotected trench. **Trenches 4 feet deep or greater require a protective system.** Refer to OSHA 29 CFR 1926 Subpart P for soil type definitions and protective system requirements.

a. **All soils will be classified as Type C soil** when designing protective systems, unless a geotechnical survey is conducted by DEN determining that the soil is more stable than Type C.
b. Regardless of soil type, the Contractor must provide a competent person with demonstrated soil classification experience to be on site during any excavation and trenching activity. The competent person shall be responsible for observing soil conditions during all phases of excavation. If the competent person determines that the soil has become less stable than the original classification determined by the geotechnical survey, they shall have the duty and authority to stop work and require that additional protective measures be implemented.
c. Trenches 20 feet deep or greater require that the protective system be designed by a registered professional engineer or be based on tabulated data prepared and/ or approved by a registered professional engineer.

d. There are different types of protective systems. Sloping involves cutting back the trench wall at an angle inclined away from the excavation. Shoring requires installing aluminum hydraulic or other types of supports to prevent soil movement and cave-ins. Shielding protects workers by using trench boxes or other types of supports to prevent soil cave-ins. When design/selecting a protective system, the Contractor must consider many factors: soil classification, depth of cut, water content of soil, changes due to weather or climate, surcharge loads (e.g. spoil, other materials to be used in the trench), obstacles to safe installation of selected system, and other operations in the vicinity.
e. Trenches must be inspected daily and as conditions change by a competent person prior to worker entry to ensure elimination of excavation hazards. Safe access and egress must be provided by the Contractor to all excavations including ladders, steps, ramps, or other safe means of exit for employees working in trench excavations 4 feet or deeper. These devices must be located within 25 feet of all workers.
f. Heavy equipment shall be kept a safe distance away from trench edges. Surcharge loads must be kept at least 2 feet from trench edges. Contractors are not permitted to work under raised loads.
g. Prior to beginning any excavation, digging, trenching or drilling operation, Contractors or Subcontractors, of any tier, must ensure that all underground utilities have been located and verified by the responsible parties. Testing shall be performed for low oxygen, hazardous fumes and toxic gases.
h. To aid in the prevention of falls, all vertical wall trenches and excavations over 6 feet deep will have a warning line erected 6 feet from the edge to prevent employees from approaching the edge, other than at access/egress points. For trenches less than 6 feet deep, cones, barrier tape, or other means will be used to keep heavy equipment/vehicles from inadvertently approaching the excavation.

10.8.1 Underground Utility Damage Prevention Work Plan

Underground Utility Damage Prevention. The Contractor is responsible for complying with all OSHA regulations and other Contract Documents related to underground utility damage prevention. The Contractor shall take all reasonable steps necessary to make certain that all active, abandoned, or unknown utilities are identified. Such steps are to include the utilization of an individual or firm acceptable to the Contractor and knowledgeable in Subsurface Utility Engineering (SUE) techniques, and competent to perform utility designation in conformance with the National Utility Locating Contractors Association (NULCA) Standard 101 for Professions Competence Standards for Locating Technicians or other written standard acceptable DEN.

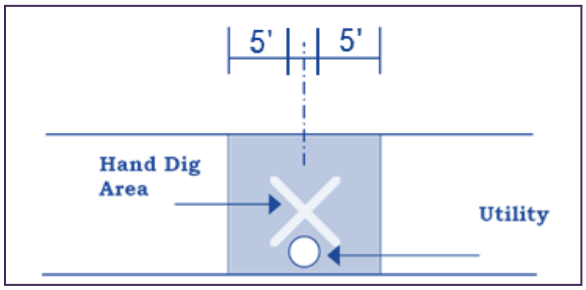
Preparation

a. All existing underground utilities depicted on the drawings, (which include but are not limited to: power, control, and communications cables; telephone, water and sewer lines; and other utilities) are shown in their approximate locations only. Other utility lines may exist but not be depicted. It is the Contractor's responsibility to ensure that locations of all underground airport, FAA, public, and/or private utilities are established prior to work in the area.
b. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
c. Protect subgrade and foundation soils against freezing temperatures or frost. Provide protective insulating materials as necessary. Protect subgrade and foundation soils from softening and damage by rain or water accumulation.

d. Provide erosion control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

Pre-excavation Requirements

a. Prior to any excavation, the Contractor shall layout in the field the centerline of all proposed utilities. The Contractor shall white line (by white spray paint or other means acceptable to 811) the limits of construction including the area(s) to be excavated. The Contractor shall also identify the proposed placement of grounding rods and cathodic protection.
b. The Contractor shall identify the location of existing underground utilities on as-built drawings, including any unknown or abandoned utility found during construction. The Contractor shall ensure that all Airport officials, FAA technicians, other utility owners/operators, and Colorado 811/Utility Notification Center of Colorado performing utility designation/location services designate/mark existing utilities within the construction limits as well as the entire path of excavation, including five (5) feet to either side of proposed utilities. The Contractor shall be solely responsible for notifying relevant utility owners/operators and Colorado 811 sufficiently in advance to ensure that delays to construction does not occur.
c. After completion of the utility designation described above, the Contractor shall hire a professional Subsurface Utility Engineering (SUE) or utility designation/locating company, acceptable to the DEN ROCIP Safety Team, to designate and sweep the entire excavation area, including five (5) feet to either side of proposed utilities, to confirm the locations of the marked utilities and identify and mark any additional unidentified utilities that may be within the limits of excavation.
d. Contractor shall expose all utilities that it will be crossing through non-destructive mechanical excavation methods such as vacuum excavation or similar mechanical method(s) ("potholing") approved by DEN, the contract requirements, and the DEN Project Manager or by hand digging. When a cable is located, the Contractor shall hand-excavate a trench (5) feet each side of the exposed utility to verify that another cable is not adjacent to the exposed utility.



e. Life threatening utilities such as gas and electrical services will be exposed through the entire length of the excavation by non-destructive methods.
    - Gas and electric lines within 25 feet of the work area shall be potholed and marked every 25 feet to verify that the line has not changed directions.
    - Gas and electric lines outside the 25 feet of the work zone will be potholed at least once on each end of the limits of the excavation to verify Underground Service Alert and the utility plans.
    - Fiber-optic lines will be potholed every 25 feet within the work area.
    - Telephone/Cable lines will be potholed every 50 feet within the work area.

f. Contractor shall continuously maintain utilities, facilities and/or systems that are or may be affected by work associated with the project. The Contractor shall provide the DEN ROCIP Safety Team with written reports on any utility damage
g. If the Contractor does not find an underground utility that was previously marked, the excavation shall be stopped, the Contractor's safety representative shall be contacted, and the Contractor shall contact the appropriate owner/operator of the utility, using the Colorado 811/Utility Notification Center of Colorado when warranted.
h. Every attempt shall be made to preserve the locate markings during excavation. Locate markings that are no longer visible shall be refreshed by calling the one-call system and/or the utility owners/operators for remarking.
i. All existing utilities that have been exposed during exploratory potholing or excavation must be supported to prevent stretching, kinking, or damage to the existing utility.

Excavation

a. Preserve, protect and maintain existing operable drains, sewers, and electrical ducts during grading, excavating and backfilling operations.
b. Excavation made with power driven equipment is not permitted within five feet of any known existing utility. Start hand excavation on each side of the indicated obstruction and continue until the obstruction is uncovered.
c. An observer shall be present to assist the equipment operator when operating equipment around known underground facilities and utilities. Adhere to the following during excavation:
    - All mechanized excavation shall start with 6 to 10-inch depth excavation on the surface. The equipment operator shall immediately cease operation and notify the DEN ROCIP Safety Team and Project Manager if utility warning tapes, sand, or bedding material is uncovered at any time during excavation.
    - All excavations within 5 feet of any pedestal, closure, riser guard, pole (with riser), meter, or other structure shall be performed by hand digging or other means such as vacuum excavating.
    - If the Contractor discovers damage, causes damage, or even contacts an existing underground utility, the owner/operator of that utility, and DEN ROCIP Safety Team and Project Manager shall be notified immediately.
    - If there is a critical or high priority utility line in the dig area, make arrangements for the utility owner/operator to be on the job site during the excavation. If the utility owner/operator refuses to be present, document this response.
d. The Contractor shall coordinate on a daily basis with the excavator and the excavating work crew regarding the work to be performed that day with an emphasis on the underground utility damage prevention work plan and anticipated utility crossings.

10.9 Hazardous Materials and Hazardous Waste

Hazardous materials or hazardous wastes are to be placed on spill containment pads or other secondary containment. An EPA ID number will need to be obtained for the hazardous wastes produced by the Contractors and/or Subcontractors. All hazardous wastes produced by the Contractors and/or Subcontractors must be removed from the project site by a licensed hazardous waste hauler. Such loads will need to be manifested and a copy of the manifest and the return manifest must be submitted to the DEN Project Manager**.**

Report any release of hazardous materials or hazardous wastes promptly to 303-342-4200 and the DEN Project Manager. If the release is of a reportable quantity, the responsible Contractor or

Subcontractor, of any tier, will notify the appropriate regulatory agency after consultation with DEN Environmental Services. See the EPA List of Lists for chemical reportable quantities. Proper clean-up of hazardous materials waste will be done by the responsible Contractor or Subcontractor. Clean-up is to be done by properly trained personnel. Hazardous waste from the clean-up must be hauled away by a licensed hauler and disposed of at a properly permitted facility. Provide a copy of the company spill notification procedure to the DEN Project Manager.

Depending on the hazardous materials spilled, DEN may require the responsible Contractor or Subcontractor to sample the affected site and hire a certified laboratory to analyze an appropriate number of samples to test at their laboratory. A copy of the results is to be provided to DEN. Contractors or Subcontractors, of any tier, must inspect and document their hazardous material and waste storage areas at least weekly to ensure they are properly maintained.

DEN may randomly audit the labeling and storage of hazardous material and waste and the disposal of hazardous waste to verify that all Contractors and Subcontractors, of any tier, are fulfilling their roles as responsible parties.

All hazardous materials and hazardous wastes must be properly labeled and stored until removed from the project. Consideration shall be given to chemical compatibility prior to storage of chemicals. DEN may determine after SDS review, specific chemicals may be unsuitable for use due to physical properties that may endanger the environment, DEN property, and/or create potential exposures to adjacent workers or the general public. The Contractor will be required to work with DEN Project Manager and staff to locate an acceptable replacement chemical and or process.

10.10 Spill Prevention

Contractors will store petroleum products and hazardous materials at the construction yards in safe locations employing appropriate secondary containment and control measures. Secondary containment systems can include: a bermed area lined with an impervious material to provide a minimum containment volume equal to 110 percent of the volume of the largest storage vessel contained within the berm area; double walled tanks; secondary containment pallets, etc.

The Contractor will construct these containment structures to contain spilled or leaked liquids within the structures. The volume of the secondary containment will be 110 percent of the largest storage vessel or container volume. If earthen containment dikes are used, they will be constructed with slopes no steeper than 3:1 (horizontal to vertical) to limit erosion and provide structural stability. Containment areas will not have drains. Control measures may include updated stormwater management plans and site maps, properly stocked spill kits, or documented inspections.

The Contractor will visually inspect aboveground bulk tanks frequently and whenever the tank is refilled. Drain valves on temporary storage tanks will be locked to prevent accidental or unauthorized discharges from the tank. The Contractor will correct visible leaks in tanks as soon as possible. All fuel nozzles will be equipped with functional automatic shut-off valves. Prior to departure of any fuel tank truck, all outlets on the vehicle will be examined by the driver for leakage and tightened, adjusted, or replaced to prevent leaking while in transit.

Routine equipment maintenance of wheel-mounted vehicles such as oil changes will be accomplished at the Contractor yards or staging areas to the greatest extent practical. Routine maintenance of track-mounted equipment will be conducted in a manner to gather all oil and other discharges and removed from the project site to a suitable recycling or disposal site.

Where required, Contractors shall provide equipment diapers and/or drip pans to protect from environmental spills. The Contractor will maintain a minimum of 20 pounds of suitable commercial absorbent and barrier materials at each Contractor yard and on fuel and service trucks to allow rapid containment and recovery of a spill. In addition, fuel trucks will be equipped with shovels and an assortment of hand tools to aid in the containment of a spill.

Equipment will not be washed on the project sites. Equipment operators will be held responsible for prompt reporting and mitigation of any fuel or lubricant spills from their equipment. Two trained personnel will be present during refueling to reduce the potential for spills or accidents. If the equipment operator is used as one of the two trained persons on the site, that person should be directly involved with the refueling process (i.e., not just sitting in the equipment) so that he/she can respond immediately to any overfilling.

Equipment such as large stationary pumps may be fitted with auxiliary tanks as appropriate. Such auxiliary tanks will be placed within a secondary containment structure. Refueling of dewatering pumps, generators, and other small portable equipment will be performed using approved containers with a maximum volume of 10 gallons. Alternately, a pickup truck-mounted tank (up to 300 gallons) may be used to fill the secondary fuel tanks provided the pump hose has an automatic cut-off sensor and provided the person conducting the refueling does not leave the filling location.

Before lubricants are drained from the construction equipment, a suitable containment vessel and plastic sheeting will be placed under the equipment to collect any spilled material. The Contractor will take necessary precautions to ensure that material that might accumulate on the liner does not spill on the ground surface.

The Contractor will appoint a Spill Coordinator who will be responsible for the reporting of spills, coordinating Contractor personnel for spill cleanup, subsequent site investigations, and associated incident reports.

10.11 Hazard Communication

Contractors are responsible for developing and implementing their own written Hazard Communication Program. They must also ensure the proper handling, labeling, use, and storage of these chemicals and provide access to Safety Data Sheets (SDS) for all employees.

As part of the written HAZCOM program, a site specific hazardous chemical list must be maintained. DEN or another Contractor may request copies of the most current SDS on a chemical being used by other Contractors/Subcontractors.

10.12 Confined Space Entry

Confined spaces include, but are not limited to, tunnels, manholes, utility vaults, pumping stations, storage tanks, process vessels, pits, vats, vaults or similar types of enclosures with limited access and without proper ventilation. Entry into confined spaces may be for the purpose of inspection, testing of equipment, maintenance (repair and cleaning) or an emergency. The characteristics of a confined space are:

A space that is large enough and so configured that an employee can enter and perform assigned work, and

a. A space that by design that has limited openings for entry and exit; and

b. A space not designed for continuous employee occupancy.

All confined spaces on DEN property are considered "permit-required confined spaces" unless Contractor requests a variance demonstrating that none of the below characteristics are or have the potential to exist and it is accepted by DEN. A permit-required confined space has one or more of the following characteristics:

- A potential to contain a hazardous atmosphere
- Material that can cause the engulfment of an employee
- An internal configuration that might cause an employee to be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section
- Contains any other recognized serious health or safety hazard

10.12.1 Entering A Permit-Required Confined Space

Entry is defined as occurring when any part of the body passes through the opening of a confined space. Prior to entry, an entry permit should be completed and signed by the entry supervisor verifying that the space is safe to enter. The entry permit must also be posted at the entrance or otherwise made available to entrants before they enter the permit space.

The contractor must complete their internal confined space entry permit before an employee enters a confined space – this permit must be posted at or near the confined space. Permits are valid for one shift only – a new permit must be completed for the next shift. The contractors' internal permit shall contain the following types of specific information concerning:

a. Identification of space
b. Purpose of entry
c. Date and duration of permit
d. List of authorized entrants
e. Names of current attendants and entry supervisor
f. The hazards of the permit space to be entered
g. The measures used to isolate the permit space and eliminate or control hazards
h. The acceptable entry conditions
i. The results of atmospheric monitoring
j. Rescue and emergency services that can be summoned and the means for summoning those services
k. The communication methods used by entrants and attendants to maintain contact
l. Any other safety information necessary for the specific space
m. Any additional permits, such as for "hot work" (welding)

The entry permit is the document that certifies that the Contractor complies with the requirements of the standard for entries in permit required confined spaces. Also, the entry supervisor must close off the space and cancel permits when an assignment has been completed or when prohibited conditions exist. All new conditions must be noted on the canceled permit and used in revising the permit space program.

10.12.2 Air Monitoring

Atmospheric testing is required for two distinct purposes: evaluation of the hazards of the permit space and verification that acceptable conditions exist for entry into that space. The atmosphere within a confined space must be tested using equipment that is designed to detect the chemicals, such as benzene or other hydrocarbons, that may be present at levels that are well below the defined exposure limits. Evaluation testing is done to:

- determine what chemical hazards are or may become present in the space's atmosphere, and
- identify what steps must be followed and what conditions must be met to ensure that atmospheric conditions are safe for a worker to enter the space.

Before a permit space that may have a hazardous atmosphere can be entered, the atmosphere must be tested using the steps identified on the permit (developed during evaluation testing). Verification testing is done to make sure that the chemical hazards that may be present are below the levels necessary for safe entry, and that they meet the conditions identified on the permit. Test the atmosphere in the following order: (1) for oxygen, (2) for combustible gases, and then (3) for toxic gases and vapors.2 The testing results -- the actual test concentrations -- must be recorded on the permit near the levels identified for safe entry.

It is important to remember that some gases or vapors are heavier than air and will settle at the bottom of the confined space. Also, some gases are lighter than air and will be found around the top of the confined space. Thus, during the sampling process it will be necessary to test all areas (top, middle and bottom) of the confined space.

In sewers or other areas which are part of a continuous system where new hazards may enter at any time, continuous air monitoring must be conducted.

10.12.3 Ventilation

If the atmosphere is found to lack oxygen, or contain toxic gases and vapors, the space must be ventilated before entry. An air powered ventilator placed at the top of the opening can blow breathable air into the space. Never assume that the space is safe until it is monitored again. Ventilation shall continue while the employee is working in the space. A trained person must determine whether the air must be supplied, exhausted, or both.

The air intake should be placed in an area that will draw in fresh air only. Ventilation should be continuous where possible, because in many confined spaces the hazardous atmosphere will form again when the flow of air is stopped.

The forced air ventilation should ventilate the immediate areas where an employee is or will be present within the space and should continue until all employees have left the space.

10.12.4 Protective Equipment

Personal protective equipment shall be used to protect workers only after all other feasible means have been used to control or eliminate hazards. A full body or chest harness and a lifeline should be used when entering a confined space.

In some situations, a respirator will also be needed. A respirator will allow the employee to breathe without inhaling toxic gases or particles.

Air-purifying respirators can filter dangerous substances from the air, but they provide no protection in an oxygen deficient environment and shall not be used when working in a confined space. Only air-supplying respirators (SAR/SCBA) should be used in confined spaces that have low oxygen levels or high levels of toxic gasses.

In vertical entries, the safety harness should be attached to a retrieval device that will allow quick removal of an employee in the event of an emergency. In the event of an emergency, the attendant located on the outside should be able to initiate a rescue without entering the space.

Hard hats, safety goggles, face shields, gloves, safety boots, disposable suits, earplugs or muffs, non-sparking flashlight and tools may also be needed when entering a confined space.

10.12.5 Rescue

In order to facilitate rescue without having a rescuer enter a space, the Contractor must require the use of "non-entry" rescue, retrieval systems or methods, such as tripods and winches to lift unconscious or injured entrants out of a space that is more than five feet deep.

10.12.6 Training

Proper training, careful preparation and good judgment are essential to safe confined space entry. The Contractor is required to provide initial and refresher training to equip employees with the understanding, skills and knowledge necessary to perform the confined space entry safely.

Training must be provided to each affected employee before the employee starts performing assigned duties in confined spaces and must be certified by the Contractor. Authorized entrants, attendants, supervisors and rescuers require different levels of training according to their specific duties and responsibilities.

Where confined spaces exist on a project, all employees regardless of duties, shall be trained during orientation on how to identify confined spaces and who to contact for questions about confined spaces.

10.13 Silica

10.13.1 Potential Exposures

The following activities may cause crystalline silica dust to be present in the air:

- Sawing, hammering, cutting, drilling, grinding, and chipping of concrete or masonry
- Chipping, hammering, and drilling rock
- Dry sweeping or pressurized air blowing of concrete, rock, or sand dust
- Crushing, loading, hauling, and dumping rock
- Sandblasting
- Demolition of concrete and masonry structures and fireproofing
- Concrete mixing
- Working with ceramics, clay, and pottery

10.13.2 Safe Work Practices

The primary means of protecting workers will be using less toxic materials, enclosed systems, local exhaust ventilation, wet methods, and good work practices. Silica sand or other substances containing more than 1% crystalline silica will not be used for abrasive blasting. Good personal hygiene will be practiced to avoid unnecessary exposure. Eating, drinking, use of tobacco products, or applying cosmetics will not be done in areas where there is dust containing crystalline silica. If possible, employees will shower and change into clean clothes before leaving the worksite to prevent contamination of cars, homes, and other work areas.

Contractor shall use OSHA 1926.1153(c)(1) or the following measures to reduce exposure to crystalline silica in the workplace:

a. Wet down the dust at the point of generation.
b. Install local exhaust ventilation to prevent dust from being released into the air.
c. During rock drilling, flow water through the drill stem.
d. Install dust collection systems onto machines or equipment that generated dust.
e. Use concrete/masonry saws that provide water to the blade. Water may be used to suppress dust produced by pneumatic, hydraulic, or gasoline-powered saws. Water is typically applied to the blade through one or two nozzles to suppress dust emissions. Water may be supplied from a portable pressurized tank or a hose. The recommended flow rate is 0.5 liters (17 ounces) of water per minute to suppress dust. Less water will not be as effective.
f. When using vacuum cleaners, the vacuum should have the following features:
    i. Enough flow rate to capture the dust and transport it to the vacuum source. One study showed that and air flow rate of 70 cubic feet per minute (cfm) was required to achieve effective dust control.
    ii. High-efficiency particulate airs (HEPA) filter to reduce the chances of releasing dust containing RCS from the vacuum into the worksite.
    iii. A pre-filter or cyclone to increase the length of service of the HEPA filter.
    iv. A filter replacement indicator, such as a pressure gauge. If the vacuum cleaner does not have a pressure gauge, workers can monitor the air flow by checking to see if a dust plume is escaping from around the shroud.
    v. The ability to clean and replace filters and full collection bowls or bags without exposing the operators to dust.
    vi. A motor that draws at least 10 amps.

NOTE: The above measures will be required to protect the public, adjacent workers, and DEN facilities as necessary.

10.13.3 Air Monitoring

The Contractor will inspect each work operation to determine if employees are exposed to silica above the PEL. Indicators that an evaluation of employee exposure should be undertaken include:

a. Information or observation which would indicate employee exposure to silica.
b. Employee complaint of symptoms which may be attributed to exposure to silica.
c. Change which may result in an increase in the airborne concentration of silica.

The Contractor will conduct air monitoring to measure worker exposures and ensure that engineering controls and respiratory protection are providing adequate protection. Air

monitoring information will be made available to workers and DEN. If employees are exposed to silica in excess of the PEL, monitoring will be repeated quarterly.

10.13.4 Training

Maintain a certified list all employees that have been trained about health effects of silica exposure, engineering controls and work practices that reduce dust, the importance of maintenance and good housekeeping, as well as the proper type and fitting of respirators. Also include a statement for each employee whether that employee is or is not enrolled in a medical surveillance program.

10.14 Respiratory Protection

Contractor and Subcontractors who require or permits employees to wear a respirator must have a written respiratory protection program. The written respiratory protection program shall establish standard operating procedures concerning the use and maintenance of respiratory equipment. In addition to having such a written program, the Contractor must also be able to demonstrate that the program is enforced and updated as necessary. All affected employees shall be trained on the written respiratory protection program and it shall be available to employees on site. The plan shall include:

a. A written statement of company policy, including assignment of individual responsibility, accountability, and authority for required activities of the respiratory protection program.
b. Written standard operating procedures governing the selection and use of respirators.
c. Respirator selection (from NIOSH/MSHA approved and certified models) on the basis of hazards to which the worker is exposed.
d. Medical examinations of workers to determine whether or not they may be assigned an activity where negative pressure respiratory protection is required.
e. Employee training in the proper use and limitations of respirators (as well as a way to evaluate the skill and knowledge obtained by the worker through training).
f. Respirator fit testing.
g. Regular cleaning and disinfecting of respirators.
h. Routine inspection of respirators during cleaning, and at least once a month and after each use for those respirators designated for emergency use.
i. Storage of respirators in convenient, clean, and sanitary locations.
j. Surveillance of work area conditions and degree of employee exposure (e.g., through air monitoring).
k. Regular inspection and evaluation of the continued effectiveness of the program.

10.15 Electrical

a. Only qualified electricians may perform electrical work.
b. Temporary electrical service shall be installed and maintained to conform to all of the requirements along with all applicable provisions of the NESC, NEC and OSHA.
c. Where required, appropriate warning signs will be posted. All temporary components shall be plainly marked to indicate the maximum operating voltage.
d. All circuits shall be protected against overload and grounded with Ground Fault Circuit Interrupters (GFCI) provided for temporary outlets.
e. When using permanent power, a GFCI “pigtail” device will be required between the power source and the extension cord.

f. Flexible temporary cord and light sets shall be hard service or junior hard service usage for construction as specified in NEC Table 400.4.
g. Non-metallic sheathed cable shall not be used for temporary service on the project.
h. Temporary power cords of any size shall not be spliced.
i. Electric wire and flexible cord passing through work areas shall be protected from damage (including that caused by foot traffic, vehicles, sharp corners, protections, and pinching) by elevating them or protecting them with covers.
j. Flexible cords and cables passing through holes shall be protected by bushings or fittings.
k. Temporary electrical distribution systems and devices shall be checked and found acceptable for polarity, ground continuity and ground resistance before initial use and before use after modification.
l. Temporary power boxes and GFCI's shall be tested monthly and documentation of tests for each device shall be made available upon request.

10.15.1 Lock-Out Procedures

The procedures used for energy isolation, be it electrical, mechanical, hydraulic, pneumatic or other types need to be both uniform and coordinated. Therefore, the ROCIP has adopted the following procedures which must be communicated to Contractors, Subcontractors, and employees. Make sure they are aware of, understand, and follow these lock-out procedures and cooperate with other Contractors who require a lock-out that involves your work. Note that the ROCIP requires the use of lock-out energy isolation devices (that is, using padlocks) throughout this project. Tag-outs (simply tagging the switch, valve, etc.) will not be used unless prior approval is provided in writing by the DEN Project Manager and DEN ROCIP Safety Team.

10.15.1.1 Individual Lock-out Procedures

This procedure is used in the event power is either interrupted or restored unexpectedly. If interrupting or restoring power unexpectedly will endanger an employee of any other Contractor, including your own Subcontractors, use the steps in the *Complex Lock-out Procedures* that follow. Only an authorized employee shall perform the following steps:

a. Notify affected employees of the lock-out and the reason for it.
b. Shutdown the affected equipment in a manner consistent with good operating practices.
c. Verify that the equipment or system is inoperative by trying to operate it, etc.
d. Shutdown the power at the switch, valve, etc., that will be locked. Be absolutely certain the correct device or devices to shut down and lock were located.
e. Safely dissipate any stored energy in pressure lines, flywheels, capacitors, etc., consistent with good operating practices.
f. Lock the switch, valve, etc., using a padlock with only one key. Make sure the company name is on the lock.
g. Complete and place on the lock a standard lock-out warning tag indicating what power source was shutdown, the date of the shutdown, authorized employee's name, and the company's name.
h. Verify that the equipment or system is inoperative by trying to start it. (Do not forget to turn all controls back to their off or neutral position).

i. Complete and file on site a Lock-Out Documentation form
j. When power is ready to be restored, replace all missing guards. Ensure that no one will be endangered by power restoration prior to removing the lock.
k. After removing the lock, remove and properly destroy the warning tag. (Tags and their attachment devices are not to be reused unless designed for reuse).

10.15.1.2 Complex Lock-out Procedures

This procedure must be used when one or more employees of another Contractor or Subcontractor may be exposed to danger in the event power is either interrupted or restored unexpectedly. Only an authorized employee shall perform all of the following steps as the originator of a complex lock-out. Every affected Contractor (including affected Subcontractors) is to have an authorized employee to coordinate the lock-out for their company.

a. Notify all affected employees of the lock-out and the reason for it.
b. Shutdown the affected equipment in a manner consistent with good operating practices and have each affected Contractor and Subcontractor do likewise.
c. Verify that the equipment or system is inoperative by trying to operate it and have each affected Contractor and Subcontractor do likewise.
d. Shutdown the power at the switch, valve, etc., that will be locked. Be absolutely certain the correct device or devices to shut down and lock were located.
e. Safely dissipate any stored energy in pressure lines, flywheels, capacitors, etc., consistent with good operating practices and, as necessary, have each affected Contractor and Subcontractor do likewise.
f. Place a chain or lock-out device on the switch, valve, etc., that will be locked.
g. Place a chain or lock-out device using a padlock with only one key. Make sure the company's name is on the lock.
h. Once all the valves and switches are locked out, place all the keys for all the locks in the group lock-out box.
i. The authorized employee then places a group lock-out device (Christmas tree) on the hasp and places his lock on the group lock-out device. Each employee must place his/her personal lock, with his or her name on the lock, on the group lock device.
j. Complete and place on the lock a standard lock-out warning tag indicating what power source was shutdown, the date of the shutdown, authorized employee's name, and the company's name.
k. Verify that the equipment or system is inoperative by trying to start it and have each affected Contractor and Subcontractor do likewise. (Do not forget to turn all controls back to their *off* or *neutral* position).
l. Complete and file on site a Lock-Out documentation form.
m. When power is ready to be restored, replace all missing guards. Each affected employee must remove their lock when their work is

completed. The authorized employee then removes his or her lock and removes the keys from the lock box and begins to restore the equipment to working condition. As the originator of the lock-out, the authorized employee will always remove their lock last. This is only after it has been determined that no one will be endangered by power restoration.

n. Restore power.
o. After removing the lock, remove and properly destroy the warning tag. (Tags and their attachment devices are not to be reused unless designed for reuse).

10.15.2 General Lock-out Information

a. Padlocks, hasps, tags, and other lock-out devices must be durable enough to withstand the environment to which they will be exposed.
b. Locked-out switches, valves, etc., must not be operated regardless of the circumstances.
c. Only the employee, who placed the lock on the switch, valve, hasp, etc., can remove it. Anyone who removes or defeats another's lock-out is subject to removal from the project site.
d. Locked-out switches, valves, etc. must be inspected at the beginning of each shift to ensure that the locks and tags are still in place.

10.15.3 Energized Electrical Work

This section applies to any Contractor/Subcontractor who enter or plan work within a Limited Approach Boundary or an Arc Flash Boundary when there are exposed electrical hazards from electrical conductors or circuit parts that are or can become energized. This does not apply to 50 volts or less if there is no increased exposure to electric burns or explosion due to an arc flash. The Contractor shall develop an energized work procedure that includes the following guidelines for review by the DEN ROCIP Safety Team:

Energized parts to which personnel might be exposed must be put into an electrically safe work condition and lockout/tagout (LOTO) unless:

a. De-energizing the equipment introduces additional or increased hazards
b. The component is an integral part of a continuous process and would require that the entire process be shut down in order to work on the piece of equipment; or
c. Shutdown is infeasible due to equipment design or operational limitations, including the need to perform diagnostics and testing (e.g., start-up or troubleshooting) of electric circuits that can only be performed with the circuit energized.

Anyone working on or near energized electrical conductors or circuit parts greater than 50 volts must have the following:

a. Training – Electrical Safety, NPFA 70E, CPR, LOTO Authorized
b. Authorization – by the Contractor, in the case of a Subcontractor employee it must be the authorized by the Contractor
c. Permits – An energized work permit or approved equivalent procedure.

The Contractor/Subcontractor plans all energized electrical work using an approved electrical work permit. The planning may be as simple as a discussion among the electrical

workers reviewing the job, or as complex as a specific procedure with multiple engineering reviews. Planning must include:

a. Information about the equipment and the installation
b. Voltage levels, power availability which might be delivered into an arc flash
c. The Flash Hazard/Risk Category for arc-flash rating of the PPE (cal/cm2)
d. Any additional requirements necessary to perform the work, including, if required, additional training
e. Applicability of the two-person rule. **Two Person Rule**. A second qualified person, knowledgeable in rescue techniques to the level taught in Electrical Safety, NFPA 70E and CPR qualified, is required when ANY of the following criteria exists:
    i. Performing work within the Arc-Flash Boundary of exposed live parts that has an arc-flash Hazard/Risk Category of 3 or 4;
    ii. Operating switches or breakers with an arc-flash Hazard/Risk Category of 4;
    iii. Any time there are exposed live parts with >250V but <600V and when either of the following exists:
        - A barricade is not established
        - When performing tasks where there are multiple sources of exposed live parts with voltage >50V (e.g., multiple terminal strips, including some control panels and power supplies). Examples:
            - Two persons NOT required: Hazard Risk Category is less than 3 AND a single source of exposed voltage, such as a manually operated disconnect switch. (One set of 3 phase connections is considered a single source.)
            - Two persons required: Multiple sources of exposed voltage, such as a control panel with 480V exposed terminal lugs and 120V control terminals, regardless of which one is being worked on.
            - Any time work planning, including worker-planned work, determines the need for two-persons to perform a given task. The second person must wear the appropriate PPE if assisting the primary worker in the same control zone. Note: The second person may operate breakers and switches without an additional second person if an emergency should arise.

The Contractor must review permits and ensure that all personnel working under the permit:

a. Are qualified for the type and energy levels on the permit
b. Have signed the permit
c. Maintain currency of training
d. Receive a pre-task planning briefing and understand the hazards associated with this task by discussing the following during JHA development:
    i. Limits of the permit, especially limits of only testing with TTVM permit
    ii. PPE for various tasks
    iii. Any job specific or general work practices to be observed.

The Contractor issuing the work permits for employees or Subcontractors must sign the permit and ensures that:

a. A log is kept for auditing purposes.
b. Periodic walkthroughs or field checks are conducted to verify the following:
    i. Workers are qualified
    ii. Compliance with procedure or permit
    iii. Proper PPE

The Contractor/Subcontractor employee who performs the energized work must do the following:

a. Prior to starting work:
    i. Review the work plan/permit and inform those involved with the work and those nearby who could be impacted that work will begin.
    ii. Establish safety barriers to keep unprotected personnel out of the arc flash control zone and shock hazard control zones.
b. While performing the work:
    i. Perform the work in accordance with conditions on the permit and with procedures
    ii. Perform any necessary testing.
c. After completing the work:
    i. Replace any physical barriers which were removed in order to do the work
    ii. Inform those involved and those nearby who could have been impacted that the work has been completed and conditions are safe
    iii. Remove the safety barriers and all tools, equipment, and scrap.

10.16 Steel Erection

Steel erection requires compliance with the following:

a. **100% fall protection provisions, such as lifeline attachments, dynamic fall restraints and other such devices shall be considered during shop drawing preparation and incorporated into fabricated pieces.** The use of a Controlled Decking Zone (CDZ) is not permitted to be used as a primary fall protection method. CDZ can be used in combination with conventional fall protection methods (PFAS)
b. **Lifelines or other fall protection devices shall be attached prior to erection where possible**.
c. Employees of Contractors and Subcontractors, of any tier, must comply with the fall protection requirements covered earlier in this section.
d. The running length of wire rope protection, when used for perimeter protection, shall not exceed two bay widths or 24 feet, and will be equipped with support stanchions every 8 feet to maintain the required deflection.
e. A turnbuckle may be installed for maintenance of the perimeter protection to keep tight: a minimum of 3 Crosby clamps will be installed and torqued to specification. The use of lap joints is prohibited.
f. When Christmas Treeing, only 3 pieces shall be allowed and a multiple lift rigging assembly shall be used.
g. The Contractor shall not erect steel unless it has received written notification that the concrete in the footings, piers and walls or the mortar in masonry piers and walls has attained, on the basis of an appropriate ASTM standard test method of field-cured samples, either 75 percent of the intended minimum compressive design strength or sufficient strength to support the loads imposed during steel erection.
h. Pre-planning shall be conducted and documented for landing deck bundles and installing the perimeter protection for interior/exterior fall hazards.
i. All columns shall be anchored by a minimum of 4 anchor rods (anchor bolts).
j. All columns shall be evaluated by a competent person to determine whether guying or bracing is needed; if guying or bracing is needed, it shall be installed.
k. Anchor rods (anchor bolts) shall not be repaired, replaced or field-modified without the approval of the project structural engineer of record. Prior to the erection of a column, the Contractor shall provide written notification to the steel erector if there has been any repair, replacement or modification of the anchor rods (anchor bolts) of that column.

l. Conduct and document appropriate pre-task planning and a job hazard analysis for all steel erection. Keep this documentation on site for review by DEN.

10.17 Welding and Cutting

Recommended and required (where indicated) safe practices:

a. A welder shall wear:
   i. Safety steel-toed boots, preferably high-top ones because low-cut boots and shoes put you at a higher risk of catching slag that is hot. (Required)
   ii. Helmets or any other head gear to protect from sharp and falling objects. (Required)
   iii. Goggles or helmets to protect your eyes from the transmission of radiant energy being emitted by the welding tool. (Required)
   iv. Hearing protection as necessitated by noise levels.
   v. Respirators to prevent inhalation of hazardous fumes, dust and gases as necessitated by exposures.
b. A welder shall remove flammable clothing and should wear protective gear to shield their entire body using the following examples:
   i. Aprons that are made from flame-resistant material.
   ii. Greater protection can be obtained from reflection under the face shield if clothing with the dark colors are worn. Clothing made of wool is also preferred over clothing made of cotton because wool can resist deterioration better than cotton. Pants should not have pockets on the front that may catch sparks.
c. See additional requirements for Hot Work in Section 10.18.

10.17.1 Electric Arc Welding

a. Screens, shields, or other safeguards should be provided for the protection of men or materials, below or otherwise exposed to sparks, slab, falling objects, or the direct rays of the arc.
b. The welder shall wear approved eye and head protection. Workers assisting the welder shall also wear protective glasses, head protection and protective clothing.
c. Adequate exhaust ventilation shall be maintained at all welding and cutting work areas.
d. Electric welding equipment, including cables, shall meet the requirements of the National Electric Code.
e. All arc welding and cutting cables shall be of the completely insulated flexible type capable of handling the maximum current requirements of the work.
f. Cables in need of repair shall not be used.
g. Welding leads shall not be repaired with tape or by any other means.
h. Leads shall be inspected before each use, leads in need of repair will be tagged “do not use” and taken off the project site at the end of the day’s work shift.
i. The frames of all arc welding and cutting machines shall be grounded either through a third wire in the cable connecting the circuit connector or through a separate wire which is grounded at the source of the current. All ground connections shall be inspected to ensure that they are mechanically strong and electrically adequate for the required current.
j. Welding practices shall comply with all applicable regulations.

10.17.2 Gas Welding or Cutting

a. All hose used for carrying acetylene, oxygen or other fuel gas shall be inspected at the beginning of each working shift. Defective hose shall be removed from service.
b. Oxygen cylinders and fittings shall be kept away from oil and grease. Oxygen shall not be directed at oily surfaces, greasy clothes or hands.
c. Regulators, gauges, backflow check valves, and torches shall be kept in proper working order.
d. Appropriate personal protective equipment, such as burning glasses, shields, and/or gloves shall be used. Adequate exhaust ventilation shall be maintained at all welding and cutting work areas.
e. All oxygen/acetylene setups shall have a “flashback” arrestor check valve at the regulators, not at the torch head.
f. Check valves shall be tested for proper function at least every six months and documentation of the test shall be readily available upon request.

10.18 Compressed Gas Cylinders

a. When gas cylinders are stored, moved, or transported, the valve protection cap shall be in place. All cylinders must be thoroughly inspected for defects, damage, and deficiencies prior to acceptance to the worksite.
b. All workers inspecting, handling, and using compressed gas cylinders must have completed training as required by OSHA.
c. When cylinders are hoisted, they shall be secured in an approved cage or basket. The valve cap shall never be used for hoisting. All cylinders shall be stored, transported, and used in an upright position. If the cylinder is not equipped with a valve wheel, a key shall be kept on the valve stem while in use.
d. Cylinders should be transported using hand trucks designed for that purpose.
e. Gas cylinders shall be properly secured at all times to prevent tipping, falling or rolling. They can be secured with straps or chains connected to a wall bracket or other fixed surface, or by use of a cylinder stand.
f. Oxygen cylinders (empty or full) in storage should be separated from fuel-gas cylinders and combustible materials by a minimum distance of 20 feet or by a barrier at least 5 feet high having a fire-resistance rating of at least one-half hour.
g. Full and empty cylinders of all gases should be stored separately and identified by signs to prevent confusion.
h. Close valves on empty cylinders and mark the cylinder "empty" or "M.T."
i. At the end of each work day or if work is suspended for a substantial period of time, compressed gas cylinder valves shall be closed, regulators removed and properly stored.
j. Cylinders containing oxygen, acetylene, or other fuel gas shall not be taken into confined spaces.
k. Cylinders containing oxygen, acetylene, or other fuel gas shall be stored in designated areas outside the structure.
l. No one shall use a cylinder's contents for purposes other than those intended by the supplier.
m. Always use the proper regulator for the gas in the cylinder. Always check the regulator before attaching it to a cylinder. If the connections do not fit together readily, the wrong regulator is being used.
n. Before attaching cylinders to a connection, be sure that the threads on the cylinder and the connection mate are of a type intended for the gas service.
o. Do not permit oil or grease to come in contact with cylinders or their valves.
p. Wipe the outlet with a clean, dry, lint-free cloth before attaching connections or regulators. The threads and mating surfaces of the regulator and hose connections should be cleaned before the regulator is attached.

q. Attach the regulator securely before opening the valve wide. Always use a cylinder wrench or another tightly fitting wrench to tighten the regulator nut and hose connections.
r. Open cylinder valves SLOWLY. Do not use a wrench to open or close a hand wheel type cylinder valve. If it cannot be operated by hand, the valve should be repaired.
s. Stand to the side of the regulator when opening the cylinder valve.
t. Do not attempt to repair cylinder valves or their relief devices while a cylinder contains gas pressure. Tag leaking cylinders or cylinders with stuck valves and move to a safe, secure outdoor location.

10.19 Hot Work Permits

Hot work operations include tasks such as welding, brazing, torch cutting, grinding, and torch soldering. These operations create heat, sparks and hot slag that have the potential to ignite flammable and combustible materials in the area surrounding hot work activities. In addition to the Contractor's Hot Work Permit, a permit must also be obtained from the Denver Fire Department and all provisions adhered to.

10.19.1 General Guidelines

a. Work should be performed using alternative methods other than hot work whenever possible.
b. Hot work should be performed in designated hot work rooms whenever it is practical.
c. A Hot Work Permit is valid for one day and one area and shall be posted in the area of hot work for the duration of the activity. See Appendix N for Sample Hot Work Permit
d. A copy of every permit shall be maintained onsite and readily available for review.
e. Hot Work Permit must be posted in the area where hot work is to be performed.
f. Employees who perform hot work operations must always obtain a Hot Work Permit before beginning hot work.
g. A Fire Watch is posted to monitor the safety of hot work operations and watch for fires.
h. Fire Watches are posted if the situation requires one, during hot work, and for at least 60 minutes after hot work has been completed. Any employee who has successfully completed hot work safety training can serve as the Fire Watch.
i. All flammable and combustible materials within a 35-foot radius of hot work must be removed. When flammable and combustible materials within a 35-foot radius of hot work cannot be removed they must be covered with flame retardant tarps and a fire watch must be posted.
j. Floors and surfaces within a 35-foot radius of the hot work area must be swept free of combustible dust or debris.
k. All openings or cracks in the walls, floors, or ducts that are potential travel passages for sparks, heat and flames must be covered.
l. Two fire extinguishers (minimum 10 lbs. each) of the appropriate type must be readily available and accessible with at least one being within reach of the worker performing the welding, cutting or brazing activity.
m. Entire building smoke detection and alarms systems may not be shut down. Instead, smoke detectors in the area of hot work may be covered for the duration of hot work to prevent false alarms.
n. Automatic sprinkler systems may not be shut down to perform hot work. Instead, individual sprinkler heads in the area of hot work may be covered with a wet rag to prevent accidental activation.
o. Adjacent workers, the general public, and DEN facilities must be protected during hot work.
p. The contractor is required to adhere to their respiratory program PPE requirements and SDS identified hazards for PPE selection.

10.19.2 Hot Work Permit Procedure

The Contractor will develop a hot work permit procedure and include provisions at least as protective as the standards found in this section. The hot work permit procedure will be reviewed with all impacted employees and available on site at all times.

10.20 Fire Prevention and Protection

a. Open fires are prohibited without a permit from Denver Fire Department.
b. Subcontractors performing torch-applied roofing operations must submit NRCA (National Roofing Construction Manager Association)-recognized CERTA (Certified Roofing Torch Applicator) training documentation for each of their personnel involved in such operations prior to those personnel commencing work on the project.
c. Locations for storage of all fuels, lubricants, starting fluids, etc., shall be reviewed by Program Manager prior to use by Contractor for storage and shall conform to the requirements of the NFPA as well as the local Fire Marshal. Plastic containers are not permitted per OSHA specification.
d. Storage of fuels shall be away from ignition sources
e. Only containers approved by Underwriters Laboratories, Factory Mutual or DOT, and clearly labeled to identify contents shall be used for transporting or storing flammable or combustible liquids. Metal safety cans with self-closing spouts and flash arresters are required for the storage, handling, and transporting of flammable and combustible liquids.
f. Smoking is not permitted within building structures or work areas.
g. Flammable or combustible liquids or gases shall not be stored inside any building unless approved by the Program Manager in writing. When indoor storage is approved by the Program Manager in writing, such storage shall comply at a minimum with OSHA 1926.152 and NFPA requirements. Storage is defined as maintaining quantities in excess of what can be used in the course of normal work during the intended shift.
h. Vessels or tanks containing flammable or combustible liquids or gases shall be placed in a fuel storage area designated by the Contractor. This area will be located a minimum distance from buildings, construction equipment, parking lots, etc. to minimize the exposure to a fire involving the tank. The Contractor shall meet local, state, and federal safety requirements when placing vessels or tanks. Such locations will be equipped with substantial barricades or bollards to prevent vehicles and equipment from striking the vessels or tanks. This is also required of any fuel container that provides temporary heat for a structure.
i. Flammable or combustible liquids or gases shall not be stored on roofs when not in use including after work shifts.
j. Storage tanks shall be equipped with self-closing dispensing nozzles and shall be provided with atmospheric and emergency relief vents equipped with flame arresters.
k. Tanks or drums from which flammable liquids are dispensed shall be electrically grounded and shall be equipped with bonding wire to complete the grounding with the vessel into which the liquid is dispensed.
l. There shall be no smoking or open flame in flammable or combustible liquid or gas storage areas. Conspicuous and legible signs prohibiting smoking shall be posted by the Contractor.
m. The Contractor will provide portable, dry chemical fire extinguishers (minimum 20 pound ABC) for the fuel storage areas.
n. Portable fire extinguishers suitable for the potential hazard shall be provided by each Contractor for their equipment, office area, and work activities. A fire extinguisher must be in the immediate work area when any spark or open flame producing work is taking place. The Contractor shall be responsible for general area fire extinguisher placement and maintenance until the building is turned over to the Owner. In addition, the Contractor shall have on site personnel trained in the proper use of fire extinguishers.
o. Any work involving or producing spark, open flame, arc or heat requires a hot work permit**.**

p. The Contractor shall be responsible for ensuring the removal (protection when removal is not feasible) of all combustible or flammable materials in the area and shall provide appropriate fire extinguishers and fire watch as required by the work.
q. In order to summon firefighting assistance, call 303-342-4211. Immediately report all fires (even those that have been extinguished) to the DEN ROCIP Safety Team.
r. Replace or recharge temporary firefighting and fire protection equipment immediately after use. Also report to the DEN ROCIP Safety Team (within eight hours) any discharge of firefighting equipment.

10.21 Powder Actuated Tools

Powder actuated tools are prohibited unless expressly allowed by contract or DEN Security and DEN PMT grants a variance. NOTE: Typically, variances will NOT be granted when security is an issue.

Contractors/Subcontractors, of any tier, shall ensure that employees using powder actuated tools be certified by the manufacturer's representative prior to use. Certification cards must be available for immediate inspection if requested.

Contractors/Subcontractors using powder actuated tools shall ensure that all cartridges, whether used, not used or misfired, have been picked up and removed from the work area. Powder actuated tools shall not be left unattended while loaded. If found unattended and loaded, the operator shall be subject to removal from the project. All cartridges must be accounted for whether used or unused.

The use of hardhat, safety glasses, full face shield and hearing protection shall be used while operating a powder actuated tool. Signs shall be posted in areas where powder actuated tools are in use.

10.22 Traffic Control

All work shall be planned well in advance to keep traffic obstructions, public inconvenience, and lost work time to a minimum. Flaggers must be Colorado Certified in accordance with C.R.S. 43-5-308 and are required:
a. Where workers or equipment intermittently block a traffic lane
b. Where plans or permit allow the use of one lane for two directions of traffic (one person is required to direct vehicles for each direction of traffic)
c. Where DEN determines a need for the safety of airfield traffic, the public, and/or workers.
d. Where required by statute

10.23 Heat and Cold Illness Protection

To ensure that employees are properly protected during extreme weather, Contractors/Subcontractors are required to establish a Heat/Cold Illness Prevention Plan to educate and monitor employees for heat/cold-related illness. Refer to NIOSH and OSHA heat illness prevention websites. At a minimum, this plan is to contain the elements listed below:
a. Training
b. Water
c. Shade/Cooling/Warming Stations if necessary
d. Monitoring the Weather
e. Heat/Cold Procedures & Acclimatization (may include break frequency or job rotation)
f. Clothing
g. Worker monitoring

h. Emergency Response

10.24 Personal Protective Equipment

All employees and visitors to the project site must use the protective equipment prescribed by local, state, federal, and project rules and regulations. It is the intent of ROCIP to control or minimize exposures that will or could lead to illness or injury.

All personnel on the construction site must adhere to the following PPE policies.

10.24.1 Eye Protection

a. ANSI Z87.1 safety glasses with side shields shall always be worn while in the work and material laydown areas.
b. When performing any work above shoulder height, employees must wear goggles or safety glasses with face shield. Carpenters and any other trades creating or stirring fine dusts while working shall always wear goggles or foam lined safety glasses.
c. Wearers of contact lenses must also wear appropriate eye and face protection devices in a hazardous environment. It should be recognized that dusty and/or chemical environments may represent an additional hazard to contact lens wearers. Hazardous environments may include but are not limited to those in which a respirator may be required or where welding is being performed.
d. If the task requires an employee to wear goggles, basic eye protection should not be worn since a good seal cannot be obtained.
e. When Contractors' or Subcontractors' employees are exposed to flying particles, splashes, mists, etc., they must wear an approved face shield as well as basic eye protection.
f. When welding, a welding hood as well as both basic eye protection and a hard hat must be worn. This is to protect employees from hot slag when the hood is raised and from overhead work exposures.

10.24.2 Head Protection

a. All project work and material laydown areas are considered "hard hat areas".
b. Everyone, including delivery personnel, vendors and visitors must wear approved hard hats while on the project. Hard hats are not required in construction parking lots and office trailers.
c. Employee's first, last name, Contractor/Subcontractor company names are to be displayed on the front of all employee hard hats that are issued to their employees.
d. Employees must also have an official ROCIP project-specific sticker on their hardhat, indicating that they have successfully completed safety orientation and pre-project drug testing. This is confirmed by the Contractor. The project-specific sticker will be issued by the Contractor and provided by the DEN ROCIP Safety Team.

10.24.3 Hearing Protection

a. Contractors, Subcontractors, vendors, and visitors shall be required to wear hearing protection when working in or passing through high noise areas. It shall be the responsibility of the Contractor or Subcontractor to provide the hearing protection for their staff and document that training is provided. In addition, employees shall be

issued or made readily available hearing protection such as but not limited to disposable ear plugs with an NRR 30.

b. The Contractor's safety representative or designee will monitor work areas to recognize and post high noise areas.

10.24.4 Foot Protection

a. All workers must wear at least a 6" safety or steel-toe boot. Footwear must at a minimum conform to current ASTM F2413 standard.
b. Any work tasks requiring special footwear requires a PPE hazard assessment to be completed. This may include the need for additional protections such as: metatarsal impact protection (Mt), conductive properties (Cd), electrical hazard (EH), static dissipative (SD), puncture resistance (PR), or to meet another ASTM standard.
c. Metatarsal covers are required for operating jackhammers, earth compacting equipment (jumping jacks), and other similar activities.

10.24.5 Clothing and High-Visibility Garments

a. High visibility reflective vests, shirts or jackets shall be worn by all personnel working in all construction areas including material and lay down yards.
b. The high visibility reflective PPE must meet the requirements of the current ANSI/ISEA 107 standard for-Performance Class 2 or 3.
c. Nightwork requires Performance Class 3 vests and pants for all roadwork or where vehicles or heavy equipment are present on site. Gaiters are allowed on airside projects at night where heavy equipment is not present.
d. Workers who are welding, cutting, or brazing are exempt from wearing a high visibility vest while performing the task, however once completed, and moving about the project, the high visibility vest shall be worn.
e. Clothing suitable for the weather and your work shall be worn. Torn or loose clothing, cuffs, jewelry, or neckwear that may be a hazard are not allowed. Shirts shall be worn and have sleeves measured at least four inches from the shoulder seam. Pants shall be worn. Shorts are not allowed.
f. Clothing shall be maintained in a clean, neat, and repaired fashion. Clothing and personal protective equipment shall not exhibit any form of inappropriate or profane drawing, photographs, or language (foreign or English) related to sex, race, national origin, gang related, or that reflects personal opinions.
g. All employees working with electrical energy must be protected by clothing covered by NEC 70 E.
h. Shoulder length or longer hair must be tied back and put under the hard hat or worn in a hair net.

10.24.6 Hand Protection

The Contractor is required to implement a 100% glove policy for the project. During the pre-project hazard analysis or JHA development, hand protection shall be selected based upon the hazard and performance characteristics of the glove.

Exceptions to the 100% glove policy are:

a. In cases where gloves may present a greater hazard, the Contractor shall submit in writing justification for working without this protection.

b. Anytime equipment or manufacturers manual states the use of gloves presents a greater hazard.
c. Moving machinery where gloves can become entangled or caught between.

10.24.7 Respiratory Protection

Respirators should be used for protection only when engineering controls have been shown to be infeasible for the control of the hazard or during the interim period when engineering controls are being installed.

10.25 Motor Vehicles & Equipment

10.25.1 Personal Vehicles

a. Must be parked in designated areas that are free of construction activities.
b. Personal vehicles are prohibited from accessing the project. If parked on-site without authorization, they shall be removed at the vehicle owner's expense.
c. Approved routes will be limited and appropriately marked.

10.25.2 Jobsite Vehicles & Equipment

a. All equipment, vehicles, and trucks shall be inspected daily before use by each operator. All moving construction equipment (such as but not limited to forklifts, MEWPs, loaders, excavators, pavers, RTPs, etc.) shall have a daily written checklist inspection available during each work shift. Equipment that has inoperable safety devices as installed by the manufacturer or does not pass all checklist items shall not be operated on site until repaired by qualified personnel.
b. Defective equipment shall be repaired or removed from service immediately. If removed from service, a "red tag" shall be attached with an explanation of the defect and the date and name of the individual placing the equipment out of service.
c. Equipment to be repaired must be properly locked out and secured according to manufacturer requirements and to ensure stored energy cannot cause injury to personnel.
d. All heavy equipment and CDL vehicles shall be equipped with back-up alarms.
e. All Contractors' operators of construction equipment shall be properly licensed (where required), certified and classified as a competent person for that equipment. Copies of the certifications (and licenses if required) shall be maintained on project site by Contractor and made available upon request.
f. Vehicles used to transport employees shall have seats firmly secured and adequate for the number of employees to be transported. All passengers shall be properly seated with seat-belt used. Standing/kneeling on the back of moving vehicles or equipment is prohibited.
g. Drivers of motor vehicles and equipment shall have a valid state driver's license (CDL-Commercial Driver's License when applicable) and be instructed to exercise good judgment as well as observe posted speed limits.
h. Drivers must operate appropriately for existing weather conditions. This may require speeds below the posted speed limit.
i. All Contractors' means of ingress and egress shall be adequately marked and kept clear of stored material, debris and equipment.
j. Pedestrians always have right-of-way over motorized traffic.

k. Horns shall be sounded at blind corners, when passing, when backing up, and/or for warning.
l. Established hand signals or turn signals are to be used.
m. The use of cellular telephones, PDA's or other wireless devices (collectively referred to as "wireless devices") while operating motor vehicles and mobile equipment on projects site(s) is prohibited.
    - Communication devices in vehicles for constant use for safety and access control, communication with Air-Traffic Controllers and emergency response purposes are exempted from this policy.
k. Reckless driving or other non-observance of these instructions will be cause for withdrawal of driving privileges on the project.
l. Speed limits on the project site and haul roads acceptable to the DEN ROCIP Safety Team will be posted by the Contractor. Violations of the posted speed limit or traffic control devices may be cause for removal from the project site.
m. All vehicles permitted access to the site shall display the name of their company on the side, front or rear of the vehicle while on the project or airfield. The company name or identification shall be visible and legible from 50 feet. Vehicles without proper identification will be removed at the Contractor's expense.
n. Seat belts shall be worn by all employees operating motor vehicles and any equipment with rollover protection structures during performance of work.
o. Motor vehicle operation on the Air-side of the Denver International Airport must complete and pass the training and orientation required by DEN in accordance with FAA, TSA, DHS, and any other agency requirements for operations of vehicles. See Division 1 – Section 01110 and Section 10.1 for additional requirements.
p. Golf carts, Kawasaki Mule buggies, John Deere Gators, or vehicles of such type must have Roll over protection that has been designed by the manufacturer, an orange flag for visibility, a horn, back up alarm and a seat belt installed. Other than for work to be performed in baggage tunnels, Contractor must provide request to DEN demonstrating need for such additional equipment prior to mobilizing to site. Requests may be denied if deemed an unwarranted safety risk.
q. Motorcycles and bicycles are not permitted on the project site.
r. For additional requirements, see Division 1 of the Contract Documents – Section 01016.

10.26 General Rules

Good conduct is essential to the common good of all employees and the speedy progress of the job. Undesirable conduct including, but not limited to the following will not be tolerated and employees will be subject to removal from project:

a. Unauthorized possession of any project property or material
b. Possession of or use of intoxicants on premises, regardless of source
c. Engaging in disorderly conduct
d. Gambling, including sale of chances
e. Fighting on project premises
f. Failure to wear or use required safety equipment
g. Failure to observe safety, sanitary or medical rules and practices
h. Illegal possession or use of narcotics or non-prescribed tranquilizers or pep pills on premises, or attempting to bring them on job site
i. Possession or use of firearms, weapons, or explosives is expressly prohibited on the project premises

j. Willful defacing or damaging of equipment, tools, material or other property of the project or Contractors.
k. Offensive language is prohibited.

Contractor and Subcontractor employees are required to report unsafe behaviors and conditions to their supervisor. When possible, employees shall correct hazards immediately. Employees should look out for their fellow worker and advise them to work safely, assisting them if necessary. Employee suggestions for improved safety performance are encouraged.

10.27 Housekeeping

a. Materials shall be piled and stacked so that safe clearances are maintained, and toppling is prevented.
b. Spillage of fuel, oil or hazardous materials shall be reported to the 303-342-4211, the DEN Project Manager, and the DEN ROCIP Safety Team. Spills shall be cleaned up or contained immediately. The Contractor must have a Spill Cleanup Kit available on site. On-site disposal of oil or hazardous material is prohibited.
c. Trash and garbage shall be placed by the Contractors into appropriate containers. Debris is to be cleaned up daily. This project will have a "clean-as-you-go" policy. The Contractor is responsible for monitoring this policy and pursuing any Subcontractor that is not in compliance.
d. Nails protruding from lumber shall be removed or bent over immediately.
e. Trash dumpsters may be located at the site. The disposal of trash into these dumpsters is the responsibility of each Contractor. Trash removal from upper floors/work levels will require the use of trash chutes or some other safe means of trash removal. No one is permitted to throw or drop trash/debris from upper floors/levels to the dumpster or ground below.
f. Cords or hoses must be hung overhead, out of designated walkways, whenever possible. Cords or hoses on the ground must be bundled or covered to minimize trip hazards.
g. Unobstructed passageways for the movement of fire trucks, ambulances or similar emergency vehicles shall be maintained. A minimum of 15 feet (or as stipulated by the governing fire official) of clear, unobstructed access shall be maintained leading to fire hydrants and Siamese connections.
h. All loose and combustible material shall be removed from work areas at the end of the workday or as wind and weather conditions dictate.
i. Gang boxes and toolboxes shall not have materials stored on top of them.
j. Haul routes and access to the sites must also be maintained continuously and kept free of material and FOD accumulation.

10.28 Protection of the Public and Property

The Contractor and Subcontractors shall take the necessary precautions to protect the general public (individuals not contractually related to the project) from injury and prevent damage to property and shall follow the contract requirements. The precautions to be taken at a minimum are as follows:

a. Perform no work in any area occupied or in use by the public unless specifically permitted by the contract or in writing from DEN Project Manager.
b. Maintain work areas where public use may be necessary, especially involving sidewalks, entrances to buildings, lobbies, corridors, aisles, stairways, and vehicular roadways. Protect the public with appropriate guardrails, barricades, temporary fences, overhead protection, temporary partitions, shields, and adequate visibility. Such protection shall guard against harmful radioactive rays or particles, flying materials, falling, or moving materials and

equipment, hot or poisonous materials, explosives and explosive atmospheres, flammable or toxic liquids and gases, open flames, energized electric circuits, or other harmful exposures.

c. Keep sidewalks, entrances to buildings, lobbies, corridors, aisles, doors, or exits that remain in use by the public clear of obstructions to permit safe ingress and egress of the public.
d. Appropriate warning signs and instructional safety signs shall be posted where necessary. In addition, a signalman shall control the movement of motorized equipment in areas where the public might be endangered.
e. Provide sidewalk sheds, canopies, catch platforms, and appropriate fences when it is necessary to maintain public pedestrian traffic adjacent to the erection, or structural alternation of outside walls on any structure.
f. Provide temporary fences around the perimeter of above ground operations adjacent to public areas except where a sidewalk, shed, or fence is provided by the contract or as required (2) above. Perimeter fences shall be at least six (6) feet high. They may be constructed of wood or metal frame and sheathing, wire mesh or a combination of both. When the fence is adjacent to a sidewalk near a street intersection, at least the upper section of the fence shall be open wire mesh from a point not over four (4) feet above the sidewalk and extending at least twenty-five (25) feet in both directions from the corner of the fence or otherwise required by Denver International Airport.
g. Provide warning signs and lights, including electric lights during periods of severely restricted visibility, and continuously from dusk to sunrise along the guardrails, barricades, temporary sidewalks, and at every obstruction to the public as needed. They shall be placed at both ends of such protection or obstructions and not over twenty (20) feet apart alongside of such protection or obstruction.
h. Provide temporary sidewalks when a permanent sidewalk is obstructed by the operations. They shall be in accordance with the requirements of the local ordinances. Guardrails shall be provided on both sides of temporary sidewalks.
i. Provide guardrails on each side of vehicular and pedestrian bridges, ramps, runways, and platforms. Pedestrian walkways elevated above adjoining surfaces, or walkways within six (6) feet of the top of excavated slopes or vertical banks shall be protected with guardrails, except where sidewalk sheds or fences are provided. Guardrails shall be made of rigid materials capable of withstanding a force of at least two hundred (200) pounds applied in any direction at any point in their structure. Their height shall be approximately forty-two (42 + or - 3) inches. Top rails and posts may be two inches by four inches (2 x 4) dressed wood or equal materials. Posts shall not be more than eight (8) feet apart.
j. Provide barricades where sidewalk sheds fences or guardrails as referenced above are not required between work areas and pedestrian walkways, roadways, or occupied buildings. Barricades shall be secured against accidental displacement and shall be maintained in place except where temporary removal is necessary to perform the work. When a barricade is temporarily removed, a watchman shall be placed at all openings.
k. Prohibit fuel-burning types of lanterns, torches, flares, or other open flame devices.
l. Maintain all equipment, devices, and structures to not pose a hazard to the public, property or employees, and to perform their intended functions properly at all times.
m. Each point of access to the project will be controlled.

10.29 Security

The Contractor shall be responsible for maintaining the security of their jobsite, vehicles, tools, stockpiled materials, waste, and hazardous materials. **DEN is not liable for any lost, stolen, or otherwise damaged vehicles, tools, stockpiled materials, or any other Contractor-owned materials, regardless of whether equipment and materials are covered by the ROCIP program insurance. The Contractor and its subcontractors are liable for all uncovered costs related to lost,**

stolen or otherwise damaged vehicles, tools, materials, or any other Contractor-owned items or materials.

All vehicles will be subject to search upon entering and exiting the construction site and designated parking areas. Any unauthorized vehicle parked on the project site (other than in designated parking areas) may be physically removed at the expense of the vehicle owner. Loitering on the job site before or after assigned shift is prohibited.

Report unauthorized people, vehicles, suspicious behaviors, unattended packages, etc. to Denver International Airport Security at 303-342-4211.

All employees working on ROCIP projects that must get a DEN SIDA (Security Identification Display Area) badge must do so before going for their pre-employment drug test.

10.30 Smoking (includes Vaping)

The primary purpose of this policy is the establishment of a completely smoke-free environment in the workplace to protect life, health, and property. Employees and visitors are not permitted to smoke in any buildings on DEN property. Employees and visitors may smoke at designated smoking areas on site. At each construction jobsite, the Contractor will designate a smoking area. Smoking is not permitted in the immediate work area to include onsite vehicles and equipment. DEN reserves the right to designate specific smoking areas at its discretion**.**

The area will include but will not be limited to the following conditions:

a. Smoking will be permitted only at designated smoking areas, at least 100 feet from work areas.
b. Designated smoking areas must have a “Smoking” sign that indicates the designated smoking area. A cigarette butt container with sand must be available to extinguish smoking materials. Cigarette butts will not be permitted to be discarded on the ground, roadway, or work area.
c. A charged, 20# ABC fire extinguisher must be available at the designated smoking area. The fire extinguisher must be within 25 feet traveling distance in any direction of the designated smoking area.
d. Contractor and Subcontractor employees must be trained in the proper use of fire extinguishers.
e. No smoking is permitted within 100 feet of flammable liquids, approved flammable liquid containers, and flammable materials.
f. No smoking is permitted within 100 feet of storage and/or in use flammable compressed gas cylinders, or gas cylinders that support combustion.
g. No smoking is permitted within 100 feet of combustible materials or gas pump areas.

10.31 Sanitation

10.31.1 Potable water

The Contractor must adequately supply potable water on the project site. Portable containers used to dispense drinking water 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 maintained in a sanitary condition, shall be clearly marked as to the nature of its contents, and not used for any other purpose. A common drinking cup is prohibited.

10.31.2 Toilets

Toilet facilities shall be maintained in a sanitary condition. Toilets shall be provided for employees according to the following table:

Number of Employees	
20 or less	1
20 or more	1 toilet seat and 1 urinal per 40 workers
200 or more	1 toilet seat and 1 urinal per 50 workers

10.31.3 Washing Facilities

The Contractor shall provide adequate washing facilities for employees engaged in the application of paints, coating, herbicides, or insecticides, or in other operations where contaminants may be harmful to the employees. Such facilities shall be in near proximity to the worksite and shall be so equipped as to enable employees to remove such substances.

a. Hand soap or similar cleansing agents shall be provided.
b. Individual hand towels of cloth or paper, warm air blowers or clean sections of continuous cloth toweling, convenient to wash facilities, shall be provided.
c. Washing facilities shall be maintained in a sanitary condition.

A

Appendix A- Site-Specific Safety Plan

Every Contractor and Subcontractor, and their Subcontractors, must develop and implement a written site-specific safety plan (SSSP) and a copy must be maintained at each work site.

The purpose of the SSSP is to supplement the employers' corporate policies and procedures. Contractors and Subcontractors are solely responsible for the content of their own SSSPs. This program outline was written for a broad spectrum of employers and it should be modified as appropriate to provide the essential framework required for a SSSP on this Project.

Please refer to Section 6 for SSSP and safety planning requirements. Each section below must be submitted in the order presented. Understanding that some projects may have unique scopes with additional pre-planning requirements, those should be included at the end of the outlined sections included in this Appendix. If a section does not apply, mark N/A, but do not remove the heading.

To adequately complete the SSSP requires the Project Manager/Superintendent and the Contractor Safety Representative to carefully review the requirements for each of the required elements, as well as OSHA written program requirements which should be included in corporate safety manuals/procedures, and which may be reviewed by DEN.

The detailed requirements for each section of the SSSP can be found in this Appendix A. This program must be maintained by the Contractor's/Subcontractor's Project Manager and Safety Representatives.

1. **Contractor's Commitment to Safety**

   Safety Value/Mission Statements or Commitment Pledge- Project Team & Owner Specific

2. **Accountability & Responsibility of Key Project Personnel by position and name**

   Provide site safety roles and responsibilities, and 24/7 contact information of persons in the following positions:

   - Project Manager
   - Contractor Safety Representative (as accepted by DEN)
   - Additional on-site Safety personnel (where applicable)
   - Construction Manager
   - Superintendent(s) Self-Perform Work
   - Superintendent(s) Subcontracted Work
   - Field Supervisors or Forepersons
   - ROCIP Insurance Portal and Payroll Reporting Administrator
   - Claims Administrator – Worker's Compensation
   - Claims Administrator – All other claims
   - Other

3. Accountability & Responsibility of Key Corporate/District Leadership

Provide site safety roles and responsibilities and business hour contact information of persons in the following positions:

- CEO/COO/President/Owner/Manager
- Corporate/District Safety Officer
- Other

4. Identification of Competent & Qualified Persons

Include a matrix of all competent/qualified persons responsible for any scopes of work where OSHA requires one to be assigned. If necessary, utilize Excel to create and maintain the matrix.

For a full list of OSHA standards requiring competent persons visit the following link: https://www.osha.gov/competent-person/standards

Using the following key, indicate if the employee is one, or more than one, of the following as defined by OSHA (https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.32):

- C – Competent
- Q – Qualified
- A – Authorized or Designated

Sample matrix:

Employer	Employee Name	Phone (for supervisors)	General Safety	Hearing Protection	Rigging	Electrical	*Etc.*	*Etc.*	Training /Experience /Credentials
GC name	Jane Doe	333-333-3333	C	C	Q				Crosby Rigger Training and field verified; employer provided training for hearing protection
Sub name	John Doe					Q, A			Licensed Journeyman
Sub name	Josh Doe	333-333-3333				C, A			

5. Scope of Work Evaluation

Provide brief narrative of project. List all major scopes of work and phasing. List major subcontractors for each scope or indicate where self-performing work.

6. Hazard/Risk/Exposure Assessment (for item 5)

Major hazards or risks and exposures associated with the scope of work evaluation must be listed here.

Each major activity must be evaluated, and a Job Hazard Analysis (JHA) developed. See SSSP Section #18 for detailed JHA requirements.

7. Control Measures (for item 6)

For scopes of work/hazards that do not yet have detailed JHAs, provide a short description of controls, planning, and/or contractor oversight necessary to ensure tasks are performed safely. Indicate which scopes of work have fully developed JHAs and submit them as a separate submittal from the SSSP for review.

8. **Task-Specific Pre-planning Documents or Schedule of Activities/Submissions as required in Section 6.3**

   List all Task-Specific Safety Plans required as provided in Section 6.3, contractor/subcontractor responsible for development, and approximate submission dates to meet the terms of ROCIP and ensure work is performed safely and on schedule. (These submissions and high-risk activities will also be discussed by the general contractor during weekly progress meetings as outlined in Section 6.2.2.)

9. **Contractor Daily Safety Inspections**

   Include a copy of the site-specific safety audit form that the Contractor Safety Representative will conduct daily. Indicate how results will be tracked and the information utilized to inform the site-specific safety program.

   Results are required to be communicated with the DEN project team during weekly Owner progress construction meetings. See Section 8.2.

10. **Contractor Oversight and Safety Management of Subcontractors**

    Detail the project team's approach to managing safety on the project specific to subcontractor management and oversight, including how Contractor will assure all employees have received appropriate and regulatory safety training and that employees possess sufficient knowledge to perform their work safely.

11. **Night Work/Alternate Shift Plan (if applicable)**

    Detail plan for staffing and oversight of alternate shifts, including general contractor personnel and safety representative. Include planned durations and/or indicate if alternate schedules will be required continuously.

12. **Fatigue Management Plan**

    Please outline all the predicted causes for and the controls and strategies that will be used for dealing with fatigue to keep all employees on site safe.

13. **Safety Accountability and Employee Engagement Program (Reward/Discipline)**

    Detail site-specific programs that will be used by the General Contractor to promote and uphold safety on this DEN project and how the safety performance of the personnel listed in Section 2 of this plan will be measured.

14. **Training and Instruction List**

    Include a list of all trainings and instructions needed to perform the work safely and in accordance with regulatory requirements. Indicate if training will be provided by Contractor Safety Representative or outside entity. Indicate how training/instruction/knowledge of all personnel, including subcontractor personnel, will be verified by the General Contractor.

15. **Emergency Action Plan and HAZWOPER Plan**

    a. Emergency Action Plan and Crisis Management Plan

Contractor Emergency Action Plan and HAZWOPER (where required) must comport to OSHA 1926.35 and/or 1926.65. Refer to Section 6.1.1.1 for DEN Communication Requirements and provide an internal communication and responsibility plan for the site.

Contractors must provide a plan for emergency response which at a minimum must detail how site locations will be conveyed to emergency responders to ensure the least amount of delay in response time. Evacuation procedures and maps for employees must be developed and provided.

b. Severe Weather Preparation and Recovery Plan (if applicable)

Severe weather encompasses any weather-related event—tornado, severe thunderstorm, hurricane, flood, winter storm, temperature extremes—that poses a risk to life and property or impacts airport operations. The Contractor shall develop a plan that focus on ensuring employee safety and minimizing equipment/property damage. The plan shall include:

- Warning resources – how possible threats will be identified
- Roles of responsible parties
- Communications procedures
- Preparedness/mitigation activities to protect work, materials, and employees
- Response actions after an event to mitigate property losses
- Safety and logistical considerations

The Contractor will establish procedures in the event of snow, sleet, freezing rain, and/or ice accumulation to provide safe access to the site, parking areas, walking surfaces and haul roads. The plan will include priorities for snow and ice removal of the site, all sidewalks, parking lots, roadways, and designated parking areas on the project and identify responsible parties.

16. Material Laydown (on/off-site) & Hazardous Material Storage

As practicable, all material laydown areas for the project must be identified within the project limits, on DEN property, and any known off-site locations. Flammable storage locations and protections shall be indicated. For material stored on DEN property requiring spill protection, the contractor will indicate quantities and protection devices, as well as clean-up and disposal measures in the event of a spill.

If the project has access constraints, explain how materials will be received, unloaded, stored, moved, and/or disposed of.

17. Haul Route Maps

Initial haul route maps (those provided to drivers) must be included with first submittal of SSSP. These maps must be submitted as they are updated throughout the duration of the project.

18. Project Safety Forms

If the general contractor will not be utilizing the forms from the Appendix where it is optional, please include the forms the project will be utilizing. Include any safety forms, daily checklists, internal permits, training verification or onboarding forms, etc. that may be used to manage safety on this project as required by the Contractor, regulation, or this Manual.

19. List of Contractor Safety Standards that Exceed OSHA or the Contract Documents

Please list all safety standards that you have for this project that exceed OSHA, the Contract Documents, or this Manual. Provide a brief (1 to 2 sentence) description of how the standard or program exceeds these requirements and reference the document section/number for full program details (e.g., Contractor Safety Policy- Section 6, Fall Protection).

Section 20-22 are to be individual submittals, separate from the SSSP and each other.

20. Subcontractor Onboarding & Job Hazard Analyses (JHAs)

Please describe your procedures for conducting risk assessments and processes for developing JHAs, including individual employees' contributions and responsibilities.

All JHA's for the project must be reviewed by the Contractor Safety Representative. The Contractor shall provide guidance or mentorship to subcontractors as necessary to fully develop JHAs and elevate project safety performance. Once JHAs are detailed and adequately address the hazards, they will be submitted to DEN for review as outlined in Section 6.2.3.

21. New Employee Orientation (submit copy of training materials)

Submit any PowerPoint or handouts (other than ROCIP Acknowledgment form) that will be used during New Employee Orientation. Provide duration of orientation and names/positions of personnel providing training.

22. Corporate Safety Manual

General Contractors must submit their corporate safety manuals with written programs that are in compliance with OSHA or other applicable requirements, including this manual's provisions, and at a minimum contain sections addressing the following hazards where applicable and any additional written plans as required by OSHA:

a. Hazard Communication Program
b. Trenching and Shoring Plan
c. Written 100% Fall Protection Plan
d. Respiratory Protection Program
e. Hot Work Permit Procedure
f. Silica Exposure Control Program
g. Confined Space Entry Procedure
h. Lockout/Tagout Procedure
i. Hearing Conservation Program
j. Assured Equipment Grounding Program
k. Powered Industrial Truck Program
l. Substance Abuse Program
m. Heat/Cold Illness Prevention Plan

B

Appendix B- Job Hazard Analysis

Job Hazard Analysis (JHA) – Sample Form

JHA #:	**Overall Risk Assessment Code (RAC) (Use highest code)**					
Activity/Work Task:	**Risk Assessment Code (RAC) Matrix**					
	Severity	**Probability**				
Date Prepared :		**Frequent (F)**	**Likely (L)**	**Occasional (O)**	**Seldom (S)**	**Unlikely (U)**
Prepared by:	**Catastrophic (C)**	**E**	**E**	**H**	**H**	**M**
	Critical (Cr)	**E**	**H**	**H**	**M**	**L**
Reviewed by:	**Marginal (M)**	**H**	**M**	**M**	**L**	**L**
	Negligible (N)	**M**	**L**	**L**	**L**	**L**

Notes: (Field Notes, Review Comments, etc.):

References :

Step 1: Review each "Hazard" with identified safety "Controls" and determine RAC (See above).
The RAC is developed after correctly identifying all the hazards and fully implementing all controls.

P "Probability" is the likelihood to cause an incident, near miss, or accident and identified as: Frequent (F), Likely (L), Occasional (O), Seldom (S) or Unlikely (U).

S "Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic (C), Critical (Cr), Marginal (M), or Negligible (N)

Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.

RAC Chart

E = Extremely High Risk

H = High Risk

M = Moderate Risk

L = Low Risk

Job Steps	Hazards	Controls	P	S	RAC

Equipment to be Used	Training Requirements/Competent or Qualified Personnel	Inspection Requirements

Job Hazard Analysis (JHA) Example

JHA #: 001	**Overall Risk Assessment Code (RAC) (Use highest code)**					**H**
Activity/Work Task: Very Brief Example – Ensure Details are Commensurate with Hazards	**Risk Assessment Code (RAC) Matrix**					
	Severity	**Probability**				
		Frequent (F)	**Likely (L)**	**Occasional (O)**	**Seldom (S)**	**Unlikely (U)**
Date Prepared: 01/01/1111	**Catastrophic (C)**	**E**	**E**	**H**	**H**	**M**
Prepared by: John Doe	**Critical (Cr)**	**E**	**H**	**H**	**M**	**L**
Reviewed by: John Smith	**Marginal (M)**	**H**	**M**	**M**	**L**	**L**
	Negligible (N)	**M**	**L**	**L**	**L**	**L**
Notes: (Field Notes, Review Comments, etc.):	**Step 1:** Review each "Hazard" with identified safety "Controls" and determine RAC (See above). **The RAC is developed after correctly identifying all the hazards and fully implementing all controls.**					
References: SSSP, Circular Saw User Manual	**P "Probability"** is the likelihood to cause an incident, near miss, or accident and identified as: Frequent (F), Likely (L), Occasional (O), Seldom (S) or Unlikely (U).	**RAC Chart**				
	S "Severity" is the outcome/degree if an incident, near miss, or accident did occur and identified as: Catastrophic (C), Critical (Cr), Marginal (M), or Negligible (N)	**E = Extremely High Risk**				
		H = High Risk				
	Step 2: Identify the RAC (Probability/Severity) as E, H, M, or L for each "Hazard" on AHA. Annotate the overall highest RAC at the top of AHA.	**M = Moderate Risk**				
		L = Low Risk				

Job Steps	Hazards	Controls	P	S	RAC
Cutting wood forms with circular saw	Lacerations	• Use sawhorses to hold material while cutting – secure material	O	M	M
		• Inspect saw- blade sharp, guards in place	U	N	L
	Noise	• Wear N-29 hearing protection	O	N	L
	Splinters	• Wear leather work gloves			
Setting and securing forms with rebar stakes	Struck by hammer	• Clear others of area	U	M	L
	Impalement on rebar stakes	• Install impalement protection when stakes are installed	U	M	L

Equipment to be Used	Training Requirements/Competent or Qualified Personnel	Inspection Requirements
Dozer	J. Crew-Qualified Operator	Daily equipment inspection
	D. Martin – Competent Person for Excavations	Frequently Inspect excavation

C

Appendix C- Daily Pre-Task Planning

Sample Form

Daily Pre-Task Planning

Supervisor/Foreman: _____ Date: _____

Job Activity: _____

_____ _____

Signature – Supervisor/Forman Signature – Project Manager/Safety Manager

LIST TASKS	
1. _____	6. _____
2. _____	7. _____
3. _____	8. _____
4. _____	9. _____
5. _____	10. _____

REQUIRED TOOLS

Air Compressor		Electrical Drill		Port Bandsaw	
Electrical Grinder		Roto Hammer		Chipping Gun	
Generator		Sawzall		Welding Machine	
Chop Saw		Hydraulic Jacks		Skill Saw	
Cutting Torch		Impact Wrench		Other Tool:	
Ladder		Electric Cords		Other Tool:	
Powder Actuated		Welding Leathers		Other Tool:	

REQUIRED EQUIPMENT

Crane		Dump Truck		Aerial Lift:	
Motor Grader		Scraper		Suspended Personnel	
Compactor		Roller		Platforms/Manbaskets:	
Excavator		Dozer		Other:	

IDENTIFY POTENTIAL HAZARDS

Particles in Eye		Chemical Burn		Thermal Burn	
Overexertion		Elevated Load		Live Utilities (above	
Abrasion/Cuts		Struck By		/below grade)	
Falls Over 6'		Overhead Work		Dropping Material &	
Strains/Sprains		Trip/Slip/Fall		Tools to Lower Level	
Fire		Cave-in		Moving Machinery	
Loud Noises		Heat/Cold Exp.		Moving Aircraft	
Pinch Points		Electrical Shock		Other:	
Other:		Other:		Other:	

IDENTIFY HAZARD ELIMINATION

Fall Protection		Toeboards/Netting		Be in the Proper Position	
Keep Area Cleaned		Sloping/Shoring		/Situational Awareness	
Guardrails		Proper Rigging		Tools/Materials Secured	
Fire Watch/Exting		Taglines		Coordination with Other	
Make Eye Contact		Get Help		Trades	

Additional Hazard Controls: _____

REQUIRED PERSONAL PROTECTIVE EQUIPMENT

Hardhat	✓	Hearing Protection		Safety Goggles	
Safety Glasses	✓	Face Shield		Welding Leathers	
Reflective Vest	✓	Metatarsal Guards		Welding Hood	
Safety Boots	✓	Rubber Boots		Other PPE:	
Work Gloves		Rubber Gloves		Other PPE:	

Permits and Plans Issued? (Check all that Apply)

Fall Protection Plan		Crane: Critical Lift Plan		Confined Space Permit	
Energized Electrical Work Permit		Hot Work Permit		Excavation Plan	
Other:		Other:		Other:	

List each employee covered by this Pre-Task Planning Sheet: (Print name and have each employee initial to acknowledge understanding of job specific hazards/mitigations identified by this Pre-Task Planning Sheet)

Name	Initials	Name	Initials

Near Miss Report

Time of Occurrence: _____

Describe Near Miss: _____

Actions Taken to Correct/Prevent Similar Incidents: _____

D

DEN will provide form to be completed in Excel format.

Appendix D- Weekly Safety Look-Ahead and Progress Review

Contractor's Weekly Safety Look-Ahead and Progress Review Form

Enter all information in yellow below. Cells will auto-format.

Project Name: _____ Date Reviewed: _____

Prepared by: _____ Phone: _____

Complete this form and review at each weekly project meeting during Safety review or Schedule review.

Provide requested information in ALL spaces highlighted green. If you select yes, please provide dates and any additional information below

1st Tuesday of the Month - Supervisor Safety Meeting Documentation Submittal is Due.

3 WEEK HAZARDOUS TASK LOOK AHEAD				
New Tasks Requiring Pre-planning (Section 6.3)	Yes/No	Task Start Date	Date Submittal is Due	Additional Actions Required
Crane Operations			##########	
Elevated Work requiring fall protection/guardrails/dropped object			##########	Set up meeting with DEN Safety- give 72 hour notice.
LOTO (single or multi-employer?)			##########	Set up meeting with DEN Safety- give 72 hour notice.
Utility Damage Prevention - Ground or Concrete Penetration			##########	Set up meeting with DEN Safety- give 72 hour notice.
Trenching over 4 ft deep			##########	
Confined Space			##########	Notify DFD via email prior to entry. See Section 6.3.6.2.
Demolition			##########	
Hot Work (*submit DFD permits*)			##########	
Traffic Control (including haul route maps provided to drivers)			##########	
Silica/Slurry Control Plan			##########	
Other High-Risk Activities/Coordination:				

ADDITIONAL LOOK AHEAD				
Scheduled Safety Pre Planning Meetings for next 3 weeks as required per 6.3	Date/Time:		Task/Type:	
	Date/Time:		Task/Type:	
	Date/Time:		Task/Type:	
Planned Task or Hazard Specific Safety Training	Date/Time:		Task/Type:	
	Date/Time:		Task/Type:	
Weekly Toolbox Talk	Topic(s):			

SUBCONTRACTOR INFORMATION					
	Company Name		Yes/No		
Subcontractor Upcoming Mobilization		EMR over 1.25		Pre-Mob Meeting Date:	
		EMR over 1.25		Pre-Mob Meeting Date:	
		EMR over 1.25		Pre-Mob Meeting Date:	
		EMR over 1.25		Pre-Mob Meeting Date:	
		EMR over 1.25		Pre-Mob Meeting Date:	
		EMR over 1.25		Pre-Mob Meeting Date:	

ADDITIONAL INFORMATION
(i.e. additional safety reps, subcontractor pertinent information, other high hazards you would like to review, rework, etc.)

SAFETY PERFORMANCE REVIEW						
INCIDENT TYPES *(Includes all Subcontractors)*	Number of Cases/Claims			Injury, Near Miss, VPD, Vehicle/Equip. Accidents, or Utility Hit Last 2 weeks		
Be prepared to discuss incidents and corrective actions.	Last Week	Year to Date	Project to Date	Contractor	Incident Date	Report Due Date:
First Aid Incidents (without clinic visit)						01/03/00
First Aid Incidents (clinic visit)						01/03/00
Medical Treatment Only Incidents						01/03/00
Restricted Time Incidents						01/03/00
Days Away Incidents						01/03/00
Other Recordable Incidents						01/03/00
OSHA Recordable TOTAL	0	0	0			01/03/00
Near Misses						01/03/00
Utility Hit						01/03/00
General Liability						01/03/00
Builders Risk Claims						01/03/00
Landside Vehicle/Equipment Incident (collision, tipover, etc)				Builder's Risk Claims or Property Damage Last 3 Weeks		
Airside Vehicle/Equip. Incident (collision, tipover, VPD, etc.)				Contractor	Incident Date	Report Due Date:
PROJECT SAFETY ACTIVITIES	Last Week	Year to Date	Project to Date			01/14/00
Safety Orientations Completed (number of employees)						01/14/00
Corrective Actions of Significance (e.g. discipline, stop work, SSSP/JHA						01/14/00
Number of Site Safety Inspections Completed						01/14/00
Name of Supervisors/Foremen Participating in Safety Inspection last						01/14/00
STAFFING PROJECTIONS	Day Shift	Night Shift				01/14/00
Approx. Number of Employees expected to be on site (average/day)						01/14/00

GC SAFETY PROFESSIONAL INFORMATION (update as needed)				
Day Shift		Cell Phone:	Email:	
		Cell Phone:	Email:	
Night Shift		Cell Phone:	Email:	
		Cell Phone:	Email:	

PROJECT CONTACT INFORMATION (update as needed)				
GC Project Manager		Cell Phone:	Email:	
GC Superintendent		Cell Phone:	Email:	

E

Appendix E- Subcontractor Premobilization Safety Meeting

Subcontractor Premobilization Safety Meeting (Required)

Date: _____ **Project/Location:** _____

Contractor Representatives: _____

Subcontractor Representatives: _____

The following project site safety, health and security requirements, procedures, and hazards have been identified and reviewed with the Subcontractor.

	SSSP/Emergency Planning/Crisis Com		Demolition	
	Competent/Qualified Person		Personal Protective Equipment	
	Hazardous Materials/Waste		Cranes/Hoists/Annual Inspection Certificate	
	Vehicle/Heavy Equipment		Overhead Power Lines	
	Lockout/Tagout		Confined Spaces (Permit/Non-Permit)	
	Electrical		Excavations/Trenching	
	Fire Protection		Site Security/Visitor Control/Public Exposure	
	Hot Work/Welding/Cutting		Risk Mitigation Two Wk Look Ahead, Daily PreTask Planning Sheet, Job Hazard Analysis	
	Fall Protection/Guardrails/ Scaffolding/Ladders		Permits (Excavation/Scaffolding/Demolition /Traffic/Confined Space/etc.)	

Additional Project Concerns:

_____

_____

_____

_____

Other Attendees:

Name	Title	Company

F

Appendix F- Critical Lift Plan (Cranes)

Crane Make/Model/Serial #: _____ Anticipated Lift Date: _____
Lift Location: _____
Load Description: _____

Required Attachments:
- ☐ Copy of load chart for applicable crane configuration
- ☐ Diagram of crane lift & load placement
- ☐ Rigging certifications
- ☐ Diagram of rigging configuration with load calculation
- ☐ Copy of crane's annual inspection

A. Load

1. Wt. of load _____lbs
2. Wt. of auxiliary block _____lbs
3. Wt. of main block _____lbs
4. Wt. of lifting beam _____lbs
5. Wt. of slings/shackles/other rigging _____ lbs
6. Wt. of jib (erected/stowed/stored) _____lbs
7. Wt. of hoist rope (#parts X L X unit wt.) _____ __lbs
8. Wt. of excess load material _____lbs
9. Other _____lbs

GROSS WEIGHT _____lbs

Source of load Wt. information (drawings, calcs, etc.)

_____

Load Wt. confirmed by: _____

B. Crane

1. Type of crane _____
2. Counterweight _____ _____ lbs
3. Boom length ____ ft / boom configuration _____
4. Radius at pick-up _____ft/set-down_____ ft
5. Crane capacity at radius: over rear _____ lbs over side _____lbs / over front _____ lbs
6. Boom angle at pickup ____ ft / set down _____ _ft
7. Max. rated capacity of crane at this boom length, radius and boom angle for this lift _____lbs
8. Max. load on crane for this lift is _____ _lbs
9. Lift is _____% of the crane's rated capacity

C. Jib/Fly

1. Erected _____ Stowed _____ Stored _____
2. If jib/fly to be used: length _____ _ angle _____
3. Rated capacity of jib/fly from chart _____ lbs

D. Hoist Rope

1. Rope diameter _____ Number of parts _____
2. Lift capacity based on parts _____lbs

E. Rigging

1. Sling configuration (chocker, basket, straight)
2. Sling material _____
3. No. of slings _____size_____ length _____
4. Sling assembly rated capacity _____lbs
5. Shackle size _____ No. of shackles _____
6. Shackle rated capacity _____lbs
7. Shackle secured to load by _____
8. Spreader beam capacity _____ lbs

F. Crane Placement

1. Any deviation from smooth, solid foundation? _____
   - A. Distance to nearest overhead power line? _____
   - B. Buildings, equipment, plant, or services to lift or swing over? _____
   - C. Crane travel during lift? _____
   - D. Swing direction? _____
   - E. Will crane be set up away from excavations? _____ (horizontal clearance shall be greater than hole depth)

G. Considerations

1. Multiple crane lifts require a separate plan for each crane.
2. Any changes in crane configuration, placement, rigging, lifting scheme, or calculations require that a new lift plan be developed
3. Number of taglines required to stabilize load _____
4. If other personnel or equipment, other than lift team and their equipment, are in close proximity to lift. Barricade and evacuate the lift area.
5. Check crane's operator manual for maximum wind speed a lift may be executed _____ mph.
6. Surface area of load should be considered for impact due to wind.
7. Method of communication between signal person and operator ☐ Radio ☐ Hand Signals

Crane Operator: I have been briefed of the contents of this lift plan and accept the duty of ensuring the lift is carried out to the agreed procedure, to the limits of my responsibilities.

_____	_____	_____
Name	Signature	Date

Lifting Supervisor: I have been briefed of the contents of this lift plan and accept the duty of ensuring the lift is carried out to the agreed procedure.

Name	Signature	Date
_____	_____	_____

G

Appendix G- Sample Shared Space Agreement (Crane)

Shared Airspace Agreement

(Date)

GENERAL TERMS, DEFINITIONS AND BACKGROUND INFORMATION

1. This **Shared Airspace Agreement** is between (Named Contractor) and (Named Contractor).
2. (Contractor) is operating a (crane model, type) crane at (Specific Location and Project Name) near the intersection of (street, intersection, city and state).
3. (Contractor) is operating a (crane model, type) crane at (Specific Location and Project Name) located near the intersection of (street, intersection, city and state).
4. The (Contractor's) (crane model, type) crane and the (Contractor's) (crane model, type) share a common or overlapping airspace with the potential for the two crane booms and/or associated rigging to collide.
5. The (Contractor) tower crane is positioned on an engineered foundation. The radius, swing or operational area of the tower crane cannot be adjusted or changed. The (Contractor's) crawler crane is mobile. The location of the (Contractor's) crawler crane can be altered, thereby changing the radius, swing or operation area of the crawler crane. Relocation of the (Contractor's) crawler crane may change or alter the size or location of the overlapping airspace of the two cranes.
6. Under normal operating conditions, assuming no shared, common or overlapping airspace, the (Contractor's) tower crane would weathervane (swing freely) during non-operating hours. The risk associated with the ability of the (Contractor's) tower crane to weathervane when not in operation is unacceptable whenever (Contractor) plans to work and (Contractor) is not operating or manning their tower crane.
7. Both the (Contractor) (crane model, type) crane and the (Contractor) (crane model, type) crane have established safe operating air speed limits for operation. The maximum air speed for safe operation of the (Contractor's) (crane model, type) crane is **(XX) miles per hour**. The maximum air speed for safe operation of the (Contractor's) (crane model, type) crane is **(XX) miles per hour**.
8. The (Contractor's) tower crane can be guyed off or tied down safely without placing any additional loads on the tower crane foundation at all air speeds below **(XX) miles per hour.** Guying off the tower crane when not in operation and ensuring that the boom is anchored outside the common or shared airspace would allow (Contractor) to operate their crane without (Contractor) manning their tower crane.
9. All cranes in the State of (Name) are regulated by OSHA. Both (Contractor) and (Contractor) will operate their respective cranes within OSHA regulations at all times.
10. The (Contractor) crawler crane was in operation before the installation of the (Contractor) tower crane. (Contractor) requested and received prior approval from OSHA before installing the tower crane. The OSHA prior approval was conditioned upon both crane operators having instant, continuous, dedicated mobile communication at all times. OSHA was aware of the existence of the (Contractor) (crane model, type) crane and the shared airspace problem before giving approval to (Contractor) to install the (crane model, type).
11. After installation of the (Contractor) tower crane OSHA requested that both (Contractor) and (Contractor) sign a written agreement to ensure that both cranes would operate in the shared or common airspace safely. This original agreement was the (Contractor) letter to OSHA signed by both (Contractor) and (Contractor) and dated (Day-Month-Year).

SPECIFIC TERMS TO INCLUDE OPERATING PROCEDURES

1. (Contractor) and (Contractor) both agree that the (Contractor) letter to (Name) of OSHA dated (Day-Month-Year) is hereby null and void. This original agreement did not include a procedure for dealing with the excessive amount of overtime crane operations by (Contractor). The original agreement did not discuss the conditions under which the tower crane would weathervane. The operating procedures defined in the (Contractor) letter to OSHA dated (Day-Month-Year) are hereby replaced by the operating procedures in this Shared Airspace Agreement. This Shared Airspace Agreement has been reviewed and approved by OSHA.
2. When both cranes are in operation at the same, time both crane operators will have instant, continuous, dedicated mobile communication. Before either crane approaches the shared or common airspace the other crane operator must provide clearance. If any doubt or confusion exists, the crane operator will not enter or even approach the shared airspace. (Contractor) and (Contractor) agree to allow both operators to communicate, share information and work together to ensure safe crane operations for both companies.
3. (Contractor) and/or (Contractor) will not, under any circumstances, operate their crane when the air speed exceeds the safe operating air speed for that crane. (Reference Line Item # 7)
4. (Contractor) will place the boom of their tower crane outside the shared or common airspace at the end of every work shift. (Contractor) will guy off or secure the boom in this safe location allowing (Contractor) to operate within the shared airspace without (Contractor) manning their tower crane. <u>(Contractor) must release the guying cables and allow the tower crane to weathervane (swing freely) when air speeds exceed (XX) miles per hour.</u>
5. (Contractor) will place the boom of their crane well beyond or outside the shared airspace at the end of every work shift. Although the Sumitomo SC 1500 crawler crane does not weathervane, (Contractor) is responsible for ensuring that their crane boom remains outside the shared airspace whenever their crane is not manned or in operation.
6. (Contractor) will install and monitor an air speed indicator on their tower crane. (Contractor) will confirm the weather report before leaving the jobsite after each work shift. (Contractor) will provide air speed and/or weather forecast information to (Contractor) upon request. The intent is to communicate weather information that may predict air speeds and/or weather conditions that are unsafe for continued crane operations. (Contractor) cannot operate their crane under extreme weather conditions. (Contractor) cannot guy off or secure their tower crane under extreme weather conditions.
7. Before the end of every (Contractor) work shift the (Contractor) superintendent will review the current air speed and weather forecasts. If these weather reports and/or air speed monitor(s) indicate or forecast that weather conditions may deteriorate and cause air speeds in excess of (XX) miles per hour (the maximum safe operating air speed for the {Contractor} mobile crane) Contractors will discuss their intention to continue crane operations under these severe weather conditions.
8. (Contractor) or (Contractor) may decide to start operating their crane when the other company is not manning their crane. This may happen during overtime conditions to include weekday nights, weekends or holidays. If either (Contractor) or (Contractor) commences crane operations when the other crane is not manned, they must confirm that the other crane is safely outside the shared or common airspace. <u>DO NOT ASSUME THAT THE OTHER CRANE IS GUYED OFF, SECURED OR OUTSIDE THE SHARED AIRSPACE AREA BEFORE STARTING CRANE OPERATIONS.</u> A simple visual inspection will confirm that the (Contractor) tower crane is safely guyed off and secured. The guying cables are clearly visible and (Contractor) can easily confirm that the guyed off and secured tower crane will remain outside the shared or common airspace. Confirmation that the (Contractor) tower crane is safely guyed off before commencing an overtime (Contractor) shift is important given that the (Contractor) tower crane has the potential to weathervane into the shared or common airspace. Confirmation that the (Contractor) tower crane is safely guyed off and secured is critical after a major storm has passed through the area. A major storm may have forced (Contractor) to release the guyed cables and allow the tower crane to weathervane. (Contractor) will also ensure that the (Contractor) crane is safely outside the shared airspace area before commencing crane operations.

9. Under normal weather conditions (Contractor) agrees to take all actions necessary to ensure that their tower crane is safely guyed off and secured; and out of the shared or common airspace when their tower crane is not manned. (Contractor) must release the guying cables and allow the tower crane to weathervane when air speeds approach **(XX) miles per hour**.
10. Both (Contractor) and (Contractor) agree to provide the other party to this Shared Airspace Agreement with advance written notification of any change to crane configuration, size, location or operation that may possibly impact the size or location of the shared airspace zone.
11. Both parties to this Shared Airspace Agreement reserve the right to contact OSHA if the other party violates the letter or intent of this Shared Airspace Agreement. OSHA has the authority to shut down one or both cranes. Both parties agree to work together to ensure a safe operating environment for both cranes. A copy of this fully executed Shared Airspace Agreement will be provided to OSHA.
12. This Shared Airspace Agreement will remain in effect until either (Contractor) or (Contractor) permanently remove their crane(s) from their jobsite thereby eliminating any shared airspace problem.
13. This Shared Airspace Agreement can only be modified in writing. Any changes must be agreed to, signed by both parties to this agreement.

ACCEPTED AND AGREED:

(Contractor) Joint Venture	Date
(Contractor)	Date

H

Appendix H- Suspended Personnel Platform Checklist

Date	Competent Person:	
Crane Make:	Model:	Serial Number:
Equipment Number:	Hours:	Crane Capacity:
Crane Type:	Hydraulic	Conventional

(1.) CRANE REQUIREMENTS

Contractors and/or users must ensure that all items in this checklist are satisfied, including compliance with all safety requirements prior to making a lift. All precautions and instructions on the decals attached to the crane and the platform must be strictly adhered to.

Circle Items "Yes" to verify compliance:

No	Yes	Use of a manbasket is the safest and most practical way to accomplish the task.
No	Yes	All crane inspections are current per ANSI B30.5 requirements.
No	Yes	All hooks have a current inspection per ANSI B30.10 and have positive locking type hook latches.
No	Yes	The correct load chart is with the crane and the operator is thoroughly familiar with all special notes and manufacturer recommendations given on the chart.
No	Yes	All operational aids and safety devices in the crane are functioning and the operator is fully versed in their operation.
No	Yes	The load lines have a 7:1 safety factor (10:1 when using non-spin rope). NOTE: This is achieved by a 50 percent de-rating of the crane load chart.
No	Yes	The crane is on firm footing and the crane outriggers are all the way out, down, and locked as applicable.
No	Yes	The crane is level within 1 percent, (1 foot in 100 feet) and is on firm surface. NOTE: Stability of the footing will be verified during the full cycle of the operation test.
No	Yes	Means have been provided to enable the operator to ensure that the crane is level.
No	Yes	A firm, level surface has been prepared and designated as a "runway" or path of travel for the weight and configuration of the crane begin used.
No	Yes	The crane counterweights are per manufacturer specification.
No	Yes	All load lines are properly revved and laying properly on the drums.
No	Yes	All drum hoists have full control load lowering. NOTE: Free fall is not to be used.
No	Yes	The boom is fully powered up and down, live boom is not to be used.
No	Yes	The boom angle and radius indicator works. NOTE: Measure radius with tape measure on conventional cranes.
No	Yes	The boom length indicator on telescoping booms is fully functional.
No	Yes	The positive anti two-block device is functioning properly. NOTE: A warning system alone does not suffice.

(2.) RIGGING REQUIREMENTS

No	Yes	Each bridle leg is connected to the master link, or shackle in a way that ensures the load is evenly distributed between all the bridle legs.
No	Yes	All rigging, wire rope, shackles, rings, master links, and other rigging hardware, have a minimum safety factor of 5:1. NOTE: When non-spin cable is used, a minimum safety factor of 10:1 is required.
No	Yes	All wire rope eye fittings are provided with thimbles.
No	Yes	All load hooks are closed with locking type latches.
No	Yes	All rigging equipment for the manbasket is exclusively for that use only.
No	Yes	All rigging has been inspected for kinks or damage of any kind.
No	Yes	Shackle pins are of the nut-with-pin-retainer-type.

(3.) MANBASKET REQUIREMENTS		
No	Yes	The basket has been designed with a 5:1 safety factor by a qualified engineer and welded by a qualified welder.
No	Yes	The suspension rigging system has been designed in such a way as to minimize tipping of the manbasket.
No	Yes	The maximum rated load and maximum capacity is posted on a permanently affixed plate on the manbasket.
No	Yes	The guardrail designed to enclose the platform is provided and is enclosed from the toeboard to the mid-rail.
No	Yes	Body harness anchorage provided.
No	Yes	The access gate has been designed to open in and is positively prevented from swinging outward while the manbasket is in use.
No	Yes	The access gate must have a positive locking system to prevent accidental opening during operation.
No	Yes	The design allows enough headroom for employees to stand upright.
No	Yes	There are no rough edges on any manbasket surface.
No	Yes	In addition to hard hats, overhead protection is provided when employees are exposed to falling objects.
No	Yes	A trial-lift meeting has been attended by the crane or derrick operator, signal person(s) (if necessary for the lift), employee(s) to be lifted, and the employee responsible for the task to be performed
No	Yes	Precautions have been taken to protect employees from any special hazards in the area where the crane and manbasket will be operating; for example, power lines or areas where the manbasket will be out of the operator's view.
No	Yes	Special precautions have been taken to protect personnel from electrical hazards. When the crane with a manbasket is working near electrical lines or devices, the minimum working clearances shall be at least twice those for material handling operations.
No	Yes	A manbasket use authorization has been issued dated and properly signed for the task at hand.
No	Yes	The manbasket and rigging has been proof-tested to 125 percent of the platform rated capacity.
No	Yes	An unoccupied trial lift loaded to at least the anticipated lift weight has been performed and hoisted to each location where work is to be performed, or to any point where employees are expected to enter or exit the platform. NOTE: The trial lift must be performed each time the crane is moved.
No	Yes	A post trial-lift inspection of the crane has been carried out by a designated employee.
No	Yes	The loading is less than 50 percent of the crane-rating chart for all work locations.
No	Yes	The operator has determined that all systems, controls, and safety devices are activated and functioning properly and that no interferences exist.
No	Yes	The manbasket has been hoisted a few inches and has been re-inspected after the trial lift for any deficiencies.
No	Yes	Prior to hoisting personnel, the manbasket has been hoisted a few inches to verify its hang level.
No	Yes	All hoist ropes are free of kinks.
No	Yes	Multipart lines are not twisted around each other.
No	Yes	The hook is centered over the load.
No	Yes	The hoist lines are laying properly on hoist drums and in the sheaves.
No	Yes	All post trial lift defects have been corrected.
No	Yes	The crane-bearing surface has been rechecked and crane re-leveled as required.
No	Yes	Have the crane safety components, dogs, pawls, brakes, etc., have been re-inspected after the trial lift.
No	Yes	Travel with the crane is not permitted except where all requirements are satisfied and where not to do so would endanger life
No	Yes	The operator has been advised that the load and boom hoist drum brakes, swing brakes, and locking devices such as pawls or dogs must be engaged when the occupied personnel platform is in a stationary working position.
No	Yes	The operator has been advised that the platform must be hoisted in a slow, controlled, cautious manner with no sudden movement of the crane, derrick or platform.
No	Yes	The operator has been advised that the platform must be hoisted in a slow, controlled, cautious manner with no sudden movement of the crane, derrick or platform.
No	Yes	Employees have been advised to perform tasks specified in the manbasket authorized only. NOTE: Only the number of employees needed for the task at hand is allowed to be hoisted.
No	Yes	All employees have been advised to keep all body parts inside the platform during raising. NOTE: This provision does not apply to an occupant of the platform performing the duties of a signal person.
No	Yes	All employees have been advised that they are not allowed to enter or exit the platform when it is secured to the structure where the work is to be performed unless securing to the structure creates an unsafe situation.
No	Yes	All employees have been advised that they are not allowed to exit the platform before landing.
No	Yes	All employees have been advised that taglines must be used unless their use would create an unsafe condition.
No	Yes	The operator has been advised to remain at the controls at all times while the crane engine is running and the platform is occupied.
No	Yes	All employees have been advised that platform use must be promptly discontinued if there is any indication of dangerous weather conditions or other impending danger.
No	Yes	The operator is in constant contact by standard hand signals or voice communications during operation of crane and manbasket.
No	Yes	All employees have been advised to remain in continuous sight of or in direct communication with the operator or signal person.
No	Yes	All employees have been advised that the use of a radio is permissible when direct visual contact is not possible, or where the use of a signal person could create a greater hazard.

No	Yes	All employees occupying the platform have been advised to wear a body belt or harness system, with the lanyard appropriately attached to the lower load block, overhaul ball, or structural member within the personnel platform capable of supporting the fall impact for employees using the anchorage.
No	Yes	All employees have been advised to wear a life vest when working over water.
No	Yes	Employees have been advised to secure materials and tools to prevent displacement during the lift.
No	Yes	All employees have been advised to load the manbasket evenly and to only carry tools and materials needed for the task at hand.
No	Yes	The operator, and all employees that will be using the platform, have been advised that no other object may be lifted on any of the crane load lines while the platform is suspended.
No	Yes	An audible and visual device has been provided to the personnel in the platform so that they can signal for assistance in the event of an emergency.
No	Yes	Personnel have been advised to stand firmly on the floor of the platform and to not sit or climb on the edge of the platform or use planks, ladders, or other devices for attaining a work position.
No	Yes	If welding is to be performed by employees occupying the platform, the electrode must be protected from touching the metal components of the platform.
No	Yes	Any needed repairs to the crane or manbasket used only original manufacturer parts to ensure that the new components are compatible with their original counterparts.
No	Yes	Care taken to prevent ropes, electrical chords, and hoses from becoming entangled in the platform when the platform is being moved.
No	Yes	Operator aids or interlocks have not been altered, modified, or disabled in any way.
No	Yes	The crane operator responsible for operating the cranes used for personnel handling is a thoroughly trained operator and has related experience operating the subject crane.
No	Yes	All manuals, operating instructions, and load charts provided have been read and understood by the operating personnel prior to starting the operation.
No	Yes	The operator has ensured that the area surrounding the platform is clear of personnel and equipment before moving the platform.
No	Yes	Prior to the trial lift at each new location, a pre-lift meeting has been held, and is also held for any new employee assigned to the manbasket.
No	Yes	All deficiencies discovered in post trial-lift inspection have been corrected.
No	Yes	All employees attending the pre-lift meeting signed the roster for the meeting.
No	Yes	The trial-lift calculation sheet has been completed, signed and dated.

(4.) PERSONNEL PLATFORM WEIGHT CALCULATION SHEET

- Platform Rated Capacity _____
- 125 Percent Proof Test _____

  ***(NOTE:** Suspended load for 5 minutes)*
- Number of Occupants x 250 lb. each _____
- Tools plus materials in platform _____
- Misc. weight not otherwise listed _____
- Tare Weight of Platform Plus Rigging _____
- Total Occupied Weight of Platform _____
- Hoist Line Cable Weight: _____
- Headache Ball Weight _____
- Load Block Weight _____
- Rooster Sheave Weight _____

- Effective JIB Weight: _____
- (If Hoisting on Main Loadline) _____
- JIB Weight Stowed _____
- Misc. Weight Not Otherwise Listed _____
- Total Load Chart Deductions _____
- Total Weight, “W” (Total Load Chart Deductions Plus) _____
- Total Occupied Weight of Platform _____
- Capacity of Crane at Minimum Radius _____
- Capacity of Crane at Platform Work Radius _____
- 50 Percent of Crane Capacity at Minimum Radius _____
- 50 Percent of Crane Capacity at Platform Working Radius _____
- Total Load, “W” Divided by 50 Percent Crane Rating=Percent of De-rated Capacity Used

Crane Operator Signature_____	**Rigger Signature:** _____	**Lift Supervisor Signature:** _____

Appendix I- Visitor's Waiver and Release

PLEASE READ CAREFULLY - THIS IS A LEGAL DOCUMENT THAT AFFECTS YOUR LEGAL RIGHTS

WAIVER and RELEASE

I, the undersigned, understand that the City and County of Denver acting on behalf of its Department of Aviation (the "City") and/or the relevant contractor have/has permitted me the limited and unexclusive right to enter and participate in a guided tour of the project (the "Tour"), part of which may be an active construction site located in the Denver International Airport ("Project Site"). In exchange for the City granting me permission to participate in the Tour, I agree to the following assumption of risk and waiver and release of all liability and claims and shall also comply with the safety requirements and other terms and conditions outlined herein (the "Waiver and Release").

1. **Assumption of Risk.** I am aware and accept that the Tour, in addition to the usual risks inherent at a public airport, has certain additional hazards and risks of an active construction site. I understand that hazardous conditions and risk of injury exist in all construction sites**. I understand and accept that entering the Project Site has inherent dangers and may cause death, serious injury, and/or damage to my person and/or property, and I FULLY ASSUME ALL OF THE RISKS ASSOCIATED WITH PARTICIPATING IN THE TOUR AND/OR ENTERING THE PROJECT SITE, including but not limited to**: any dangerous condition that may be present at DEN and/or the Project Site, any failure to practice reasonable safety measures and/or precautions, inadequate safety equipment, negligence in design, maintenance supervision, instruction or warning, and other known or unknown conditions which may cause or contribute to death, injury, and/or damages to my person or property. I agree that if I suffer injury or illness, Staff can, at my cost, arrange any medical treatment and emergency service as is deemed necessary for my health and safety.

2. **Waiver of Liability and Release of Claims. I, on behalf of myself and my heirs, executors, administrators, legal representatives, assignees, and successors in interest, WAIVE, RELEASE, HOLD HARMLESS, FOREVER DISCHARGE AND AGREE THAT I WILL NOT SUE OR MAKE ANY CLAIM OR OTHERWISE BRING ACTION AGAINST THE CITY, its elected and appointed officials, representatives, agents, employees, officers, tour guides ("Staff"), as well as all project contractors, subcontractors, and their respective officers, directors, agents, and employees (collectively, the "Released Parties") for any liability, loss, theft, injury or damage to my person or property resulting directly or indirectly from participating in the tour or entering the project site due to any cause whatsoever, including but not limited to any dangerous condition, negligence, actions, or inactions of the City and/or other Released Parties.** I understand and agree that the City, Staff, and other Release Parties assume no liability for any loss, theft, damage, or injury to property or persons whether arising in contract, negligence, equity, or otherwise. I further agree that if I violate this agreement and attempt to bring suit against any Released Party named herein, that I will be held responsible for attorney's fees and any costs incurred by such party in defending such action.

3. **Safety Requirements.** I agree at all times during the Tour, to take personal responsibility for my own safety and abide by all safety requirements in this Waiver and Release and all additional instructions given by Staff ("Safety Requirements"), including but not limited to the following safety precautions:

a. Hard-hats, safety glasses and high visibility vests must be worn by all visitors at all times.
b. Although work boots are not required, all visitors shall wear low-heeled leather shoes. High heels of any kind or open-toed sandals are not permitted.
c. All visitors are to be escorted at all times by a badged employee while on the Project Site.
d. Display visitor's badge on the outer garment at all time
e. BE ALERT for changing conditions and ongoing construction activities while walking on the Project Site. LOOK and LISTEN before you move from one position to another.
f. Be aware of uneven walking surfaces and extreme care shall be taken with each step.
g. No firearms, drugs or alcoholic beverages are permitted on the site.
h. All warning signs and barricades must be obeyed.

i. Do not stray from the approved path for ingress and egress.
j. Do not enter areas with inadequate lighting.
k. Be aware of and stay clear of any overhead hazards.
l. Smoking is only permitted in designated areas.
m. Do not touch construction materials of any kind without written authorization from DEN.
n. Do not lean on or reach beyond any handrails or barricades.
o. Report any hazards prior to leaving the site.
p. No written correspondence regarding any hazards observed on the site shall be written or forwarded after leaving the site unless previously agreed upon at the site.
q. Call 303-342-4211 in the event of an emergency.

4. **Compliance with Laws.** I agree to comply with all relevant laws, rules, and regulations while on airport property.

5. **Photo License.** I agree to grant to the City and County of Denver a worldwide, royalty-free license to use my photographic, video, or digital likeness solely for promotional, educational, and/or commercial purposes.

6. **Noncompliance.** I accept that non-compliance with the Safety Requirements may result in bodily injury, death, or permanent disability. I understand that non-compliance with this Waiver and Release may result in my removal from the Tour. I agree that the City may revoke the permission to participate in the Tour at any time.

7. **No Unsanctioned Photography.** I acknowledge the confidential nature of the Owner construction procedures and processes and agree not to photograph, reproduce, or divulge the same without the written consent of the City.

8. **Modification.** I understand that this waiver and release of liability agreement may not be modified orally. Any modification must be in writing and signed by all parties or their duly authorized representatives.

9. **Severability.** I understand that this waiver and release of liability agreement is intended to read as broad and inclusive as is permitted by the law of the State of Colorado, and that if any portion hereof is held invalid, it is agreed that the remaining terms of this agreement shall continue in full legal force and effect.

10. **Governmental Immunity.** Nothing in this agreement shall be construed to waive, limit, or otherwise modify any governmental immunity that may be available to the City and its officers, officials, appointees, employees, agents, and representatives under the Colorado Governmental Immunity Act, Colorado Revised Statutes §24-10-101. *et seq.*

By signing below, **I affirm that I have read this Waiver and Release in its entirety and I understand, consent, and agree to its contents and sign it voluntarily**.

Name of Touring Group

Print Name of Participant	Signature of Participant	Date

If above Participant is under 18 years of age:

Print Name of Parent/Guardian	Signature of Parent/Guardian	Date

J

Appendix J- Safety Orientation Training Acknowledgement

PROJECT: **PERSON CONDUCTING ORIENTATION:**

Name of Employee: (Print Name)	**Date:**
Company:	**Badge #:**

The following topics are to be reviewed with all employees during their initial site orientation.

Topics:

1. Information to acquaint the employee with special safety requirements of the work site, security, and traffic regulations.
2. Employer and employee rights and responsibilities for Safety
3. Description of the nature of the project
4. Drug free workplace and substance abuse testing
5. Accident reporting procedures, Medical Provider List, Emergency Response (303-342-4211 for 911)
6. How to report unsafe acts or conditions
7. Site Safety Accountability Program
8. Personal protection equipment requirements
9. Hazards prevalent for the work being performed (fall protection, trenching, ladder usage, scaffold safety, etc.)
10. Hazard Communication Program
11. Emergency Evacuation Procedures
12. Good housekeeping practices
13. Job Hazard Analysis (JHA) & Pre-Task Planning
14. Proper decorum, public interaction, and media protocols
15. Return to work programs, incident (to include near misses) reporting procedures, workers compensation requirements, and medical provider list
16. Other _____

Employee Comments:

Contractor confirmed Negative pre-employment drug screen? **Safety Rep Initial for yes _____**
General Contractor must keep Orientation Acknowledgement and pre-employment drug screen results on file for duration or project.

By signing this site orientation form, I hereby acknowledge that the basic site safety controls outlined above have been thoroughly reviewed with me and that I agree to obey by the contents of the site safety requirements.

_____ _____

Employee Signature Date

Note: Any employee questions regarding the Safety Requirements shall be directed to the Contractor's Project Safety Representative.

K

Appendix K- Near Miss Report Form

Sample Near Miss Report Form does not replace the required Contractor Safety Representative narrative

Near Miss Reporting is the process of identifying and preventing an unsafe act or condition before it causes an injury, illness or damage to property and equipment. This form is used to formally document the recognition of a hazard, the change that is made to prevent a reoccurrence of the hazard and to share the lessons learned with the Contractors on the DEN ROCIP. *All Information is required.*

Contractor/Subcontractor Name: _____

Fact Finding: Please explain the following. (To be completed by employee)

Who was involved in the near miss (employee names optional): _____

Describe what happened:

_____

_____

_____

_____

Where did the near miss occur: _____

When did the near miss occur: _____

How did the near miss occur:

_____

_____

_____

Preventative Measures Taken. (To be completed by Contractor's Safety Representative)

What acts or conditions led directly to the near miss incidents?

_____

_____

_____

What steps have/will be taken to prevent a similar incident?

_____

_____

_____

Who is responsible for taking these actions and following up to ensure that they are completed?

_____

Expected completion date: _____ Actual completion date: _____

L

Appendix L- Sample Weekly Toolbox Attendance Roster

Weekly Safety Toolbox Attendance Roster

Topics Discussed: _____

(Attach pertinent information discussed)

Date of Meeting: _____Discussion Leader: _____

Print Name	Signature	Company

Example Investigation Forms do not replace the required Contractor Safety Representative narrative report.

Appendix M- Investigation Forms

Example: Employee Injury Investigation Form

1. Injured Employee's Name	**2.** Contractors Name	**3.** Date/Time of Injury	**4.** Supervisors/Foreman Name	**5.** Specific Location of Injury

6. Employee's Occupation	**7.** Employee's Job Task at time of Injury	**8.** Length of Service on Project	**9.** Length of Service with Employer

10. Description of what happened

11. Part of Body Injured or Affected	**12.** Nature of Injury

13. Severity	☐ First Aid	☐ Medical treatment beyond first aid	☐ Lost workdays	☐ Fatality	☐ Other: Specify

14. Contributing Causes to Injury

15. Root Cause of Injury

16. Probable Recurrence	☐ Frequent	☐ Occasional	☐ Rare	**17.** Loss Severity Potential	☐ Major	☐ Serious	☐ Minor

18. Preventive Measures

19. Injured employee's description of what happened (attach sheet for additional comments)

20. Witness names and description of incident (attach sheet for additional comments)

21. Supervisors description of incident (attach sheet for additional comments)

22. Specific corrective actions or preventative measures taken

Corrective action taken	Person responsible	Target completion date	Date completed

23. Attached supporting documentation (required)

☐ Photos	☐ Diagram of work area	☐ Applicable training documentation for parties involved	☐ Contractor's investigation report	☐ Witness statements
☐ JHA (if applicable)		☐ Daily Pre-Task Planning Sheet	☐ Corrective action supporting documentation	

_____ Supervisor's Signature

_____ Safety Representative's Signature

_____ Project Manager's Signature

Example: Builders' Risk/General Liability Investigation Form

1. Names of parties involved		**2.** Contractors Name		**3.** Date/Time of Injury		**4.** Supervisors/Foreman Name	
5. Description of incident							
6. Description of damages							
7. Contributing causes to incident							
8. Root cause of incident							
9. Probable Recurrence	☐ Frequent	☐ Occasional	☐ Rare	**10.** Loss Severity Potential	☐ Major	☐ Serious	☐ Minor
11. Preventive Measures							

12. Employee's description of what happened (attach sheet for additional comments)
13. Witness names and description of incident (attach sheet for additional comments)
14. Supervisors description of incident (attach sheet for additional comments)

15. Specific corrective actions or preventative measures taken

Corrective action taken	Person responsible	Target completion date	Date completed

16. Attached supporting documentation (required)

☐ Photos	☐ Diagram of work area	☐ Applicable training documentation for parties involved	☐ Contractor's investigation report	☐ Witness statements
☐ JHA (if applicable)		☐ Daily Pre-Task Planning Sheet	☐ Corrective action supporting documentation	

_____ _____

Supervisor's Signature Safety Representative's Signature

_____

Project Manager's Signature

N

Appendix N- Sample Hot Work Permit

Authorization: The information on this permit has been evaluated, the site has been examined, and all safety measures are in place.

Name: _____ Signature: _____

(Qualified Person Authorizing Hot Work Permit)

Date: _____ Location: _____

Description of hot work: _____

Authorized workers: _____ _____

_____ _____

Is a fire watch required?

☐ Yes - Name of Fire Watch _____

☐ No

A Fire Watch will be posted if:

- Flammable and combustible materials cannot be moved 35' from the point of operation.
- Wall or floor openings within the immediate work area expose combustible materials in adjacent areas, including concealed spaces in walls or floors.
- Combustible materials are adjacent to the opposite side of partitions, walls, ceilings or roofs, and are likely to be ignited.

Permit Checklist

☐ Flammable and combustible materials within 35' of the point of operation have been removed, covered with fire retardant tarps, or otherwise shielded.

☐ All floors and surfaces have been swept free of combustible dust or debris.

☐ Any openings or cracks in the walls, floors, or ducts that are potential travel passages for sparks, heat and flames have been covered.

☐ An operable fire extinguisher is nearby and accessible.

☐ Sprinkler heads that could be activated by hot work have been covered by a wet rag.

☐ Smoke detectors in the area of hot work have been covered to prevent false alarms.

☐ A Fire Watch has been posted during the hot work operation and for 60 minutes afterwards to verify that there are no live embers, sparks, or smoldering fires.

O

Appendix O- Lessons Learned Form

Lessons Learned Communication

Date:
What:
When:
Where:

Incident Summary:

Discussion of Activities:

Analysis of What Went Wrong:

Immediate and System Cause:

Resolutions and Recommendations:

Cost Savings/Avoidance

Work Function:

Hazards:

Originator:
Telephone:
Email:
Contact:
Telephone:
Email:
Distribution:

This form must be completed electronically (not handwritten) and the subject of the email line must include employee name, contractor name, and project number.

Appendix P- Drug Screen Requisition and Authorization Form

Please contact your DEN ROCIP Safety representative for an electronic copy of this form.

DEN ROCIP 3 & 4

DRUG and ALCOHOL SCREENS

REQUISITION and AUTHORIZATION FORM

INSTRUCTIONS: This form is to be completed in its entirety by the Employer/ Contractor's Safety Representative or an authorized Requesting Party (Lead Contractor's Safety Representative or DEN Safety) and emailed to desired clinic.

ROCIP Program (select one):
- (•) 3
- ( ) 4

Date: _____

Employee Name: _____

Employer/Contractor Name: _____

Employer/Contractor Address: _____

DEN Project Name: _____

DEN Project No. _____

Authorizing Representative Information: Name/Title _____

Company/Entity Name _____

Email _____ Tel. No. _____

BILLING INSTRUCTIONS

BILL ROCIP 3 PRE-EMPLOYMENT DRUG SCREENS TO: ARTHUR J. GALLAGHER
BILL ROCIP 4 PRE-EMPLOYMENT DRUG SCREENS TO: MARSH AND MCLENNAN
BILL ALL OTHER SERIVCES TO: EMPLOYER/CONTRACTOR LISTED ABOVE

INDICATE ALL REQUESTED SERVICES BELOW:

PRE-EMPLOYMENT	POST ACCIDENT	REASONABLE SUSPICION
☐ 11 Panel Rapid Drug Screen	☐ 11 Panel Rapid Drug Screen	☐ 11 Panel Rapid Drug Screen
☐ Breath Alcohol Test	☐ Breath Alcohol Test	☐ Breath Alcohol Test
☐ Physical and History	☐ Other:	☐ Other
☐ Other:		

Once checked in at the clinic, the employee MUST remain at the clinic until their tests are completed otherwise they will be considered a refusal.

EMAIL COMPLETED FORM TO THE DESIRED CLINIC LOCATION AND, WHEN POSSIBLE, CONTACT TO SCHEDULE AN APPOINTMENT.

SEE ATTACHED LIST OF APPROVED PROVIDERS AND LOCATIONS

DEN is proud to provide access to the following
DEN ROCIP 3 & 4 Approved Drug Testing Partners

Concentra treated right · Secure Health Partners · workwell

For assistance contact ROCIP 3 Claims Consultant Kendall Trump at kendall_trump@ajg.com or 303.889.2570

For assistance contact ROCIP 4 Claims Consultant Dan Chilton at dan.chilton@marsh.com or 303.589.7063

Revised Feb 2022

DEN ROCIP 3/ROCIP 4
LIST OF APPROVED MEDICAL CARE PROVIDERS

Pre-employment Drug Screens*	Medical Treatment	Provider Type	Approved Provider	Location and Contact Information	Hours
✓	✓	Clinic	Concentra	3449 Chambers Road, Ste B, Aurora, CO 80011 Colorado_ccdia@concentra.com 720.859.6139 tel / 303.859.3294 fax	8am – 5pm M-F
	✓	Clinic	Concentra	15235 E 38th Ave, Aurora, CO 80011 Colorado_ccdia@concentra.com 303.340.3053 tel / 303.342.3862 fax	8am – 8pm M-F 8am – 4pm Sat
✓		Clinic	Concentra	550 E Thornton Pkwy, Ste 110, Thornton, CO 80229 Colorado_ccdia@concentra.com 720.872.0399 tel / 720.872.0421 fax	8am – 5pm M-F
✓		Clinic	Concentra	1730 Blake St, Ste 100, Denver, CO 80202 Colorado_ccdia@concentra.com 303.293.2273 tel / 303.296.8330 fax	8am – 6pm M-F
✓		Clinic	Concentra	11185 W 6th Ave, Lakewood, CO 80215 Colorado_ccdia@concentra.com 303.239.6060 tel / 303.239.6046 fax	8am – 6pm M-F
✓		Clinic	Concentra	9330 S University Blvd, Ste 100/120, Highlands Ranch, CO 80216 Colorado_ccdia@concentra.com 303.346.3627 tel / 303.683.9392 fax	8am – 5pm M-F
	✓	Clinic	Midtown Occupational Health Services	2420 W 26th Ave, Bldg A, Ste 300, Denver, CO 80211 frontdesk1@mdtwn.com 303.831.9393 tel / 303.831.6335 fax	7am – 4:30pm M-F
✓		Clinic **ONSITE AT DEN**	Secure Health Partners	8500 Pena Blvd, Concourse A, Room 3284, Denver, CO 80249 den@dandasolutionsllc.com 720.556.9791 tel	8am – 5pm M-F
✓		Clinic	Secure Health Partners	469 S Cherry St, Glendale, CO 80246 den@securehealthpartners.com 303.963.5554 tel	7am – 5pm M-F
✓	✓	Clinic	MBI	3350 Peoria St, Ste 190, Aurora, CO 80010 dneclinic@workwellworks.com 303.365.4646 tel / 303.365.4644 fax	8am – 5pm M-F
✓		Clinic	MBI	2550 S Parker Rd, Ste 150, Aurora, CO 80014 aseclinic@workwellworks.com 720.512.4408 tel / 720.512.5978 fax	8am – 5pm M-F
	✓	**EMERGENCY ONLY**	UC Health Hospital	1635 Aurora Ct, Aurora, CO 80045 720.848.8650 tel / 720.848.7374 fax	24/7/365

*Post Accident and Reasonable Suspicion Drug Screens are paid for by the Contractor and may be obtained at the facility of their choice.

Summary of Revisions:

Version 1.2- April 2022				
Section	**Page**	**Original**	**Revision**	**Explanation**
10.8.1	53	"Pre-excavation Requirements for Underground Utility Installations"	"Pre-excavation Requirements"	The phrase "for Underground Utility Installations" erroneously remained from ROCIP 3 language. New header language reflects the intent found throughout the section on Utility Damage Prevention planning which requires a 3rd party SUE to sweep all areas to be excavated.
App. A			Changed Order of Sections	The order of the SSSP Sections were changed in Appendix A to align with the order found in Section 6.1.1.
Version 1.3- August 2023				
Section	**Page**	**Original**	**Revision**	**Explanation**
3	10		Updated Contact Information	
Section	**Page**	**Original**	**Revision**	**Explanation**
App. N		30 Minute Firewatch	60 Minute Firewatch	Aligns with current DFD hot work permit and NFPA requirements.
6.3.6.2	30		Updated list of Red Chiefs.	
10.19.1	69	30 Minute Firewatch	60 Minute Firewatch	Aligns with current DFD hot work permit and NFPA requirements.
App. P	110		Updated List of Medical Providers	