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SECTION 01 35 25
WORK PROCESS AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. This document provides a framework for formulating a program for construction process and controls. The intent is to provide an effective methodology for managing the construction process and risks inherent to construction work in a systematic manner that can be easily integrated with a construction project.

B. Related work in other sections:
   1. Section 00 31 19 “Existing Condition Information”
   2. Section 01 32 17 “Construction Progress Schedule”
   3. Section 01 35 13 “Special Project Procedures”
   4. Section 01 35 23 “Owner Safety Requirements-Construction”
   5. Section 01 35 43 “Environmental Procedures”

1.2 SUBMITTALS

A. Occupational Exposure Assessment (OEA): submit in accordance with the requirements of this document, for review and approval by the SDR

1.3 QUALITY ASSURANCE

A. The Subcontractor Superintendent or Delegate: Shall directly superintend the work at all times during performance of this subcontract (excluding periods of work inactivity) and until the work is complete and accepted.
   1. Superintendent or Delegate shall be knowledgeable of the project's risks and have full authority to act on behalf of the construction Subcontractor.
   2. Superintendent or Delegate shall perform frequent and regular inspections of the construction work site to identify and correct any instances of nonconformance with Subcontract Documents. The Superintendent or Delegate shall document the inspections, including any noncompliance and corrective actions taken. The documented inspection shall be maintained for the duration of the subcontract and made available for review upon request by the SDR.
   3. Workers of all tiers shall be instructed to report risks not previously identified or evaluated to the Superintendent or Delegate. If immediate corrective action is not possible, or the risk falls outside of project scope, Superintendent or Delegate shall perform the following:
      a. Immediately notify affected workers.
      b. Post appropriate warning signs.
      c. Implement necessary interim control measures.
      d. Notify the Safety Officer of the action taken.
      e. Verbally notify the SDR immediately of the location and description of the risk or unplanned task. This notification shall be followed up in

writing to the SDR. Stop / pause work in affected area until notified by the SDR to proceed with work in the affected area.

1.4 WORK PLANNING AND CONTROLS

A. General
   1. Work Planning & Control (WP&C) is a required process implemented by NTESS to provide a safer, more efficient environment in which we work. It provides a thorough step-by-step approach to planning and controlling work, adequately addressing the associated risks. The process provides increased worker safety, a consistent approach to planning and conducting work, increased technical proficiency, reliable and predictable operations, effective risk management, and improved customer satisfaction. It is based on five core functions:
      a. Plan Work (Define the Scope of Work)
      b. Evaluate Risk (Analyze Unacceptable Outcomes)
      c. Mitigate Risk (Implement Controls)
      d. Perform Work (Work the Plan)
      e. Feedback and Improve (Improve Work Plan for the Next Time)

B. Plan Work
   1. The Work Planner defines the scope of work by describing the customer deliverables, performance requirements and boundaries; and in sufficient detail, determines and identifies potential safety, health, security, quality and environmental issues that may occur and result in a consequence beyond the defined acceptable risk. The description should provide enough detail to identify the who, what, where, when, why and how of the activity. The Work Planner applies critical thinking to the activity- having a mindset that applies a questioning attitude and thoughtful analysis to the design of the product, process or activity starting at the conceptual phase and throughout the lifecycle. Consider all aspects of the activity.

C. Evaluate Risk
   1. Focus on possible failure modes that could result in hazardous situations, including the reasonably foreseeable uses and misuses of product or process, and/or circumstances that could arise that would result in the occurrence of an undesirable incident, exposure or defect. Determine whether or not there are controls in place to lessen the likely hood of such an occurrence; and whether such controls can be properly maintained, whether the condition of the controls can cause failures, and whether they can be easily defeated.

D. Mitigate Risk
   1. Upon completion of a risk review, any action items identified are to be addressed and controls implemented. Controls are implemented on a graded approach. The required controls are always based on the hierarchy of controls for risk mitigation (from top to bottom): eliminate risk, substitution of less hazardous methods or materials (risk avoidance), incorporate engineering controls, provide warning systems, administrative controls, and use of Personal Protective Equipment (PPE). Workers that

perform work must acknowledge recognition and understanding of the risks and controls. Management shall ensure all controls are in place, training requirements have been met, and risks are documented and communicated to the workers. See chart for hierarchy of controls:

MOST PREFERRED	
	Risk Avoidance: Prevent entry of risks into a workplace by selecting and incorporating appropriate technology and work methods criteria during design processes.
	Elimination: Eliminate workplace and work methods risks that have been discovered.
	Substitution: Reduce risks by substituting less hazardous method or materials
	Passive engineered controls: Barriers or safety systems that once installed requires no action to prevent exposure to the hazardous method, materials, or event. Maintain safety by their presence.
	Active Engineered Controls: Barriers or safety systems that require some action to prevent exposure to hazardous materials, method or event. Requires some action to provide protection.
	Warning: Provide warning systems.
LEAST PREFERRED	**Administrative Controls**: Apply administrative controls (organization of work, training, scheduling, supervision, pre-job briefs, management approval etc.)
	Personal Protective Equipment (PPE) Assess Workplace Risks and provide and Maintain Personal Protection.

E. Perform Work
   1. Workers execute work in accordance with established procedures, apply critical thinking, perform self-checking, apply stop/pause practices to work and report any unanticipated changes to supervisor before performing the activity or if unsure of how to proceed, and report any improvements, issues, noteworthy practices during work performance to work planner, supervisor

F. Feedback and Improve
   1. The Work Planner is responsible for documenting lessons learned to aid future decisions and correct process problems, and disseminating the lessons learned. Supporting work documents are to be revised, as necessary. Workers should be included in the post job review

1.5 OCCUPATIONAL EXPOSURE ASSESSMENTS (OEA)

A. For each work phase, unless specifically waived in writing from the SDR, the Subcontractor shall provide a qualified person to perform initial or baseline

surveys of all work areas or operations to identify and evaluate potential worker health risks. When the work phase involves exposure to:

1. chemical substances, physical or biological agents
2. use of lasers
3. airborne particles or our causative substances
4. excessive and/or long-term noise exposure
5. non-ionizing radiation
6. thermal stress
7. ergonomic stressors

B. A qualified Industrial Hygienist shall perform the OEA's and develop a program that shall meet OSHA, ACGIH and ANSI requirements.

PART 2 - PRODUCTS – Not Used

PART 3 - EXECUTION

3.1 PRE-TASK RISK ANALYSIS

A. Routine risk analyses must be performed. Operations and procedures at the activity level should be analyzed and reviewed to identify potential worker protection, risks, and deficiencies. A Pre-Task Risk Analysis (PTRA) is one tool to identify risks associated with jobs at the activity level. PTRA can satisfy a large portion of the worker protection hazard identification requirements at most workplaces. A PTRA is useful for dynamic work environments like equipment repair as well as relatively stable environments such as operating a chemical process.

B. The PTRA is a task driven process designed to ensure that every task receives the proper risk analysis prior to starting work. The PTRA is a task-and-time-specific process that supplements other processes in place to help foster safe, timely, and quality work at the jobsite. The intent is to systematically plan specific tasks to be conducted in a safe and effective manner. The PTRA does not replace procedures set forth in a Subcontractor's safety program, but reinforces particular aspects of safety pertaining to a specific days work.

C. A PTRA should be conducted:
   1. For existing operations and procedures that have not been adequately evaluated in the past or when there is no current risk analysis available.
   2. In response to employee identified potential risks, including any unplanned work or tasks.
   3. For existing operations and procedures that have resulted in injuries, illnesses, or near misses

D. A PTRA should be updated periodically to ensure that any new risks that have been introduced since the last elevation of the activity are addressed. The principle elements of a PTRA analysis are:
   1. Selection of operations and procedures to be analyzed
   2. Breakdown of operations to their component tasks

3. Identification of risks associated with each task and the controls necessary to protect workers against those risks
4. Identification and addressing of potential risks to bystanders and identification of related controls
5. Development of documentation needed to indicate why controls were selected
6. Development of procedures incorporating identified controls

E. Affected employees and supervisors should participate in the PTRA process. Knowledge of the tasks and associated risks, and familiarity with the procedures actually used in performing the work, provides information that is more complete during the PTRA. In addition, these front-line personnel can assist in determining the feasibility and effectiveness of proposed control measures.

F. Procedure
1. The PTRA should cover specific tasks to be performed within a shift in a particular work area. **NOTE**: A clear understanding of what the job entails from beginning to end is essential for an accurate and complete PTRA.
2. Develop a Safe Plan of Action: Superintendent should lead the work crew as they plan their work for the shift and solicit worker participation in identifying risks and risk control/mitigations, such as personnel protective equipment (PPE), required training, permits, procedures and like items.
3. Each member of the work crew should sign the completed worksheet. Signatures indicate the individuals have participated in development of the worksheet, understand the risks, and agree to follow the completed worksheet. If the work crew determines the scope of work and conditions have not changed from a previously completed PTRA, that PTRA may be reused. The work crew should, however, sign and date the PTRA worksheet each time it is used.
4. Where a stop/ pause of work has occurred due to newly identified risk or unplanned work or task, Subcontractor shall revise PTRA. Associated unplanned work and/ or newly identified risk shall not commence until amended/ revised PTRA has been reviewed and accepted by the SDR
5. When a task is continued from a previous day, the PTRA meeting should include a review of the current PTRA and consideration of any new risks or conditions that could exist. The PTRA meeting could be combined with a “tool-box” meeting or “morning safety” meeting.
6. All PTRAs should be placed immediately adjacent to the work area such that anyone may review the PTRA throughout the work shift. In case of an incident, the PTRA should be immediately evaluated for work conditions and procedures.

G. Documentation
1. The Superintendent should retain hard copies of each PTRA for the duration of the project. See Attachment A – Pre-Task Risk Analysis

3.2 MINIMUM WORK PRACTICES

A. Toolbox Safety and Health Training: The Safety Officer or their Delegate shall conduct informal tool box safety and health training sessions at least weekly for

all employees on the worksite. This may be accomplished in single or multiple sessions and may address different topics for different work crews. The Safety Officer shall notify the SDR of the time and location of all scheduled tool box training sessions. Minutes of all tool box training sessions shall be prepared by the Safety Officer and annotated with the date, time, and names of all employees in attendance.

B. Inspections and Risk Abatement
   1. During periods of active construction, the Safety Officer shall conduct frequent and regular inspections of the respective areas of the worksite to identify and correct risks and instances of noncompliance with project safety and health requirements.
   2. The Safety Officer shall take immediate corrective action to eliminate or control all identified risks. Risk identification and associated mitigation information shall be provided to Lower-tier Subcontractors for all tiers. Newly identified risks shall be appropriately addressed. In cases where immediate corrective action is not possible or responsibility for abatement of the risk falls outside the scope of the project, the Safety Officer shall:
      a. Immediately ensure all affected employees are aware of the risk and its location and are removed from harm's way. This may require partial or complete suspension of construction operations and installation of control measures to prevent unauthorized access.
      b. Immediately post appropriate warning signs at the location of the hazard describing the nature of the hazard.
      c. Stop pause work in affected area. Verbally notify the SDR immediately of the location and description of the risk. This notification shall be followed up in writing.
      d. Revise / amend PTRA to address newly identified risk and / or unplanned work or task. Revised / amended PTRA shall be reviewed and accepted by the SDR. Implement further interim control measures, as needed, to protect employees from the identified hazards and secure SDR approval for continued use of the employed measures.
   3. All identified risks and their respective corrective actions shall be documented in project inspection reports. The responsibility and timetable for abating risks that were not immediately corrected shall also be similarly documented. Follow-up inspections to ensure subsequent abatement of such risks should be likewise documented.

3.3 WORK SITE EMERGENCIES

A. Emergencies
   1. The Subcontractor is responsible for transporting personnel with non-life-threatening injuries that require medical attention to local medical facilities.
   2. For all life-threatening injuries or illnesses or to summon the fire department, the Subcontractor shall immediately call for assistance by dialing 911 on a SNL telephone or 925-294-2222 from an outside line or cellular phone.
   3. During performance of this subcontract any time an emergency situation arises which involves fire protection, security, environmental accident or a worker injury, in and around the construction worksite, all activity shall

cease immediately. The Safety Officer shall ensure that the following actions are promptly taken:

a. Stop all work
b. Evacuate the area
c. Account for all persons on site
d. Remain at the area of assembly (i.e. don't leave) until directed otherwise.

4. Subcontract personnel shall make every effort to preserve an accident scene until the SDR, Security Personnel Officer or other designated emergency personnel arrive on the site and assume control of the area.

B. Event or Incident Notification: When the Subcontractor becomes aware of an event or incident which could adversely impact workers, the public, the environment and/or unplanned disruption of normal operations they shall take action to minimize the impact and immediately notify the SDR

END OF DOCUMENT

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Attachment A - Pre-Task Risk Analysis

Instructions: Complete this form listing major work steps, daily. Using the backside of this form as a guide, list **potential risks** involved with each work step and list controls or a **safe plan** to mitigate those risks. Have each worker review the work area and assist with completing this form. **Note: Multi Craft jobs require each discipline to complete a separate form for each task, and review with all workers in that area. Each worker must print and initial name on all Pre-Task Risk Analysis forms**. Submit form to your Supervisor at the completion of the day. **Note: Work shall stop if conditions change, job scope change, or a deficiency in the plan is noted. If any injuries or accidents occur, respond as appropriate, then contact Supervisor and NTESS Construction Manager immediately.**

Analysis Approved By		**Date**	
Project Location		**Project Description**	

MAJOR WORK STEPS OF TASK	POTENTIAL RISKS	CONTROLS / MITIGATIONS	OTHER

TASK SPECIFIC REQUIRED INSPECTION		WORK AREA QUESTIONS		
Daily Lift Inspection	Inspected By :	Is there adjacent work or co-occupancy in work area?	Yes ☐	No ☐
Harness Inspection	Inspected By :	Other workers adjacent above or below work area?	Yes ☐	No ☐
Fire Extinguisher Current	Inspected By :	Did you notify them of your presence?	Yes ☐	No ☐
First Aid Medical Kit	Inspected By :	Did you coordinate with adjacent work?	Yes ☐	No ☐
Eye Wash Station	Inspected By :	Can you proceed with working safely?	Yes ☐	No ☐
Other:	Inspected By :	Barricades set-up before task	Yes ☐	No ☐

Pre-task Review has been completed and each employee is taking the responsibility to ensure that all required training for their work activity is current, and that they are competent and qualified on all required tools/equipment.

Print Name	Initial	Date	Print Name	Initial	Date

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RISKS	SAFE PLAN of ACTION (SPA)
☐ Overhead Utilities	☐De-energization required ☐Safe work zone marked ☐Required clearance distance
☐ Crane, Lifting Equipment, Overhead Work	☐Signalman assigned ☐Lifting equip inspected ☐Tag lines in use ☐Crane lift plan approved ☐Overhead utility clearance verified ☐Caution barricade tape required ☐Danger barricade tape required ☐Warning signs ☐Rigid railing required
☐ Material Handling, Manual Lifting	☐Posture & positions for bending, carrying and reaching ☐Need assistance with task ☐Identified material requiring lifting equipment ☐Avoid excess force ☐Clear pathway
☐ Aerial Lift, Platform, Elevated Work	☐100% Tieoff ☐Daily equipment inspection ☐Approved anchor point identified ☐PFAS inspected prior to use ☐Fall clearance distance calculated ☐Fall rescue/retrieval plan
☐ Scaffolds	☐Competent person inspected daily ☐Condition tag in place ☐Proper angle/placement ☐Wheels locked
☐ Ladders	☐Inspect general condition before use ☐Ladder tie off ☐Proper angle/placement
☐ Slips, Trips, Falls	☐Inspect for trip hazards ☐Work zone free of debris ☐Tools & material properly stored ☐Extension cords properly secured and out of walkways
☐ Excavations, Underground Utilities (Line Locating)	☐Reviewed as build's ☐Barricades in place ☐Shoring inspected ☐Trenching inspected by competent person ☐Hand dig/pot hole areas marked (w/in 3' of utilities) ☐Subsurface surveys ☐Safe work zone marked ☐Required clearance distance
☐ Cutting, Welding, Burning, Grinding, Soldering	☐Fire extinguishers ☐Fire watch ☐Adjacent area protected ☐Unnecessary flammable material removed
☐ Equipment or Pedestrian Traffic	☐Traffic barricades/cones ☐Signs posted ☐Flagman ☐Fire lane clear ☐Lane closures
☐ Noise > 85db	☐Background noise monitoring required
☐ Hand Tools, Power Tools	☐Inspect tool condition ☐Guards in working order ☐GFCI in use ☐Electrical cords inspected
☐ Interrupts to Production	☐Electrical connections ☐Valves ☐Pipes ☐Tubing ☐Fittings ☐Gauges ☐Fire sprinklers ☐Smoke detectors ☐Gas detectors
☐ Non-Electrical Hot Work	☐Fire extinguishers ☐Fire watch ☐Install weld/spark screens ☐Combustible material removed/protected ☐Adequate ventilation available
☐ Pinch Points Exposed (Rotating Equipment)	☐Area reviewed for potential pinch points or exposed rotating equipment ☐Hand/body position ☐Loose clothing secured
☐ Working With Chemicals	☐The task creates potential for direct contact with hazardous chemicals ☐MSDSs reviewed ☐Proper containers and labels posted ☐PPE identified
☐ Heat/Cold Stress Potential	☐Heat stress monitoring >85 degrees ☐Wind chill monitoring <32 degrees ☐Liquids available
☐ Hazardous Energies	☐Lockout/tagout verified ☐Multi energized sources ☐Confirm equipment is de-energized ☐Review electrical safety procedure ☐Double Block & Bleed Required ☐Mechanical (Air/Water/Hydraulic) ☐Electrical ☐Chemical ☐Thermal ☐Gas
☐ Environment (Endangered Species)	☐Air emissions ☐Water discharge ☐Hazardous/other wastes ☐Awareness of endangered species in habitant area
☐ Natural or Site Hazards	☐Adjacent operations ☐Biological hazards ☐Animal or reptiles hazards ☐Weather ☐Terrain (burrowing animal holes)
☐ Transporting Materials on Vehicle	☐Tie down all loads ☐Secure materials on racks ☐Flag overhanging material
☐ Wall/Ceiling Penetration	☐Scanned area where penetration will take place ☐Perform walk around ☐Asbestos present
PERMITS REQUIRED	**REQUIRED PPE**
☐ Asbestos Work/Lead Abatement	☐ Hard Hat
☐ Hidden Hazard Penetration/ Excavation	☐ Ear Plugs/Muffs
☐ Hot Work/Burning/Spark	☐ Safety Glasses ☐ Chemical Goggles ☐ Welding Hood/Brazing Goggles ☐ Face Shield
☐ Confined Space Entry	☐Welders Sleeves ☐Cut Resistant Gloves ☐Rubber Gloves ☐Leather Gloves ☐Electrical Insulated Gloves
☐ Powder Actuated Tool Use	☐ Safety Toed Boots☐ Voltage Rated Boots ☐ Rubber Boots
☐ Elevated Work/Roof Access	☐ Dust Mask ☐ Full Face Respirator ☐ ½ Face Respirator
☐ Utility System Interruption	☐ Tyvek ☐ Safety Vest
☐ Off Rood Access	☐ PFAS (Harness) ☐ Double Lanyard ☐ Retractable Lanyard ☐ Horizontal Lifeline System
☐ Mechanized Equipment	☐ Additional PPE (other)

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