BID AND CONTRACT DOCUMENTS 2 of 3

FOR

PROJECT No. MC08430011869

CARDIAC CATHETERIZATION LABORATORY

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SECTION 01 44 40

SITE SAFETY PROGRAM

PART 1 – INTRODUCTION AND BASIC ELEMENTS

1.1 RELATED DOCUMENTS AND PROVISIONS

A. All Contract Documents should be reviewed for applicable provisions related to the provisions in this section, including without limitations:
   1. Drawings and Specifications.
   2. General Conditions, Special Conditions and Supplementary Conditions.
   3. Summary of Work.
   4. Other General Requirements.
   5. Local, State and Governing Agencies.
   6. Applicable Cal/OSHA Standards (Title 8).
   7. Referenced consensus standards, including ANSI, NFPA, (where applicable).

1.2 Definitions

A. Competent Person – One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous and is knowledgeable of applicable regulations and who has authorization to take prompt corrective measures to eliminate risks or prevent personnel exposure to hazardous conditions.

B. Globally Harmonized System Program (GHS) – Federal required program which includes providing and maintaining project related Safety Data Sheets (SDS), providing chemicals to be used and inventory protocol, and providing a list of hazardous substances and their use.

C. Hazardous Communication Program (HCP) – CAL OSHA required program which includes providing and maintaining project related Safety Data Sheets (SDS), providing chemicals to be used and inventory protocol, and providing a list of hazardous substances and their use.

D. Incident – An unexpected happening causing a “near miss”, loss, or injury, including without limitation, accidental or unanticipated events involving personal injury, illness or property damage.

E. Job Hazard Analysis (JHA) – A task-driven planning document used to help ensure every task receives proper safety assessment and planning.

F. Personnel – Any person employed by Contractor and/or business, firm, person, including but not limited to deliveries, suppliers, and vendors that has an agreement with Contractor, in which Contractor has a contract agreement with Owner that is providing services to the project site.

G. Qualified Person – A designated person who by possession of a recognized degree, certificate, or professional standing, or who, by extensive knowledge, training and experience, has successfully demonstrated his/her ability to solve and resolve problems with the ability to safely perform all assigned duties and, when required, is properly licensed in accordance with federal, state, or local laws and regulations.

H. Site Specific Safety Plan (SSSP) – A written plan communicating how the work will be done safely taking into consideration personnel, others on the project site, inspectors, visitors, and the general public.

I. Contractor – A business, firm, person that has a contract agreement with Owner.

J. Subcontractor - A business, firm, person that has a contract agreement with Contractor, in which Contractor has a contract agreement with Owner.

K. Supervisor - One who is trained and certified to identify existing and predictable hazards in the surroundings or working conditions and who has authorization to take prompt corrective measures to eliminate them.

1.3 General Safety Understanding

A. Contractors are responsible for their means, methods, techniques, sequences or procedures for safety in connection with their work. Construction Manager shall not have control over, charge of, or responsibility for Contractor's or their Subcontractor's means, methods, techniques, sequences or procedures for safety, nor shall the Construction Manager be responsible for acts of omission by Contractors, their Subcontractors, agents, employees, or any other persons performing portions on behalf of Contractors.

B. Safety requirements are the responsibility of the Contractor and their subcontractors.

C. Any sub-tier to a Contractor is responsible to comply with the safety requirements.

D. Contractor is responsible to ensure their sub-tier complies with these responsibilities.

E. Contractor retains sole responsibility for regulatory compliance and the means and methods employed to implement the contents of their Program.

F. The requirements set forth in this Section are complementary to, and do not supersede, the requirements of the General Conditions, General Requirements, Governing Agencies or other provisions of the Contract Documents pertaining to safety. In the event of a conflict between or among provisions relating to safety or protection, the provision that requires **the greater degree and higher level of action, care, caution or protection shall govern.**

G. Contractor shall comply fully with all Federal, State and/or local safety related laws, orders, citations, rules, regulations, standards and statutes.

H. Contractor shall comply with safety, health, and environmental laws and regulations of safe work practices. This section is **NOT** intended as a complete safety program.

I. Contractor shall comply with Site Specific Safety Plan (SSSP) requirements. These requirements are to be followed in addition to the Contractor's Injury and Illness Prevention Program (IIPP).

J. Any information or submittals provided to Construction Manager shall be reviewed solely to verify the content of the Contractor's submittal(s) and for record.

1.4 General Requirements

A. The Contractor has sole responsibility, on a twenty-four (24) hour day, seven (7) day week basis, for initiating, maintaining, supervising and enforcing all safety precautions and programs in connection with the performance of the Contract for the safety of their personnel, their subcontractors, the public, and the project site. This includes responsibilities for vendors, delivery and transportation services, and service providers at the project site. No actions, inspection or approvals by the Owner, Owner's Program Manager, Construction Manager, or other person acting on behalf of the Owner shall diminish such Contractor responsibility.

B. Contractor shall make Construction Manager immediately aware of:
   1. Any unique safety, health, or environmental concerns related to their work and make timely efforts to notify other affected Contractors working on project site and protect the public from hazards.
   2. Any safety or health inspections or other actions by Cal/OSHA, EPA, AQMD, Water Control Board, Health Department, or other Governmental Authorities.

C. If Contractor or their subcontractor employs non-English speaking personnel, the Contractor and/or subcontractor shall have a supervisor (superintendent or foreman) proficient in English and the foreign language(s).

D. Contractor shall be responsible to secure and comply with all permits, such as, but not limited to: excavations, tower cranes, temporary elevators, asbestos abatement, lead abatement, air permits, water permits, and hazardous waste generation. All permits are to be forwarded to the Construction Manager.

E. Contractor is responsible for maintaining all postings required by applicable laws and the contract documents, such as, but not limited to, the Cal/OSHA poster, Cal/OSHA 300 & 301 logs, first aid register, accident reports, equipment inspection records, and health and safety training records for personnel.

F. Contractor shall provide first aid kit/supplies in accordance with Cal/OSHA for their personnel and comply with governing regulations.

G. Contractor shall provide fire extinguishers of the appropriate size and type to be used and in accordance with NFPA recommendations for the type of exposure and the Site Specific Safety Plan.

H. Contractor shall ensure that no alcohol, firearms, weapons, animals, or controlled substances enter or are at the project site. Contractor shall immediately and permanently remove from the project site any personnel found in violation of this provision.

I. No radios, headphones, earbuds, ipods, MP3 players, music devices of any type or speakers are permitted on the project site.

J. No glass bottles are permitted.

K. Loose or frayed clothing, dangling ties, finger rings, etc. shall not be worn around moving machinery or other sources of entanglement.

L. Machinery shall not be repaired or adjusted while in operation, nor shall oiling of moving parts be attempted, except on equipment that is designed or fitted with safeguards to protect the person performing the work.

M. Do not work under vehicles or equipment or machinery supported by jacks or chain hoists without protective blocking that will prevent injury if jacks or hoists should fail.

N. Do not operate any motorized equipment, tractors, skip-loaders, forklifts, heavy equipment, and carryalls on surfaces, terrain, and slopes not permitted by the manufacture.

O. Pickup and/or delivery of supplies or equipment shall be limited to normal working hours (7:00 a.m. - 3:30 p.m.) unless previously arranged with Construction Manager.

P. Construction Manager shall designate a construction entry to the project site.

Q. Construction Manager shall designate a staging area so as not to interfere with the normal function of the Owner's operation.
   1. If Contractor requests additional staging and space permits, location and ingress/egress shall be coordinated in advance with Construction Manager. Additional fencing is at Contractor's expense.

R. Parking areas shall be reviewed and coordinated with Construction Manager in advance. No parking or material storage is to occur under the drip line of trees or in areas that could

otherwise be damaged.

S. When working in or around occupied areas; tenants, users, and the public have the right-of- way.
   1. All project sites have been declared “drug-free zones”. No drugs, alcohol and/or smoking are allowed at any time in any buildings and/or grounds or adjacent owner property.
   2. Smoking, E-cigarettes and the use of any tobacco products is prohibited on the project site or adjacent property.
   3. Foul language, unacceptable and/or loud language is prohibited. “Cat calls” or other derogatory language is prohibited.
   4. No clothing exhibiting profanity is permitted.
   5. No interaction with tenants, users and the public is permitted.
   6. Contractor shall observe the noise ordinance and mitigate at all times including, without limitation, all applicable local, city, and/or state laws, ordinances, and/or regulations.
   7. If portable lights are used after dark, all light must not be directed into neighboring property.
   8. All paths of travel for deliveries, including without limitation, material, equipment, and supply deliveries, shall be reviewed and coordinated with Construction Manager in advance. Any damage will be repaired to the pre-damaged condition by the Contractor.
   9. When on an active campus:
      a. No interaction with patients, staff or faculty is permitted.
      b. Driving on the premises shall be limited to periods when patients and public are not present. If driving or deliveries must be made during the hospital hours, two (2) or more ground guides shall lead the vehicle across the area of travel. The speed limit on-the premises shall be five (5) miles per hour (maximum) or less if conditions require.

T. Failure to follow these directives could result in individual(s) being suspended or removed from the project site at the discretion of Construction Manager. The same rules and regulations shall apply equally to delivery personnel, inspectors, consultants, and other visitors to the project site.

U. News Media
   1. Project site incidents resulting in news media coverage shall be immediately reported to the Construction Manager.
   2. Any questions from news media personnel (radio, television, and newspaper) must be referred to the Construction Manager.

PART 2 – CONTRACTOR AND SUBCONTRACTOR RESPONSIBILITIES

2.1 General Responsibilities

A. Shall have all applicable Cal/OSHA regulations available for use and reference at the project site.

B. Responsible to design and implement Site Specific Safety Plan (SSSP) and submit to Construction Manager for review.

C. Shall ensure their personnel are properly trained and instructed for all work that require specific training and/or competency to meet all applicable Cal/OSHA regulations, state and federal law, and the requirements herein.

D. Responsible for disposal on a daily basis, all rubbish and debris generated by its work.

E. Responsible for ensuring that prompt corrective action is taken when they are made aware of any safety issues and/or concerns.

F. Forward to Construction Manager a copy of any citation or warning for record.

G. "Competent Person", "Qualified Person" or "Supervisor" shall be readily available at the project site during activities requiring same.

2.2 Pre-Construction / Preparatory Meeting(s)

A. Prior to the start of work, Contractor shall submit to Construction Manager a copy of the items listed herein. If not applicable at the time of the meeting, Contractor shall submit a copy no later than 7 calendar days before the activity commences:
   1. Code of Safe Practices.
   2. Project specific Injury and Illness Prevention Plan (**IIPP**).
   3. Heat Illness Prevention Plan (**HIPP**).
   4. Hazard Communication/Globally Harmonized System **(GHS)** Program which includes:
      a. Safety Data Sheets (**SDS**).
      b. Chemical inventory list.
      c. Hazardous substance list.
      d. Refer to section 3.23 for additional information.
   5. First Aid/CPR trained personnel on the project site and their expiration dates.
   6. Operator's certification and documented training:
      a. Required certification.
         I. Forklift (expires 3 yrs).
         II. Crane (expires 3 yrs).
      b. Documented training on safe operations.
         I. Boom-lift.
         II. Scissor lift.
         III. All other equipment.
   7. List of Contractor's: "Competent Person(s)", "Qualified Person(s)", "Licensed", or "Supervisor(s)" as defined by OSHA for the activities noted below. Refer to Exhibit "C.1" for the Competent Person Designation form. Contractor to fill this out and submit to the Construction Manager.
      a. Asbestos Abatement (Refer to section 3.2).....Competent
      b. Burning, Welding and Hot Work (Refer to section 3.4).....Competent
      c. Confined Space (Refer to section 3.8).....Competent
      d. Crane Picks & Critical Lifts (Refer to section 3.10 & 3.11).....Qualified
      e. Demolition (Refer to section 3.12).....Qualified
      f. Electrician (live circuits) (Refer to section 3.13).....Qualified
      g. Explosives (Refer to section 3.17).....Licensed
      h. Fall Protection (Refer to section 3.18).....Competent and Qualified
      i. Ladders (Refer to section 3.30).....Qualified
      j. Lead Abatement (Refer to section 3.31).....Supervisor
      k. Pile Driving (Refer to section 3.36).....Competent
      l. Powder Actuated Tools (Refer to section 3.37).....Qualified
      m. Scaffold (Refer to section 3.40).....Competent
      n. Silica and Dust Exposure Protection (Refer to section 3.41).....Competent
      o. Steel Erection (Refer to section 3.42).....Competent
      p. Trench and Excavation (Refer to section 3.45).....Competent
   8. Site Specific Safety Plan (**SSSP**) (Refer to section 2.1.B)
      a. Communicates how the work will be done safely taking into consideration personnel, inspectors, visitors, and the general public (e.g. patients, faculty, and pedestrians). This plan shall include, but not necessarily be limited to:
         i. Confined Space .....(Refer to section 3.8)
         ii. Crane Picks and Critical Lifts .....(Refer to section 3.10 & 3.11)
         iii. Demolition .....Refer to section 3.12)
         iv. Explosives.....(Refer to section 3.17)
         v. Fall Protection.....(Refer to section 3.18)
         vi. Job Hazard Analysis (JHA) .....(Refer to section 2.4)
         vii. Lead Abatement.....(Refer to section 3.31)
         viii. Lockout/Tagout (LOTO).....(Refer to section 3.33)

ix. Precast, Pre-fabricated Concrete, Tilt-up Panels.....(Refer to section 3.38)
x. Respirator Protection .....(Refer to section 3.39)
xi. Scaffold.....(Refer to section 3.40)
xii. Silica and Dust Exposure Protection.....(Refer to section 3.41)
xiii. Traffic Control, Flagging, Operations and Plate Bridging .(Refer to section 3.44)
xiv. Trench and Excavations (20' or greater).....(Refer to section 3.45)

2.3 Project Safety Orientation and Training

A. Personnel must attend a project site safety orientation conducted by the Construction Manager before personnel starts.
   1. During the orientation, Contractor shall provide a copy of the appropriate required equipment certification and/or documented training as noted in 2.2.A.6.

B. Contractor is responsible to advise the Construction Manager of new personnel on the project site and coordinate project site safety orientation prior to the starting work.

2.4 Job Hazard Analysis (JHA)

A. Developed by the Contractor and/or its Subcontractor for critical activities identified by Contractor, Subcontractor , Construction Manager, and/or Owner. This would include, but not limited to:

Personal fall arrest systems	Crane picks (74% or less of crane capacity)	Lead abatement
Live electrical work	Crane picks (75% or greater of crane capacity)	Use of explosives
Trench/Excavations (5ft or deeper)	Tilt-up	Work on or adjacent to road ways
Confined space	Asbestos abatement	Helicopter picks

B. The JHA's are to be completed by the Contractor's supervisor familiar with the work activity to be performed.

1. The JHA will break down the work activity into key steps, identify the hazards associated with each step, and the controls to either eliminate, avoid and/or protect against potential accident.
2. Prior to commencing the work activity, the Contractor's supervisor will review the completed JHA with personnel performing the work activity.
3. Refer to Exhibit "C.2" for the form.

C. The JHA's will be kept by the Contractor for future reference and a copy of the JHA will be submitted to Construction Manager.

2.5 Pre-shift Meeting

A. A pre-shift production and safety meeting shall be conducted at the start of each shift.
   1. Refer to Exhibit "C.3" for the form.

B. These meetings shall:
   1. Review production activities for the shift.
   2. Review safety activities that are a component of the production activities.

C. The meeting at a minimum to focus on the following:
   1. Tasks for the shift.
      a. Applicable Job Hazard Analysis' (JHA's).
      2. Tools and equipment needed for those tasks.
   3. Materials needed for those tasks.
   4. Proper material handling techniques.
   5. Safe work procedures to perform those tasks.
   6. PPE needed to safely perform those tasks.
   7. Other pertinent information.
   8. Questions from personnel.

2.6 Injury and Incident Reporting

A. In the event of an Injury or incident, notify Construction Manager's Project Superintendent immediately. This includes any member of the general public, third party, and/or property damage.
   1. A detailed written report is to be furnished within **twenty-four (24) hours** of the injury or incident and shall include the following:
      a. Copies of all reports of any injury or incident involving other people (e.g. general public) or property damage caused by their actions.
      b. Signed statements from witnesses of their observations. Witness statements shall contain the name and permanent address of the witness.
      c. Recommendations to prevent recurrence of the injury or incident.
      d. How the report will be communicated to all personnel (e.g. tailgate meeting).
         i. Submit to Construction Manager**,** sign-in sheet, the same day they are conducted.

B. Notify Construction Manager's Project Superintendent the same day of any "near-miss" incidents.

2.7 Safety Meetings

A. Weekly safety meetings are to be conducted in compliance with Cal/OSHA standards, which address the specific hazards associated with their trade. Provide a copy of attendees with their signature along with the meeting minutes to Construction Manager weekly.

B. A Superintendent and/or Foreman shall be present at all Construction Manager scheduled safety/coordination meetings.

C. All Contractors will attend any meeting, such as an "all hands safety meeting", scheduled by Construction Manager related to safety.

2.8 Safety Inspections

A. Contractor shall designate a project site safety representative (e.g. Superintendent, Foreman), who shall conduct and document a **safety inspection** of their work areas and submit a copy to Construction Manager the same day the inspection was performed. Safety inspections are to be conducted daily and more frequently if necessary. Any conditions that may affect the safety of persons or property will be noted in writing for correction by the creating Contractor.

2.9 Disciplinary Policy and Enforcement

A. A plan for disciplinary action for violations of known safety requirements shall be part of the Contractor's IIPP.

B. This program is the minimum safety standards established for this project site and is not intended to take the place of a Contractor's Disciplinary Policy.

C. Construction Manager reserves the right to stop Contractor's work if Construction Manager believes Contractor is not performing their work in compliance with any applicable safety laws or regulations or agreed upon safety action plan/program (e.g. JHA, Crane pick plan). The work activity will cease until corrective action is taken by the Contractor. If Contractor fails to take corrective action, Construction Manager, in its discretion, shall have the right, but not the obligation, to take corrective action and to charge the cost and/or expense thereof against Contractor.

D. The Contractor agrees to enforce compliance with the following disciplinary actions as a result of committing a safety violation:

1. Action Level One (1) – If Construction Manager observes that Contractor has failed to comply with any safety requirements applicable to the work, Construction Manager will have the right, but not the obligation, to issue a written Safety Notice to the Contractor.
2. Action Level Two (2) – If an observed non-compliance with safety requirements is not corrected by Action Level One, or if the Contractor repeatedly fails to comply with the safety requirements applicable to the project site, Construction Manager shall have the right, but not the obligation, to issue a second written Safety Notice to the Contractor and it's surety.
    a. The Contractor may not resume work until Construction Manager and the Contractor's reputed Executive in charge, such as its President or Operations Manager, have met and the Contractor has demonstrated that it is prepared and able to take specific and adequate corrective actions.
    b. Construction Manager may, in the exercise of its sole discretion, require of Contractor to include in their corrective actions, but are not limited to, the following:
        i. Removal of certain Contractor or subcontractor personnel from the project site.
        ii. Alteration of the Contractor's or subcontractor's job procedures.
        iii. The Contractor shall not resume work until proposed corrective actions are reviewed by Construction Manager and has agreed to the work proceeding. Construction Manager will document the meeting results in the form of meetingminutes, a copy of which will be provided to the Contractor and maintained at the project site.
3. Action Level Three (3) – If Action Levels One and/or Two do not result in the Contractor's performance being brought into compliance with applicable safety requirements, then other actions, including, without limitation, contract termination may result.
4. Nothing stated under 2.9 (above) shall be interpreted as creating or implying any obligation on the part of the Owner or Construction Manager to issue any notices,

whether formal or informal, to Contractor in the event of an incident or of circumstances involving the risk of an incident. Notices issued to Contractor, whether or not in the forms suggested above, shall be complied with by Contractor. Nothing stated herein shall be interpreted as limiting any right's or remedies to the exercise of procedures set forth in this section.

5. **IMMINENT DANGER** (any conditions or practices in any place of employment which are such that a danger exists which could reasonably be expected to cause death or serious physical harm) – Any imminent danger type safety violations shall result in **immediate suspension** and/or permanent removal. Any personal removed is not permitted on any Construction Manager's projects.

PART 3 – SAFETY STANDARDS

3.1 Air Monitoring Equipment (see Confined Space Entry for additional requirements)

A. Appropriate multi gas air monitoring equipment shall be used to test confined spaces, utility holes, cable vaults, pits, and similar spaces for flammable, toxic, or oxygen deficient atmospheres. The exposing Contractor(s) is (are) responsible for the provision, maintenance, calibration and testing of equipment.

B. Air monitoring equipment must be tested and calibrated as required by the manufacturer before each use.

C. Prior to use, personnel must be trained per manufacturer requirements on the use, limitations and alarm modes of each air-testing device that is (are) used.

D. Personnel must immediately leave work area whenever an equipment alarm sounds due to:
   1. Low or high oxygen level (acceptable range is 19.5% - 23% oxygen).
   2. Combustible gas above 10% lower explosive limit (LEL).
   3. Hydrogen Sulfide reaches permissible exposure limit of 10 ppm, or other toxic gas level reading.
   4. Sensor failure.
   5. Low battery alarm.

3.2 Asbestos

A. Abatement Contractor must be licensed in accordance with applicable State, Federal, and Local requirements to perform removal and disposal of asbestos containing material and encapsulation.

B. The Contractor shall ensure personnel are trained in asbestos awareness to identify ACM and PACM.

C. Upon discovery of any asbestos containing materials (ACM) or presumed asbestos containing materials (PACM), Contractor shall stop work in such areas and notify Construction Manager.

D. All asbestos abatement and removal work must follow all regulations of Cal/OSHA, the Environmental Protection Agency (EPA), and the applicable Air Quality Management District (AQMD).

E. Abatement Contractor's Competent Person shall:
   1. Conduct an exposure assessment immediately before or at the initiation of the operation to ascertain expected exposures during that operation or workplace.
   2. Shall make frequent and regular inspections:
      a. Class I jobs, project site inspections shall be made at least once during each work shift, and at any time when requested by personnel.
      b. Class II, III and IV jobs, project site inspections shall be made at intervals sufficient to

assess whether conditions have changed and at any time when requested by personnel.

3. For Class I or II asbestos work, perform or supervise the following duties, as applicable:
   a. Set-up regulated area, enclosures, or other containments; ensure integrity of containments, control entry/exit from enclosure or area.
   b. Supervise personnel exposure monitoring.
   c. Personnel must wear respirators and protective clothing.
   d. Ensure personnel set up, use and remove engineering controls, including personal protective equipment, hygiene facilities, decontamination procedures, proper work practices, and notification requirements.

3.3 Barricades and Signage

A. Temporary perimeter fencing may be provided by the Construction Manager. Contractor to refer to logistics plan, subcontract agreement or any other contract document that may communicate the limits of perimeter fencing being provided by the Construction Manager. Contractor to provide the following as a minimum:
   1. Barricades are required around excavations, holes or openings in floor or roof areas, edges of roofs and elevated platforms, overhead work and overhead utilities, and wherever necessary to warn or protect against falling in, through or off. Barricades must be suitable for the area of use.
   2. To ensure the safety of the general public, Contractor shall provide and maintain adequate protection, such as chain-link fences, gates and barricades, to separate work areas from areas outside project site limits. Barricades must be suitable for the area of use.
   3. Barricades may also be used to isolate people from work activities as required by the activity, potential hazards created by the activity, or the location of the activity. Barricades must be suitable for the area of use.

B. Chain-link Fencing:
   1. Shall be free from barbs, excessive galvanizing material that may form sharp projections (icicles), or other projections that may cause injury.
   2. Must be in good repair and installed to ensure stability of the fencing from being knocked over.
   3. Must be installed/braced to prevent being blown over during windy conditions.
   4. Base supports shall be installed/placed to eliminate tripping hazards when fencing is placed adjacent to sidewalks and walkways.

C. Contractor shall notify Construction Manager and obtain approval to remove any barricade (e.g. guardrails), and other perimeter protection (e.g. fencing) and/or floor opening covers.

D. Contractor shall notify those affected by the removal of any barricade, perimeter protection and/or floor opening cover, and will be solely responsible, including providing additional temporary safety measures for area and those in the area during the period of temporary removal.

E. Contractor shall immediately return to proper condition and maintenance, any barricade, perimeter protection and/or floor opening cover removed because of their work.

F. Contractor shall provide appropriate signs (e.g. Powder Actuated Tool in Use).

3.4 Burning, Welding and Hot Work

A. Hot work includes, but is not limited to, the following activities: grinding, cutting, welding, burning, brazing or soldering, heating, hot air welding or other operations that generate heat, flames, arcs, sparks or other source of ignition.

B. Contractor shall have a written Hot Work Program for fire prevention during hot work activities.

C. Contractor shall procure and post all permits necessary for hot work as required by the Fire Marshal or Fire Code having jurisdiction over the project site. The Contractor shall attain a copy of all permits before starting any work.

D. Prior to performing hot work, evaluate the following: type of hot work to be performed, project site preparation, atmospheric conditions, use of appropriate personal protective equipment, and firefighting equipment.

E. Project site preparation should include a survey for the following: combustible materials; hazards posed by heat transfer; flammable, corrosive, or toxic residues; equipment linings, appropriate lockout/tagout applications, and housekeeping.

F. Contractor's Competent Person shall:
   1. Notify Construction Manager of hot work activity.
   2. Inspect the work area(s) for safety factors and assure fire extinguishers or other firefighting equipment are present.
   3. Attach the hot work permit to the fire extinguisher or other fire fighting equipment that will be present during the activity.

G. Fire extinguishers rated at least 10B:C, and/or other fire protection equipment are to be provided by the Contractor for each hot work operation in accordance to Cal/OSHA and local Fire Marshal / Fire Code requirements.
   1. This equipment shall be located on the same elevation(s) of the work and within 25 feet of the hot work activity.

3.5 Clothing and Personal Protective Equipment (PPE)

A. Without limitations to any other requirements of applicable laws or the contract documents, Contractor and subcontractor are responsible for providing all Personal Protective Equipment (PPE) for their personnel (e.g. hard hats, safety glasses, face shield, harness, lanyard, N-95 particulate mask, respirator, high visibility vest, and hearing protection).

B. PPE must be properly fitted and suitable for protection from existing hazards.

C. Provide adequate training for the use of PPE that personnel will wear and/or use as required by applicable Cal/OSHA standards.

D. The minimum PPE requirements of the project:
   1. **Hard hats** (ANSI Z89.1 or equivalent) shall be worn at all times (100%) while on the construction project site, except in the break areas and construction offices.
      a. Welders must wear a hard hat when using welding hoods.
      b. No metal hard hats, "cowboy" style hard hats, or bump caps allowed.
   2. **Safety glasses** (ANSI Z87.1 or equivalent) that meet Cal/OSHA standards for the exposure shall be worn at all times (100%) while on the construction project site, except in the designated break areas and construction offices. This includes those with prescription eye wear.
   3. **High visibility vests** (Class 2 vest) required; safety orange, green or yellow, shall be worn at all times (100%) and must be the outermost garment while on the construction project site, except in the break areas and construction offices.
      a. ANSI 107-2010 **Class 3 vests** are required for personnel with high task loads in a wide range of weather conditions and where traffic exceeds 50 mph. These work activities could include but not limited to all personnel, vehicle operators, utility personnel, survey crews, emergency responders, and railway.
   4. **Construction work boots** (ANSI Z41.1 or equivalent) shall be worn at all times during

the course of all construction activities. They must be substantial leather boots with good rubber soles.

a. Additional foot protection (e.g. metatarsal guards, steel toe) may be required if there is a danger of foot injury due to falling objects, rolling objects, or chemical exposure (e.g. chemical resistant type rubber boot). Metatarsal guards are required when operating a wacker, jack hammer, and jumping jack tamper.
b. Loafers, sandals, tennis shoes, running shoes, or open-toed shoes are not proper work shoes and are not permitted.

5. **Long Pants** are required at all times. No sweat pants.
6. **Shirts** must have a minimum four (4) inch sleeve length over shoulders and shall be worn at all times.
   a. Tank tops, cut-offs, net shirts, sleeveless shirts are prohibited.
   b. No questionable, profanity and/or vulgar images, words or logos are allowed on shirts or other visible clothing apparel.
7. **Hand Protection** may be required if there is a danger to hand injury due to cuts, burns, electrical current, or harmful physical or chemical agents. Protective gloves are required when working with wet concrete.
8. **Hearing Protection** devices shall be used to protect from noise levels which exceed 90dBA.
9. **Face Protection** may be required when:
   a. There is an inherent risk from flying particles or injurious chemicals.
   b. Cutting, grinding or sanding of finished concrete or metals.
10. **Respiratory Protection** may be required if engineering or operational controls are not feasible for limiting harmful exposure to airborne contaminants.

3.6 Compressed Gas Cylinders, Gas Cutting and Welding

A. All cylinders must be secured and transported in an upright position at all times.

B. Oxygen and fuel gas cylinders must be separated at least 20 feet, or enclosed with a 5 foot high barrier with a ½ hour fire rating when in storage and placed away from potential contact that may rupture the tanks.

C. Cylinder valves shall be turned to the off position if left inactive for 30 minutes or longer.

D. Cylinders designed for valve protection caps must have the valve protection cap installed when in storage or when being transported.

E. Cylinders, hoses, and fittings shall be checked for leaks and damage on a regular basis.

F. Cylinders must be labeled as to the nature of their contents per NFPA requirements and the OSHA Hazard Communication Standards.

G. Cylinders shall not be taken into confined spaces.

H. Cylinder storage areas shall have appropriate warning signage posted.

I. Appropriate fire-fighting equipment must be provided for each cylinder storage area.

J. Torches and hoses shall not be left connected to cylinders overnight.

K. Torches and hoses shall not be stored in unventilated gang boxes or storage containers.

L. Flashback arrestors and check valves shall be installed in accordance with manufacturer's instruction on all oxygen-fuel torch sets.

3.7 Concrete and Masonry Construction

A. The creating Contractor must guard all protruding reinforcing steel to eliminate impalement hazards.

B. Protective gloves are required when there is skin contact with wet concrete.

C. Concrete – Structural Concrete
   1. Do not remove any forms or shoring until a determination has been made by the testing lab that the concrete has gained sufficient strength to support its own weight and that of superimposed loads.
   2. Loads shall not be placed on newly constructed concrete structures or fill on decks until the concrete has reached its specified compression strength unless otherwise accepted by the structural engineer of record. Contractor shall be the point of contact for information regarding this requirement.
   3. Where concrete shoring/reshoring is employed, a shoring/reshoring plan specific shall be available for review at the project site.
      a. Deviations from the shoring/reshoring plan will require the issuance of a new shoring/reshoring plan.
      b. The addition of superimposed loads on the floor (such as equipment and/or materials) that are not listed in the reshoring plan shall be construed as a deviation from the plan.

D. Concrete – Pouring and Pumping Operations
   1. Permanent and temporary power lines shall be identified prior to the start of a concrete pour. Appropriate safeguards shall be implemented for the pumping, pouring and finishing operations.
   2. A project site traffic control plan shall be established for concrete truck traffic. Trained Spotters and Flaggers shall be used as necessary for public and personnel safety.
   3. Those involved in pouring and finishing activities shall have appropriate personal protection equipment (PPE), including gloves, mud boots, over boots, rubber boots, and eye protection.
   4. Concrete truck washout receptacles shall be in an area acceptable to Construction Manager and located out of vehicular and pedestrian travel areas.
   5. Diapers or equivalent shall be provided for the pump and concrete trucks when the truck to pump transfer occurs in a public street or other public area.
   6. Provide a project site logistics plan for each pump location that includes provisions for concrete truck traffic routing and control, as well as pedestrian traffic routing and control (if applicable).

E. Coring, Cutting, Chipping, Drilling, Grinding, Profiling, and Sanding
   1. All areas of work are to be reviewed for possible impact to any existing conditions.
      a. Consider what is or may be on the other side of concrete that is being cored, cut or chipped (occupied area, system piping, embedded anchors, structural member, and soil).
      b. Consider what is or may be embedded in the concrete (conduit, reinforcing steel).
   2. If it is determined, there is any potential of embedded items in the concrete, a sub- surface investigation must be performed by the Contractor (e.g. pacometer, ferro- scan, x-ray, and ground-penetrating radar). A twelve foot (12 ft) area on either side of the planned area shall be scanned.
   3. ANSI-Approved face shield and eye protection and the appropriate respiratory protection is required.
   4. Dry cutting, coring, chipping, drilling, grinding, profiling, and profiling of concrete or masonry is prohibited.
   5. Wet method or local exhaust ventilation is required to control respirable crystalline silica, dust and airborne particulates. Additional requirements can be found in section 3.38 –

Silica and Dust Exposure Protection.

F. Masonry Construction
   1. Masonry walls shall be braced and/or supported as required by Cal/OSHA and/or local requirements.
   2. Clear Zone - Unauthorized personnel shall be prohibited from entering the work area.

3.8 Confined Space (See Air Monitoring for Additional Requirements)

A. Contractor shall submit a written Program addressing confined space entry and rescue procedure.
   1. Must abide by the applicable Cal/OSHA standards for all confined space entry operations and furnish all appropriate personnel, equipment, and support.
   2. Obtain permits required for confined space entry programs. Submit a copy to Construction Manager for record.

B. Contractor shall ensure that a Competent Person identifies all confined spaces in which their personnel may enter.

C. All confined spaces will be treated as permit required confined space until proven otherwise by the Competent Person.

D. Those entering must be trained in the hazards of confined space work, including operating and rescue procedures, the use of respiratory equipment, and instructions as to the hazards they may encounter.

E. Provide all necessary entry-rescue equipment required for all entries into confined spaces (e.g. tripod, full body harness and lifeline or equivalent) as required by the applicable Standard. Wrist straps may be used in designated areas instead of full body harness.

F. Prior to entry into a confined space, ensure all lines that may convey flammable, injurious, or incapacitating substances into the space are disconnected, blinded, or blocked off by other positive means in accordance with Lockout/Tagout (LOTO) regulations.

G. Prior to entry into confined space, test the air with an appropriate device or method for: (1) Oxygen content, (2) Flammable gases and vapors, and (3) Potential toxic air contaminants. A written record shall be made and kept at the project site.

H. The confined space shall be emptied, flushed, or otherwise purged of flammable or injurious substances to the extent feasible. Proper ventilation equipment is required.

I. Whenever an atmosphere free of dangerous air contamination and/or oxygen deficiency cannot be ensured, the Contractor shall provide NIOSH approved respiratory equipment to personnel who are involved in a comprehensive respiratory protection program in accordance with applicable Cal/OSHA standards.

J. Where standby personnel are required, they must have a valid certificate in First Aid and CPR training from the American Red Cross, or equivalent training verified by documentary evidence.

K. Visual contact or two-way radio communication must be available at all times.

L. Must establish a means of communication with outside emergency services.
   1. Provide a 2-way form of communication:
      a. from inside to outside and
      b. outside to 911.
   2. This procedure must be made available to all those that enter and/or those on standby.

3.9 Connections to Utilities

A. The Contractor shall not, nor allow any subcontractor to make any temporary service connections to electrical, water, air or steam utilities without prior approval of Construction Manager.

B. Temporary connections shall comply with all applicable Federal, State, and local regulations.

C. Temporary connections shall be inspected on a regular basis.

3.10 Crane Pick (Cranes, Boom Trucks and Rigging)

A. A written "Lift Pick" plan for all crane picks regardless of the capacity must be submitted to Construction Manager. The following documents must be included:
   1. Copies of the Crane Certifications (annual and quadrennial).
   2. Copy of the Crane Operator's Certification.
   3. The name and supporting documents for qualified riggers and signal persons, which will be provided by the Contractor.
   4. Refer to Exhibit "C.4" – "Lift Pick & Critical Lift Pick" for the form.

B. Cranes and derricks exceeding three (3) tons rated capacity, and their accessory gear shall not be used until the employer has ascertained that such equipment has been certified as evidence by current and valid documents attesting to compliance with the following:
   1. Test and examinations shall be conducted annually by a currently licensed certificating agency or designee in the certificating agency license, and a certificate shall be issued by the certificating agency.
   2. Current annual and quadrennial inspection certificates shall be maintained on each crane.

C. A licensed certificating agency or designee in the certificating agency license shall re-inspect any crane that is involved in any incident or is damaged during set-up or operation, and a new certificate of inspection issued prior to being returned to service.

D. Only operators authorized by the Contractor that are trained and certified in the safe operation of cranes or hoisting apparatus shall be permitted to operate such equipment.
   1. Operators shall have valid evidence of current Licensing or Certification in accordance with State and Local requirements.
   2. Operators not having such evidence shall not be permitted to operate applicable machinery.

E. Outriggers shall be fully extended during all lifts. If geometry factors prevent fully extending the outriggers, they need to be extended as far as possible and "off the rubber" load charts limits shall be used.

F. Picks "off the rubber" will not be permitted, regardless of load.

G. When required by the manufacturer's or certifying agent's instructions, outriggers shall be set so that wheels or crawler tracks within the boundary of the outriggers shall be relieved of all weight by the outrigger jacks or blocking.

H. Plates, pads or mats shall be used under the outriggers or crawlers of all cranes and shall be of suitable material and size to support the crane on the surface that it is set upon.

I. All mobile cranes having either a maximum rated boom length exceeding 200 feet or a maximum rated capacity exceeding 50 tons shall be equipped with a load indicating device or a load movement device.

J. Any crane that meets the following, must file a Notice of Proposed Construction or Alteration (Form 7460-2) with the FAA for approval:

1. Greater than 200 feet in height.
2. Within 20,000 feet of a public and/or military airport and exceeds 100:1 (H:V) in surface elevation.

K. Cranes shall be equipped with a boom angle or a boom radius indicator and clearly legible load chart in clear view from the Operator's position.

L. An effective, audible warning and operating signal device (such as a horn) shall be provided on the outside of the crane. The controls shall be in easy reach of the Operator.

M. The Qualified Person shall:
1. Visually inspects the crane, derrick or hoist's controls, rigging and operating mechanism prior to the first operation of any work shift.
2. Records daily inspections by the operator or other Qualified Person shall be maintained on the crane and must be available for review upon request.
3. Adjustments and repairs to the crane.
4. Where the weight of the load being handled is unknown and may approach the rated capacity, shall determine the magnitude of the load unless the crane is equipped with a load-indicating device.

N. The Contractor responsible for the hosting activity shall provide a Qualified Person to direct the lift. The Qualified Person shall see that:
1. The crane is properly leveled for the work being performed and blocked where necessary.
2. The load is well secured and properly balanced in the sling or lifting device before it is lifted more than a few inches.

O. A designated person shall monitor the clearance between crane booms, load lines, and loads, and power lines and alert the Operator when necessary.
1. For power lines rated 50kV or less, minimum clearance between the lines and any part of the crane or load is 10 feet.
2. Power lines rated over 50kV, minimum clearance between the lines and any part of the crane or load shall be at least 20 feet. If 20 feet is not achievable, the Contractor shall schedule a formal meeting with Construction Manager to review clearance tables, de-energize power, and alternatives.

P. A qualified signal person shall be provided when the point of operation is not in full and in direct view of the operator unless a signaling or control device is provided. Only one person shall be permitted to give signals to the operator.

Q. A fire extinguisher of not less than 10-B:C rating shall be kept in serviceable condition and readily accessible to the Operator.

R. Operations shall be conducted and the job controlled in a manner to prevent loads from being passed directly over anyone, occupied workspaces, or occupied passageways.

S. Any personnel involved in the operation may give a "stop" signal if such a signal is warranted.

T. A legible chart depicting and explaining the system of crane signals used shall be conspicuously posted in the vicinity of the hoisting operation.

U. No one shall be permitted to ride on loads, hooks, or slings of any derrick, hoist, or crane.

V. Swing radius protection shall be provided where a rotating crane is positioned to operate in areas where people may be caught between rotating parts and fixed objects or non-rotating

crane components.

W. Tag lines, restrain lines, or guide ropes shall be used on all loads except where their use presents a greater hazard. Such lines or ropes should be insulated to prevent shock, and shall not contain knots or splices that may snag on an object.

X. Cranes, hoists, or derricks shall not be left unattended while the load is suspended.

Y. Before leaving the crane unattended, the Operator shall:
   1. Land or properly secure any attached load.
   2. Disengage clutch (if applicable).
   3. Set travel, swing, boom brakes, and other locking devices unless otherwise specified by the certifying agents.
   4. Put controls in the "off" position.
   5. Stop the engine.
   6. Secure the crane against accidental travel.

Z. Rigging, Slings, and Hooks
   1. Hoisting hooks shall be of the safety latch-type.
   2. Crane hooks with cracks or with deformation of throat opening more than 15% in excess of the normal opening, or more than 10-degrees twist from plane of unbent hook, shall be removed from service.
   3. Ropes shall be inspected for proper lubrication, excessive wear, broken strands, and proper weaving.
   4. Each day before use, slings and all fastening and attachments shall be inspected for damage or defects by a Qualified Person. Any wears showing deformation or damage will be permanently removed.
   5. "Free Rigging" (lifting from forks of forklift without manufacturers engineering attachment) will not be permitted for any reason.
   6. In order to determine proper time for replacement, a continuing inspection record shall be maintained for hoisting ropes. Conditions such as the following shall be reason for replacement:
      a. In running ropes, 6 randomly distributed broken wire in one rope lay, or 3 broken wires in one strand in one lay.
      b. Wear of 1/3 the diameter of the outside individual wires.
      c. Kinking, crushing, bird caging, or other damage resulting in distortion of the rope structure.
      d. In stranding ropes, more than 2 broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection.
      e. Reduction of rope diameter below nominal diameter due to loss of core support, internal or external corrosion, or wear of outside wires.
   7. Fixtures are usually attached to wire rope by the use of wire rope clips. The clips must be attached with the inside curve of the U-bolt against the dead, or short end of the wire rope, and flat clip (saddle) against the live, or long end of the wire rope.
   8. Slings shall have permanently affixed tags stating the:
      a. Manufacturer's name or trademark.
      b. Rated capacity.

AA. Multiple lift shall only be performed if the following criteria are met:
   1. A multiple lift rigging assembly is used.
   2. A maximum of five members are hoisted per lift.
   3. Rigging procedures shall prevent hazardous contact between the structural steel members being hoisted, adjacent structures or anyone.

4. Only beams and similar structural members are lifted.
5. Anyone engaged in the multiple lift have been trained in these procedures in accordance with Cal/OSHA.
6. No crane is permitted to be used for a multiple lift where such use is contrary to the manufacturer's specifications and limitations.
7. Components of the multiple lift rigging assembly shall be specifically designed and assembled to support the maximum capacity for the total assembly and for each individual attachment point. This capacity, certified by the manufacturer, shall be based on the manufacturer's specifications with a 5 to 1 safety factor for all components.
8. Multiple lift rigging assembly shall be rigged with members:
    a. Attached at their center of gravity and maintained reasonably level.
    b. Rigged from top down.
    c. Rigged at least 7 feet apart.
    d. The members on the multiple lift rigging assembly shall be set from the bottom up.

3.11 Critical Lift

A. Lifts that exceed 75% of the rated capacity of the crane or derrick, or requires the use of more than one crane, derrick, or lifting device; or is deemed a critical lift by the Owner or Construction Manager by reason of potential negative consequences to safety, structure, or schedule; in addition to the above requires the following:

1. A Critical Lift Plan shall be prepared by a Qualified Person. The Qualified Person preparing the plan may be the crane operator, lift supervisor, or rigger and a copy provided to the Contractor(s) and Construction Manager.
    a. The crane operator, lift supervisor, and rigger shall participate in the preparation of the plan.
    b. The plan shall be reviewed by, and signed by, all personnel involved with the lift.
    c. The plan shall specify the exact size and weight of the load to be lifted and all crane and rigging components that add to the weight. The manufacturer's maximum load limits for the entire range of the lift as listed in the load charts shall also be specified.
    d. The plan shall specify the lift geometry and procedures, including the crane position, height of the lift, the load radius, and the boom length and angle, for the entire range of the lift.
    e. The plan shall designate the crane operator, lift supervisor, and rigger, and state their qualifications.
    f. The plan will include a rigging plan that shows the lift points and describes rigging procedures and hardware requirements.
    g. The plan will describe the ground conditions, outrigger or crawler track requirements, and, if necessary, the design of mats necessary to achieve a level, stable foundation of sufficient bearing and capacity for the lift.
    h. The plan will list environmental conditions under which lift operations are to be stopped.
    i. The plan will specify coordination and communication requirements for the lift operation.
    j. For tandem or tailing crane lifts, the plan will specify the make and model of the cranes, the line, boom and swing speeds, and requirements for an equalizer beam.
2. Refer to Exhibit "C.4" – "Lift Pick & Critical Lift Pick" for the form.
3. Critical lift plans shall be submitted to the Construction Manager.

3.12 Demolition

A. Demolition work shall at all times be under the immediate supervision of a Qualified Person with the authority to secure maximum safety for personnel engaged in demolition work.

B. Obtain AQMD permit and forward a copy to Construction Manager.

C. Prior to permitting and the start of demolition operations, the Qualified Person shall make a

survey of the structure to determine the condition of the framing, floors, and walls, and the possibility of an unplanned collapse of any portion of the structure. Any adjacent structure where personnel may be exposed shall also be similarly checked.

1. The survey shall be in written form, kept on the project site and submitted to Construction Manager.

D. Utility companies shall be notified and all utility services shut off, capped, or otherwise controlled, at the building or curb line before starting demolition. The Contractor is responsible to verify that these actions have been taken.
   1. The Contractor shall develop an Emergency Call List for all known utility owners prior to the start of demolition activities.
   2. A project site plan shall be marked up to show the locations of known utilities, and the nearest identified shut-off valves/controls. Construction Manager shall be provided a copy. Verify that the shut-off valves/controls are working properly prior to work beginning.

E. Confirm existing alarm systems have been identified and taken out of service prior to commencing demolition operations. Alarm services shall be notified that the alarm will be taken out of service before taking the system out of service.

F. Determine any type of hazardous chemicals, gases, explosives, flammable materials, or similarly dangerous substances have been used in any pipes, tanks, or other equipment on the property.

G. When the presence of hazardous substances is apparent or suspected, Contractor shall stop work and notify Construction Manager. Material such as but not limited to:
   1. Pipe-covering insulation, steel beam and column fire protection, HVAC duct, VCT, plaster, acoustical tile and flooring adhesive shall be surveyed for asbestos.
   2. Paint and ceramic tile shall be surveyed for lead.

H. During demolition, continuing inspections shall be made as the work progresses to detect hazards resulting from weakened, load burdened, or deteriorated floors or walls or loosened materials.
   1. Ensure that floor load limits are not exceeded during demolition operations.
   2. Disperse demolition equipment throughout the structure and remove demolished materials to prevent excessive loads on supporting walls, floors or framing.

I. Adequate dust control measures shall be provided during demolition, stockpiling and loading operations.

J. Walking across exposed floor joists, steel beams, or girders is prohibited.

K. Provide passage for others around the area of demolition. Conduct operations to prevent damage to adjacent buildings, structures, other facilities, and people.

L. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement or collapse of structures to be demolished and to adjacent facilities.

M. Demolish concrete and masonry in sections. Use bracing and shoring to prevent collapse.

3.13 Electrical

A. Electrical work on live circuits will be only permitted by a qualified electrician. NFPA 70E arc flash requirements must be followed.

B. All temporary power panels shall have covers installed at all times by the Contractor. All

circuits must be clearly labeled.

C. Supply ground fault circuit interrupters (GFCI) for all temporary electrical wiring cords and equipment.
   1. GFCI shall be tested in accordance with manufacturer's requirements. Logs shall be maintained of all such testing.
   2. GFCI with an automatic reset feature are not permitted on the project site.
   3. Assured grounding may be used in conjunction with GFCI protection but is not permitted as an alternative to GFCI protection.
   4. Provide monthly inspections.

D. Temporary lighting shall not be suspended by its' extension/power cord.

E. Temporary lighting must be equipped with guards to prevent contact with the bulb.

F. Romex cable will not be permitted to be used as electrical cord.

G. Contractor shall ensure that all temporary power cords are at least 12awg heavy-duty construction grade, are in good condition, and have correct voltage and amperage rating.

H. When feasible, all temporary power cords shall be secured above the floor to avoid trip hazards in walking and working surface areas.

I. Outdoor cables must be protected from damage from pedestrian and vehicle traffic.

J. Ground pins shall not be removed from electrical cords.

K. Damaged or defective tools and cords shall be removed from service.

L. Power tools must be double insulated or grounded properly and inspected prior to use.

M. Properly Lockout /Tagout (LOTO) any equipment within the Contractor's responsibility. Control of the Lockout/Tagout is also the Contractor's responsibility.

N. The Contractor shall coordinate instances that require multi- Contractor Lockout/Tagout activities.

3.14 Elevating Work Platforms and Aerial Devices (e.g. Boom-lift, Scissor-lift)

A. Only authorized and trained personnel shall operate an aerial device or elevating work platform. Training records shall be maintained on the project site for review.

B. All aerial devices or elevating work platforms will be subject to a comprehensive inspection. Aerial or elevating work platforms will need to be inspected daily before use. Noncompliant equipment will not be permitted.

C. Boom, basket, platform load limits specified by the manufacturer shall not be exceeded.

D. No one shall sit or climb on the edge of the basket or platform or use planks, ladders, guardrails or other devices to gain greater height.

E. No one shall work off of elevated work platforms or aerial devices when exposed to winds 30mph or greater.

F. Elevating Work Platforms:
   1. An elevated work platform is a device designated to elevate a platform in a substantially vertical axis (vertical tower, Scissor Lift).
   2. The railing protection shall be 42 inches high, plus or minus 3 inches, with a mid-rail at

the half-way height point. Where the guardrail is less than 39 inches high, an approved personal ANSI certified fall protection system shall be used.

3. Powered elevating work platforms shall have both upper and lower control devices. Controls shall be plainly marked as to their function and guarded to prevent accidental operation.
4. An emergency stopping device shall be provided at the upper controls of elevating work platforms.

G. Aerial Device
   1. An aerial device is any vehicle-mounted or self-propelled device, telescoping extendible or articulating, or both, which is primarily designed to position personnel.
   2. Belting off to an adjacent pole, structure, or equipment while working from an aerial device is not permitted.
   3. Lift controls shall be tested in accordance with the manufacturer's recommendations or instructions prior to use to determine that such controls are in safe working condition.
   4. Aerial baskets or platforms shall not be supported by adjacent structures when personnel is on the platform or in the baskets while in an elevated position.
   5. While in an elevated aerial device, personnel shall be secured to the identified anchorage point through the use of a full body harness and lanyard for fall protection.

3.15 Emergency Action / Evacuation

A. Contractor is obligated to notify the Construction Manager and the other Contractors if their work activities will have an impact on the project site emergency action plan.

3.16 Equipment / Tools

A. Contractor equipment and tools must be in proper working condition and routinely (e.g. daily or prior to use) inspected for defects and removed from use if found to be defective.

B. Any equipment or tool found to be damaged or defective must be removed from service and repaired before it can be returned to service.

C. Manufacturer's instructions shall be followed with respect to equipment/tool operation and training requirements.

D. Equipment is not to be used with loads that exceed the recommended rated capacity.

E. Contractor is to use only their equipment and tools, and not those of other Contractors, unless they are properly trained and authorized.

F. Tools and equipment are to be used for their designated purpose.

G. Tools and equipment are to be used only by trained and authorized personnel.

H. Proper guards or shields must be installed on all power tools before use. All guards must be manufactured by and/or approved by the manufacturer for that particular piece of equipment.

I. "Wedging" or "Pegging" guards on circular saws or other equipment, rendering them non- functional, is not permitted.

J. No internal combustion vehicle or machinery is to be operated inside a structure unless proper controls have been implemented to minimize carbon monoxide levels.

K. Tools and equipment must be properly stored, secured and located away from unauthorized access.

L. For pneumatic power tools, all air hoses exceeding ½ inch inside diameter shall have a safety device (commonly known as "OSHA valve" or "safety check valve") at the source of air supply or branch line origin (such as a manifold) to reduce pressure in case of hose failure.

M. Do not lift or lower portable electric tools by means of the power cord. Use a rope or handle.

3.17 Explosives

A. Blasting activities will be done in accordance with state, and local regulatory requirements.

B. Blaster must have all required federal, state, and local permits. A copy of the permits shall be forwarded to the Construction Manager. The actual permit shall be present on the jobsite during blasting operations.

C. Blaster must have a current valid California "Blaster's License" issued by Cal/OSHA. The license shall be physically present on the project site to accomplish the blasting operation and/or direct and supervise others in such operations.

D. Contractor to submit a written "Evaluation of potential rock blasting impacts and recommended practices" to Construction Manager.

E. Contractor to submit a written "Blasting plan" to Construction Manager, which would include, but may not be limited to, procedures for:
   1. Storage, handling, transportation, loading, and firing of explosives.
   2. Communication with authorities and landowners.
   3. Pre- and post- blast inspections.
   4. Mitigation controls for flying rocks, noise reduction, and misfires.
   5. Safety procedures (e.g. fire prevention, signs and flagmen, and warning signals).
   6. Mitigation of environmental impacts.
   7. Disposal of waste blast material.
   8. Blasting adjacent to existing overhead or underground utilities, roadways or trails, environmentally sensitive areas, farmlands, or areas with potential geologic hazards.

F. No smoking, open flames or other sources of ignition within 50 feet of any area where explosive materials are being handled, except devices necessary to ignite the fuses of set charges.

G. Empty boxes, paper and fiber packing materials which have previously contained high explosives shall not be used again for any other purpose. They shall be destroyed by burning at an isolated location outdoors, and no person shall be nearer than 100 feet after the burning has started.

H. Tamping poles or devices shall be made of wood or plastic materials manufactured for tamping explosives.

I. Loading shall not commence until all drilling is completed and drill holes are cleaned or blown out. When conditions justify simultaneous loading and drilling in the same area, such operations shall be separated as widely as practicable and in no case shall a drilling operation be closer than 50 feet to a hole being loaded.

J. All drill holes shall be sufficiently large to freely admit the insertion of the explosive materials.

K. No holes shall be loaded except those to be fired in the next round of blasting.

L. Use only lights specifically designated to be used within 50 feet of the loading area.

M. Loading operations shall be carried on with the smallest practical number of persons and explosive materials loading equipment present and no one but the loading crew, inspection personnel, and authorized supervisory personnel shall be allowed within 50 feet of the loading area.

N. Holes to be blasted shall be charged as near to blasting time as practical and such holes shall be blasted as soon as possible after charging has been completed.

O. Areas in which charged holes are awaiting firing shall be guarded or barricaded and posted or flagged against unauthorized entry.

P. When blasting under, or near overhead power lines, all loaded holes shall be covered with a nonconductive blasting mat anchored to prevent the mat or other material from being blown into the overhead lines.

Q. Drilling shall not be started until all remaining butts of old holes are examined for unexploded charges and if any are found, they shall be detonated or properly disposed of before other work proceeds.

R. The licensed blaster-in-charge shall fix the time of blasting.

S. Blasts are not to be fired until the licensed blaster-in-charge verifies the following:
   1. All surplus explosive materials are in a safe place,
   2. All security personnel at the blast area are in the proper location, and
   3. All personnel are either outside of the blast area or under sufficient cover.

T. Before adopting any system of electrical firing, the licensed blaster shall conduct a thorough survey for extraneous currents, and all dangerous currents shall be eliminated before any holes are loaded.

U. Blasts are not to be fired without a warning signal/procedure. The signals, which may be given by a siren, air horn, whistle or other device, shall be loud enough to be heard clearly in areas that could possibly be affected by the blast or flying rock from the blast.

V. Warning signals shall be given by the use of a compressed air whistle, a horn, lights or equivalent means, such as flaggers or voice warning and shall be clearly audible at the most distant point in the blast area. Where other than flagger or other visible method or voice warning is used, the following signals are recommended:

WARNING SIGNAL	5 minutes prior to the blast	A 1-minute series of long audible signals
BLASTING SIGNAL	1 minute prior to the blast	A series of short audible signals
ALL-CLEAR SIGNAL	Following inspection of the blast area	A prolonged audible signal

W. The “ALL CLEAR” signal shall not be given until the licensed blaster has made a thorough, visual inspection of the blast area for misfires.

X. Whenever blasting is being conducted in the area immediately adjacent to gas pipelines,

flammable liquid gas pipelines, electric, water, fire alarm, telephone, telegraph, and steam utilities, the licensed blaster shall notify the appropriate representatives of such pipelines or utilities at least 24 hours in advance of blasting, specifying the location and intended time of such blasting. Verbal notice shall be confirmed with written notice before the blast.

Y. After blasting, the blasting crew shall wait at least 5 minutes before returning to the point of blasting.

Z. If any misfires are found, or suspected to exist, they shall be reported to the person in charge. Steps shall be taken to eliminate all undetonated explosive materials.

AA. In case of a detonator misfire, the shot area shall be made safe under competent supervision by one of the following means after a 30-minute wait following electric or non-electric shock tube blasting, or a 60-minute wait following fuse cap blasting.

BB. No other work shall be performed in the danger area except that necessary to remove the hazard of the misfire. No other personnel except the licensed blaster and the necessary crew shall be in the danger area when a misfire hazard is being removed.

3.18 Fall Protection

A. 100% Fall Protection shall be implemented for all fall exposures of six (6) feet or more whether moving or stationary in an unprotected elevation, and anytime where a fall could occur from a surface that is not protected by handrails, hole-covers, guardrails or other appropriate fall elimination device.

B. Where a fall hazard exists, efforts must be made to eliminate the hazard; provide protection against the hazard; or establish alternative methods to control/monitor the hazard.

C. Any personnel approaching within six (6) feet of any skylight shall be protected from falling through the skylight or skylight opening.

D. Toeboards, debris netting (e.g. snow fence), or equivalent type material, shall be used at the perimeter of structures where other operations, facilities or people could be impacted by falling debris.

E. Rescue shall be addressed in the fall protection policies and fall protection training.

F. Methods of fall protection include:
   1. Guardrails and toeboards.
   2. Covers for floor and roof openings, pits, trap-doors, and temporary floor openings.
   3. Personal Fall Arrest System (PFAS).
   4. Personal Fall Restraint System (PFRS).
   5. Positioning Device System.
   6. Safety Nets.
   7. Scaffold Platforms.
   8. Roof Warning Lines.

G. The implementation of the fall protection plan shall be under the supervision of a Competent Person.

H. Contractor shall submit to Construction Manager a project site specific written fall protection plan prepared by a Qualified Person and developed specifically for work activities exceeding six (6) feet in elevation requiring fall protection. The fall protection plan must be signed by the

Contractor's:

1. Qualified Person who created the plan
2. Competent Person supervising operations covered by the plan
3. Contractor's Project Manager
4. Contractor's Project Foreman/Supervisor

I. Submit to Construction Manager documentation of training on Personal Fall Arrest System (e.g. harness, lanyard, anchor point) if anyone will be utilizing a body harness.

J. Each personal fall arrest system shall be inspected by a Competent Person in accordance with the manufacturer's recommendations. The date of each inspection shall be documented.

K. Personal Fall Arrest Systems (PFAS) shall limit the fall distances to a maximum of six (6) feet and prohibit personnel from contacting a lower level or structure element.

L. The only type of body restraint system allowed is full body harness with a lifeline, lanyard, and deceleration device. Safety belts or body belts are not permitted for fall arrest.

M. All personal fall arrest, personal fall restraint and positioning device systems shall be labeled as meeting the requirements contained in ANSI A10.14-1991.

N. Where practical, the anchor end of the lanyard shall be secured at a level not lower than personnel's waist.

O. Lifeline and anchorages shall be capable of supporting a minimum dead weight of 5,000 pounds.

P. Lanyards and vertical lifelines shall have a minimum breaking strength of 5,000 pounds.

Q. Anchorages used for attachment of personal fall arrest equipment:

1. Shall be independent of any anchorage being used to support or suspend platforms.
2. Capable of supporting at least 5,000 pounds per person or part of a complete personal fall protection system used under the supervision of a Qualified Person that maintains a safety factor of at least two (2).

R. The use of non-locking snap hooks is prohibited.

S. Residential and light commercial projects

1. Framers shall follow Cal/OSHA regulations for fall protection associated with their type of work activities, which would typically require fall protection at 15ft or higher.

3.19 Fire Protection and Prevention

A. Each Contractor is responsible for conducting a monthly inspection of their fire extinguishers to ensure they have not been damaged, discharged or gone missing.

B. Portable fire extinguishers.

1. Shall be fully charged, inspected monthly, serviced annually and have inspection tag.
2. Fire extinguishers rated not less than 10B (e.g. 2A:10BC), shall be provided within 50 feet of any area where more than 5 gallons of flammable or combustible liquids are stored.
3. Fire extinguisher rated at least 10-B:C, shall be kept near operations where fuel gas cylinders/bottles are being used.
4. Fire extinguishers shall be readily available for use where temporary heating devices are used.

C. Storage of more than 25 gallons of flammable liquids or 60 gallons of combustible liquids shall be in a NFPA approved storage cabinet. Not more than 120 gallons of Class I, II, or IIIA liquids may be stored in a storage cabinet.

D. "No Smoking" signs shall be posted as required by operations or material exposures.

3.20 Flammables and Combustibles

A. Contractor is required to supply fire extinguishers, fire blankets, and other sufficient fire protection devices for the immediate work area where flammable and combustible material is stored or used. All fire extinguishers must be provided by each Contractor and rated at least a minimum of 2A:20B-C. (For additional information, refer to Fire Protection and Prevention section).

B. Any supplied flammable liquids must be stored in FM approved or UL listed safety containers.
   1. All containers must be properly labeled and stored when not in use.
   2. Only FM approved or UL listed, or DOT metal safety cans will be allowed for flammable storage. (NO PLASTIC FUEL CANS).

C. Contractor shall identify non-compatible materials in advance and provide for separate storage as required.

D. All outside storage areas must be at least 20 feet from any building.

E. For roof work:
   1. No more than a one-day supply of flammables may be placed on the roof during working hours.
   2. All flammables must be removed from the roof at the end of each workday by the Contractor.
   3. At least two (2) fire extinguishers appropriate for the type and quantity of flammable materials present must be provided if flammables are present.

F. Any supplied flammable and combustible materials must be kept away from sparks, heaters, and any other heat source.

G. Empty containers of flammable and hazardous materials shall be removed from the project site as soon as possible.

3.21 Floor, Roof, and Wall Openings

A. Contractor shall be responsible for covering floor, roof and wall openings it has created.
   1. Covers must be able to support at least 400 pounds or twice the weight of the anticipated load.
   2. Must be secured to prevent accidental removal or displacement.
   3. Must be labeled "Hole" or "Cover''.

3.22 Forklifts (Industrial Trucks and Tractors)

A. Only drivers authorized by the Contractor and trained in the safe operations of industrial trucks shall be permitted to operate forklifts.

B. Operator training and posting of information regarding forklift operations shall be in accordance with applicable Cal/OSHA Standards.

C. Contractor shall certify that each Operator has been trained and evaluated. Training records (Operator cards) must be available for review at all times for the piece of equipment they are operating.

D. All forklifts and industrial trucks and tractors shall be equipped with an audible back-up alarm which can be clearly heard from a distance of 200 feet. In congested areas or areas with high ambient noise which obscures the audible alarm, a signal person in clear view of the operator shall direct the backing operation.

E. Every industrial truck and tractor shall be equipped with operable brakes, a parking brake, and a horn.

F. The rated capacity of all industrial trucks and industrial tractors shall be displayed at all times on the vehicle in such a manner that it is readily visible to the Operator.

G. Forklifts (Industrial Trucks and Tractors) shall not be loaded in excess of their rated capacity.

H. Seat belts shall be provided and worn on industrial trucks and tractors where rollover protection is installed and Operator shall be instructed in their use.

I. No riders shall be permitted on vehicles unless the vehicles are equipped with adequate riding facilities.

J. No one shall ride on or be elevated on the forks of lift trucks.

K. Industrial trucks may be used to elevate personnel in accordance with applicable Cal/OSHA Standards and manufacturer's recommendations using appropriate personnel platforms.

L. No one shall be allowed to stand, pass, or work under the elevated portion of an industrial truck, loaded or empty.

M. Operators shall check the vehicle at least once per shift. Attention shall be given to tires, horn, lights, battery, controller, brakes, steering mechanism, cooling system, and the lift system (forks, chains, cable and limit switches).

N. Operators shall not exceed the authorized or safe speed, always maintain a safe distance from other vehicles, keeping the truck under positive control at all times.

O. Operators shall slow down and sound the horn at cross aisles and other locations where vision is obstructed.

P. Grades shall be ascended or descended slowly.

Q. The forks shall always be carried as low as possible, consistent with safe operation.

R. When leaving a vehicle unattended, the power shall be shut off, brakes set, the mast brought to the vertical position, and forks left in the down position.

S. "Free Rigging" is not permitted. If loads are to be suspended from the forklift, it must be with the appropriate manufacturers approved attachment.

3.23 Hazard Communication/Globally Harmonized System (GHS) Program

A. Contractor shall maintain a copy of all Safety Data Sheets (SDS), chemical inventory list for all hazardous substances used at the project site by their firm, as well as all hazardous substances used at the project site by all subcontractors.

B. In accordance with the provisions of the Hazard Communication / GHS standard, Contractor must have a comprehensive written Hazard Communication Program which includes:
   1. A list of hazardous substances known to be on the project site.
   2. Methods the Contractor will use to inform personnel of the hazards of non-routine tasks.

3. The program shall include methods the Contractor will use to inform other Contractor(s) of any precautionary measures.
4. The methods used to provide other Contractor(s) with access to Safety Data Sheets (SDS).
5. The methods the Contractor will use to inform the other Contractor(s) of the labeling system in use.

C. Contractor must submit a copy to Construction Manager prior to work starting:
1. The Hazard Communication / GHS Program.
2. Safety Data Sheets (SDS) for any hazardous substances that will be used on the job site.

D. Contractor must have a binder which contains the following items:
1. A comprehensive written Hazard Communication / GHS Policy.
2. A chemical inventory listing all hazardous materials brought onto or used on the project site by the Contractor.
3. Safety Data Sheets (SDS) for all hazardous materials used on the project site.

E. Contractor shall ensure their personnel have received training in the safe use of hazardous materials; and are able to read and understand the information on Safety Data Sheets (SDS). The training shall include at least:
1. Methods and observations that may be used to detect the presence or release of a hazardous chemical.
2. The physical and health hazards of the chemicals used in the work area.
3. Measures personnel can take to protect themselves from the hazards.
4. Details of the Hazard Communication Program, including the labeling systems and the use of SDS.

F. Contractor shall ensure that all containers used on the project site are properly labeled as to their contents, including gas and diesel containers.

3.24 Hazardous Materials, Toxic Substances and Environmental Controls

A. Contractor is responsible for the generation, management, and proper disposal of any hazardous material, toxic substances, or any related materials or substances, as defined or included in the definition of "hazardous material" under any applicable Federal, State, or Local Law, Regulation or Ordinance.

B. Contractor agrees to notify Construction Manager within 72 hours for approval:
1. Delivery of any large quantities (more than 55 gallons) of gasoline, diesel fuels and any solvent onto the project site.
2. Approval to bring hazardous wastes on the project site or generate hazardous waste.
3. Using any chemical or material creating noxious or toxic fumes.
4. Such request may or may not be granted.

C. Contractor using any hazardous material or toxic substance shall notify all other Contractors on the project site of their use, and what measures should be taken to prevent exposure.

D. All incidents involving exposures to or releases of potentially hazardous substances must be reported immediately, verbally, and followed in writing within 24 hours to Construction Manager.

E. Spills of hazardous materials (including cutting oil, fuel, solvents, and antifreeze) must be reported immediately to the appropriate regulatory agencies and to Construction Manager. The creating Contractor responsible for the spill is responsible for cleanup costs.

F. The creating Contractor is responsible for proper disposal of its hazardous wastes. A copy of

the completed Uniform Hazardous Waste Manifest must be provided to Construction Manager.

G. Cutting equipment must have secondary containment (e.g. drip pans, sandboxes).

H. All containers:
   1. Drums, jugs and other containers must have secondary containment.
   2. Must be maintained in good condition and must be appropriate for the materials to be stored in them.
   3. All containers must be labeled with their contents and precautions for use.
   4. Hazardous waste containers must be labeled "Hazardous Waste" in addition to listing their contents on the label.

I. Weekly inspection of the project site must be performed by each Contractor to assure compliance with this section.

J. Gasoline shall not be used for cleaning purposes.

3.25 Heaters – Portable Heaters

A. All heaters must be Factory Mutual and/or Underwriters Laboratory approved.

B. The Contractor must notify Construction Manager when liquid/gas fueled heaters brought onto the project site prior to use.

C. Tent heater use requirements:
   1. Use only in tents made of fire resistant material.
   2. Avoid contact with heating elements or other hot parts.
   3. Keep flammable materials and clothing away from hot equipment.
   4. Never use heaters in a utility hole or in a tent that covers a utility hole.
   5. Ensure adequate ventilation is provided when using a tent.
   6. Secure a fire extinguisher within the tent in an accessible location.

3.26 Heavy Equipment / Material Handling and Earthmoving Equipment

A. Equipment shall be maintained in good working order. All vital parts such as motors, chassis, blades, blade holders, tracks, drivers, hydraulic and pneumatic mechanisms, and transmissions must be inspected each day.

B. Drivers must be specifically trained to operate the mobile equipment they intend to use. All Operators must follow manufacturers' operating and safety instructions. Training records must be available at the project site for review.

C. Whenever visibility conditions warrant additional light, all vehicles, or combination of vehicles, in use shall be equipped with at least two (2) headlights and two (2) taillights in operable condition.

D. All vehicles, or combination of vehicles, shall have brake lights in operable condition.

E. All vehicles shall be equipped with an adequate audible warning device (horn) at the Operator's station.

F. All vehicles and equipment must have a back-up alarm that is normally audible for a distance of 200 feet.
   1. In congested areas or areas with high ambient noise which obscures the audible alarm, a signal person in clear view of the operator shall direct the backing operation.

G. All vehicles with cabs shall be equipped with windshields and powered wipers.

H. Vehicles operating in areas or conditions that cause fogging or frosting of windshields shall be equipped with operable defogging or defrosting devices.

I. Cracked or broken windshields shall be promptly replaced.

J. Windshields and mirrors shall be kept clean such that vision is not compromised or obstructed.

K. Seatbelts shall be provided and worn with the approved proper anchorage points.

L. Trucks with dump bodies shall be equipped with positive means of support, permanently attached, to prevent accidental lowering of the body while maintenance or inspection work is being done.

M. Operating levers controlling hoisting or dumping devices on haulage bodies shall be equipped with a latch or other device that will prevent accidental starting or tripping of the mechanism.

N. Trip handles for tailgates of dump trucks shall be so arranged that, in dumping, the Operator will be in the clear.

O. All rubber-tired motor vehicle equipment shall be equipped with fenders.

P. All vehicles in use shall be checked at the beginning of each shift for defects in:
   1. Service brakes, trailer brake connections, parking brake system, and emergency stopping systems (brakes).
   2. Tires, horn, steering mechanism, seat belts, operating controls and safety devices.
   3. Lights, reflectors, windshield wipers, defrosters, and fire extinguishers.

Q. Before starting a job, the Operator shall be given instructions regarding the work to be done.

R. Before starting the motor, the Operator shall check to make sure that all operating controls are in the neutral position.

S. Before starting the equipment, or moving the equipment after re-entering the cab, the Operator shall walk entirely around the equipment to make sure no other personnel, equipment or material will be struck.

T. Contractor shall ensure that Operators of heavy equipment wear appropriate hearing protection devices when exposed to noise over 90dB.

U. At no time shall a piece of equipment be left unattended while the motor is running, especially if the machine is on an inclined surface or on loose material.

V. Block or chock wheels when parking on inclines.

W. Machines shall be operated at speeds and in a manner consistent with conditions on the project site.

X. No one other than the Operator shall ride on equipment.

Y. During refueling operations equipment motors shall be turned off. Smoking is prohibited during refueling.

Z. If possible, equipment shall be driven entirely off the roadway at night.

AA. Unattended equipment must be left in a secure area not accessible to members of the public or unauthorized third parties. Keys shall be removed from unattended equipment.

BB. Spotters and/or Flaggers must be used when equipment Operator's view is obstructed whether moving forward or backward.

3.27 Horizontal Boring / Pipe Jacking

A. Prior to boring/jacking operations the Contractor must contact DIG ALERT to ensure all owners of underground facilities in the area are notified to mark their utility locations.

B. The Contractor shall locate all buried utilities (Pot hole) before commencing boring/jacking operations. No mechanical devices may be used to Pot hole. Hand dig only.

C. Open a guide hole (bore slot) over any existing utility that is in line with the bore shot.

D. Excavate bore slot, bell hole and guide holes as necessary.

E. If resistance is encountered during the boring/jacking operation, cease the boring operation immediately and excavate at the point of resistance to determine necessary action.

F. The Operator must be trained in the use of the boring/jacking machine.

G. At least two people must operate the bore motor at all times.

H. Stay clear of rotating bore pipe and the rotating head of boring machine. Loose clothing, long hair, or gloves can cause injury if caught in rotating bore pipe.

I. Only one person shall transmit signals to the Operator.

J. Do not hold rotating bore pipe with hands or feet.

K. Operate the boring machine only at slow RPM's when connecting or disconnecting bore pipe.

3.28 Housekeeping

A. Contractor shall perform their work so as to maintain the project site in a clean, safe and orderly condition.

B. Contractor is responsible for clean-up and removal of their debris, excess material, trash, waste, and tools on a daily basis. All work areas shall be kept clean at all times. IfContractor fails to perform this function, Construction Manager reserves the right to charge the Contractor for clean-up performed on their behalf by others.

C. All construction materials must be stored in an orderly manner.

D. All exits and access ways must be kept unobstructed.

E. Emergency exits must be available. Panic hardware, where present, must remain unobstructed.

F. All work areas must be cleaned and free of debris.

G. Puncture hazards (e.g. nails, staples, and fasteners) created by stripped formwork, scrap lumber, pallets, and shipping materials shall be eliminated or controlled.

H. Metal containers with covers must be provided for disposal of oily and paint soaked rags.

I. Walkways and sidewalks must be kept free of construction materials, debris, dirt, tools and extension cords.

J. Where steel plates are used to bridge excavations or other similar type of construction activities in walkways or sidewalks, the leading edges of the steel plates must be tapered or feathered with temporary asphalt or other suitable materials to prevent trip hazards.

K. Rubbish and construction debris bins must be structurally sound and designed for lifting. Bins should not be filled above their top edge and should be covered during lifting to prevent material falling out.

L. Empty containers of flammable and hazardous materials shall be removed from the project site as soon as possible.

M. Dry sweeping or dry brushing where such activities could contribute to exposure to respirable crystalline silica is not permitted. Wet sweeping, HEPA-filtered vacuuming or other method(s) to minimize exposure are required.

3.29 Impalement Protection

A. Contractor shall be responsible for protecting all impalement hazards (e.g. form stakes, rebar, and EMT) it has created by complying with Cal/OSHA standards for protecting impalement hazards (e.g. approved Cal/OSHA cap).

B. Personnel exposed to protruding reinforcing steel or other similar projections, shall be protected against impalement hazard by guarding all exposed ends that extend up to six (6) feet with protective covers, or troughs.

3.30 Ladders

A. Type II (Medium-Duty – 225 lbs. working load) and Type III (Light-Duty – 200 lbs. working load) ladders are prohibited.

B. The Contractor shall provide a training program for ladder use and stairways, as necessary. The program shall enable personnel to recognize hazards related to ladders and stairways, and the procedures to be followed to minimize these hazards.

C. A Qualified Person shall inspect as frequently and after any occurrence that could affect their safe use.

D. Broken or defective ladders must be immediately removed from service.

E. Personnel must maintain 3-point contact while ascending or descending a ladder.

F. Job-made ladders shall not be permitted unless they meet the requirements of the Cal/OSHA Standards.

G. All types of ladders must be inspected at least daily for:
   1. Cracks, splits, splinters, and decay.
   2. Protruding nails and loose rivets.
   3. Loose, bent or broken braces, tie rods, guide irons, locks, pulleys and strand hooks.
   4. Broken, worn or defective spurs and pads.

H. Extension Ladders.
   1. Portable ladder feet shall be placed on a substantial base.

2. Straight and extension ladders must be tied-off or secured to prevent displacement.
3. Metal ladders must not be used near energized equipment.
4. No more than one person is allowed on a ladder.
5. Ladders are not to be used for skids, braces, workbenches, or any other purpose other than climbing.
6. All straight and extension ladders must be equipped with nonskid safety feet.
7. Ladders must extend no less than 36 inches above the landing.
8. Ladders shall be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is about one-quarter of the working length of the ladder (4:1).

I. Step Ladders.
1. Step ladders must be fully open and the spreader set in the open and locked position.
2. Do not climb, stand or sit on the top two rungs.
3. Do not lean a step ladder against a wall or other object in the unopened position.
4. Always ascend and descend facing the ladder.
5. Do not exceed the designated weight capacity.

3.31 Lead Abatement

A. The Owner shall identify any Lead Based Paint (LBP) within the proposed scope of work prior to any construction, remodeling, or demolition activities.

B. The Owner shall identify any sheet lead, such as in laboratories and x-ray facilities prior to commencing demolition or construction activities.

C. The Owner shall arrange for disposal of the hazardous waste stream (e.g. paint chips), through a waste disposal facility with a current California TSDF permit and obtain the EPA Hazardous Waste Generator Identification number.

D. Personnel who performs lead abatement work shall have a current training certification by a California accredited lead trainer. The overseer of the work is the "Supervisor" as required by Cal/OSHA.

E. All lead abatement and removal work must follow applicable regulations of Cal/OSHA, the Environmental Protection Agency (EPA), state, federal and local requirements.

F. Contractor must submit a copy of the "Lead-work pre-job notification" to Cal/OSHA and Construction Manager at least 24 hours before conducting lead-related work.

G. Supervisor must conduct frequent and regular inspections of the project site, regulated areas, materials, and equipment.

3.32 Liquids – Corrosive acids and Caustics

A. Contractor shall not store, handle, apply or use acids or caustics until a proper procedure, per OSHA standards, has been established.

B. Never add water to acid – if dilution is needed, add acid to water.

C. Contractor using acids or caustic materials shall have an emergency eyewash and/or shower facility immediately available to personnel working with these types of materials.

D. Proper personal protection must include a face shield, apron, and gloves as well as any other equipment deemed necessary by the SDS or manufacturer's usage instruction.

3.33 Lockout/Tagout (LOTO)

A. The Contractor must have a written Lockout/Tagout (LOTO) program for the control of hazardous energy that meets or exceeds the Cal/OSHA Standards and a copy submitted to

the Construction Manager.

B. Equipment, energized systems, and pressurized systems shall be completely de-energized before beginning the Lockout/Tagout procedure and subsequent cleaning, servicing, or adjusting.
C. Moveable parts shall be mechanically blocked or locked out prior to cleaning, servicing, or adjusting operations.

D. Equipment that has lockable controls or that is readily adaptable to lockable controls shall be locked out or positively sealed in the "off" position.

E. Accident prevention signs or tags shall be placed on the controls of equipment, machines, and prime movers during repair work.

F. All Contractors must affix their own lock/tag.

G. Locks and tags must be removed at the end of the job by the originator. Never remove another person's tag or lock to operate a switch, valve, or device.

3.34 Motor Vehicles

A. Those driving project site motor vehicles shall have a valid driver's license for the state in which he or she resides and for the class vehicle driven.

B. Drivers of vehicles over 26,000 pounds GVW are required by Federal and State Departments of Transportation regulations to possess a Commercial Driver's License (CDL).

C. Drivers must be specifically trained to operate the mobile equipment they intend to use. Training records must be available at the project site for review.

D. Drivers on the project site shall obey all street and highway speed and traffic laws.

E. Drivers shall check the mechanical condition of their vehicles at least daily.

F. Only if necessary, will a motor vehicle be left running and operator must maintain constant visual contact within 25 feet of the vehicle.

G. Drivers are required to observe the "right-of-way" rule. Yield to other drivers whose driving actions demand the right-of-way.

H. Drive defensively. Anticipate what the other driver may do. Leave yourself an out.

I. Drivers shall keep a distance of AT LEAST one vehicle length for each 10 miles of speed between their vehicle and the vehicle in front of them.

J. Seat belts shall be worn anytime when driving or riding in project vehicle.

K. Block or chock vehicle wheels when parking on inclines.

L. All passengers in motor vehicles must be seated and within the confines of the vehicle.

M. No one is permitted to ride in the open bed of a pick-up truck.

N. Unauthorized passengers shall not be transported in any vehicle or on any equipment at any time.

O. The project site speed limit is 5 mph. Obey all traffic signs.

P. Pedestrians have the right-of-way.
Q. Parking shall be in specified areas only. Do not block entrances and do not park in reserved spaces.

R. The Contractor is responsible for the stability of any material being hauled.

3.35 Overhead Utilities

A. Contractor shall identify all overhead utilities prior to the start of any work.

B. For power lines rated 50kV or less, minimum clearance around the lines is 10 feet.

C. For power lines rated over 50kV, minimum clearance around the lines shall be at least 20 feet. If 20 feet is not achievable, the Contractor will schedule a formal meeting with Construction Manager to review clearance tables, de-energize power, and other alternatives.

3.36 Pile Driving

A. Contractor will designate a danger zone that will clearly delineate around the operating hammer where personnel involved in cutting, chipping or welding operations shall be prohibited so as to protect them from the hazards of falling objects.

B. The danger zone shall be maintained under the supervision of a Competent Person.

C. A blocking device or other effective means capable of safely supporting the weight of the hammer shall be provided to secure the hammer in the leads and shall be used at all times when any personnel is working under the hammer.

D. Access to Pile Leads

1. Leads shall be provided with a continuous ladder or horizontal bracing that is uniformly spaced at intervals no greater than 18 inches and the leads shall be equipped with adequate anchorages, so that personnel may engage a personal fall protection system to the leads.
2. The operator of the equipment will apply all brakes and necessary safety switches to prevent uncontrolled motion of the equipment before personnel may access the leads.

E. Sheet pile access

1. If personnel are required to go aloft on sheet piling, personnel shall use an aerial device or ladder.
2. Sheet piling shall be firmly stabilized before personnel are permitted to work on them.
3. Stirrups shall be provided for use by personnel who must take a position on sheet piles.

F. Where work is to be performed, walkways at least 20 inches in width shall be provided across piles or other open work with the exception of those piles on which the driver is standing.

G. Before any type of pile is placed in position for driving, the pile head must be cut square to the driving head and free of concrete spall, steel fragments, or other debris.

H. Pile hammer requirements

1. The pile hammer, clamp, power unit and supply hoses shall be inspected in accordance with their manufacturer's recommendations. Associated equipment such as the couplings, support and lifting equipment, rigging and retaining bolts shall be inspected before each shift and periodically during use.
2. Driving heads shall be kept aligned with the pile and pile hammer as a pile is driven

I. Vibratory pile hammer
   1. When driving with a crane-suspended vibratory pile hammer, the person operating the remote on/off clamp switch shall be in direct visual contact with the signal person.

J. Pile Driving Rig Stability.
   1. Guys, outriggers, thrustouts, or counter-balances shall be provided as necessary to maintain stability of pile driver rigs.
   2. Hammers shall be lowered to the bottom of the leads while the pile driver is being moved (traveling).
   3. All personnel shall be kept clear when piling is being hoisted into the leads.

K. When driving jacked piles, all access pits shall be provided with ladders and bulk-headed curbs to prevent material from falling into the pit.

L. Hoisting of piling shall be done by hooks provided with a means to prevent accidental disengagement or a shackle shall be used in place of a hook.

M. Taglines shall be used for controlling unguided piles and free hanging (flying) hammers.

3.37 Powder-Actuated Tools

A. Only trained and Qualified personnel holding a valid operator's card can use a powder- actuated tool.

B. Powder-actuated tools must meet or exceed the requirements of ANSI A10-3.1977.

C. Containers for powder-actuated tools must be lockable and bear the label 'Powder-Actuated Tool' on the outside. The container must be kept under lock and key storage.

D. The following must be provided with each tool:
   1. Operating and service manuals.
   2. Power load chart.
   3. Inspection-Service record.
   4. Repair and servicing tools.

E. Eye and/or face protection is required for Operators and assistants.

F. Tools must be inspected prior to use. Defective tools must not be used.

G. Powder-actuated tools must be unloaded if work is interrupted. Tools must not be loaded until ready for use.

H. Powder-actuated tools must not be left unattended.

I. On misfire, the tool must be held in place for 30 seconds.

J. Misfire shall be placed in a designated can of water. Used and misfired cartridges shall be properly disposed.

K. Different power loads must be kept in separate compartments.

L. Warning signs must be posted bearing the words: "Powder-Actuated tools in use" within 50 feet of the point of use.

3.38 Precast, Pre-Fabricated Concrete Construction, Tilt-up, Panels

A. An erection plan, addenda, and procedure shall be prepared by or under the direction of a professional engineer registered in California.

B. The erection plan, addenda, and procedures shall be available at the jobsite and submitted to the Construction Manager.

C. Inspections shall be made by the professional engineer, or authorized representative, during the course of erection.

D. Proposed field modifications shall be approved by the professional engineer.

E. No personnel shall be directly under the load

F. Only personnel essential to the operation are permitted in the fall zone (but not directly under the load).

G. Wall panels shall be supported to prevent overturning, toppling and/or collapse until permanent connections are completed as specified in the erection plan

H. Panels shall be properly braced to resist wind and lateral forces.

3.39 Respiratory Protection

A. Contractor shall prepare a written Respiratory Protection Program for protection of those who will be wearing a respirator and submit a copy to the Construction Manager.

3.40 Scaffold

A. Contractor shall have a written program addressing scaffold procedures for safe erection, use and dismantling of scaffold system.

B. Scaffolds shall be erected, moved, or dismantled or altered only under the supervision and direction of a Competent Person qualified in scaffold erection, moving, dismantling or alteration.

C. Contractor's designated Competent Person shall:
   1. Determine the feasibility and safety of providing fall protection for personnel erecting or dismantling supported scaffolds. Fall protection is required for personnel erecting or dismantling supported scaffolds where the installation and use of such protection is feasible and does not create a greater hazard.
   2. Inspect their scaffold prior to use each day.
   3. Have at each access point (e.g. ladder, stair tower), a "green" inspection tag. This tag shall also be signed by the Competent Person daily, prior to use, as verification of their inspection.

D. Personnel involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting a scaffold shall be trained by a Qualified Person to recognize any hazards associated with the work in question. The training shall include the following topics, as applicable:
   1. The nature of any electrical hazards, fall hazards, and falling object hazards in the work area.
   2. The correct procedures for dealing with electrical hazards.
   3. The correct procedures for erecting, maintaining, and dismantling the fall protection and falling object protection systems being used.
   4. The proper use of the scaffold, including the proper handling of materials on the scaffold.
   5. The maximum intended load and the load-carrying capacities of the scaffold.

6. Any other pertinent procedures or safety requirements.

E. Handrails, midrails and toe boards (as necessary) are required on all scaffold over six (6) feet high. If the guardrail system is incomplete or missing, personal fall protection is required.

F. Untagged scaffolds shall not be used.

G. Scaffolding material must not be damaged and planks must be free of defects, damage or debris. Painted planks will not be permitted.

H. Scaffold planks must be laid tight and secured to prevent movement. Planks must overlap between 6 and 12 inches over the scaffold supports.

I. A stair-tower or built-in stair/ladder system shall be provided for access to all scaffolds four (4) frames or more in height.

J. Personnel may ride on rolling scaffold moved by others below if the following exist:
   1. The floor or surface is within 3 degrees of level, and free from pits holes, or obstructions.
   2. The minimum dimensions of the scaffold base, when ready for rolling, is at least ½ of the height. Outriggers, if used, shall be installed on both sides of staging.
   3. The wheels are equipped with rubber or similar resilient tires.
   4. The manual force used to move the scaffold shall be applied as close to the base as practical, but not more than 5 feet (1.5 meters) above the supporting surface of the scaffold.
   5. Before a scaffold is moved, personnel on the scaffold shall be made aware of the move.
   6. No one shall be on any part of the scaffold which extends outward beyond the wheels, casters, or other support.

K. No surfing or self-propelling mobile scaffolding will be permitted without a submitted Contractor's "surfing scaffold" program.

L. Wheels must be locked on rolling scaffolds before use.

M. All connections, including casters, on rolling scaffolds shall be pinned.

N. Scaffolds must be erected level on a firm base. When the scaffold is resting on earth or other such material, the uprights shall rest on and be secured to the equivalent of a 2-inch by 10- inch by 10-inch (2" x 10" x 10") wood base. Base plate shall be nailed in accordance with CAL/OSHA standards.

O. The Contractor must keep the platform load within the safe platform work load limit.

P. In the event the height-to-base ratio exceeds 3:1, the system must be secured to the structure. The system shall be tied at the ends and inside of the system at 26ft vertical intervals and 30ft horizontal intervals. The top work level shall be tied.
   1. Exception: When the frame width is 3ft wide, tie off is at 20ft vertical intervals.

Q. Ties should provide tension, as well as compression and sway support
   1. Use no less than #12 wire, double looped or #10 wire, single wrapped.

R. Suspended scaffolds that are in service shall be inspected by a Competent Person daily and tested as frequently as is necessary in order to provide proper maintenance.

S. Suspended scaffolds must have adequate anchorage points. Those on the scaffold shall have a full body harness, lifeline and deceleration device that must be attached to a separate

anchorage point other than that of the scaffold before stepping out onto any suspended scaffold.

3.41 Silica and Dust Exposure Protection

A. Contractor shall submit to Construction Manager a written Respirable Crystalline Silica Program.

B. Contractor shall fully and properly implement the engineering controls (e.g. integrated water delivery system that supplies water to cutting surface, or commercially available shroud or cowling with HEPA-filter dust collection system), work practices, and respiratory protection to reduce and maintain exposure to respirable crystalline silica and/or dust to or below the PEL.

C. During operations in which hand tools, powered tools or equipment are used to cut, core, chip, drill, grind, profile, or sand and creates respirable crystalline silica and/or dust; a dust reduction system shall be applied to effectively reduce those particulates.

D. Procedures shall be implemented to ensure that dust reduction systems maintain their effectiveness for dust reduction throughout the work shift.

E. Dust reduction systems shall be installed, operated, and maintained in accordance with manufacturer's recommendations.

F. Dry sweeping or dry brushing where such activities could contribute to exposure to respirable crystalline silica is not permitted. Wet sweeping, HEPA-filtered vacuuming or other method(s) to minimize exposure are required.

G. The Competent Person must make frequent and regular inspections of the project site, materials, and equipment to implement the written exposure control plan.

3.42 Steel Erection

A. No building, structure, or part thereof, or any temporary support shall be loaded in excess of its design capacity.

B. Trusses and beams shall be braced laterally and progressively during construction to prevent buckling or overturning.

C. During placing of structural members, the load shall not be released from the hoisting line until the members are secured with not less than two bolts drawn up wrench tight.

D. During the installation of decking, the exposed edges of all temporary planked and metal decked floors at the periphery of the building, or at interior openings, such as stairways and elevator shafts shall be protected by a single 3/8-inch minimum diameter wire rope located between 42 and 45 inches above design finish floor height. Mid-rail protection shall be installed at the completion of the installation of decking.
   1. Other guardrail protection may be used if equal fall protection is provided.
   2. Periphery fall protection intended to be used as a catenary line can be used if it meets Cal/OSHA requirements for fall protection.

E. Where skeleton steel is being erected, a tightly planked and substantial floor shall be maintained with two (2) stories or 30 feet, whichever is less, below and directly under the portion of each tier of beams on which any work is being performed.

F. When connecting beams at the periphery or interior of a building or structure where the fall

distance is greater than six (6) feet, the Connector shall be provided with and use appropriate personal fall protection equipment in accordance with Cal/OSHA requirements.

1. Connector means a person who, working with hoisting equipment, is placing and connecting beams or other structural members.

G. When performing work other than connecting, personnel shall be provided and use personal fall protection equipment in accordance with Cal/OSHA requirements where the fall distance is greater than six (6) feet.

H. Open web steel joists shall not be placed on any structural steel framework unless such framework is safely bolted or welded.

I. Containers shall be provided for storing or carrying rivets, bolts, and drift pins, and secured against accidental displacement when aloft.

J. When bolts or drift pins are being knocked out, means shall be provided to keep them from falling.

K. Impact wrenches shall be provided with a locking device for retaining the socket.

L. Connections of equipment used in plumbing-up shall be properly secured.

M. Turnbuckles shall be secured to prevent unwinding while under stress.

N. Plumbing-up guys shall be removed only under supervision of a Competent Person.

O. Work taking place above grade or any surface exposed to protruding reinforcing steel, or other similar objects, shall be protected against the hazard of impalement by the use of guardrails, or approved ANSI certified fall protection system, or protective covers (e.g. rebar caps).

3.43 Tar and Melting Pots

A. Any melting chamber must be vented and must have a working thermometer.

B. No melting pots or tar kettles may be located on roof structures. All melting pots must be on the ground outside, and at least 25 feet from any building.

C. Pipelines shall be adequately braced or supported to prevent collapse.

D. Pumper pipelines shall be securely fastened at rooftop and shall not be supported by ladders used for access.

E. Barricades must be provided when hot liquids are present overhead on a roof or upper floor.

F. Buckets containing hot asphalt or pitch shall not be carried on ladders.

G. A fire extinguisher shall be kept near each kettle in use. Extinguisher capacity shall be at least:
   1. Less than 150 gallon kettle – 8:BC.
   2. 150 – 300 gallon kettle – 16:BC.
   3. Larger than 350 gallon kettle – 20:BC.

H. Kettle and tanker pumps shall be provided with a means of stopping the flow of hot asphalt or pitch manually from the rooftop in emergencies.

3.44 Traffic Control, Flagging Operations and Plate Bridging

A. Contractor may be required to submit a traffic control plan to the agency having jurisdiction. Plans requiring approval, must be submitted timely as not to impact the schedule. Any plan requiring agency approval or not, shall be forwarded to Construction Manager one (1) week prior to the work activity.

B. Traffic Control
   1. Contractor shall establish work area protection zones necessary to protect personnel and the public when work is performed in areas where pedestrians or vehicles have access.
   2. All personnel in work zones shall wear at a minimum Class II reflectorized vest (or jacket) in accordance with the requirements of Cal/MUTCD. Class III vests may be required, refer to Cal/MUTCD.
   3. Traffic control shall be established in compliance with California Manual on Uniform Traffic Control Devices (Cal/MUTCD), local traffic control regulations, WATCH Handbook, or other contract-referenced documents/standards.
   4. Contractor shall establish Work Area Protection in consideration of the location of the project site, pedestrians and traffic conditions, and the time of day (daylight or dark).
   5. Contractor shall ensure adequate protection to passing vehicles on a roadway by providing a Flagger when barricades, signs and signals may be insufficient.
   6. When placing or removing Work Area Protection, the Contractor shall:
      a. Be consistently alert to traffic conditions.
      b. Face oncoming traffic.
      c. Wear proper personal protection (e.g. Class II or III reflective vest, hard hat, and safety glasses).
   7. Place the initial warning signs (e.g. Construction ahead) first and remove last.
   8. Work zone site must be made safe for pedestrians by using:
      a. Rope or vinyl warning tape.
      b. Fencing or other barricades.
      c. Cones and signs.
      d. Pedestrian crossings (designated and painted).
      e. Other appropriate means, methods and devices.
   9. All night work requires adequate illumination to light the work area and warn the public vehicular traffic.
   10. For night work, the illumination used to light the work area shall be aimed such that it does not create glare for, or blind, the public driving through the work zone.

C. Flagging Operations
   1. Shall be conducted in accordance with the following unless a more specific standard applies.
      a. Flaggers shall be trained in the proper fundamentals of flagging (signaling) traffic before being assigned as Flaggers.
      b. The Flagger must be protected and the motorist forewarned by use of advance warning signs and cones.
      c. Use cones before the Flaggers position to mark the traffic lane.
      d. The use of reflective vests (minimum Class II) shall be required for all Flaggers.
      e. During the hours of darkness, the Flagger's position shall be illuminated.
      f. To 'Stop' traffic – The Flagger shall face traffic and hold the stop paddle in a vertical position at arm's length.
      g. When it is safe for traffic to proceed – The Flagger shall stand parallel to the traffic movement, and with the slow paddle held in a vertical position at arm length.

D. Plate Bridging
   1. Trenches, excavations, or other surface openings or significant depressions must be covered with a bridge plate to permit safe and unobstructed flow of traffic.

2. Bridging plates must be secured from movement by a holding device(s) such as cleats, angles, bolts, and tack welding.
3. Bridging plates should be installed to produce a minimum amount of noise.
4. Bridging plates must extend a minimum of one foot beyond the edges, with pavement materials feathering the edges for a reasonably smooth transition.
5. Advance warning signs shall be posted when steel plates are used in a travel path.

3.45 Trench and Excavation (see Barricades and Signs for additional information)

A. Contractor must identify all shut-off valves or control points for known utilities and ensure they work prior to digging.

B. Each Contractor shall call authority having jurisdiction (e.g. DIGALERT) to mark utilities.
   1. Areas to be excavated are to be scanned and/or traced with equipment that locates underground utilities (e.g. pacometer, magnetometer, x-ray, and ground penetrating radar).
   2. Underground locating company shall scan and locate all known below grade utilities by reviewing as-built and onsite utility monuments (e.g. gas and water meters, and electrical sub-stations) that may run within the limits of the project site.
   3. Underground locating company shall, at a minimum, sweep 12 feet to either side of the new construction prior to any excavation/trench.

C. Contractor shall pothole to locate existing utilities and provide as-builts for horizontal and vertical location.
   1. Visual verification by means of pot-holing by hand-digging, air excavation or water jet excavation shall occur at approximately 12 foot increments along existing utilities.
   2. Contractor must hand expose to the point of no conflict 24" on either side of the underground facility, so you know its exact location before using power equipment.
   3. Any damage to existing utilities shall be the responsibility of the Contractor to repair or reroute as necessary to maintain the operation of the system(s).

D. Contractor shall be responsible for protecting and maintaining all trenches and/or excavations it has created by complying with Cal/OSHA standards.

E. Contractor shall support and protect all existing site and offsite, above and/or below grade, utilities, improvements, and structures.

F. Contractor shall provide and maintain appropriate barricades to protect people, vehicles, and equipment from falling into the trench/excavation. Lighted barricades must be provided at night.
   1. Any trench/excavation that will remain open overnight will require either one or a combination of the following: railings, temporary fencing around perimeter, delineators and “danger” tape, walkway, bridge, and steel plate, and must be reviewed by Construction Manager prior to the Contractor leaving.
   2. Any steel plate (Bridge Plate) or other cover shall be installed in a manner so as to eliminate tripping hazards.

G. Contractor’s Competent Person shall:
   1. Determine the soil classification (Type A, B, or C) to determine the appropriate type of protective system required for the excavation.
   2. Supervise trenching or excavating operations.
   3. Inspect their trench and/or excavation prior to use each day, regardless of the depth.
      a. Contractor shall have written documentation of their inspection and submit to Construction Manager upon completion of the inspection.
   4. Be available at the project site during period of access into all trenches/excavations regardless of the protective systems.

H. The Contractor's materials for the protection of personnel (e.g. bracing, shoring, shielding, and trench boxes) must be in good condition and of proper dimensions/materials.

I. Excavation greater than 20 feet in depth must have a professional excavation plan approved by a Registered Professional Engineer (RPE). Reports of engineered excavations by professional engineers shall be submitted to Construction Manager.

J. Excavated soils, material or equipment are to be kept at least two (2) feet from the edge of the excavation.

K. Ladders or other safe means of access and egress must be provided by the Contractor when the depth of the trench or excavation are 4 feet or more in depth and spaced within 25 feet of lateral travel.

L. Walkways or bridges with standard guardrails shall be provided where personnel or equipment are required or permitted to cross over excavations over six (6) feet in depth and wider than 30 inches.

M. Structural ramps:
   1. That are used by personnel as a means of access or egress from excavations shall be designed by a Competent Person.
   2. Structural ramps used for access or egress of equipment shall be designed by a Competent Person qualified in structural design and shall be constructed in accordance with the design.

N. Where pedestrian traffic must be accommodated over excavations, suitable non-skid plates or other suitable material capable of withstanding at least twice the maximum intended load must be provided to serve as a pedestrian runway for safe passage.
   1. The edges of the runway shall be tapered to minimize trip hazards. Alternatively, the approach to the runway shall be tapered with a suitable and durable material, or the runway set into the surface, to minimize trip hazards.

O. Rescue equipment must be provided by the Contractor (e.g. full body harness and lifeline, breathing apparatus, and basket stretcher) when hazardous atmospheric conditions are expected to exist in a trench or excavation. (See Confined Space Entry for additional requirements).

PART 4 - EXHIBITS

4.1 Forms

A. Competent Person Designation Form.....Reference Exhibit "C.1"

B. Job Hazard Analysis (JHA) Form.....Reference Exhibit "C.2"

C. Pre-Shift Crew Meeting Form .....Reference Exhibit "C.3"

D. Lift Pick & Critical Lift Plan Form.....Reference Exhibit "C.4"

Exhibit "C.1 – Competent Persons Designation Form

COMPETENT PERSON DESIGNATION

An evaluation has determined that the person named below has knowledge of the systems, equipment, conditions and procedures, proper use, inspection, manufacturer's recommendations and instructions, and maintenance for the activities designated below. Consequently, this person has been designated as a: **"C" = Competent Person(s), "Q" = Qualified Person(s), "L" = licensed, "S" = Supervisor per Cal/OSHA guidelines** and delegated the responsibility and authority for coordinating activities and operations covered by the designation(s).

COMPANY: _____

Name of Designated Competent Person: _____

Title of Designated Competent Person: _____

COMPETENT PERSON DESIGNATION(S): Check all that apply

C = "Competent Person(s)", Q = "Qualified Person(s)", L = "Licensed or S = "Supervisor(s)"

☐ Asbestos Abatement (C)	☐ Demolition (Q)	☐ Ladders (Q)	☐ Scaffold (C)
☐ Burning, Welding & Hot-work (C)	☐ Electrician (Live Circuit) (Q)	☐ Lead Abatement (S)	☐ Silica & Dust (C)
☐ Confined Space (C)	☐ Explosives (L)	☐ Pile Driving (C)	☐ Steel Erection (C)
☐ Cranes & Rigging (Q)	☐ Fall Protection (C & Q)	☐ Powder Actuated Tool (Q)	☐ Trench/Excavation (C)

REVIEW AND VERIFY THE CREDENTIALS FOR DESIGNATED COMPETENT PERSON – Check all that apply

(Company Authorized Representative to complete):

☐ Formal Training (describe the training received and attach copy of training certificate(s), and the year training was completed):

_____

_____

☐ Union Apprenticeship (describe the training received and attach copy of training certificate(s), and the year training was completed):_____

_____

☐ Years of Experience (describe how this experience has enabled this person to be considered "Competent Person", and provide the number of years): _____

_____

_____

☐ Informal Training (describe the training, and when this training was conducted):_____

_____

_____

☐ On-The-Job Performance (OJT): (describe how OJT has enabled this person to be considered "Competent Person", and provide the number of years): _____

_____

SIGNATURES:

Competent Person: _____ **Date:** _____

Company Authorized Representative: _____ **Date:** _____

Title of Company Authorized Representative: _____

Exhibit “C.2” – JHA Form

Job Hazard Analysis (JHA)

Job/Operation Title:	JHA #:	Date:
Job Site Location:	Analysis By:	Approved By:
Contractor:	Special Hazard(s):	

Safety Equipment Required for this task:

- ☐ Hard Hats
- ☐ Safety Glasses
- ☐ Face Shield
- ☐ Work Vests
- ☐ Gloves
- ☐ Steel Toe Boots
- ☐ Respirator
- ☐ Hearing Protection
- ☐ Hot Work Permit
- ☐ Confined Space Permit
- ☐ Lockout/Tagout
- ☐ Fire Extinguisher
- ☐ Caution Tape
- ☐ Danger Tape
- ☐ Barricades
- ☐ Other:

SEQUENCE OF BASIC JOB STEPS		POTENTIAL HAZARDS/ACCIDENTS		RECOMMENDED SAFE JOB PROCEDURES	
Step No.		Step No.		Step No.	

The Job Safety & Hazard Analysis (JSHA) is intended to assist in planning work. It is a guideline and not a definitive study of the hazards that may be present or may impact the job. Prime Contractor Supervisor is expected to complete their own independent Job Safety & Hazard Analysis (JSHA) prior to work beginning. Files of completed forms should be maintained at the jobsite.

Pre-Shift Crew Meeting (Production & Safety)

Contractor:	Conducted by: Title:	Day of Week & Date:
Project Name:	Special Hazard(s):	

Safety Equipment and PPE Required for the task(s):

☐ Hard Hats	☐ Gloves	☐ Hot Work Permit	☐ Caution Tape	☐ Other:
☐ Safety Glasses	☐ Steel Toe Boots	☐ Confined Space Permit	☐ Danger Tape	
☐ Face Shield	☐ Respirator	☐ Lockout/Tagout	☐ Barricades	
☐ Work Vests	☐ Hearing Protection	☐ Fire Extinguisher	☐ Traffic Control Devices	

Task(s)	Tools, Equipment & Material needed	Safe Work Procedures & Proper Material Handling techniques

Attendees (attach another page if needed):

	Print Name	Signature		Print Name	Signature
1			7		
2			8		
3			9		
4			10		
5			11		
6			12		

Questions from the crew:

Each Contractor shall conduct a pre-shift meeting at the start of each shift.

Exhibit “C.4” – Lift Pick & Critical Lift Plan Form 1 of 3

Lift Pick & Critical Lifi Plan

GENERAL INFORMATION		
Date of lift:	Project Name:	Lift Location:
Contractor Name:		
Crane Company Name:		
Person responsible for plan & contact info:		
Crane Operator:	Signal Person:	
Crane Rigger:	Crane inspected by:	
Crane Oiler:	Rigging inspected by:	
Designated Lift Leader:	Other:	

CRANE INFORMATION		
Make:	Model:	S/N:
Date of Manufacture:	Size (Capacity in tons):	
Type of crane: ☐ Hydraulic ☐ Friction ☐ Lattice ☐ Truck ☐ Rough Terrain ☐ Crawler		

LOAD
Description of load(s):
Weight of max load (provide manufacturers product data sheets and/or calculations):
Location of load center of gravity (provide manufacturers product data sheet and/or sketch):
How will the load center of gravity be determined:
Will any load be upended? If so, provide stability evaluation from manufacturer or professional engineer:

RIGGING INFORMATION
List rigging components – be specific: manufacturer, description, size, length, capacity, and weight:

CRANE LOCATION & CLEARANCE
Provide a to-scale plot plan showing crane location, adjacent buildings, pipe racks, and other significant obstructions within load swing radius. Indicate direction and span of swing.
Provide a to-scale elevation depicting crane, adjacent structures, and load.
What is the horizontal distance from the crane center pin to the nearest structure?
What is the minimum clearance from boom to highest point of structure during a pick?

Exhibit “C.4” – Lift Pick & Critical Lift Plan Form 2 of 3

Lift Pick & Critical Lift Plan

What is the minimum clearance from load to highest point of structure during a pick?		
What is the minimum distance from boom to load during a pick?		
Will the load or any part of the crane be over any active piping, tanking, or equipment during a pick? Please explain:		
Have underground site utilities been identified and located?		
SET-UP		
Boom angle (degrees):	Distance from Pin (in feet):	
Crane Capacity at set-up configuration (pounds or tons):	Load including rigging is what percentage (%) of rated crane capacity:	
Maximum vertical boom elevation (including erected jib) in feet:	If vertical boom elevation exceeds 200’ above existing site elevation, provide FAA permit number:	
EQUIPMENT and LIFT RELATIONSHIP		
Maximum operating radius (feet):	Planned operating radius (feet):	
Allowable load per load chart (in pounds or tons):	Ratio of lift to allowable load (%):	
Clearance between boom and load (feet and inches):	Clearance to existing facilities (feet):	Clearance to energized power lines (feet):
GROUND STABILITY		
Surface Type: ☐ Bare ground ☐ Asphalt ☐ Concrete	Additional Comments:	
Type of support used: ☐ Mat ☐ Cribbing	***Note: Mats or cribbing will be used on all surfaces***	
Will outriggers be located over underground utilities? ☐ Yes ☐ No If yes, explain protective measures to be taken:		
How will outriggers be configured? ☐ Fully extended ☐ Intermediate and Pinned ☐ Fully retracted		
WEATHER		
Lift will not proceed if wind exceeds (MPH):	Precipitation type: ☐ Rain ☐ Snow ☐ Ice ☐ None	
Cloud type: ☐ Overcast ☐ Clear	Lift conducted: ☐ During daylight ☐ With artificial light	
LIFT AREA RESTRICTIONS		
Area Barricaded: ☐ Yes ☐ No	Equipment swing radius barricaded: ☐ Yes ☐ No	
Warning signs required: ☐ Yes ☐ No	Unnecessary personnel removed from area: ☐ Yes ☐ No	
Will max working radius of boom be within 20’ of an overhead power line: ☐ Yes ☐ No	***If yes, attach JHA outlining how contact hazard will be mitigated.***	

Exhibit “C.4” – Lift Pick & Critical Lift Plan Form 3 of 3

Lift Pick & Critical Lift Plan

COMMUNICATION	
Operator view is unobstructed (pick to set): ☐ Yes ☐ No	Communication used: ☐ Hand signals ☐ Radio ☐ Other: Explain other:

PRE-LIFT SAFETY MEETING
Type of lift: ☐ Load exceeds 75% of load chart capacity for lifting equipment (Critical Pick) ☐ Two or more cranes / booms required to lift ☐ Specialized hoisting rigging equipment used ☐ Load suspended or moved over loaded lined ☐ Other (Specify)
Items discussed:
Non-compliance with any part of this Crane Lift Plan will be grounds for immediate cessation of work along with corrective action which could lead to permanent removal from the site.
Contractor, Rigger and Crane Operator are responsible for the accuracy of all calculations and inspections. Any review conducted by Tilden-Coil is to ensure completion of form only.

SIGNATURES			
Crane Company Responsible Person:			
	Print Name	Signature	Date
Contractor Responsible Person:			
	Print Name	Signature	Date

JOBSITE SAFETY ORIENTATION

PURPOSE:

The Subcontractor Project Orientation Meetings are held prior to the start of any project and are a great way to introduce our Project Team, have Subcontractors introduce themselves, communicate common project procedures and highlight key dates.

PROCEDURE:

Subcontractor Project Orientation Meetings

Subcontractor Project Orientation Meetings are conducted to identify and communicate overall project procedures. These meetings are commonly lead by the Project Manager, with active participation from the other members of the Bernards project team, Owner and Consultants as applicable.

Agenda Template

It is at the discretion of the Project Executive to utilize the Bernards Subcontractor Project Orientation Meeting Template or the B360 Template. The Project Manager shall verify that all Meeting Agendas fully agree with the provisions of the: prime contract(s), general conditions, supplementary conditions, project specifications, safety requirements, site specific requirements as well as any other Owner stipulated project requirements.

Assignment of Meeting Topics

Assign members of the Bernards project team to cover each of the numbered items on the meeting agenda. The Project Manager should review with each of these individuals their expected role in the upcoming meeting, allowing each of them sufficient time to prepare for their presentation. Discuss any suggested modifications to the agenda and edit as necessary.

Collect Related Documents / Forms

During the meeting, there will often be occasions that will lend themselves to displaying key forms and documents. The Project Manager, or an appointed staff member, shall diligently seek out and obtain legible copies of all such documents and make them available for use by the meeting participants.

Meeting Invitations

Establish Invitee List

Invite Subcontractors who have been awarded contracts along with others that are pending execution. In addition to key field personnel (Foreman, Superintendent, Project Manager, etc.), invite members of their office staff to attend the meeting to understand project payment requirements (Certified Payroll, Labor Compliance, etc.) and Safety. In such cases, organize the agenda to allow for their attendance during the early portion of the meeting, which allows for their early dismissal. By providing a detailed explanation of elements such as certified payroll, payment procedures, labor agreements and project safety standards with the Subcontractor representatives, it will often prevent wasted time and effort identifying and correcting problems in the management of our established procedures.

Advertise the Meeting

In order to obtain better attendance at the meeting, it is recommended that the meeting invitations be made a month in advance. In no case, should the invitation be issued with less than two weeks' notice. Where appropriate, send a meeting invite and ensure your space for meeting is reserved.

Distribute Agenda

Send copies of the meeting agenda to all project participants within three business days of the meeting. Where possible, include copies of all relevant related documents.

Project Team Attendance

It is not only Bernards responsibility to schedule the date and time of this meeting, but also to prepare and distribute its agenda as well preside over its proceedings. All Bernards Project Team Member should attend the meeting in order to build trust with our new partners and convey optimism in the group's ability to collaboratively develop solutions to the project challenges that lie ahead.

Reference the Bernards Subcontractor Project Orientation Meeting Agenda Template to be utilized for the meeting. This document identifies the most common administrative elements requiring consideration and definition during the course of such meetings. Absent other direction by the Owner or Designer, this template shall be used to identify the specific agenda and direction of how the variety of topics addressed are to be

administered.

Meeting Preparation

Meetings do more than just communicate our jobsite policies and procedures; they establish impressions with the other members of the project team about our competency and professionalism. Accordingly, all members from our project team must be fully knowledgeable and prepared well in advance of the meeting.

Meeting Procedures

Wherever possible during the meeting, thoroughly explain not only the project requirements relating to each topic, but also the reasons why the procedures were formulated. (People tend to be much more likely to follow procedures when they know that there is a bigger purpose that is being served.) Make sure sufficient time is provided in the agenda to fully explain each issue and answer any related questions.

Project Contact Information Form

Be sure to have the Subcontractor attendees fill out the Project Contact Information - Form. This form is used to record the names and contact numbers of key individuals attending the meeting as well as other project participants.

Record Meeting Minutes

In order to memorialize the information presented at the meeting it is important for the Project Manager to appoint one of the project staff members to keep a written record of all the elements discussed, and any points of clarification made during the meeting. At the conclusion the content of these recorded noted (minutes) are to be reviewed and edited by the Project Manager for distribution to all attendees.

Distribute Meeting Minutes

Within seven days of the Meeting, distribute copies of the approved meeting minutes to all attendees and relevant project participants.

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SECTION 01 50 00

CONSTRUCTION FACILITIES

PART 1- GENERAL

1.1 SECTION INCLUDES

A. Furnishing and installing required temporary facilities as indicated and/or specified as required for proper performance and execution of each Trade Contractor's Contract.

B. Related documents include the General Conditions and Supplemental Conditions.

C. This applies to all trades unless noted otherwise.

1.2 REGULATORY REQUIREMENTS

A. Comply with governing regulations and utility company regulations and recommendations.

B. Comply with pollution and environmental protection regulations for use of water and energy, for discharge of wastes and storm drainage from Project Site, and for control of dust, air pollution and noise.

C. Temporary construction shall conform to requirements of State, County, and Local authorities and underwriters which pertain to operation, health, safety, and fire hazard. Contractor shall furnish and install items necessary for conformance with such requirements, whether or not called for under the separate divisions of these specifications.

1.3 TEMPORARY WATER

A. **The Plumbing and Site Utilities Bid Category Contractor** will ensure there are (8) hose bibs on-site that are operational for the use by the trades during construction. Cost of the water to be paid for by the owner. In the event water from a hydrant is needed, the trade needing the hydrant water will obtain a water meter/backflow preventer for their use. The cost of the water, the meter and backflow will be the responsible of the trade needed the hydrant water. Water source will be from the nearest hydrant. It will be the Prime Contractor's responsibility to transport construction water from the water source to the construction site.

B. Trade Contractor shall only use water from the designated location. Building facility may be used **IF** temporary water is available.

1.4 TEMPORARY SANITARY FACILITIES

A. Temporary chemical type toilet facilities and enclosures will be provided.

1.5 FENCES AND BARRICADES

Temporary fencing, a minimum six feet high with locked entrance gates to enclose the Work/Storage Containers shall be provided to deter unauthorized entry, vandalism and/or theft.

Any Trade Contractor requiring fencing above and beyond what is being provided by the Construction Manager for execution of their work, shall furnish, install and maintain same as required.

A. The County will not provide a security service. If the County opts to provide construction cameras for limited security, the County and Construction Manager shall be held harmless by Prime Contractors and their subcontractors for any and all materials, equipment, tools, etc. which may be stolen, vandalized, or found missing.

B. Refer to Appendix "C" for site fencing and logistics.

1.6 TEMPORARY TELEPHONE SERVICE

A. The County will not provide a phone at the site for Trade Contractor's use. Each contractor shall provide their own cell phone and service.

1.7 CONSTRUCTION EQUIPMENT

A. Trade Contractor shall erect, equip, and maintain construction equipment in strict accordance with applicable statues, laws, ordinances, and regulations of authority having jurisdiction.

B. Trade Contractor shall provide, maintain, and move upon completion of the Work, all temporary rigging, scaffolding, hoisting equipment, rubbish chutes, ramps, stairs, runways, platforms, ladders, railings, and other temporary construction as required for all work hereunder.

1.8 STORAGE

A. Operations of the Trade Contractor, including storage of materials, shall be confined to areas approved by Construction Manager. Trade Contractor shall be liable for damage caused by him during such use of property of the County or other parties. Trade Contractor shall hold the County, Program Manager and Construction Manager along with their respective officers, employees and agents, and the Architect and his employees, free and harmless from liability of any nature or kind arising from any use, trespass, or damage caused by his operations on premises of third persons. Storage facilities shall provide protection of products from excessive cold, heat, moisture, humidity, or physical abuse as specified in the respective sections for the products stored. Each Contractor requiring same shall provide their own temporary storage and security for same.

B. Include cost to move storage bins, trailer, equipment, tools, and materials at storage area at least once for construction phasing.

C. Refer to the construction schedule for when areas are scheduled to be improved and may require storage bins to be removed. Contractor may need to consider other alternatives for storage if space does not permit.

D. Any contractor providing storage for their materials and/or performing staging operations will provide the necessary protection to prevent damage to the existing surfaces.

1.9 TEMPORARY JOB OFFICE

A. The Construction Manager will provide a temporary job office for the Construction Manager's use only. Trade Contractor requiring office space shall provide same ***IF*** space permits. All temporary job offices shall be coordinated with the Construction Manager prior to said office being stored onsite. If a temporary office trailer is permitted for contractor use, the County is not responsible for providing power distribution or phone service to said trailer.

B. Temporary office for County's Inspector shall be provided by the County in accordance with the General Conditions.

1.10 TEMPORARY ELECTRICAL

A. Temporary construction power will be provided by **Electrical Bid Category Contractor**.

1. One 200 amp single phase service for jobsite
2. Temp power boxes ran from the 200 amp service placed every 100 foot. A minimum of 4 boxes will be required per building
3. One 100 amp single phase service for Construction Manager Trailer

4. Any temporary power requirements beyond these provided will be the responsibility of the Contractor requiring same.

5. All welding will be done with self-contained gas powered units.

6. Each Trade Contractor to provide generator power for their operations until temporary power is available or at areas were temporary is not scheduled to be provided.

1.11 TEMPORARY LIGHTING

A. Temporary Lights for general illumination is to be furnish, installed, and maintained by the **Electrical Bid Category Contractor**. Each Trade Contractor shall be responsible to provide and maintain all task lighting as required to perform their scope of work. Each Trade will also be required to re-install and/or replace any of the general illumination lighting installed by the Electrical Bid Category Contractor that the Trade Category Contractor takes down, relocates, modifies, etc.

1.12 TEMPORARY HEAT

A. Temporary heat will be supplied and maintained by the Trade Contractor requiring same.

B. Do not use permanent equipment for temporary heating purposes unless specifically noted otherwise in the Contract Documents.

1.13 TEMPORARY VENTILATION

A. All Contractors shall ventilate enclosed areas to assist cure of materials, dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases as the above may be generated by them.

1.14 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

C. Provide protection for plant life and trees designated to remain and for soft and hardscape areas adjacent to work, replace damaged materials as directed by the Architect.

D. Protect owner-owned, vehicular traffic, stored materials, site and structures from damage.

E. Construction workers who communicate with students or staff, except in emergency or safety related situations will be immediately removed from the site.

F. Protect adjacent finishes, and adjacent property from damage.

1.15 NOISE CONTROL

A. Provide methods, means, and facilities for noise control. Comply with all local ordinances.

B. Personal AM/FM radios, IPods, MP3 players, and other media devices are not permitted.

1.16 POLLUTION CONTROL

A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

B. Provide dust control during Trade Contractors operations and continuously until such time that Work is substantially complete.

1.17 EXTERIOR ENCLOSURES

A. Provide temporary weather-tight closure of exterior openings to accommodate acceptable working conditions and protection for materials, to allow for temporary heating and maintenance or required ambient temperatures identified in individual

B. Specification Sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.18 ACCESS ROADS

A. Provide and maintain access to fire hydrants, free of obstructions.

B. Designated existing on-site roads may be used for construction traffic.

C. Refer to temporary fencing plan for construction entrances.

1.19 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Each Trade Contractor onsite shall participate in a weekly cumulative Project clean-up at a minimum one (1) hour every Friday. This will require one (1) worker per trade to participate weekly as directed by the Construction Manager. If a trade does not participate, one worker will be appointed on the trade's behalf at a rate of $125/hour in addition to management and administrative costs.

C. Each applicable Trade Contractor shall remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to the space being enclosed.

D. Each applicable Trade Contractor shall broom and vacuum clean interior areas prior to start of surface finishing and continue cleaning to eliminate dust.

E. Remove waste materials, debris, and rubbish from site periodically and legally dispose off-site.

1.20 PROJECT IDENTIFICATION

A. A project identification sign may be installed by Construction Manager.

B. No other signs will be permitted.

1.21 STAGING AREAS

A. Coordinate with Construction Manager for location, extent and type of construction staging area.

1.22 PARKING

A. The site is limited in size. Short of unloading of materials, equipment, and crews, on-site parking will not be available. Parking will be off-site on the public street.

1.23 GRAFFITI / VANDALISM

A. Graffiti / vandalism will not be tolerated on any existing or new structure including temporary toilets. Anyone caught defacing any structure will be immediately removed from the site.

1. Temporary toilets with graffiti or those that have been vandalized will be replaced. The expense associated with the replacement will be distributed among all the Trade Contractors on-site.

2. Each Trade Contractor has the sole responsibility of protecting their own work until such work has been accepted by the Owner. Trade Contractor shall be responsible to make all necessary repairs, at their expense, to finish work that has been damaged by graffiti and/or vandalism not accepted by the Owner. The trade contractor shall cover or remove graffiti on their work the day it is discovered.

1.24 NOT USED

A. Not Used

1.25 STAFF AND CREW REQUIREMENTS

A. Staffing Requirements
   1. Trade Contractor shall provide the staffing necessary to ensure the Project is not impacted as a result of being under staffed. Contractor must provide one qualified superintendent, with no less than 5 years of school construction experience.

B. Crew Requirements
   1. Separate working crews will be required and contractor shall take this manpower into consideration when meeting their schedule obligation.

1.26 WATER CONSERVATION

A. Attention is directed to these specifications which require the use of water for the construction of this project. Attention is also directed to state and local ordinances regarding water conservation and storm drain pollution control measures.

B. The Contractor shall, whenever possible and not in conflict with the specifications and ordinances, minimize the use of water during construction of the project. Watering equipment, hose, piping and valves shall be kept in good working order; water leaks shall be

repaired promptly; and washing of equipment, except when necessary for safety or for the protection of the equipment, shall be discouraged. Wash water from such activities shall not be discharged into storm drains.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

END OF SECTION

RIVERSIDE UNIVERSITY HEALTH SYSTEM

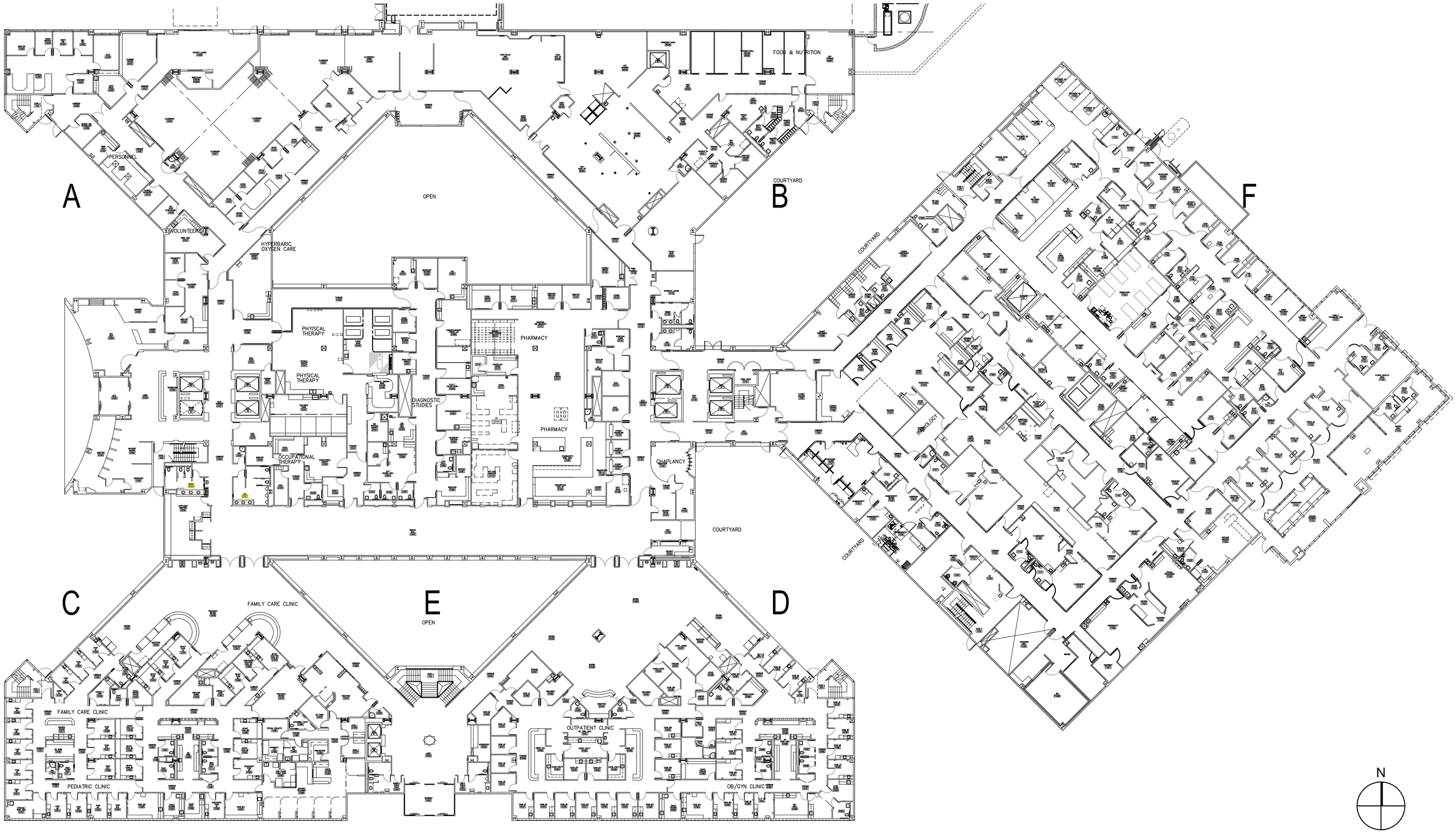
(PROJECT NO. MC08430011869, HCAi NO. S231455-33-00)

CATHETERIZATION LABORATORY SUITE

COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

Appendix C Logistics

Riverside University Health System - Medical Center



RUHS MAIN CAMPUS

26520 Cactus Ave. Moreno Valley, CA 92555

FIRST LEVEL

Notes
First and Last Parking Spaces to be blocked off near lay down area.
Contractors to park in designated area.
If no spaces is available, contractors to park in available spaces around parking lots.

All contractors will be required to relocate the first week of May 2027

Rumble Strips with Rock

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Following Administrative and Procedural Requirements:
   1. Selection of products for use in Project
   2. Product delivery, storage, and handling.
   3. Manufacturers standard warranties on products.
   4. Special warranties.
   5. Product substitutions.

1.2 RELATED REQUIREMENTS AND SECTIONS

A. Instructions to Bidders: Procedures for requesting substitutions during bidding period.
B. Division 1: Substitution Procedures
C. Section 01 77 00: Project Closeout Procedures; for submitting warranties for contract closeout.
D. Divisions 2 through 33 Sections for specific requirements for warranties on products and installations specified to be warranted.

1.3 DEFINITIONS

A. Products: Items purchased for incorporating into Work, whether purchased for Project or taken from previously purchased stock. The term “product” includes terms material, equipment, system, and terms of similar intent.
   1. Named Products: Items identified by manufacturer’s product name, including make or model number or other designation, shown or listed in manufacturer’s published product literature that is current as of date of Contract Documents.
   2. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise.
      a. Products salvaged or recycled from other projects are not considered new products.

B. Substitutions: Changes in products, materials, equipment, and methods of construction required by Contract Documents and proposed by Contractor; following are not considered substitutions:
   1. Substitutions requested during bidding period, and accepted by written Addendum prior to opening of bids or award of Contract.
   2. Revisions to Contract Documents requested by Owner or Architect.
   3. Specified options of products and construction methods included in Contract Documents.
   4. Compliance with governing regulations and orders issued by governing authorities.

C. Basis-of-Design Product Specification: Where specific manufacturer’s product is named and accompanied by words “Basis of Design”, including make or model number or other designation, to establish significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers. If only one manufacturer is named, it shall be considered the Basis of Design whether designed as the Basis of Design or not.

D. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for particular product and specifically endorsed by manufacturer to Owner.

E. Special Warranty: Written warranty required by or incorporated into Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

1.4 SUBMITTALS

A. Substitution Requests: Submit three copies of each request for consideration.
Refer to Specification Section 01 25 00 for Substitution Procedures. The clauses in this Specification is intended to complement the requirements of Specification Section 01 25 00. Where the clauses are in conflict, the more stringent of the two shall apply.

1. Identify product or fabrication or installation method to be replaced.
2. Include Specification Section number and title and Drawing numbers and titles.
    a. Refer to Article 2.02, in this Section.
3. Substitution Request Form: Use form provided the **architect**; other forms will not be accepted.
    a. Requests received without properly completed substitution request form will be rejected without further review.
4. Documentation: Show compliance with requirements for substitutions and following, as applicable:
    a. Statement indicating why specified material or product cannot be provided.
    b. Product identification, including manufacturer's name and address.
    c. Coordination information, including list of changes or modifications needed to other parts of Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
    d. Detailed comparison of significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
    e. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
    f. Structural calculations, where applicable or requested, prepared and signed by Structural Engineer licensed in California.
    g. Samples, where applicable or requested.
    h. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
    i. Material test reports from qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
    j. Research/evaluation reports evidencing compliance with building code in effect for Project, from model code organization acceptable to authorities having jurisdiction.
    k. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for Work, including effect on overall Contract Time.
        1) If specified product or method of construction cannot be provided within Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
    l. Cost information, including proposal of change, if any, in Contract Sum.
    m. Designation of availability of maintenance services, sources of replacement materials.
    n. Contractor's certification that proposed substitution complies with requirements in Contract Documents and is appropriate for applications indicated.
    o. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 01 33 00.
   1. Show compliance with requirements.

1.5 QUALITY ASSURANCE

A. To fullest extent possible, provide products of same kind, from single source.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store and handle products using means and methods that will prevent damage, deterioration and loss, including theft; comply with manufacturer=s written instructions.
   1. Schedule delivery to minimize long term storage at Project Site and to prevent overcrowding of construction spaces.
   2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.
   3. Deliver products to Project Site in undamaged condition in manufacturer's original sealed container, or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
   4. Inspect products on delivery to ensure compliance with Contract Documents, and to ensure products are undamaged and properly protected.
   5. Store products in manner to facilitate inspection and measurement of quantity or counting of units.
   6. Store materials in manner that will not endanger Project structure.
   7. Store products subject to damage by elements under cover in weathertight enclosure above ground, with ventilation adequate to prevent condensation.
   8. Comply with product manufacturer’s written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
   9. Protect stored products from damage.

1.7 PRODUCT WARRANTIES

1. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by Contract Documents.
   1. Manufacturer’s disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of Contract Documents.

2. Special Warranties: Prepare written document that contains appropriate terms and identification, ready for execution.
   1. Submit draft for approval before final execution.
   2. Manufacturer’s Standard Form: Modified to include Project specific information and properly executed.
   3. Refer to Division 2 through 33 Sections for specific content requirements and particular requirements for submitting special warranties.

3. Submittal Time: Comply with requirements in Section 01 77 00.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION

A. General: Provide products that comply with Contract Documents, are undamaged, and unless otherwise indicated, that are new (not previously installed) at time of installation.
   1. Provide products complete with accessories, trim, finish, fasteners, safety guards and other items needed for complete installation and indicated use and effect.
   2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
   3. Owner reserves right to limit selection to products with warranties not in conflict with requirements of Contract Documents.
   4. Where products are accompanied by term “as selected”, Architect will make selection.
   5. Where products are accompanied by term “match sample”, sample to be matched is Architect’s.
   6. Descriptive, performance, and reference standard requirements in Specifications establish salient characteristics of products.
   7. Or Equal: Where products are specified by name and accompanied by term “or equal” or “or approved equal” or “or approved”, comply with provisions in Product Substitutions Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures: Procedures for product selection include following:
   1. Product: Where Specification paragraphs or subparagraphs titled Product name single product and manufacturer, provide product named.
      a. Substitutions may be considered, unless otherwise indicated.
   2. Manufacturer/Source: Where Specification paragraphs or subparagraphs titled Manufacturer or Source name single manufacturers or sources, provide product by manufacturer or from source named that complies with requirements.
      a. Substitutions may be considered, unless otherwise indicated.
   3. Products: Where Specification paragraphs or subparagraphs titled Products introduce list of names of both products and manufacturers, provide one of products listed that complies with requirements.
      a. Where products or manufacturers are specified by name, accompanied by term “or equal”, or “or approved equal” comply with provisions in “Product Substitutions” Article to obtain approval for use of an unnamed product.
   4. Manufacturers: Where Specification paragraphs or subparagraphs titled “Manufacturers” introduce list of manufacturers names, provide product by one of manufacturers listed that complies with requirements.
      a. Where manufacturers are specified by name, accompanied by term “or equal”, or “or approved equal” comply with provisions in Product Substitutions Article to obtain approval for use of an unnamed product.
   5. Product Options: Where Specification paragraph titled Product Options indicate that size, profiles, and dimensional requirements on Drawings are based on specific product or system, provide either specific product or system indicated or comparable product or system by another manufacturer.
      a. Comply with provisions in Product Substitutions Article to obtain approval for use of unnamed product and/or manufacturer.
   6. Basis-of-Design Products: Where Specification paragraphs or subparagraphs titled Basis-of-Design Product are included and also introduce or refer to list of manufacturers names, provide either specified product or comparable product by one of other named manufacturers.
      a. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on product named.
      b. Comply with provisions in Product Substitutions Article to obtain approval for use of unnamed product.
      c. Substitutions may be considered.

7. Visual Matching Specification: Where Specifications require matching established Sample, select product and manufacturer that complies with requirements and matches Architect's sample.
    a. Architect's decision will be final on whether proposed product matches satisfactorily.
    b. If no product available within specified category matches satisfactorily and complies with other specified requirements, comply with provisions of Contract Documents on substitutions for selection of matching product.
8. Visual Selection Specification: Where Specifications include phrase as selected from manufacturer's colors, patterns, textures, or similar phrase, select product and manufacturer that complies with other specified requirements.
    a. Standard Range: Where Specifications include phrase standard range of colors, patterns, textures or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that does not include premium items.
    b. Full Range: Where Specifications include phrase full range of colors, patterns, textures or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that includes both standard and premium items.
9. Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply with requirements, and are recommended by manufacturer for application indicated.
    a. General overall performance of product is implied where product is specified for specific application.
    b. Manufacturer's recommendations may be contained in product literature, or by manufacturer's certification of performance.

2.2 PRODUCT SUBSTITUTIONS

A. Timing: Substitutions are restricted to before bid opening if stated in the bidding documents. Acceptable substitutions prior to bid shall be communicated **ONLY** through addenda.
    1. Requests for substitutions received after that time may be considered or rejected at discretion of Architect.
    2. Requests for substitutions **MAY** be considered if received within 15 days after award of Contract, subject to specified submittal requirements and following:
        a. Architect will consider request for substitution after commencement of Work, within 15 days after award of Contract, only if specified product or construction method cannot be provided within Contract Time, cannot receive necessary approvals, cannot be provided in manner compatible with or coordinate with other materials or cannot provide required warranty.
        b. Contractor's base bid **MUST** include the specified product. If the substitution is accepted after the Notice of Award, the owner receives full benefit of the cost reduction.
        c. Requests received more than 15 days after award of contract will only be considered in case of substantiated product unavailability, or conditions beyond control of Contractor.

B. Conditions: Contractor's substitution request will be received and considered by Architect when following conditions are satisfied, as determined by Architect; otherwise requests will be returned without action except to record noncompliance with these requirements; burden of proof of merit of proposed substitution is upon proposer.
    1. Extensive revisions to Contract Documents are not required Requested substitution is consistent with Contract Documents and will produce indicated results.
    2. Request is timely, fully documented and properly submitted.
    3. Request is directly related to "or equal" clause or similar language in Contract Documents.
    4. Request is directly related to "or equal" clause or similar language in Contract Documents.
    5. Specified product or construction method cannot be provided within Contract Time.

a. Request will not be considered if product or method cannot be provided as result of failure to pursue Work promptly, failure to identify items requiring long lead times, or failure to coordinate activities properly.

6. Specified product or construction method cannot receive necessary approval by governing authority, and requested substitution can be approved.
7. Substantial advantage is offered Owner, in cost, time, energy conservation, or other considerations of merit, after deducting additional responsibilities Owner must assume.
   a. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner or separate Contractors, and similar considerations.
8. Specified product or construction method cannot be provided in manner that is compatible with other materials, and where Contractor certifies that requested substitution will overcome incompatibility.
9. Specified product or construction method cannot be coordinated with other materials, and where Contractor certifies that requested substitution can be coordinated.
10. Specified product or construction method cannot provide warranty required by Contract Documents and where Contractor certifies that requested substitution provide required warranty.
11. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of Work, is uniform and consistent, is compatible with other products, and is acceptable to contractors involved.

C. Architects Action: If necessary, within one week of receipt of request for substitution, Architect will request additional information or documentation for evaluation of request for substitution.
   1. Within 2 weeks of receipt of request, or one week of receipt of additional information or documentation, whichever is later, Architect will notify Contractor of acceptance or rejection of requested substitution.
   2. Use product specified if Architect cannot make decision on use of proposed substitution within time allocated.
   3. Architect will not be responsible for locating or securing information which is not included in substantiating data.
   4. Architect's decision of acceptance or rejection of requested substitution shall be final.

D. Architect's cost for evaluating substitutions requested by Contractor, including making subsequent revisions to drawings, specifications and other resulting documentation, will be paid by Owner with reimbursement from Contractor by deductive change order.

E. Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

F. Forms of Acceptance for Substitutions:
   1. During Bidding Process: Addendum
   2. After Award of Contract: Change Order.

PART 3 - EXECUTION NOT USED

END OF SECTION

SECTION 01 73 29

CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes procedural requirements for cutting and patching.

1.3 DEFINITIONS

A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 QUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

B. Operational Elements: Do not cut and patch the following operating elements and related components in a manner that results in reducing their capacity to perform as intended or those results in increased maintenance or decreased operational life or safety.

1. Primary operational systems and equipment.
2. Air or smoke barriers.
3. Fire-protection systems.
4. Control systems.
5. Communication systems.
6. Electrical wiring systems.

C. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.

1. Water, moisture, or vapor barriers.
2. Membranes and flashings.
3. Exterior curtain-wall construction.
4. Equipment supports.
5. Piping, ductwork, vessels, and equipment.
6. Noise- and vibration-control elements and systems.

D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Engineer's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsafe- factory manner.

1.5 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections of these Specifications.

B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to minimize interruption of services to occupied areas.

3.3 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
   1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
   2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
   3. Concrete: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
   4. Excavating and Backfilling: Comply with requirements in the technical specifications where required by cutting and patching operations.
   5. Mechanical and Electrical Services: Where directed by drawings or specifications, cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
   6. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.

   1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
   2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
   3. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather tight condition.

END OF SECTION

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SECTION 01 77 00

PROJECT CLOSEOUT

PART 1 – GENERAL

1. DESCRIPTION

A. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:

1. Inspection procedures.
2. Project record document submittal.
3. Operating and maintenance manuals submittal.
4. Submittal of warranties.

B. Closeout requirements for specific construction activities are included in the appropriate Sections in the technical specification sections.

C. Refer to section 01 99 99 for an acceptable binder cover page template.

2. SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.

1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Price.

    a. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
2. Advise the Construction Manager of pending insurance change-over requirements.
3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.
4. Obtain and submit releases enabling the County unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.
5. Deliver tools, spare parts, extra stock, and similar items.
6. Complete start-up testing of systems, and instruction of the County's operating and maintenance personnel. Discontinue or change over and remove temporary facilities from the site, along with construction tools, mockups, and similar elements.
7. Complete final clean up requirements.

B. Inspection Procedures: On receipt of request for inspection, the Architect and/or Engineer will either proceed with inspection or advise the Contractor of unfulfilled requirements. The Architect and/or Engineer will prepare the Certificate of Substantial Completion following inspection, or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.

1. The Architect and/or Engineer will repeat inspection when requested and assured that the Work has been substantially completed.

2. Results of the completed inspection will form the basis of requirements for final acceptance.

3. RECORD DOCUMENT SUBMITTALS

A. General: Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Architect and/or Engineer's reference during normal working hours.

B. As-Built Drawings: Produce and maintain a clean, undamaged set of "E" size Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies from the Work as originally shown. Give particular attention to concealed elements that would be difficult to measure and record at a later date.

1. Mark changes to the Documents caused by RFI responses with RFI designation.
2. Mark changes to the Documents caused by Bulletins with Bulletin designation.
3. Mark new information that is important to the County, but was not shown on Contract Drawings or Shop Drawings.
4. Note related Change Order numbers where applicable.
5. Organize As-Built drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set.
6. Per Riverside County Building Official Plan Check Requirements, "As- Built" drawing requirements are as follows:
   - As-built drawings are the final set of drawings produced at the completion of a construction project. They include all the changes that have been made to the original construction drawings, including notes, modifications, revisions and any other information that should be included. As-built drawings should not change the design intent but should depict the actual as-built conditions of the completed construction. While the original drawings are typically produced using computer aided design (CAD) software, the as-built drawings should contain handwritten notes, sketches, and changes.
   - When the construction phases of the project / contract are finished a complete set of marked-up redlined drawings will be turned over to EDA Design & Construction for review and approval. All markings shall be on a previous approved set of drawings, signed and stamped by the EOR and Jurisdiction Enforcement Agency. No additional PE seal or signature is required on the as-built drawings. These drawings shall have AS-BUILT DRAWINGS indicated on the title sheet in the title block and on each sheet of submitted as-built drawings along with initial of responsible individual.

C. Record Specifications: Maintain one complete copy of the Project Manual, including addenda, and one copy of other written Construction Documents such as Change Orders and modifications issued in printed form during construction. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and Product Data.

1. Upon completion of the Work, submit record Specifications to the County's Representative for approval and corrections. Upon acceptance, resubmit for the County's use.

D. Record Product Data: Maintain one copy of each Product Data submittal. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site, and from the manufacturer's installation instructions and recommendations. Give particular attention to concealed products and portions of the Work that cannot otherwise be readily discerned later by direct observation. Note related Changes Orders and markup of record drawings and Specifications.

1. Upon completion of markup, submit complete set of record Product Data to the County's Representative for approval and correction. Upon acceptance, resubmit for the County's use.

E. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous recordkeeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the County's Representative for approval and correction. Upon acceptance, resubmit for the County's use.

F. Maintenance Manuals: Organize operating and maintenance data into suitable sets of manageable size. Bind properly indexed data in individual heavy-duty 2 inch, 3-ring vinyl covered binders, with pocket folders for folded sheet information. Mark appropriate identification on front and spine of each binder. Submit one complete set of original manufacturer's maintenance and operational manuals to the County's Representative for approval and corrections. Upon acceptance, resubmit for the County's use a minimum of four (4) complete original manufacturer's sets. Include the following types of information:

1. Emergency instructions.
2. Spare parts list.
3. Copies of warranties.
4. Wiring diagrams.
5. Recommended "turn around" cycles.
6. Inspection procedures.
7. Shop Drawings and Product Data.
8. Manufacturer Contact Information
9. Prime Contractor Contact Information

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION

3.1 CLOSEOUT PROCEDURES

A. Operating and Maintenance Instructions: Arrange for each installer of equipment that requires regular maintenance to meet with the County's personnel to provide instruction in proper operation and maintenance. If installers are not experienced in procedures, provide instruction by manufacturer's representatives. Include a detailed review of the following items:

1. Maintenance manuals.
2. Record documents.
3. Spare parts and materials.
4. Tools.
5. Lubricants.
6. Fuels.
7. Identification systems.
8. Control sequences.
9. Hazards.
10. Cleaning.
11. Warranties and bonds.

END OF SECTION

SECTION 01 78 36

WARRANTIES AND BONDS

PART 1 - GENERAL

1.1 DESCRIPTION

A. This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.

B. Refer to the General Conditions for terms of the Contractor's special warranty of workmanship and materials.

C. Provide one (1) year warranty for workmanship, product and materials **unless** noted differently in the respective specification section.

D. Certifications and other commitments and agreements for continuing services to the County are specified elsewhere in the Contract Documents.

E. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

F. Further to Item E above, it is specifically required and acknowledged by this Contractor that warranty periods on all equipment commences from date of **County's acceptance of the equipment and/or from the date of Substantial Completion**, whichever is later. Therefore, startup of equipment and/or the use of equipment during construction shall not be construed as the qualifier for warranty period start.

1.2 DEFINITIONS

A. Standard Product Warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the County.

B. Special Warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the County.

1.3 WARRANTY REQUIREMENTS

A. Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.

B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the County has benefited from use of the Work through a portion of its anticipated useful service life.

D. County's Recourse: Written warranties made to the County are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the County can enforce such other duties, obligations, rights, or remedies.

1. Rejection of Warranties: The County reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.

E. The County reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entitles required to countersign such commitments are willing to do so.

1.4 SUBMITTALS

A. Submit written warranties to the County's Representative prior to the date certified for Substantial Completion. If the Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Engineer.

1. When a designated portion of the Work is completed and occupied or used by the County, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Engineer within fifteen days of completion of that designated portion of the Work.

B. When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the County through the County's Representative for approval prior to final execution.

C. Form of Submittal: At Final Completion compile four (4) copies of each required warranty and bond properly executed by the Contractor, or by the Contractor's subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual. Use a form acceptable to the County.

D. Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8½ inch by 11-inch paper.

1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address and telephone number of the installer.

2. Identify each binder on the front and the spine with the typed or printed title “WARRANTIES AND BONDS”, the Project title or name, and the name of the Contractor. Refer to section 01 99 00 for an acceptable closeout cover page template.

3. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION NOT USED

END OF SECTION

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SECTION 01 99 99
FORMS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Certificate of Stored Materials
B. Change Order Request (COR) for Prime Contractors (Contractor to submit sample)
C. Change Order Request (COR) for Subcontractors (Contractor to submit sample)
D. Guarantee Form
E. Safety Orientation Form
F. Submittal Cover Sheet
G. [Reserved]
H. Systems Shutdown / Off Hour Work Request
I. Testing & Inspection Request
J. Time & Material Daily Report - for Added Work (Contractor to submit sample)
K. Closeout Document For (Cover Sheet)
L. Daily Work Template (Contractor to submit sample)
M. Pre Shift Crew Meeting (Contractor to submit sample)

PART 2 – PRODUCTS NOT USED

PART 3 – EXECUTION

3.1 Certificate of Stored Materials

A. This form must be notarized, executed and submitted with Application for Payment when Contractor is billing for stored materials.

3.2 Change Order Request (COR) for Prime Contractors

A. All COR's must be submitted on this form. No other form will be accepted.

3.3 Change Order Request (COR) for Subcontractors

A. All COR's must be submitted on this form. No other form will be accepted.

3.4 Guarantee Form

A. This form must be submitted with the final payment application and provides the Contractor's guarantee that the Work was completed as specified and will remain so.

3.5 Safety Orientation Form

A. The Safety orientation form is included and will be required to be filled out by every tradesman as part of a required onsite orientation held by the Construction Manager.

3.6 Submittal Cover Sheet

A. All submittals shall be submitted on this form. No other form will be accepted. Submittals will be returned to Contractor for compliance.

3.7 SWPPP Inspection Log

A. Required monthly for inspection of Storm Water Pollution Prevention Plan status.

3.8 System Shutdown/Off Hour Work Request

A. This form is used to request Systems Shutdown / After Hours Work. One (1) week notice required.

3.9 Testing & Inspection Request

A. This form must be submitted to the Inspector of Record at least forty-eight (48) hours in advance of any necessary Testing and Inspection on the project.

3.10 Time & Material Daily Report – For Added Work

A. Complete this Form each day for work assigned to a Field Work Directive. All labor, equipment and materials must be identified daily to be considered for a Change Event.

3.11 Closeout Documents Form (Cover Sheet)

A. Contactor must use/submit this form with their closeout package

3.12 Daily Work Report Template

A. This is a sample form only. Contractor may use their own.

3.13 Pre Shift Meeting

A. This must be used by all trades and will be required to be submitted on a daily basis by 8:00AM the day of the work taking place.

END OF SECTION

Certificate of Stored Materials

To: County of Riverside
c/o Bernards Brothers]

The below listed materials, supplies and equipment (hereinafter defined as material) are stored at

_____
Address

and can be inspected upon reasonable notification:

Stored Material Item - Description	Stored Location	Quantity	Invoice Value *

*Invoice copy attached (Attach additional sheets as needed.)
Contractor's Material Cost.....$
Total Cost (Invoice Value Plus Handling Cost).....$

Upon receipt of payment (payment defined as invoiced cost plus material handling cost without overhead and profit) as petitioned by Contractor's Application For Payment No. Item(s) , dated , the undersigned hereby certifies the following:

1. Full, clear and unencumbered title and ownership of the material is transferred, assigned and vested to (County of Riverside).
2. The material is to be held in trust for the benefit of County of Riverside and for the exclusive use of County of Riverside until such time as the materials are incorporated into the work. The Contractor reaffirms his continued obligation to store and protect the material until completion of the work. All cost related to the procuring, transporting, insuring and improving, repairing or leasing facilities for storage of material is the sole cost of the Contractor.
3. A current Certificate of Insurance coverage is attached or presently on file with County of Riverside.
4. The Certificate of Stored Materials shall constitute a Bill of Sale if accompanied by proof of payment for the referenced materials.

As evidence and surety of this obligation and for the protection of County of Riverside, the Contractor (see County of Riverside Contract) will provide and maintain an "ALL RISKS" insurance policy for the invoice value of material. Further, the Contractor agrees to be responsible and accountable for any and all damage to or destruction of the material, insurance coverage notwithstanding.

Contractor:

Sworn to and subscribed before me this
_____ day of _____, _____
Day *Month* *Year*

_____
Notary Public

My commission expires: _____

_____
Company Name

By: _____
Authorized Signature

Title: _____

Date: _____

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BERNARDS

Project Safety Standards (Orientation Training)

PROJECT SAFETY STANDARDS – ORIENTATION TRAINING **DATE: _____**

 **EMERGENCY PROCEDURES**	• Key point summary: ○ In the event of a life threating emergency - CALL 911 • Provide the exact location and nature of the emergency (i.e. worker injury, fire, etc.) to 911. • Stay on the phone until 911 has confirmed that you have provided adequate information. • Notify job foreman, immediately. • If evacuation is not required, stay on the scene to assist victims and brief emergency personnel. ○ Emergency Evacuation Procedures: • 3 horn blasts or other designated means will indicate site is to be evacuated in case of emergency such as bomb threat, collapse, toxic release, fire, or other events, etc. • Proceed in a calm, orderly manner to the designated muster/rally point • Report directly to your foreman/superintendent at the muster/rally point for head count and do not leave until instructed. • Other weather (such as wind event) or natural event (such as earthquake) – Evacuate immediately and safely to the designated muster/rally point /shelter location.
 **SCAFFOLD**	• Key point summary: ○ Recognize the types of hazards associated with the scaffold (access, falls, planks, slips, collapse, struck by, electrocution, access doors/ladders, etc.). ○ Proper Use: user training, scaffold tagging system (red, yellow, & green), daily competent person inspection, etc. ○ Understand loading and weight classifications (light, medium, and heavy duty). ○ Scaffold components and proper erection and disassembly; proper qualifications required for Qualified Erectors & Competent Persons. ○ Planks are to be used for its intended purpose.
 **MOBILE EQUIPMENT**	• Key point summary: ○ Equipment must be appropriate for the activity, inspected (daily or prior to each use per manufacturer), maintained, and operated in accordance with manufacturer instruction. ○ All safety features must be in working condition and utilized appropriately including but not limited to back up alarms, seat belts, etc. ○ Defective equipment is to be removed from service and secured so it may not be used by others. ○ Only users that receive training, are certified, and authorized may operate equipment. ○ Equipment speed must be appropriate for the condition and conform to site rules. ○ Spotter must be used when views are obstructed or when there are hazard exposures to the public. ○ Equipment may not be modified. ○ **Powered Industrial Lift** • Be knowledgeable of the manufacturer operator's manual for specific model being used. ○ **Mobile Elevating Work Platforms (MEWPS) - Type 1/Type 2/Type 3** • 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 for a work position. • Personnel shall not exit basket to access work area without proper safeguards in place. • Review proper equipment access / egress. • Handrails and mid-rails shall be used for its intended purpose.
 **FALL PROTECTION**	• Key point summary: ○ Review company policies and procedures, and manufacturer fall protection equipment manual specific to the equipment used. ○ Review includes but not limited to: • Proper equipment selection for the hazard • Various elements of a fall protection system • Inspection elements and frequency • Removal from use Criteria • Common hazards • Proper installation and use. • Training • Storage • Rescue plan

PROJECT SAFETY STANDARDS – ORIENTATION TRAINING **DATE: _____**

 **CONFINED SPACE**	• Key point summary: ○ Confined space: Permit required and non-permit required. ○ Training and Competent Person requirements for Confined Space work. ○ Understand the hazards of confined space including permit required confined space. ○ Work with Bernards to address/plan for confined space scope of work. ○ Methods to isolate, control, or other means to protect personnel from or engaged in confined space activity. ○ Confined space and rescue roles and responsibilities. Including dangers for rescue team.
 **LADDERS**	• Key point summary: ○ Ladder selection for the work activity ○ Nature of fall hazards ○ Ladder stability by ladder type. i.e., weight limits, ground stability, tie off, extending 3ft above surface, stable angle, three points of contact, etc. ○ Inspection criteria ○ Ramps or runways shall not be less than 20" in width, secured and supported against displacement and deflection. Where cleats are used it shall be at least 8" wide and not spaced greater than 14" apart.
 **GENERAL**	**Personal Protective Equipment (PPE)** • Key point summary: ○ 100% Eye protection worn on jobsites. ○ High-visibility clothing shall be worn by all persons on a job site or in an operating plant area. ○ No loose / frayed clothing, sweatpants, shorts; appropriate and functional work shoes/boots shall be worn. Shirts must have sleeves. ○ Nonconductive Hard hats shall be worn at all times. ○ Wear appropriate PPE for the hazard including limitations, inspection criteria, proper use, maintenance, and disposal. ○ PPE is provided for the benefit of the employee and must be inspected, maintained, and utilized in accordance with manufacturer instruction; review manufacturer equipment manual specific to the PPE / equipment personnel will use. **General:** • Key point summary: ○ All workers are empowered with the full authority and responsibility to stop unsafe work practices, identify unsafe / hazardous conditions, stop non-construction personnel and escort them out of the work areas. ○ Assess path of travel for hazards. ○ Understand site specific expectations includes but not limited to: • Disciplinary policy • Planning for safe work –job hazard analysis, hierarchy of controls, pre-task plan, etc. • Communication plan: general and emergency situations • No project personal under the influence or with possession of drugs or intoxicating liquor is allowed on the job. ○ No unruly behavior of any kind is allowed. ○ No possession of any prohibited substances, firearms, weapons, stolen property or other prohibited items on company property or jobsite. ○ No children / animals allowed on the jobsite. ○ No Music Devices. Mobile Electronic Devices / Radios used for jobsite communication purposes only. ○ Follow no smoking rules. ○ Anyone improperly using portable restrooms or writing graffiti will be removed from the job. ○ Report any unsafe and / or unsanitary conditions to the Superintendent. If possible, correct the condition first, and then report. Do not work in the area until the hazard has been corrected. ○ Red tape is used to convey "DANGER – DO NOT ENTER"; NO ONE is to enter without the approval of the employee or entity that erected the barricade, who must advise the entrant of the hazard and wear all required personal protective equipment required for the hazard. ○ Yellow or Yellow/Black tape is used to convey "CAUTION". Personnel are allowed to enter the barricade only after they have read the tag to understand the purpose of the barricade and recognize the hazards within the area.

PROJECT SAFETY STANDARDS – ORIENTATION TRAINING **DATE: _____**

 **HOUSEKEEPING**	• Key point summary: ○ Trash / debris must be cleaned up daily. This includes lunch/break trash. No glass bottles. ○ All extension cords should be properly hung off the ground. If suspending the extension cord is not feasible, then the extension cord should be picked up and put away after use / end of the day. ○ All material should be stored on pallets, rolling carts, rolling racks, etc. so material can be moved as warranted.
 **PROPER LIFTING AND MATERIAL HANDLING**	• Key point summary: ○ Prevention program: Stretch and Flex is recommended to be performed daily by all workers. ○ Proper lifting and material handling procedures • Ask for help with heavy loads, use proper lifting and lowering methods. • Be aware of material features that may cause injuries, including sharp edges, pinch points, etc. • Use mechanical lifting devises (carts, etc.) when necessary and available. • Follow manufacturer's instructions and use proper trained methods for usage.
 **ACCIDENT/ INCIDENT PROCEDURES**	• Key point summary: ○ All injuries / illnesses / incidences / near misses involving workers, visitors, or the general public must be reported immediately to your supervisor. ○ Authorized medical clinics/hospitals within the Medical Provider Network (MPN) will be utilized for treatment, as applicable. ○ All policies and procedures apply if employees are on a return-to-work program.
 **ELECTRICAL**	• Key point summary: ○ Review 100% Ground Fault Circuit Interrupter (GFCI) Protection on our projects at all times for temporary and permanent power. ○ Industrial "Heavy Duty" cords (10, 12 gauge) with proper grounds are to be used at all times. ○ Extension Cords not in use should be rolled up and properly stored. ○ Extension Cords must be protected from sharp edges (i.e.: metal studs, door jams, etc.). ○ Inspect all cords daily before each use. ○ Damaged items must be repaired or removed from the job site. ○ All cords and leads are to be elevated above all main walkways where feasible. ○ All electrical/mechanical systems should be considered live and energized. Partner with your superintendent, foreman, safety personnel, and/or designated personnel to lock out/ tag out prior to work.
 **ENVIORNMENTAL**	• Key point summary: ○ **Heat Illness** • Roles and responsibilities in the prevention, recognition, and response to heat illness symptoms. • Drink plenty of water. Your employer will have water available for you. • Shade is always available. • Know your limitations – notify your supervisor if you have heat illness symptoms or observe symptoms in others. • You are authorized to contact emergency medical services, such as 911, in case of medical emergency. Then, let your supervisor know immediately after. ○ **Cold Illness** • Roles and responsibilities in the prevention, recognition, and response to cold related illness • Common types of cold stress (hypothermia, frostbite, trench foot). • Risk factors (dressing improperly, wet clothing, and exhaustion). • Proper dress includes dressing in layers, waterproof, and insulated clothing. • Emergency procedures for cold stress includes change to dry clothes, move to warm area, cover the body to retain heat, and contact emergency medical services. ○ **Wildfire** • Know your company's program and procedures for state or federally mandated requirements. • Communication hazards. • Understand administrative, engineering and work practice controls. • Wear Personal Protective Equipment when necessary.

	○ **Respiratory** • Respiratory hazards include but not limited to fumes, dusts, mists, vapors, and gases. • Follow your company's procedures for wearing a respirator – mandatory, medical evaluations, fit testing, usage, maintenance, inspection, storage, limitations, etc. • Types of respirators (dust, half face, full face, positive pressure, air supplying respirator, etc.). • Crystalline Silica – health hazards include but not limited to Silicosis, Lung Cancer, and Chronic Obstructive Pulmonary Disease. • Crystalline Silica – ▪ Personnel engaged in a task(s) identified on OSHA Table 1 - fully and properly implement stated controls ▪ Tasks not identified in OSHA Table 1- Personnel shall fully and properly implement exposure control methods. Provide your means and methods for control prior to the start of work. ○ **Noise** • Prevent excessive ambient noise to be generated, including nonworking hours, weekends, and holidays. Use appropriate means to control noise in accordance with applicable Federal, State or local regulatory standards. ○ **Dust, Mists, Vapors, etc.** • Prevent airborne transmission of dust, mists, and vapors including nonworking hours, weekends, and holidays. Use wet suppression or other means to control dust and vapors in accordance with applicable Federal, State or local regulatory standards. ○ **Pandemic Response (COVID, etc.)** • Follow your company's plans/procedures/polices to follow local, state & federal regulations regarding pandemic response. • Understanding: Health concerns; Signs & symptoms; Transmission modes; Sick employee procedures; Prevention/protective measures (including safety equipment); Reporting procedures; Isolation/Quarantine (as necessary); Sanitation and cleanliness; etc. • Work practices: Safety planning; Close proximity/physical distancing (as necessary; Performed work; transportation; etc. ○ **Hazardous Materials (Asbestos, Lead, Contamination, etc.)** • Do not cut, disturb, disassemble or in any way expose the material. • Contact Bernards upon identification.
 **HOT WORK PROCEDURES**	• Key point summary: ○ No open flame, welding, torch cutting, soldering, brazing, or grinding is permitted by any worker(s) without obtaining a "HOT WORK PERMIT." Unless otherwise specified. ○ A portable fire extinguisher must be present within 25' of work. ○ Welding curtains for welding operations when others are working in the area and could be affected by arc flash. ○ Fire Watch for minimum 30 minutes must be conducted after operations are completed unless otherwise specified. ○ Warning signs or barricades (i.e.: warning tape, worker) should be used to protect workers from falling slag, sparks, etc. ○ Non-Combustible back stops should be installed behind all metal cutting saw work stations for stopping / capturing sparks.
 **HAZARD COMMUNICATION**	• Key point summary: ○ Safety Data Sheets are required from your company. ○ Review SDS prior to working with materials and follow PPE guidelines. ○ Chemicals moved from its original container must be labeled properly for identification and hazard prevention. ○ Silica Hazards must be recognized and followed accordingly; follow SDS sheets. ○ Know when and what exposure levels you have when dealing with silica. ○ Refer to your company's respiratory program for any questions or concerns regarding silica.
 **CRANES**	• Key point summary: ○ Keep clear of loads by not standing, walking, or working under an overhead load. ○ Work area shall be controlled for hazards such as swing radius hazard - Do not cross into flagged off areas. ○ Only trained and authorized personnel may operate cranes, rig loads, and/or signal. ○ The use, inspection, set-up, and maintenance of cranes and hoisting equipment shall comply with any state or federally mandated program, including the manufacturer's recommendations and requirements. ○ Crane/Hoisting work must submit pre-lift documents prior to the start of operations. ○ The hoist path for all hoisting operations shall be pre-determined and coordinated with a Bernards' team member to ensure that adequate clearance is given around hoisting operations. ○ Follow Bernards *Crane and Hoisting Equipment* requirements.

PROJECT SAFETY STANDARDS – ORIENTATION TRAINING **DATE: _____**

 **EQUIPMENT PROCEDURES**	• Tool use and are - Key point summary: o Inspect and use according to manufacturer instructions. o Secure broken or damaged tools against use. o Use guards and handles as specified by the manufacturer. o Use trained methods to safeguard against struck by hazards. o **Powder Actuated Tools** • Proper training, certification/authorization is required prior to operating any powder actuated tool. • Never leave the tool unattended or loaded. • Warn others of powder actuated tool use through proper communication and signage.
 **TRENCH/ EXCAVATIONS**	• Key point summary: o Do NOT enter trenches / excavations > 4' without proper "cave in" protection and atmospheric testing. o Cave-in prevention through shoring, benching, sloping, or trench box. o Keep excavated soil (spoils) and other materials at least 2 feet (0.61 meters) Ladders must be used for access/egress for trenches > 4' and within 25' of all workers. o Keep excavated soil (spoils) and other materials at least 2 feet from trench edges, and no more than 3 feet high. o When scaffolding is near excavations partner with foreman, safety personnel or designated personnel to identify hazards and safety measures from trench edges. o Inspections and training must meet all regulatory needs necessary for a safe operation.
 **DRIVER SAFETY**	• Key point summary: o Types of vehicles on construction site: golf cart, work trucks, heavy equipment. o You must be trained and authorized to operate vehicles on site. o Stay alert: actively pay attention to your actions and those of the drivers/individuals around you when you are driving. o Follow Site Speed Limits – Speed should reflect site rules, manufacture instructions, and site conditions. o Use seat belts when provided. o Distracted driving – avoid distractions such as phones, electronic devices, eating while driving etc.
 **LOCKOUT AND ENERGY CONTROL**	• Key point summary: o Know the types of energy that may be released accidently: chemical, electrical, hydraulic, mechanical, pneumatic, thermal, etc. o Where applicable, know and understand the de-energizing procedures for the equipment being used. o Clearly communicate with operators and supervisors who may be affected by isolating the machinery and make them aware of the work being carried out. Ensure other affected understand the lockout procedure. o Establish and follow the lockout procedures for each piece of equipment being worked on.
 **CPR & FIRST AID**	• Key point summary: o CPR / First aid / AED should only be administered by those trained by a recognized authority. o Contact emergency medical services (typically call 911) when necessary. o Your employer shall ensure that there are an adequate number of employees trained as first aid providers at each worksite during each work shift.
 **WORKPLACE VIOLENCE**	• Key point summary: o Understand risk factors for workplace violence. o Prevention strategies such as, but not limited to, policies and procedures for assessing and reporting threats, nonviolent response and conflict resolution, and increased knowledge and awareness of the risk of workplace violence. Follow site and company policy/procedures as required. o Understand your roles and responsibilities
 **ERGONOMICS**	• Key point summary: o Stretch and flex is recommended prior to job start, during breaks, if tension or stress is apparent, after lengthy task duration or extended awkward posture. o Musculoskeletal related activities • Risk factors: Prolonged awkward posture; Repetitive action; Use of excessive force • Mitigation: Use the proper tool for the job; Know your physical limitations; Notify your supervisor regarding risk factor concerns and/or symptoms.

PROJECT SAFETY STANDARDS – ORIENTATION TRAINING **DATE: _____**

SUMMARY

Guiding Criteria – All subcontractors, suppliers, vendors, etc. must follow manufacturer requirements, their safety methods/policies/procedures, and all regulatory needs necessary for a safe operation. If there is another governing body (federal, state, or local) with more restrictive regulations, authority, or a more comprehensive contractual agreement they must comply with the more stringent regulation or agreement.

All subcontractors, suppliers, vendors, etc. are required to have employees trained and compliant with (but not limited to) the following applicable regulatory requirements to their scope of work:

- Cal-OSHA Title 8 & OSHA 29 CFR
- Cal-OSHA Title 8 CCR Subchapter 4 – Construction Safety Orders
- Cal-OSHA Title 8 CCR Subchapter 5 – Electrical Safety Orders
- Cal-OSHA Title 8 CCR Subchapter 7 – General Industry Safety Orders
- OSHA 29 CFR Part 1910 - Safety Standards for General Industry, and all Subparts
- OSHA 29 CFR Part 1926 - Safety Standards for Construction, and all Subparts

Training is only a component of a safe workplace. Employees understand that in order to make training effective, they are to:

- Know and comply with all safety policies, federal, state, local standards, procedures, and manufacturer instruction.
- Actively participate in safety trainings and programs.
- Apply knowledge acquired during training.
- Know and manage your own personal limitations.
- Support a safe environment by immediately addressing unsafe condition(s) so others may not access the area and notify your supervisor in a timely manner.
- Stop any unsafe behaviors and do not contribute to its furtherance.
- Have the authority and obligation to stop any task or operation where the controls and/or hazards related to safety, health and environment are not clearly understood, or concerns about any of the control measures exists. “Stop Work” concerns and questions are to be addressed. Pending resolution, personnel is not to be exposed to hazards.
- Bernards has not/and does not discriminate or retaliate against personnel who have exercised their “Stop Work” authority, nor condone such actions or behaviors.

This information has been clearly explained in a language that is readily understood by me. Any questions that I may have about this document have been answered, and I understand that my employer is available to address future questions and/or concerns.

Printed Name: _____

Signature: _____

Company: _____

Project: _____

GUARANTEE

Guarantee for_____. We hereby guarantee that the _____, which we have installed in _____ has been done in accordance with the Contract Documents, including without limitation, the drawings and specifications, and that the work as installed will fulfill the requirements included in the bid documents. The undersigned and its surety agrees to repair or replace any or all such work, together with any other adjacent work, which may be displaced in connection with such replacement, that may prove to be defective in workmanship or material within a period of **One (1)** year from the date of the Notice of Completion of the above-mentioned structure by the County of Riverside, ordinary wear and tear and unusual abuse or neglect excepted.

In the event the undersigned or its surety fails to comply with the above-mentioned conditions within a reasonable period of time, as determined by the County, but not later than ten (10) days after being notified in writing by the County of Riverside or within forty eight (48) hours in the case of an emergency or urgent matter, the undersigned and its surety authorizes the County of Riverside to proceed to have said defects repaired and made good at the expense of the undersigned and its surety, who will pay the costs and charges therefor upon demand. The undersigned and its surety shall be jointly and severally liable for any costs arising from the County of Riverside's enforcement of this Guarantee.

	Countersigned
_____	_____
(Proper Name)	(Proper Name)
By: _____	By: _____
_____	_____
(Signature of Subcontract or Contractor)	(Signature of General Contractor if for Subcontractor)

Representatives to be contacted for service:

Name: _____

Address: _____

_____

Phone Number:_____

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JOBSITE SAFETY ORIENTATION

PURPOSE:

The Subcontractor Project Orientation Meetings are held prior to the start of any project and are a great way to introduce our Project Team, have Subcontractors introduce themselves, communicate common project procedures and highlight key dates.

PROCEDURE:

Subcontractor Project Orientation Meetings

Subcontractor Project Orientation Meetings are conducted to identify and communicate overall project procedures. These meetings are commonly lead by the Project Manager, with active participation from the other members of the Bernards project team, Owner and Consultants as applicable.

Agenda Template

It is at the discretion of the Project Executive to utilize the Bernards Subcontractor Project Orientation Meeting Template or the B360 Template. The Project Manager shall verify that all Meeting Agendas fully agree with the provisions of the: prime contract(s), general conditions, supplementary conditions, project specifications, safety requirements, site specific requirements as well as any other Owner stipulated project requirements.

Assignment of Meeting Topics

Assign members of the Bernards project team to cover each of the numbered items on the meeting agenda. The Project Manager should review with each of these individuals their expected role in the upcoming meeting, allowing each of them sufficient time to prepare for their presentation. Discuss any suggested modifications to the agenda and edit as necessary.

Collect Related Documents / Forms

During the meeting, there will often be occasions that will lend themselves to displaying key forms and documents. The Project Manager, or an appointed staff member, shall diligently seek out and obtain legible copies of all such documents and make them available for use by the meeting participants.

Meeting Invitations

Establish Invitee List

Invite Subcontractors who have been awarded contracts along with others that are pending execution. In addition to key field personnel (Foreman, Superintendent, Project Manager, etc.), invite members of their office staff to attend the meeting to understand project payment requirements (Certified Payroll, Labor Compliance, etc.) and Safety. In such cases, organize the agenda to allow for their attendance during the early portion of the meeting, which allows for their early dismissal. By providing a detailed explanation of elements such as certified payroll, payment procedures, labor agreements and project safety standards with the Subcontractor representatives, it will often prevent wasted time and effort identifying and correcting problems in the management of our established procedures.

Advertise the Meeting

In order to obtain better attendance at the meeting, it is recommended that the meeting invitations be made a month in advance. In no case, should the invitation be issued with less than two weeks' notice. Where appropriate, send a meeting invite and ensure your space for meeting is reserved.

Distribute Agenda

Send copies of the meeting agenda to all project participants within three business days of the meeting. Where possible, include copies of all relevant related documents.

Project Team Attendance

It is not only Bernards responsibility to schedule the date and time of this meeting, but also to prepare and distribute its agenda as well preside over its proceedings. All Bernards Project Team Member should attend the meeting in order to build trust with our new partners and convey optimism in the group's ability to collaboratively develop solutions to the project challenges that lie ahead.

Reference the Bernards Subcontractor Project Orientation Meeting Agenda Template to be utilized for the meeting. This document identifies the most common administrative elements requiring consideration and definition during the course of such meetings. Absent other direction by the Owner or Designer, this template shall be used to identify the specific agenda and direction of how the variety of topics addressed are to be

administered.

Meeting Preparation

Meetings do more than just communicate our jobsite policies and procedures; they establish impressions with the other members of the project team about our competency and professionalism. Accordingly, all members from our project team must be fully knowledgeable and prepared well in advance of the meeting.

Meeting Procedures

Wherever possible during the meeting, thoroughly explain not only the project requirements relating to each topic, but also the reasons why the procedures were formulated. (People tend to be much more likely to follow procedures when they know that there is a bigger purpose that is being served.) Make sure sufficient time is provided in the agenda to fully explain each issue and answer any related questions.

Project Contact Information Form

Be sure to have the Subcontractor attendees fill out the Project Contact Information - Form. This form is used to record the names and contact numbers of key individuals attending the meeting as well as other project participants.

Record Meeting Minutes

In order to memorialize the information presented at the meeting it is important for the Project Manager to appoint one of the project staff members to keep a written record of all the elements discussed, and any points of clarification made during the meeting. At the conclusion the content of these recorded noted (minutes) are to be reviewed and edited by the Project Manager for distribution to all attendees.

Distribute Meeting Minutes

Within seven days of the Meeting, distribute copies of the approved meeting minutes to all attendees and relevant project participants.

County of Riverside
MEDICAL CENTER CARDIAC CATHETERIZATION LABORATORY SUITE
Systems Shutdown / Off Hour Work Request

Contractor Name: _____

Bid Category No./Name:_____

Instructions:

Complete this form one (1) week prior to the planned operation. Approved by the Company indicated above or County of Riverside's representative must be received **PRIOR** to executing the requested event. The approval of this request does not in any way authorize or approve additional project costs associated with these activities. This Form is used to assist in planning, scheduling and coordinating construction activities required by the project located on the County of Riverside site without disruption to normal County of Riverside activities.

Date Submitted: _____ Requested Start Date / Time : _____ End Date / Time: _____
Estimated Duration: _____**Hrs**

This Request is for: Site Utility Shutdown ☐ Active Site Utilities Shut Down ☐ Off Hours Work ☐

Utility status during activity: Active ☐ Inactivate ☐ **Construction Trades Involved**: _____

OSHA and **Site** Safety requirements discussed, reviewed and acknowledged to be in place: Yes ☐ No ☐

Event Description in Detail

Scope of Work	
Supervision Requirements	
Location of Work	
Utility / Systems Impacted	
Work to Complete prior to shutdown activities	
Special Materials or Equipment	
Impacted Trades	

Submitted by _____ Title: _____ Contractor: _____

Additional Information Attached: Yes ☐ No ☐

Approvals:

Bernards Brothers Inc By: _____ Title_____ Date: _____

County of Riverside : By: _____ Title_____ Date: _____

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TESTING AND INSPECTION REQUEST

TO BE SUBMITTED 24 HOURS IN ADVANCE

Request No. _____ **Date of Issuance:** _____

County of Riverside

Contractor: _____ Inspection Required By:_____
(DATE AND TIME)

P. O. No.: _____ Inspection Required By:_____
(LAB, DSA INSPECTOR, OTHER)

Contract For: _____ Engineer / Architect: _____

We are hereby requesting the following Test and / or Inspection:

Description of Test / Inspection required:

_____
_____-

Method of Testing and Inspection Performed:

Testing and Inspection Performed by:

☐ Testing and Inspection Laboratory
☐ DSA Inspector
☐ Project Superintendent
☐ Other

Results of Tests / Inspection:

Attachments / supporting documents:

_____

☐ Contractor is hereby released to proceed with work in area(s) indicated above
☐ Contractor is hereby ordered to correct work as described above before proceeding with work in areas(s) indicated above
☐ Other:_____

_____

Date: _____

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MEDICAL CENTER CARDIAC CATHETERIZATION LABORATORY SUITE County of Riverside

CLOSEOUT DOCUMENTS FOR:

SPECIFICATION SECTION(S): _____

DATE:_____

- **Bid Category Contractor #:** _____
- **Submitted By**: _____

Prepared by: _____
Verified for Completeness by: _____
Signature/Date: _____

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Riverside University HEALTH SYSTEM

RUHS – Facilities, Design and Development
Daily Construction Report

Project: _____
HCAI #: _____ RUHS Project #: _____
Report No. _____ Date: _____
Weather: _____ Temp. Max ____ °F Min ____ °F Precipitation: _____

Contractor: _____ Superintendent: _____
Address: _____ Phone #: _____
_____

Quantity: Contractor/Subcontractor Personnel

_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____

Special Equipment: _____

Work Performed: _____

Action Items: _____

Area of work: _____

Safety: _____

Deliveries: _____

Photos of Work Performed