

**Bouma USA<sup>®</sup>**

**BOUMA USA**  
**Subcontractor Safety Manual**

**The Palmdale Aerospace Academy**  
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## **NOTICE**

- I. It is the responsibility of all subcontractors to become familiar with all OSHA and Bouma USA regulations referenced herein or any other State, Local, Municipal, and Owner directed regulations that may apply to the work to be performed by the subcontractor. Ignorance of any of these regulations will be no excuse for non-compliance.

The Subcontractor is responsible for having their own written safety program that covers safety and health issues for the entire scope of work performed by the subcontractor. A copy of the subcontractor's written safety program shall be kept on site during the course of work, and be subject to review by Bouma USA. Failure to comply will subject the subcontractor to disciplinary action up to and including termination of the subcontract.

Bouma USA reserves the right to make changes to policy without prior notice. These changes will be at least as stringent as Federal, State, and Local law requires.



Bouma USA's number one Core Value is "We put safety and quality of life first." and our goal is to achieve zero injuries across all of our projects. You and your team are the most important part in obtaining this goal. In addition, putting safety and quality of life first ensures a safe, efficient, and productive work site for us all. It is important you take the time to carefully read Bouma USA's Subcontractor Safety Orientation Manual and discuss it with your employees. This manual will explain the obligations your Company has for Project Safety while on our project. The majority of these obligations are clarifications of OSHA requirements, but there are areas in which Bouma USA may exceed the OSHA requirements. Bouma USA feels these policies make for the safest environment for all employees on our Projects.

Here are the major areas where Bouma USA may exceed OSHA requirements:

- Safety Glasses- Bouma USA requires safety glasses 100% of the time
- Hard Hats- Bouma USA requires hard hats 100% of the time
- Face-Shields- OSHA only has general requirements for face-shields
- Bouma USA requirement for Safety Analysis (JSA's)
- 6' Trigger Height for all Fall Protection- A universal 6' trigger height for fall protection exceeds OSHA standards
- 4' trigger depth for excavations
- The prohibition of aluminum ladders or manufactured wood ladders
- Requirement to have a Certified Crane Operator
- Third party, post-assembly crane inspections on cranes that require on site assembly

## **Bouma USA Safety Expectations**

A one (1) day suspension shall be given to any employee who is observed violating any one of the following Bouma USA's Safety Expectations. These violations are:

- Flagrant disregard for Personal Protective Equipment(PPE)
- 100% Compliance with Fall Protection Rules not being followed.
- Working in an unprotected excavation deeper than 4 feet.
- Working in an energized panel without appropriate PPE
- Unauthorized confined space entry
- Entering a controlled access zone w/o authorization
- Not reporting an incident in a timely manner

**Additionally, any employee exhibiting a flagrant or willful disregard for safety, be it Bouma USA, subcontractors or vendors, that could cause death, serious injury, or property damage may be immediately removed from the project.**

## **Other Safety Violations**

All other Safety Violations observed shall be managed according to the procedures established below;

- First offense by an employee

Any team member observing a safety violation will verbally notify the employee's immediate supervisor of the violation and will request assistance. The verbal warning will be logged with the Bouma USA.

- Second Offense (same employee)

Upon a second safety violation, a written report or warning will be filed with the onsite supervisor of the particular Subcontractor. The Bouma USA IIPP Administrator will require a meeting with the employee and the supervisor. During this meeting, a Counseling Sheet will be completed and signed by everyone present.

- Third Offense (same employee)

Three (3) safety violations by the same employee will result in his/her dismissal from the jobsite.

## General Guidelines

- All site employees shall use and wear appropriate fall protection when exposed to falls greater than six (6') feet above a lower level and when working from aerial/scissor lift. **Note: The “safety monitor” or “roof monitor” system for fall protection is not acceptable on Bouma USA projects.**
- Possession of or working under the influence of alcohol or drugs is prohibited.
- All temporary electrical equipment, including all connected by extension cords, shall be protected by Ground Fault Circuit Interrupters (GFCI)
- Be alert at all times and report all unsafe conditions or acts, along with all accidents and near misses to your supervisor immediately. A near miss is defined as an unplanned event that did not result in injury, illness, or damage, but if conditions were slightly different, had the potential to do so.
- Proper work attire shall be worn at all times. This includes at a minimum; 3” sleeves, leather work boots, and long pants.
- Use of personal protective equipment such as hard hats, safety glasses/goggles, and gloves are mandatory.
- “Horseplay” and other such unsafe acts are prohibited.
- Fire protection equipment is not to be tampered with or removed from its assigned location. Tampering with fire equipment is prohibited and may be grounds for termination.
- Prior to work beginning, all site employees are to visually inspect all hand tools and extension cords they will be using. Those tools and extension cords that are found to be defective are to be tagged, taken out of service and removed from the site or repaired immediately.
- Scaffolding shall be inspected for any defects by the subcontractor’s competent person prior to each work shift.

If scaffolding is found to be incomplete, or defective, it is to be immediately brought to the attention of the supervisor and tagged out of service until repairs are made or issues corrected, and inspected by the competent person.

- Only authorized and properly instructed/trained/qualified site employees shall operate machinery equipment, vehicles or tools.
- Vehicles are to be operated in a safe manner at all times and by no one other than trained, and/or certified equipment operators.
- Utilize proper lifting techniques. Do not try to lift or push objects that are too heavy. Get help if necessary.
- Do not enter roped off/barricaded areas unless authorized to do so.
- Modification or alteration of any piece of personal protective equipment is strictly prohibited.
- Defective or damaged personal protective equipment shall be removed from the site or repaired immediately.
- “No Smoking” rules shall be obeyed in posted areas.

## **General Guidelines Continued**

- A formal, written plan for bracing will be required for the bracing of tilt-up panels, masonry walls, and steel erection activities.
- The use of plastic fuel cans is prohibited.
- Contractors are required to perform housekeeping daily, and to keep all garbage and debris out of the work areas.

## **Subcontractor Safety and Health Policies**

### **1. Alcohol and Drug Free Policy**

The use of drugs and alcohol on Bouma USA sites is prohibited. Being on a Bouma USA site while under the influence of either drugs or alcohol will result in immediate removal from the site

### **2. Labor Relations and Immigration**

Subcontractors are required to be in compliance with the Immigration Reform and Control Act of 1986 “IRCA”.

### **3. Injuries/Incidents/Near Misses**

All incidents resulting in physical injuries or property damage, involving the public or visitors, and any near misses where there is the potential for injury and /or property damage, shall be reported to Bouma USAs Site Management Team at the time of occurrence by the contractor in charge of the worker(s) / work. A near miss is defined as an unplanned event that did not result in injury, illness, or damage, but if conditions were slightly different, had the potential to do so. The Bouma USA Site Manager/Safety Manager shall ensure that the following reporting procedures are followed by all subcontractors:

All injuries, property damages, and near misses must be reported, regardless of severity. Notification of an incident must be delivered to Bouma USA within 30 minutes of occurrence. In the case of minor physical injury, Bouma USA should be notified prior to the injured employee leaving the site. A completed investigation report with witness statements and photographs is to be completed and delivered to Bouma USA within 8 hours of the incident.

### **5. Safety Representative**

Although every employee on a Bouma USA site is responsible for safety, each contractor will appoint a Safety Representative. The Safety Representative is responsible to support and coordinate with the compliance of safety rules and regulations outlined in the Project Safety Plan.

- The Safety Representative may have other duties assigned to him in addition to duties of safety oversight and administration. If a contractor is working two or more shifts, a separate Safety Representative shall be assigned to each shift, and must remain onsite for the duration of work activities.

### **6. Competent Person Designation**

All contractors and subcontractors on the project will designate a “Competent Person” as described by OSHA Safety Standards for the Construction Industry. A “Competent Person Acknowledgement Form” will be completed for each work area/task requiring a designated competent person along with the competent person’s qualifications to Bouma USA Site Management prior to the start of work on the project.

A “Competent Person” is defined as:

“One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authority to take prompt corrective measures to eliminate them.”



## **7. Bi-Weekly Safety Meetings**

Each subcontractor shall have their appointed representative at any and all of Bouma USA's safety meetings and must have at least 1 safety meeting bi-weekly with their employees. In addition, a copy of the notes from the subcontractor's employee meeting must be turned in to Bouma USA Management.

## **8. Crisis Management Plan/Emergency Action Plan**

All employees must be made aware of the elements included in Bouma USA's Emergency Action Plan.

- An emergency is any situation that poses an immediate threat to life (workers, visitors, general public) or property. This would include, but not be limited to, collapse of a building or a portion thereof, fire, explosion, flooding, equipment failure (i.e.: collapse of a crane), release of toxic gases, dusts, fumes, smoke, natural gas, injuries and/or property damage, a weather emergency, etc.
- A site-specific Emergency Action Plan will be covered during site orientation.
- A written copy of the site specific Emergency Action Plan will be posted in the Bouma USA trailer and made available to all contractors on site.

Contractors are responsible to make their employees aware of all policies and procedures within this plan. The Emergency Action Plan will include elements such as:

- Where to report to in case of a fire
- What to do if earth quake strikes
- How site workers will be made aware of these hazards

## **9. Safety & Hazardous Communication Policies**

A copy of the Subcontractor's Hazard Communication Program must be maintained on site along with all Safety Data Sheets for chemicals present on the project. The subcontractor must train its employees in its policy.

### **Hazardous Materials**

- Contractors shall submit to the Bouma USA Site Manager/Safety Representative all HAZCOM manuals, along with SDS for all chemicals used on site. A copy of all HAZCOM programs and Material Safety Data Sheets shall be centrally located in the on-site Bouma USA Jobsite Trailer.
- Contractors using hazardous materials on site must alert other contractors of the potential hazards associated with the materials they are using.
- Hazardous materials must be transported in approved containers and be properly labeled
- When working with or around hazardous materials, site employees are to be aware of signs of overexposure, such as dizziness, nausea, trouble breathing, etc. If overexposure occurs, immediately remove yourself from the area and notify a supervisor.

## **10. Dress Code**

- Shirts w/ 3" sleeves, long pants, and leather work boots are required.
- Clothes must be in good condition. Loose or ragged clothing, which may become a hazard around moving equipment or catch fire easily, is prohibited.
- Work boots are to be constructed of leather or other strong durable material and be in good condition. Canvas shoes, sandals, or open-toed shoes are prohibited. Waterproof rubber boots may be worn when conditions require them.
- High-visibility clothing is required at all Bouma USA sites. At a minimum, employees are required to wear bright green/bright orange shirts. There are certain circumstances where a greater class of high-visibility clothing is required such as roadwork.

## **11. Fire Protection/Prevention**

- Fire extinguishers will be located within 25 feet of all flammable/combustible liquids.
- Fire extinguishers shall be readily accessible to all work activities on the site.
- Any contractor responsible for fire watch activities must ensure their employees are trained in fire extinguisher use.
- The contractor is responsible for providing their own fire extinguishers where work activities warrant them.

## **12. Lighting and Illumination**

- Temporary lights shall be equipped with guards to prevent accidental contact with the bulb. Guards are not required when the construction of the reflector is such that the bulb is deeply recessed.
- All temporary lighting must be on a dedicated circuit.

## **13. Confined Space Entry**

- Bouma USA shall be notified prior to any contractor allowing employees to perform work in a confined space.
- A confined space is any space which is; 1) Large enough and so configured that an individual can bodily enter and perform assigned work and; 2) Has limited or restricted means of entry or exit and; 3) Is not designed for continuous employee occupancy.
- Hazards found in confined spaces may include but are not limited to: oxygen deficient or oxygen enriched atmospheres, combustible/flammable/explosive gases and vapors, toxic gases or vapors, combustible dust, engulfment hazards, entrapment or configuration hazards, mechanical hazards, corrosive chemicals, electrical, temperature extremes.
- Employees shall not enter any confined space (i.e. manholes, equipment vaults, and underpinning operations) unless it has been tested for oxygen content, absence of flammable and/or toxic vapors, and all other potential hazards. If required, positive ventilation (air movers or fans) shall be used to provide fresh air exchange in confined spaces.

## **14. Anti-Harassment Policies**

Bouma USA is committed to maintaining a harassment-free work environment. To fulfill this commitment, Bouma USA prohibits harassment of its team members or applicants based on a person's race, color, religion, gender, sexual orientation, gender identity or expression, national origin, age, disability, genetic information, marital status, amnesty, or status as a covered veteran in accordance with applicable federal, state and local laws, or any other trait protected by law.

## **15. Work Place Violence**

Bouma USA is committed to maintaining a workplace free from acts or threats of violence. If violent acts or threats occur, Bouma USA will respond to mitigate the situation. To this end, Bouma USA seeks to provide a safe work environment to the full extent of the law. This statement shall not be construed to create an obligation on the part of Bouma USA to take action beyond what is required by law.

## **17. Daily Job Site Inspection**

Inspection of the work area is the responsibility of each subcontractor's Supervisor or Safety Representative. Any potential unsafe issues identified by the subcontractor must be brought to the attention of Bouma USA prior to beginning work that may jeopardize the safety of anyone on site.

## **18. Operators Qualification Record**

Operators of heavy equipment shall be qualified. Equipment specific documentation of each operator's qualification must be turned into Bouma USA Management prior to work beginning. Subcontractors may be asked to turn in a duplicate key for equipment.

- Operators shall inspect vehicles and equipment for defects at the beginning of each shift. Defective vehicles or equipment shall not be used.
- Drivers and operators of vehicles and equipment shall strictly observe speed limit restrictions and all posted traffic control signs.
- Vehicles and equipment with a restricted view to the rear, and required to move in that direction, shall be equipped with an operable backup alarm, which is audible above surrounding work noise levels.
- Blades and buckets of earth-moving equipment shall be lowered to the ground when unattended and at the end of the workday.
- Engines shall be shut down during refueling operations.
- Running equipment shall not be left unattended.

## **20. First Aid/CPR/Bloodborne Pathogens**

It is the intent of this policy to ensure that any employee injured on a Bouma USA site receive an initial medical response within 4 minutes of an injury. Each subcontractor shall have at least one current CPR/First Aid trained employee on site during all work activities. Any First Aid responders will also be trained in Bloodborne Pathogens (BBP). The employer will have an appropriate number of First Aid Responders on site based on the size and scope of their work. Subcontractors are required to have a first aid kit as well as a BBP response kit appropriate to the number of employees the contractor is responsible for. Copies of wallet cards or other acceptable means identifying CPR/First Aid Responders shall be on file in Bouma USA's site office.

## **21. Hot Work Permits**

A Hot Work permit shall be required for all welding and cutting activities taking place within an existing structure. When performing hot work, the following welding/cutting guidelines shall be followed.

- Work area shall be inspected for flammable solvents, vapors and gases.
- Flammable and combustible materials shall be removed or covered.
- Appropriate fire extinguishing equipment shall be immediately available in the work area.
- A fire watch will be posted during welding/cutting operations for one-half hour following these operations, when conditions make it appropriate. The fire watch will be instructed as per the requirements set forth in Cal-OSHA Regulations.
- All employees performing fire-watch activities will be required to wear a high-visibility hardhat cover identifying them as the designated fire-watch.

## **22. Floor and Wall Openings**

- When employees are exposed to overhead hazards, contractors shall ensure the area is properly barricaded to restrict traffic in and out of the area. Toeboards, screens, or guardrail systems shall be erected to prevent objects and materials from falling onto lower levels.
- A hole is a gap or void 2 inches or more in its least dimension, in a floor, roof, or other walking/working surface.
- An "opening" is a gap or void 30 inches or more high and 18 inches or more wide, in a wall, partition, through which employees can fall to a lower level.
- All floor and wall openings shall be guarded.

## **23. Fall Protection Policy**

Bouma USA Construction has developed and implemented the following requirements regarding Fall Protection. Subcontractors shall ensure 100% COMPLIANCE with ALL FALL PROTECTION Regulations. Bouma USA enforces a 6' trigger height for **all** work. Subcontractors are responsible for ensuring their employees are made aware of and for enforcing these policies. There will be Zero Tolerance for violations of Bouma USA's Fall Protection Policies.

**Subcontractors found in violation of fall protection policies may be removed from the site and not allowed on any Bouma USA site.**

### **Fall Protection**

- 100% Compliance with fall protection rules when employees are working at heights in excess of 6 feet, and/or when working from aerial/scissor lifts.
- Fall Protection Violations: ZERO TOLERANCE – WHICH MAY INCLUDE REMOVAL FROM THE PROJECT!!
- All fall protection components are to be inspected daily/prior to every use. DO NOT USE DAMAGED or WORN OUT COMPONENTS.
- Anchorage points must be rated for 5,000LBS.
- All fall protection equipment shall be used properly based on Cal-OSHA and manufacturer guidelines.
- When a contractor believes their work falls outside of standard fall protection practices, the subcontractor may submit a written alternate fall protection plan to the Bouma USA IIPP Administrator for review. No work that deviates from standard fall protection practices may be conducted until a meeting has been held with Bouma USA Staff.

## **24. Aerial Lifts**

- Contractors shall perform daily inspections of all lifts.
- Only authorized and properly trained personnel may operate aerial and scissor lifts.
- Lifts shall be used on surfaces that will fully support them. Lifts shall only be operated on level surfaces.
- Dead-man type safety switches and controls shall not be bypassed.
- Lifts shall be kept at least 20 feet from energized, overhead power- distribution lines.
- Employees using lifts must wear approved fall protection equipment and attach the lanyard to the engineered anchorage point at all times.
- Employees shall perform all work from lifts with both feet on the floor of the basket. No employees shall be permitted to perform work from the toeboard, midrail or top rail of a lift.
- On-site modifications to lifts is prohibited.
- All attachments must be engineered and designed for the type of lift it is to be attached to.

## **25. Hand Tools**

- Wooden handles on tools shall be free of cracks or other defects. Tape or other coverings shall not be placed on handles.
- Impact surfaces of tools shall be free of mushroomed surfaces.
- Wrenches with sprung or worn jaws shall not be used.
- All defective tools must be immediately removed from the site.

## **26. Head Protection**

- Hard hats shall meet the specifications contained in American National Standards Institute, Z89.1-1969, Safety Requirements for Industrial Head Protection.
- Hard hats are required by all personnel on Bouma USA sites at all times.
- Hard hats for the protection of employees exposed to high voltage electrical shock and burns shall meet the specifications contained in American National Standards Institute, Z89.2-1971.
- Metal hard hats shall not be worn.
- Hard hats should be worn with the visor (bill) facing forward.

## **27. Tools & Equipment**

- Employees shall inspect tools and equipment for defects. Defective tools and equipment shall be tagged as defective and removed from the job site until repaired or replaced.
- Guards and safety devices shall be left in place and in operable condition on all tools. Any tools or equipment with missing or defective guards are prohibited.

## **28. Stairways**

- Except during stairway construction, foot traffic is prohibited on stairways with pan stairs unless the pans are filled with wood or other solid material to at least the top of the pan.
- Stairways will be kept clear of debris and allow for easy egress.

## **29. Ladders**

- Ladders shall be inspected prior to use. Defective ladders shall be tagged as defective and removed from the jobsite.
- Wood and aluminum step ladders and extension ladders are prohibited.
- Ladders shall be placed on a sound footing and shall not be placed on unstable objects such as loose bricks.
- Employees shall not carry tools, materials, or objects while climbing ladders.
- Ladders shall be secured at the top. Ladders not in use should be removed from the vertical position.
- Ladders must be placed at an angle not to exceed one foot of run for every four feet of rise.
- Extension ladders must extend 42' above the landing when used for access/egress.
- When used as semi-permanent access, the top and bottom of an extension ladder must be secured.
- Any employee working from a ladder must keep the core of their body inside the frame of the ladder. There may be specific work scenarios where employees will be required to wear personal fall protection systems while working from a ladder.

### **Step Ladders**

- Employees shall not work from the top two rungs of stepladders.
- Step ladders shall only be used in the open and locked position.

## **30. Scaffolds**

- Contractors shall provide a competent person whenever scaffolds are being utilized.
- Scaffold systems shall be erected and maintained based on the regulations set forth in Cal-OSHA regulations as well as manufacturer's guidelines.
- Any employee working on a scaffold 6' or greater shall be protected against falls by guardrails or a personal fall arrest system.
- Employees responsible for the erection or dismantling of scaffold shall be protected from falls 6' or greater by either guardrails or personal fall arrest systems when feasible.

## **31. Respiratory Protection**

- Employers requiring their employees to wear respirators, including dust masks, shall submit a copy of their written respirator program as well as documentation naming all employees qualified to wear a respirator based on a medical evaluation and fit test. Further documentation may be requested.

### **32. Eye and Face Protection**

- Eye and face protection equipment shall meet the requirements specified in ANSI, Z87.1-1968.
- For some tasks, safety glasses do not provide adequate protection. Contractors shall evaluate potential hazards associated with specific tasks and establish minimum acceptable protection for those tasks. Some examples are insulation work, sandblasting, catalyst handling, some woodworking tools, powder-actuated tools, impact wrenches, handling chemicals, grinding, chipping, concrete breaking, high pressure air or water blasting or cleaning, opening process lines or systems, battery charging and jump starting, welding, burning, and cutting.
- Safety glasses shall be worn 100% of the time on all Bouma USA sites.
- Glasses must have the appropriate tint for the work area.

### **33. Air Tools and Hoses**

- Attachments shall be secured to tools by proper retainers.
- Retainer rings on impact sockets and attachments shall be taped to prevent displacement.
- Tools shall not be hoisted or carried by their hoses.
- Crows-foot type connections on air hoses shall be safety-wired at each connection.

### **34. Welding and Compressed Gasses**

- Welding equipment shall be kept free of oil, grease, or other oil based products.
- Compressed gas cylinders shall not be exposed to sparks, slag, flame, or other heat sources.
- Flashback arresters located adjacent to the regulators are required on both the fuel and oxygen systems.
- Cylinders shall be secured in an upright position during use, storage, and transportation.
- Protective caps shall be in place over valve stems when regulators are not in place, when cylinders are in storage, and when cylinders are being transported or hoisted by motorized vehicles or equipment.
- Oxygen cylinders in storage shall be separated from fuel-gas cylinders or combustible materials, a minimum distance of 20 feet or by a noncombustible barrier at least 5 feet high having a fire-resistance rating of at least one-half hour.
- Cylinders shall not be taken into confined spaces.
- All cylinders must be identified with the contractor's name.



### **35. Excavation Daily Inspection Form**

All Contractors performing Excavating/Trenching activities on site shall provide a “Competent Person” as defined by OSHA standards. The “Competent Person” shall be responsible for ensuring that employees are protected whenever working inside an excavation or trench. Contractors shall be required to select appropriate protection from cave-ins, in accordance with the OSHA Standards.

Contractors shall also ensure that excavations and trenches are inspected daily by the designated competent person, and whenever conditions are present which may have altered, or changed the configuration of the trench/excavation, such as heavy rains, snow, etc. Inspections records shall be turned into to Bouma USA daily.

#### **Excavations**

- When deeper than 4 feet, excavations shall be properly shored, benched or sloped to prevent cave-in.
- Any excavation deeper than 5’ that is not benched or sloped must be guarded to prevent falls.
- All excavations, regardless of depth, that do not have a hard-guard, must be identified with an elevated, visual barrier. This may include, but is not limited to cones, barrels, snow fence, and danger/caution tape.
- Spoil dirt and equipment shall be kept at least 2 feet from the edge of the excavations.
- A stairway, ladder, ramp or other safe means of egress shall be located in trench excavations that are 4 feet or more in depth so as to require no more than 25 feet of lateral travel for employees.

### **36. Control of Hazardous Energy/ Lockout Tagout Policy**

It is Bouma USA’s policy that no “live” work is done on Bouma USA sites. If a contractor deems this policy infeasible, Bouma USA must be contacted prior to work that deviates from this policy.

Contractors performing Electrical work shall develop specific procedures for control of hazardous energy sources (in addition to these general procedures) for any circuits, systems, machines, or equipment before any installation, maintenance, or servicing work is performed.

All Lock-out/Tag-out procedures shall conform to all applicable OSHA standards and manufacturer’s guidelines.

### **37. Electrical Tools and Extension Cords**

- Extension cords used with portable electrical tools and appliances shall be of the three-wire type. Cords with the ground prong removed or rendered ineffective shall be removed from the job.
- Electrical cords shall be covered and/or elevated to keep cords from creating a tripping hazard to employees or other persons in the area or cause damage to the cords.
- Ground Fault Circuit Interrupters (GFCI) shall be tested before use.
- Employees shall not operate electrical tools while standing in water.
- Electrical tools shall not be hoisted or carried by their power cords.
- Extension cords shall be free of repair or splice, kept clear of traffic aisles, and not subjected to vehicular traffic.

### **38. GFCI Program**

- Ground Fault Circuit Interrupters (GFCIs) will be used 100% of the time.

### **39. Electrical**

- All temporary and permanent electrical work, installation and wire capacities shall conform to the National Electrical Code and other applicable federal, state and local codes.
- Only qualified electricians familiar with code requirements shall be allowed to perform electrical work.
- All temporary electric wiring shall be installed so the wiring cannot be damaged.
- Temporary Panels shall be provided, and each service feeder or branch circuit at the point shall be legibly marked to indicate its purpose. On circuits exceeding 600 volts, "Danger - High Voltage" signs shall be posted where unauthorized persons might come in contact with live parts.
- Entrances to rooms and other locations containing exposed live parts shall be marked with conspicuous warning signs forbidding unqualified person to enter.

### **40. Cranes**

- All Crane Operators shall be certified.
- Prior to a Critical lift (75% of total equipment capacity) being performed, the subcontractor shall submit a copy of the Lead-Rigger's qualifications.
- All Signalmen shall be "qualified".
- The Subcontractor will be required to submit a copy of their rigger/signal person qualification program.
- A third-party crane inspection will be conducted after every assembly.
- Documentation of annual inspections as well as monthly inspections shall be provided to Bouma USA prior to work beginning.
- Operators shall not hoist improperly rigged or over capacity loads.
- For cranes that do not require "assembly," a qualified person must conduct a post set-up inspection. This inspection will be documented. A copy of this documentation shall be turned into Bouma USA. The crane operator may not be the qualified person for assembly or disassembly.
- Accessible areas of crane's rotating superstructure and counterweight shall be barricaded.

## **Crane Inspections**

The following inspections are required of all cranes and hoisting equipment:

- Shift inspections
- Monthly inspections
- Annual inspections
- Shift, monthly, and annual wire rope inspections (if the equipment uses wire rope) In addition, the following special inspections are required in particular circumstances:
  - Post-assembly inspections
  - Pre and post-erection inspections of tower cranes
  - Equipment used in severe service
  - Inspections of certain modified equipment
  - Inspections of certain repaired/adjusted equipment
  - Cranes shall be inspected in accordance with Cal-OSHA Requirements.

## **Rigging**

- Rigging may only be performed by a “qualified” rigger.
- Rigging equipment shall be inspected prior to each use.
- Defective equipment shall be tagged defective and removed from the site.
- Capacities of rigging equipment shall not be exceeded.
- Loads must not be hoisted unless the weight is known and the rigging equipment is adequate and properly attached.
- Engineered softeners shall be used on all edges when synthetic rigging is used.

## **Critical Lifts**

A Critical Lift plan and JSA shall be submitted to Bouma USA Site Management for all lifts that include any of the following prior to work beginning;

- When operator may lose line of sight with the load (Blind hoisting)
- Includes more than one piece of equipment
- Exceed 75% of the cranes lifting capacity
- Involve the lifting of Specialized Equipment
- As deemed necessary by Bouma USA
- Hoisting Personnel

#### **41. Tilt-Up/Precast/Steel/Masonry Bracing Requirements**

- Only employees critical to the wall operation are allowed in the exclusion zone.
- If non-essential employees must gain access to the exclusion zone, an Exclusion Zone Permit must be issued by Bouma USA.
- No bracing may be removed until permission is given to Bouma USA from a Registered Professional Engineer.

#### **42. Material Storage**

- Material shall be stored in an orderly and stable fashion and kept clear of work areas and traffic aisles.
- Pipe and similar materials shall be stored appropriately as to prevent it from spreading.
- Flammable and combustible materials shall be stored at least 25 feet from hot work or other sources of ignition. Fire extinguishers shall be provided at least 25 feet from, but not more than 75 feet from said storage.
- Flammable liquids shall be stored in containers marked as such and labeled as to their contents.
- Signs indicating “no smoking within 50 feet” shall be posted.
- Flammable liquids other than in bulk storage shall be kept in approved safety cans.
- At no time shall propane be stored inside a structure.
- Unlike gasses may not be stored together.

#### **43. Material Handling**

- Loads shall be adequately secured to prevent displacement when being transported by vehicle or equipment.
- Tag lines shall be used to control all loads being hoisted overhead.
- Loads shall not be hoisted or swung over employees’ heads.

#### **44. Hand Protection**

Contractors are required to establish a glove policy that will provide education to their employees in the proper selection and use of hand protection and supply the appropriate gloves as required for the hazards associated for the work. Hand protection shall be used by all personnel when handling rough, sharp edged, abrasive material, or when the work subjects the hands to lacerations, punctures, bruises or burns, either thermal or chemical. Employees who are handling caustics, acids, or other chemicals shall wear rubber gloves that are approved for that particular operation.

#### **45. Hearing protection**

- Approved hearing protection shall be worn when operating loud equipment and/or tools.

#### **46. Working in Extreme Heat**

- All Subcontractors must have a written heat illness prevention program
- All subcontractors must train all of their employees in Heat Illness prevention in accordance with Cal-OSHA regulations

In instances where the Heat Index reaches levels in excess of 95 F, Bouma USA may;

- Develop with subcontractors a break schedule to ensure that employees working in extreme heat/temperatures are given at least a 10-minute break, every 90 minutes.
- Coordinate and modify work schedules with contractors to minimize exposing workers to working in extreme heat.

#### **Closing Statement.**

This Safety Manual is to be used as a guide to inform you and your team of some of the expectations that are required to be a Bouma USA subcontractor. OSHA and Cal-OSHA require you and your employees to work together in recognizing and removing workplace hazards prior to starting any work. If you have questions or concerns, please seek guidance through your company Safety Program and the resources at Bouma USA.