

## MEMORANDUM

**To:** All Kansas City Operations

**Subject:** Requirements for Cranes

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### Requirements for Cranes & Lifting Equipment Before You Lift:

1. Brinkmann Safety needs to be notified of any crane being utilized on the project. They can help you review everything before the lift to ensure we are compliant.
  - a. Pre-Lift meetings: All crane lifts require pre-lift planning and lift safety meetings to communicate and determine factors such as personnel responsibility, communication and signaling methods, work plan, load weights, crane configuration, rated capacity, and site conditions with all personnel associated with the lift including the lift director, crane and mobile equipment operator, rigger, setter, and safety personnel.
2. Certified annual inspection of the crane.
  - a. Check the date of certification. This needs to be within the yearly annual time frame.
  - b. Attached is an example.
3. Personal Required Certifications
  - a. Crane operator certification
  - b. Rigging certification
  - c. Signal person
  - d. Items to check:
    - i. Expiration Dates
    - ii. Be sure they are certified for the equipment used during the lift.
    - iii. FYI - These licenses have pictures of the individual
  - e. Attached is an example.
4. Lift Plan
  - a. This should have the following requirements:
    - i. Travel Paths (If the crane is picking then crawling to set the equipment)
    - ii. Maximum Distance you are picking and setting the equipment.
      - A. Note you may be picking the equipment 30' from the truck but are setting it 60' away from the crane. The lift distance is 60' and should be the basis of the calculations.
    - iii. Crane –
      - A. Type of crane
      - B. Length of main boom
      - C. Base type
      - D. Counterweights
      - E. Lift radius and the boom angle the crane can pick from
        - a. Sometimes cranes can lose their center of gravity and flip because the equipment is too far out or too close to the crane during the lift.
      - F. Percent of Crane Capacity used during the lift.
  - b. FYI - Every crane company can put this together. If they can't then they shouldn't be lifting anything on our sites.
    - i. Attached are two examples.

5. Review of ground/subsurface conditions for crane matting, tracks, outriggers, etc.
  - a. Know what is under the crane and the required PSF to support the crane.
    - i. Crane road, uncompacted surfaces, slab on grades, etc.
    - ii. Look out for underground utilities like stormwater pipes, conduit banks, etc. These can sometimes collapse causing a catastrophic event, or damaged materials.
  - b. Geotech to verify prior to crane set up.
  - c. Signoffs from geotech/crane company

### **Critical Lifts:**

When certain conditions exist such as proximity to electrical wiring or buildings, marginal wind or weather conditions, high load weight, personnel lifts, load and carry, multiple cranes, or other conditions as might be warranted, critical lifts are required that require formal planning with **engineering calculations and drawings developed** into a certified lift plan prior to the lift.

1. OSHA parameters for critical lifts:
  - a. Any lift that requires the use of multiple cranes (or equipment to make the lift).
  - b. Any lift that exceeds 75% of the crane's rated capacity within the lift configuration of the crane.
  - c. Requires lifting personnel along with the cargo.
  - d. Loads that will require suspension directly above rigging personnel.
  - e. Lifts that result in loads leaving the direct view of the crane operator.
2. Other reasons a critical lift plan should be developed:
  - a. Loads that are extremely valuable, irreplaceable, or unrepairable.
  - b. Loads that could potentially become damaging to other equipment or utilities.
  - c. Loads that are potentially unstable in flight.
  - d. Complex rigging requirements.
    - i. The item to be lifted requires exceptional care in handling because of size, weight, close-tolerance installation, high susceptibility to damage, or other unusual factors.
  - e. The item, although non-critical, requires exceptional care in handling because it is being lifted above a critical item.

### **Things to Remember / Highlights:**

- No loads are to be lifted over personnel.
- Watch for pinch points. (Don't forget about the counterweight when a crane swings)
- Crane assembly and disassembly require a safety meeting with Brinkmann Safety prior to starting work.  
**(NOTE - THIS IS TWO MEETINGS)**
- Check the weather and ensure safe conditions throughout the lifting timeframe.
- Use tag lines (This will help keep people away from the load if something happens)
- Limit the number of people around the fall radius of the crane. Essential personnel only.