

## LIFT PLANNER REQUIREMENTS

LIFT PLANS ARE REVIEWED BY DFJV AND RESPECTIVE THIRD PARTIES INCLUDING BNSF, SJVRR AND/OR CALTRANS.

- UNDERSTAND AND APPLY DFJV CRANE POLICY, CAL OSHA CONSTRUCTION SAFETY ORDERS FOR CRANES AND DERRICKS IN CONSTRUCTION, ASME B30 AND BTH-1, AND BNSF PUBLIC PROJECTS MANUAL.
- LIFT PLAN SHALL MEET ALL BNSF REQUIREMENTS PER CONTRACT, AND ALL REQUIREMENTS PER PAST BNSF COMMENTS.
- PROVIDE LIFT PLANS AND CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CALIFORNIA.
- HAVE MINIMUM 3 YEARS EXPERIENCE PLANNING LIFTS USING 75% OR GREATER CRANE CAPACITY. PROVIDE ATLEAST 3 EXAMPLES OF PRIOR CRANE LIFT PLANS USING 75% OR GREATER OF THE CRANE'S CAPACITY; INCLUDE PLANS AND CALCULATIONS.
- PROVIDE EXAMPLES OF PRIOR GIRDER STABILITY ANALYSIS REFERECING PCI JOURNAL: LATERAL STABILITY OF LONG PRESTRESSED BEAMS WHILE ON THE HOOK, BY ROBERT F. MAST.
- PROVIDE DETAILED RIGGING CALCULATIONS. DEMAND SHALL INCLUDE WEIGHT OF RIGGING BELOW THE RIGGING BEING EVALUATED. DEMAND TO CAPACITY RATIO SHALL BE SHOWN FOR ALL RIGGING.
- PERFORM GROUND BEARING CAPACITY CALCULATIONS AND SLOPE STABILITY CALCULATIONS.
- SIZE CRANE MATS TO MEET GROUND BEARING CAPACITY LIMITS, AND PROVIDE CALCULATIONS AS SUCH.
- ACCESS TO GROUNDBEARING PRESSURE SOFTWARE INCLUDING, BUT NOT LIMITED TO 3D-LIFT PLANNER, CP MOBILE, MANITOWOC GROUND BEARING PRESSURE SOFTWARE.
- PROVIDE UTILITY PIPE DEFLECTION ANALYSIS DUE TO SURCHARGE LOADS. DESIGN PROTECTION (LOAD DISTRUBUTION BY USE OF CRANE PADS OR OTHER METHODS) AS NEEDED FOR UNDERGROUND UTILITIES. PROVIDE EXAMPLE.

BE WILLING TO PROVIDE DETAILED QUALITY CONTROL. FOR EXAMPLE ALL NUMBERS IN THE CALCULATIONS CORRESPOND WITH THOSE SHOWN ON THE PLANS AND ANY MINOR CHANGES MADE ARE REFLECTED THROUGH THE ENTIRE SET OF CALCULATIONS AND PLANS AS APPLICABLE.