Crane Lift Planning – How to Create and Communicate Meaningful Lift Plans

Pannel Discussion

FEBRUARY 2023

Agenda

- 6:00-7:00 AM - Arrival, mingling, breakfast
- 7:00-7:05 AM - Attendee Introductions
- 7:05-7:15 AM - Opening remarks
- 7:05-7:15 AM - Election Committee Comments (Jeff Hixon)
- 7:05-7:15 AM - Scholarship and Outreach Committee comments (Christine Rodas)
- 7:15-7:20 AM - Bruce and Martin Reports
- 7:20-7:25 AM - Sponsor Comments (Dave Maderas)
- 7:25-7:30 AM - Host Comments – (White Cap/Christine Rodas)
- 7:30-8:45 AM - Crane Lift Planning Panel (Mike Saunders)
- 8:45-8:50 AM - March Meeting Preview (Jose)
- 8:50-9:00 AM - 50/50 giveaway (Alex, Martin)
- 9:00 AM Adjourn

Introductions

Committees

Election Committee:

- Jeff Hixon

Scholarship Committee:

- Christine Rodas

Bruce & Martin's Report

Sponsor – Chesapeake Regional Safety Council

CHESAPEAKE REGION SAFETY COUNCIL

100 YEARS

SAVING LIVES & PREVENTING INJURIES

Host – White Cap

Crane Lift Planning

How to Create and Communicate Meaningful Lift Plans

PANEL DISCUSSION

Panelist Introduction

JOSE MAYEN

Mike Saunders - Moderator

Mike is a seasoned safety professional with 26 years of experience.

During his career, Mike has managed safety on a large number of complex projects including: a design-build, 1.1M SF confidential mission critical facility; a 100,000 SF of a Tier III, 65 MW technical data center; the highly complex Capitol Crossing project in Washington, D.C.; and the 759,111 SF National Science Foundation Headquarters in Alexandria, VA.

In his role as Safety, Health, and Environment Director, Mike currently leads the safety efforts on each and every project built by Balfour Beatty's Mid-Atlantic Division. He holds an OSHA 500 certification and is a Construction Health and Safety Technician (CHST).

Chris Shaffer - LiftAll

Graduate of California University of PA in Business Administration (‘98) with a minor in Football (‘94-‘97).

23+ years as a District Sales Mgr for Lift-All. I live in the Harrisburg, PA area and cover Central/Eastern PA, upstate NY, Delaware, Maryland, Virginia, and a small piece of West Virginia.

Chuck Cook – WO Grubb

Corporate Safety Manager,

Current - July, 2004, W. O. Grubb Steel Erection Inc., Richmond, VA
Duties include overseeing the safety program for crane operations, rigging division and steel erection division with a fleet of cranes ranging from 6 tons to 550 tons.

Responsible for implementing weekly safety meetings for seven regional offices throughout two states with over 300 employees. Perform job site visits and audits to ensure safety procedures are followed. Investigate and document all incidents and accidents

Stephen – Crane Services

Stephen has been lift planning for four years focusing primarily on mobile crane lifts. He is a Certified 3D Lift Plan Professional and utilizes CAD programs such as Draftsight, and is proficient in manufacturer specific software such as LICCON.

Thomas Cieslak – Wings Enterprise

Mr. Cieslak started his career in construction at age 16 as a laborer carrying rebar and boxes of tie-wire. Since then, he has received a degree in Civil Engineering from the A. James Clark School of Engineering and an MBA from the Robert H. Smith School of Business, at the University of Maryland.

His experience goes beyond the 'on-the-ground' work in the field and includes general contracting, engineering consulting and subcontractor level of commercial construction. Mr. Cieslak is currently a VP at a firm that specializes in Rebar Placement and Tower Crane E&D.

Brian – Crane Services

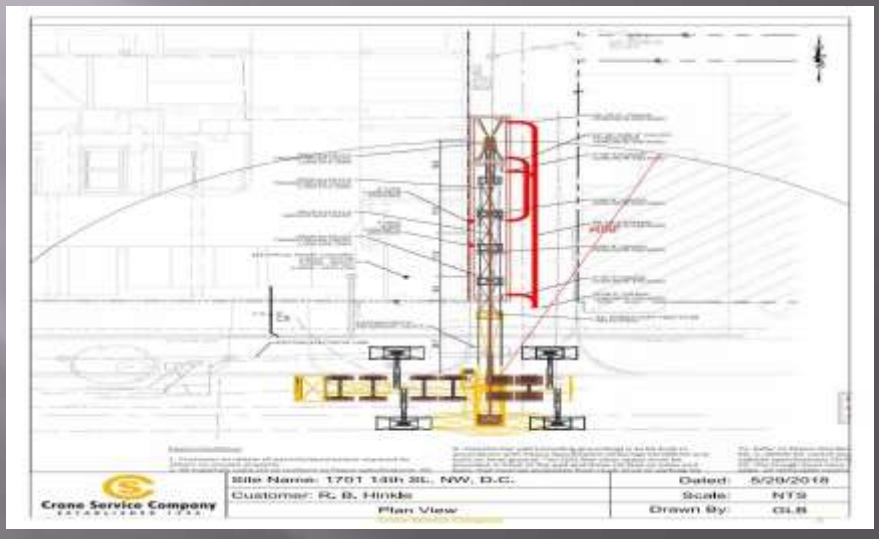
Brian oversees the company's strategic and ongoing expansion efforts within the crane industry, as the company approaches its 100-year anniversary. In his previous role as Vice President and for over 15 years, he has led the company's growth to seven locations and a labor force of approximately 200 craft workers and office personnel.

Mr. Mazzella has a Bachelor of Science in Environmental Policy and Marine Biology and is certified as a NCCCO crane operator.

Crane Plan vs. Lift Plan

- A detailed plan developed and written by a crane user detailing the set-up and operation of a specific crane, which includes, but is not limited to: Crane Inspection; Operator and other crane personnel Certification documents; blocking details with ground pressure distribution and other ground support calculations; potential interaction with other cranes, overhead/underground utilities and adjacent structures; “Stop Work” action levels for wind speed and other environmental conditions.
- A plan developed and written by load owner for lifting a specific load.

Site Diagram



Ground Support

The equipment must not be assembled or used unless ground conditions are firm, drained, and graded to a sufficient extent so that, in conjunction (if necessary) with the use of supporting materials, the equipment manufacturer's specifications for adequate support and degree of level of the equipment are met. The requirement for the ground to be drained does not apply to marshes/wetlands.

Ground Support

TABLE 1806.2
PRESUMPTIVE LOAD-BEARING VALUES

CLASS OF MATERIALS	VERTICAL FOUNDATION PRESSURE (psf)	LATERAL BEARING PRESSURE (psf/ft below natural grade)	LATERAL SLIDING RESISTANCE	
			Coefficient of friction[a]	Cohesion (psf)[b]
1. Crystalline bedrock	12,000	1,200	0.70	—
2. Sedimentary and foliated rock	4,000	400	0.35	—
3. Sandy gravel and/or gravel (GW and GP)	3,000	200	0.35	—
4. Sand, silty sand, clayey sand, silty gravel and clayey gravel (SW, SP, SM, SC, GM and GC)	2,000	150	0.25	—
5. Clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CL, ML, MH and CH)	1,500	100	—	130

For SI: 1 pound per square foot = 0.0479 kPa, 1 pound per square foot per foot = 0.157 kPa/m.
a. Coefficient to be multiplied by the dead load.
b. Cohesion value to be multiplied by the contact area, as limited by Section 1806.3.2.

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2000psf is basically topsoil.
There are test that can be done to determine soil strengths. The Dynamic Cone Penetrometer, or DCP, is one of the most efficient and effective tools available for evaluating the strength of soils on site.

Ground Support

Crane Documentation

Passing, current Comprehensive Periodic Inspection Report
Supplemental Deficiency Correction Report (if applicable)
Post-Erection/Assembly Inspection (where applicable)
Load Chart(s) (with notes)
Power Line Permit (for work within 20' of Power Lines)
FAA Permit (where applicable (boom over 200'))

Annual Inspection

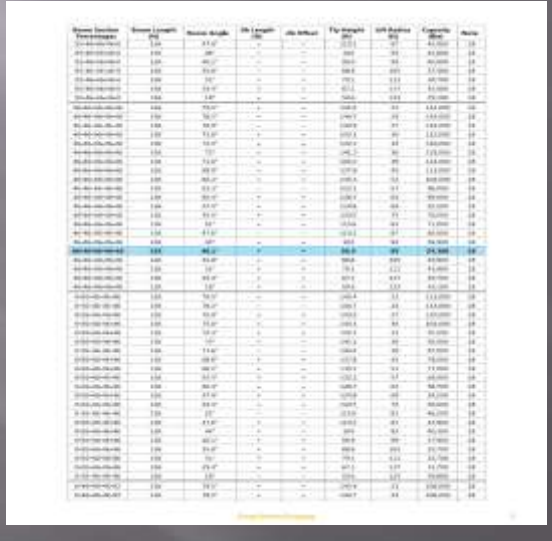

MARTIN
ENTERPRIZE
INC.

Annual Inspection

MARTIN
ENTERPRIZE
INC.

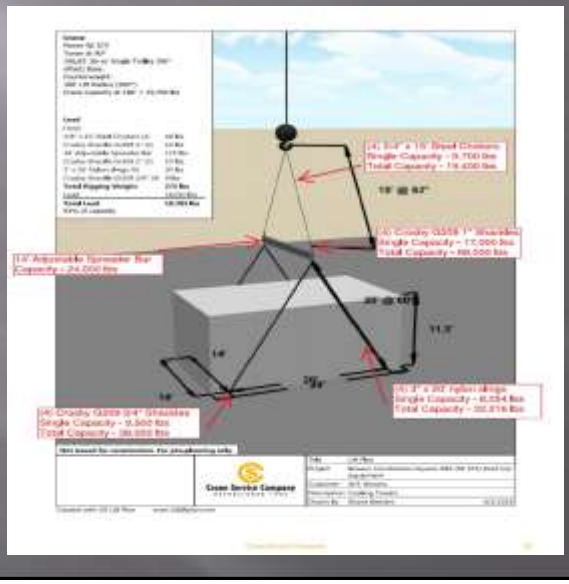
Annual Inspection

Load Chart

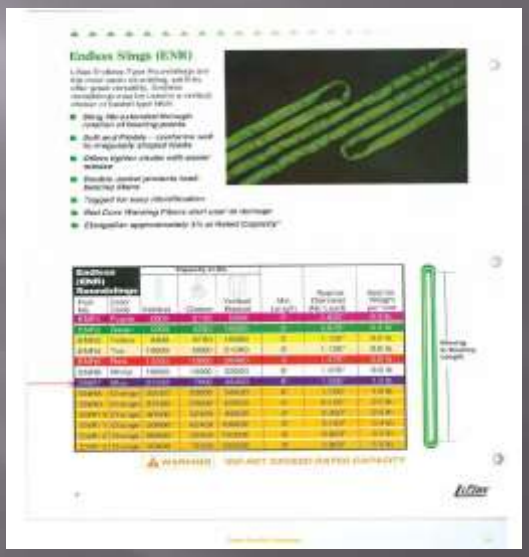


Load Chart Frome Crane

Rigging Diagram



Rigging



Rigging

Anti-Two Blocking Device

Load Moment Indicator (LMI)

Lift Personnel

Employer Certification to be submitted for the following Crane / Lift Personnel.

[1] Assembly/Disassembly (A/D) Supervisor

[2] Crane Supervisor

[3] Lift Director

[4] Crane Operator – Also required in addition to Employer Certification:

[4a] NCCCO Or equivalent Nationally Accredited Certification (acceptable to BBC Crane Coordinator, current and for applicable crane)

[4b] Physical Card / Medical Examination (acceptable to BBC Crane Coordinator, current and passing – e.g. DOT)

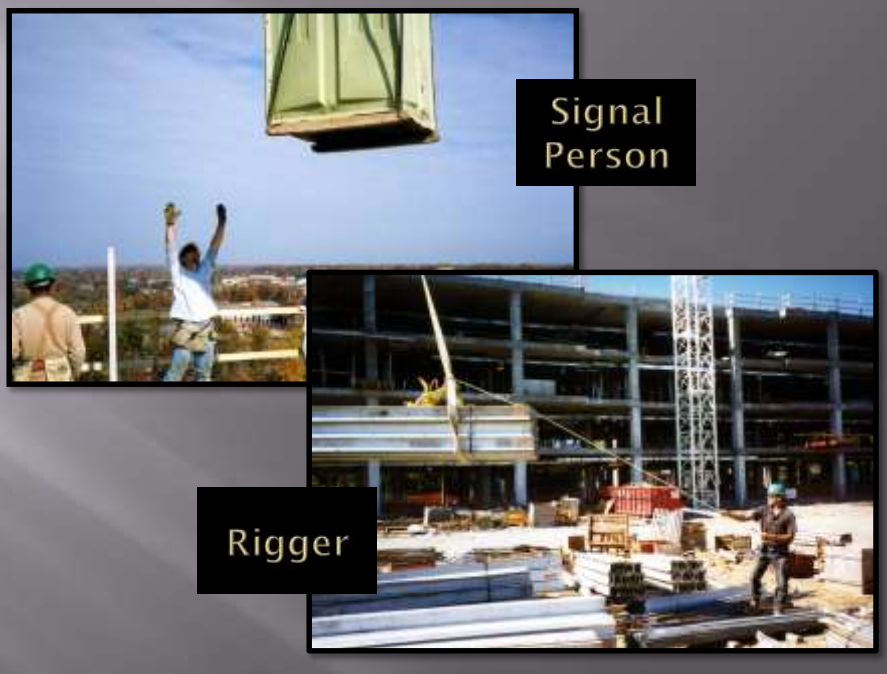
[4c] Evaluation documentation.

[4d] Local Crane Operator's License (where applicable)

[5] Rigger

[6] Signal Person

[7] Ground Guide



Certifications

Lift Worksheet

Tower Crane Foundation

PB PB-Heery Americas, Inc.

FAA Permit

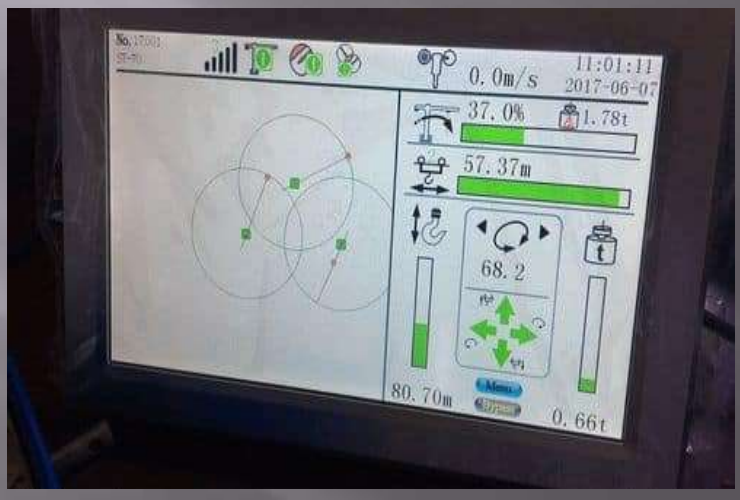
https://oeaaa.faa.gov/oeaaa/external/gisTools/gisAction.jsp?action=showNoNoticeRequiredToolForm

In accordance with 14 CFR Part 77.9, if you propose any of the following types of construction or alteration, you must file notice with the FAA at least 45 days prior to beginning construction: any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:

- 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in 14 CFR 77.9(d) with its longest runway more than 3,200 ft. in actual length, excluding heliports
- 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in 14 CFR 77.9(d) with its longest runway no more than 3,200 ft. in actual length, excluding heliports
- 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff area of each heliport described in 14 CFR 77.9(d);

- OR any highway, railroad, waterway or other traverse way for mobile objects, of a height which, if adjusted upward as defined in 14 CFR 77.9(c) would exceed a standard of 14 CFR 77.9 (a) or (b);
- OR your structure will emit frequencies, and does not meet the conditions of the FAA Co-location Policy;
- OR your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception;
- OR any construction or alteration exceeding 200 feet above ground level, regardless of location;
- OR any construction or alteration located on an airport described in 14 CFR 77.9(d);
- OR filing has been requested by the FAA.

Anti-Collision



3-D Lift Plan Demonstration

CRANE SERVICE COMPANY

Questions From the Group!

March Meeting: March 8, 2023

Topic: New Safety Professional Career Path

COAKLEY WILLIAM – BETHESDA MD

BREAKFAST MEETING

Raffle – 50/50

JOSE & MARTIN

Thank you

DRIVE SAFE