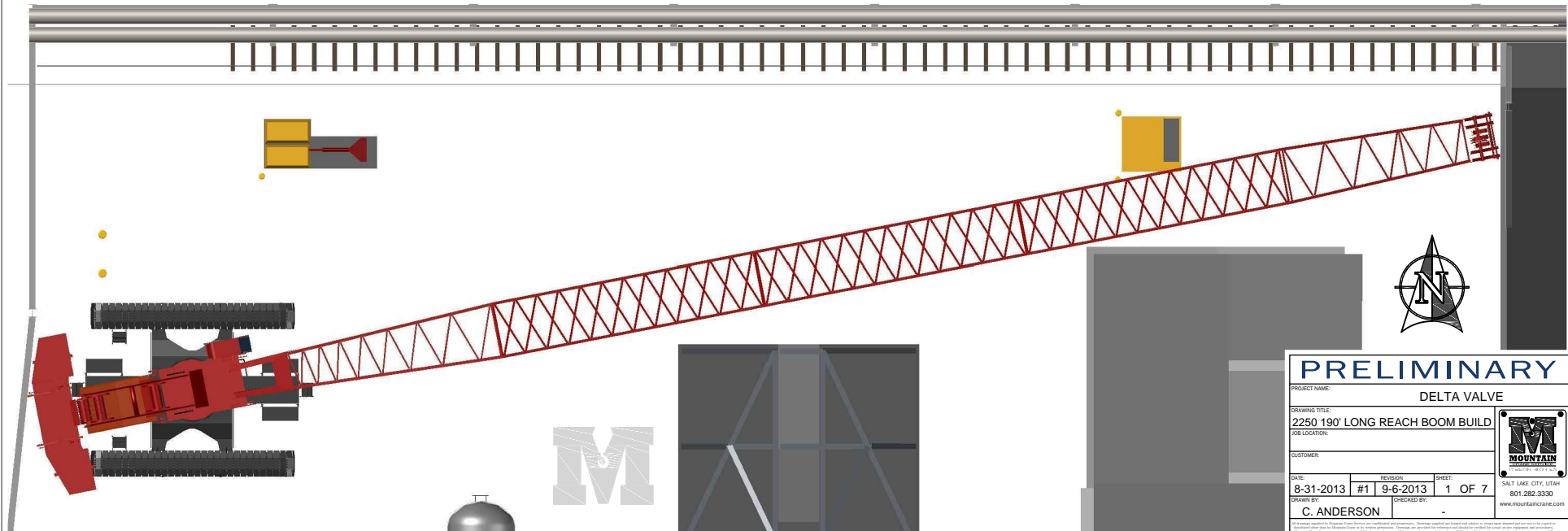


**CRANE #1 CONFIGURATION**

CRANE MODEL:	MANITOWOC 2250 S3
MAIN BOOM LENGTH:	190ft
CRANE COUNTERWEIGHT:	249,200 lbs
CARBODY COUNTERWT:	120,000 lbs
DEGREE RATING:	OVER FRONT / 360°



**PRELIMINARY**

PROJECT NAME: DELTA VALVE


DRAWING TITLE: 2250 190' LONG REACH BOOM BUILD

PERIOD: [ ]

CUSTOMER: [ ]

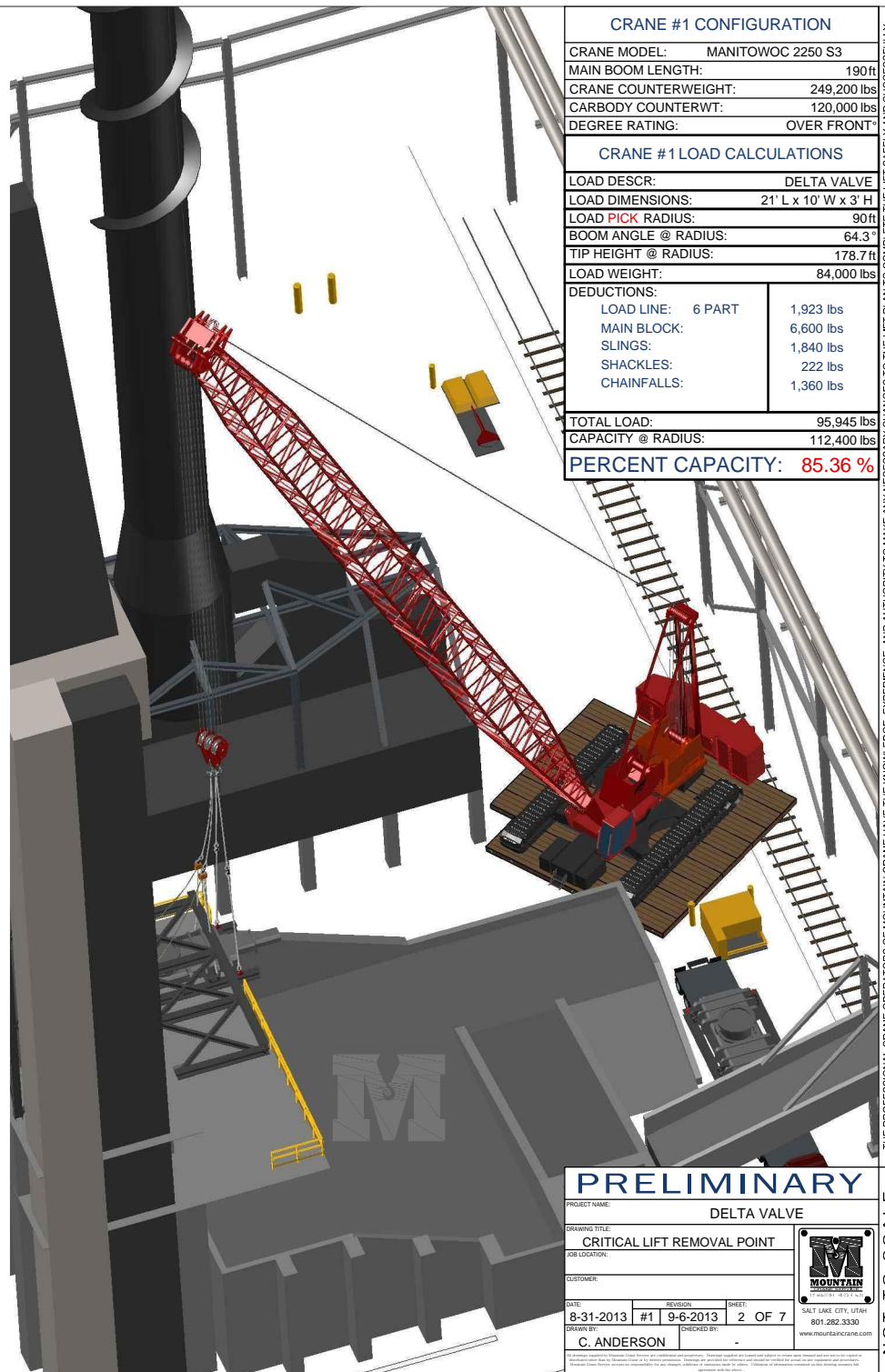
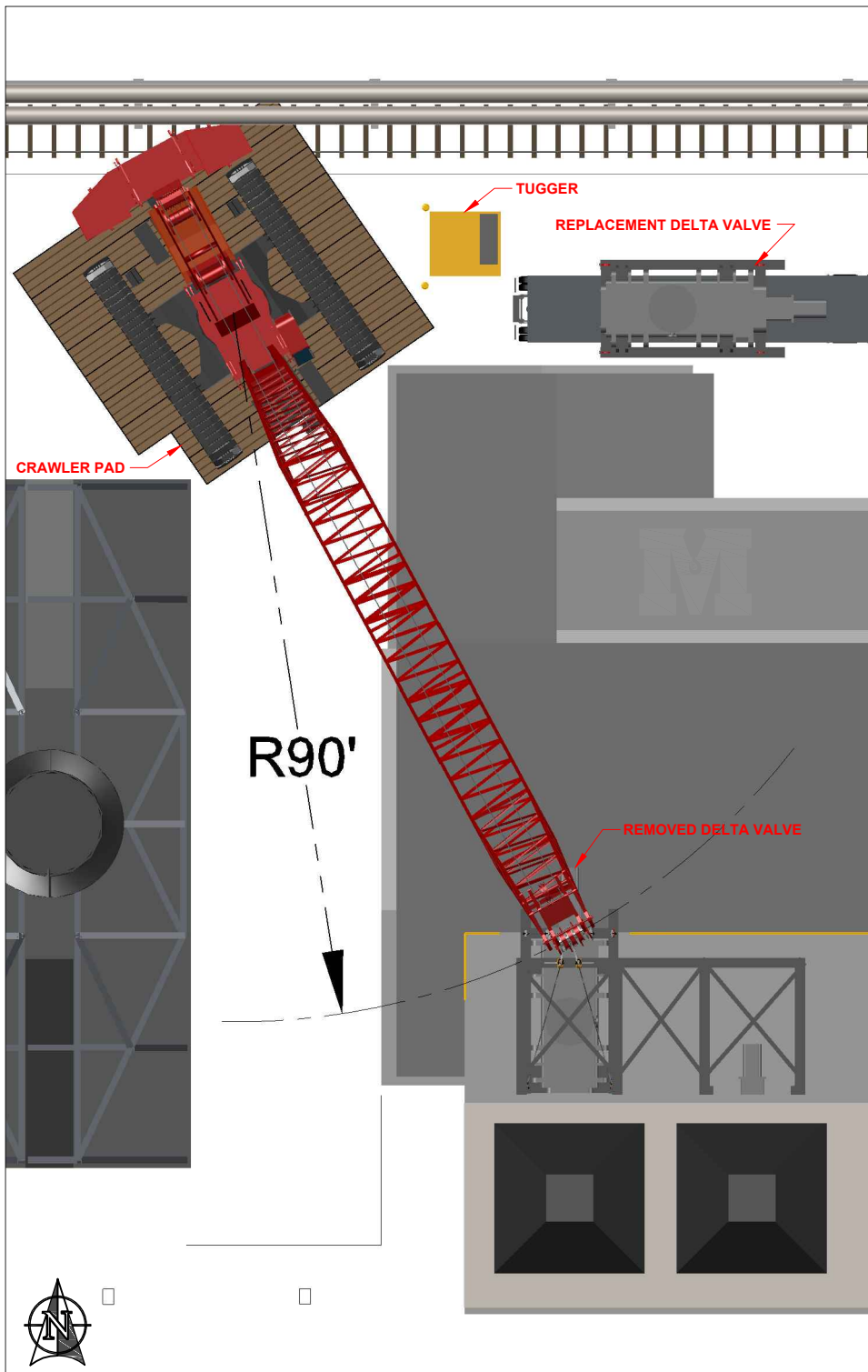
DATE: 8-31-2013	REVISION: #1	9-6-2013	SHEET: 1 OF 7
DRAWN BY: C. ANDERSON		CHECKED BY: [ ]	

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NOT TO SCALE



CRANE #1 CONFIGURATION	
CRANE MODEL:	MANITOWOC 2250 S3
MAIN BOOM LENGTH:	190ft
CRANE COUNTERWEIGHT:	249,200 lbs
CARBODY COUNTERWT:	120,000 lbs
DEGREE RATING:	OVER FRONT*
CRANE #1 LOAD CALCULATIONS	
LOAD DESCR:	DELTA VALVE
LOAD DIMENSIONS:	21' L x 10' W x 3' H
LOAD PICK RADIUS:	90ft
BOOM ANGLE @ RADIUS:	64.3°
TIP HEIGHT @ RADIUS:	178.7 ft
LOAD WEIGHT:	84,000 lbs
DEDUCTIONS:	
LOAD LINE: 6 PART	1,923 lbs
MAIN BLOCK:	6,600 lbs
SLINGS:	1,840 lbs
SHACKLES:	222 lbs
CHAINFALLS:	1,360 lbs
TOTAL LOAD:	95,945 lbs
CAPACITY @ RADIUS:	112,400 lbs
<b>PERCENT CAPACITY:</b>	<b>85.36 %</b>

**PRELIMINARY**

PROJECT NAME: DELTA VALVE

DRAWING TITLE: CRITICAL LIFT REMOVAL POINT

JOB LOCATION:

CUSTOMER:

DATE: 8-31-2013    REVISION: #1    9-6-2013    SHEET: 2 OF 7

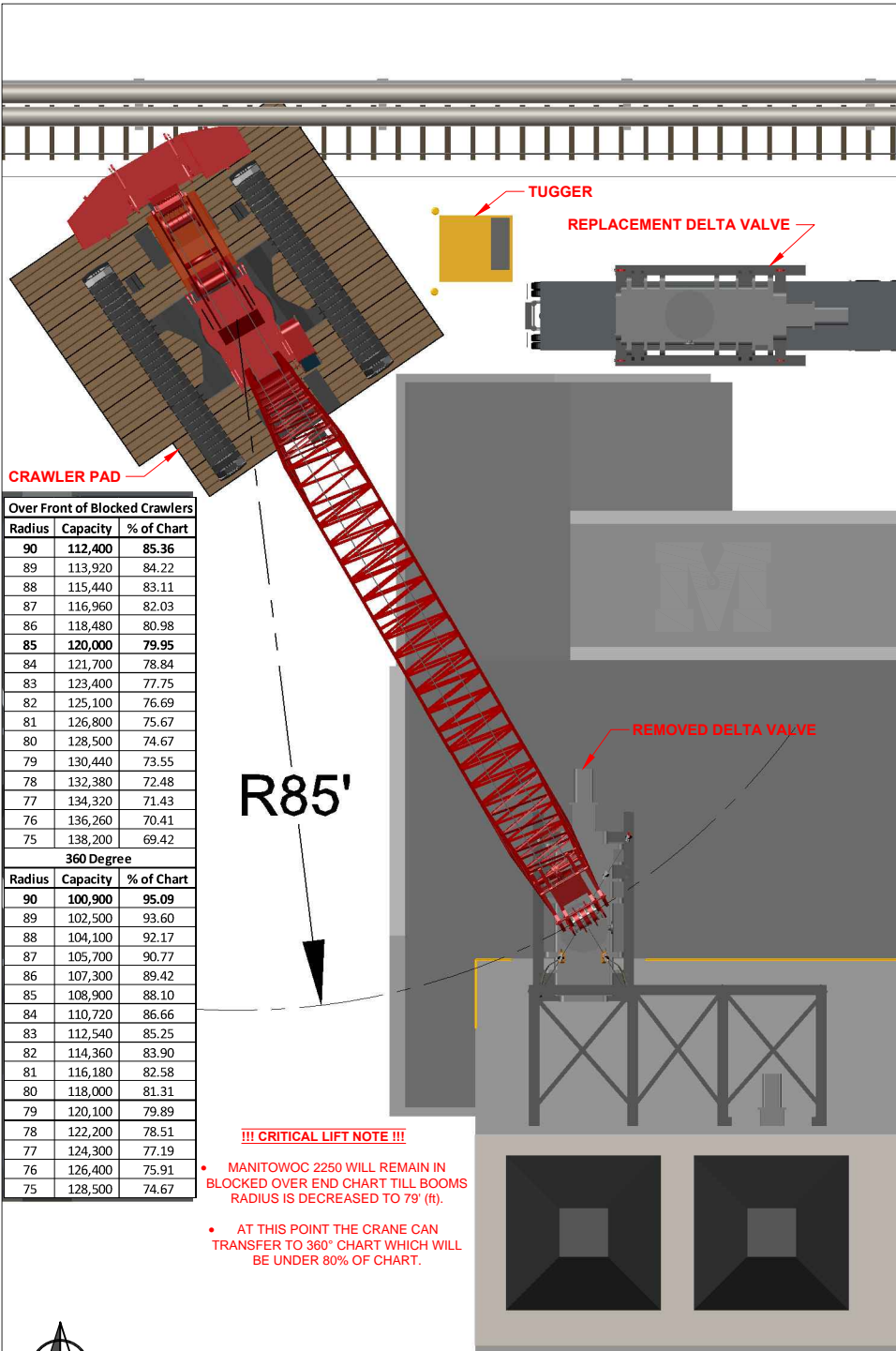
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**Over Front of Blocked Crawlers**

Radius	Capacity	% of Chart
90	112,400	85.36
89	113,920	84.22
88	115,440	83.11
87	116,960	82.03
86	118,480	80.98
<b>85</b>	<b>120,000</b>	<b>79.95</b>
84	121,700	78.84
83	123,400	77.75
82	125,100	76.69
81	126,800	75.67
80	128,500	74.67
79	130,440	73.55
78	132,380	72.48
77	134,320	71.43
76	136,260	70.41
75	138,200	69.42

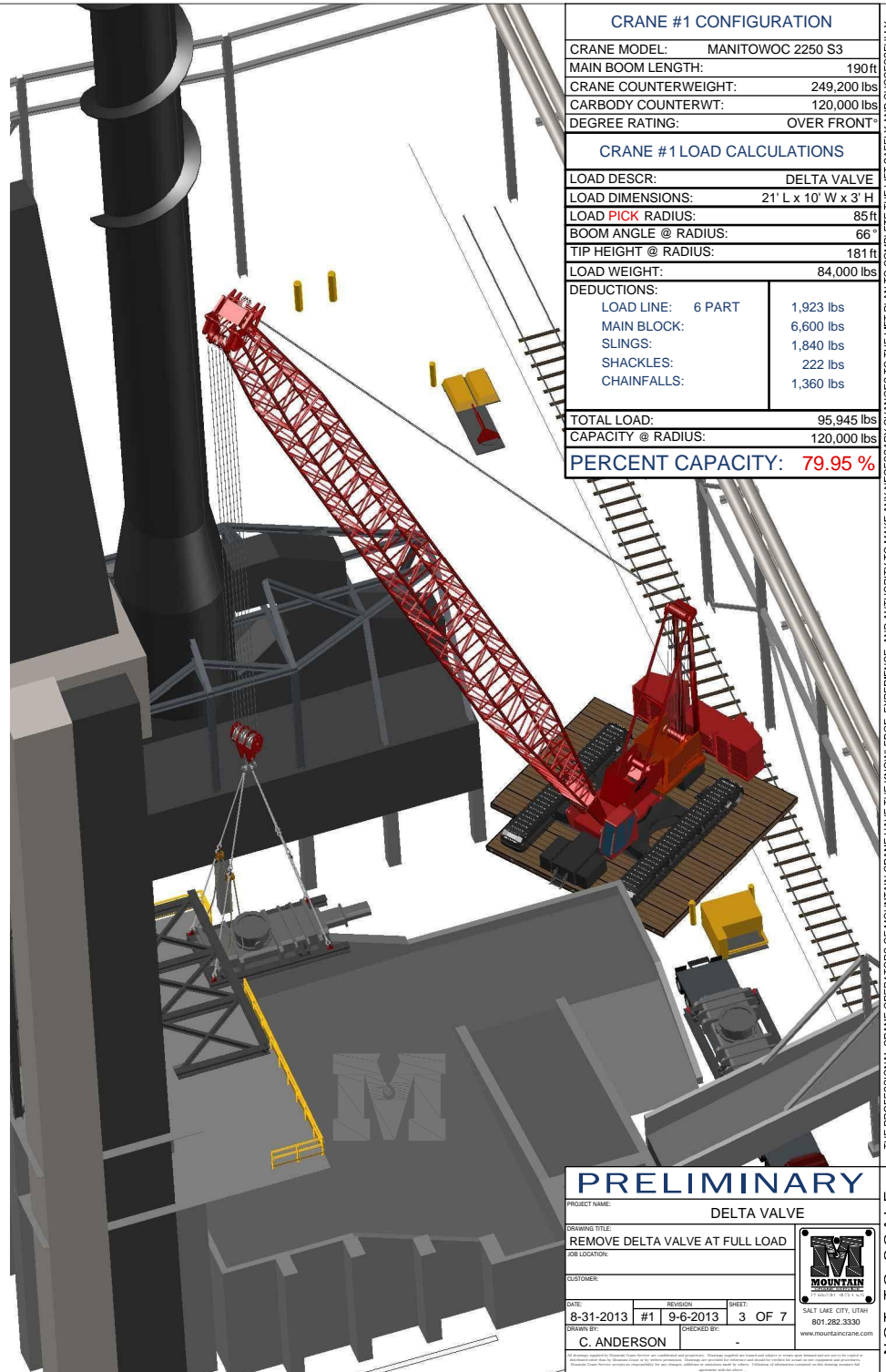
**360 Degree**

Radius	Capacity	% of Chart
90	100,900	95.09
89	102,500	93.60
88	104,100	92.17
87	105,700	90.77
86	107,300	89.42
85	108,900	88.10
84	110,720	86.66
83	112,540	85.25
82	114,360	83.90
81	116,180	82.58
80	118,000	81.31
79	120,100	79.89
78	122,200	78.51
77	124,300	77.19
76	126,400	75.91
75	128,500	74.67

**!!! CRITICAL LIFT NOTE !!!**

- MANITOWOC 2250 WILL REMAIN IN BLOCKED OVER END CHART TILL BOOMS RADIUS IS DECREASED TO 79' (ft).
- AT THIS POINT THE CRANE CAN TRANSFER TO 360° CHART WHICH WILL BE UNDER 80% OF CHART.

CRANE #1 CONFIGURATION	
CRANE MODEL:	MANITOWOC 2250 S3
MAIN BOOM LENGTH:	190ft
CRANE COUNTERWEIGHT:	249,200 lbs
CARBODY COUNTERWT:	120,000 lbs
DEGREE RATING:	OVER FRONT
CRANE #1 LOAD CALCULATIONS	
LOAD DESCR:	DELTA VALVE
LOAD DIMENSIONS:	21' L x 10' W x 3' H
LOAD PICK RADIUS:	85ft
BOOM ANGLE @ RADIUS:	66°
TIP HEIGHT @ RADIUS:	181ft
LOAD WEIGHT:	84,000 lbs
DEDUCTIONS:	
LOAD LINE: 6 PART	1,923 lbs
MAIN BLOCK:	6,600 lbs
SLINGS:	1,840 lbs
SHACKLES:	222 lbs
CHAINFALLS:	1,360 lbs
TOTAL LOAD:	95,945 lbs
CAPACITY @ RADIUS:	120,000 lbs
<b>PERCENT CAPACITY:</b>	<b>79.95 %</b>



**PRELIMINARY**

PROJECT NAME: DELTA VALVE

DRAWING TITLE: REMOVE DELTA VALVE AT FULL LOAD

ISS LOCATION:

CUSTOMER:

DATE: 8-31-2013 #1 REVISION: 9-6-2013 SHEET: 3 OF 7

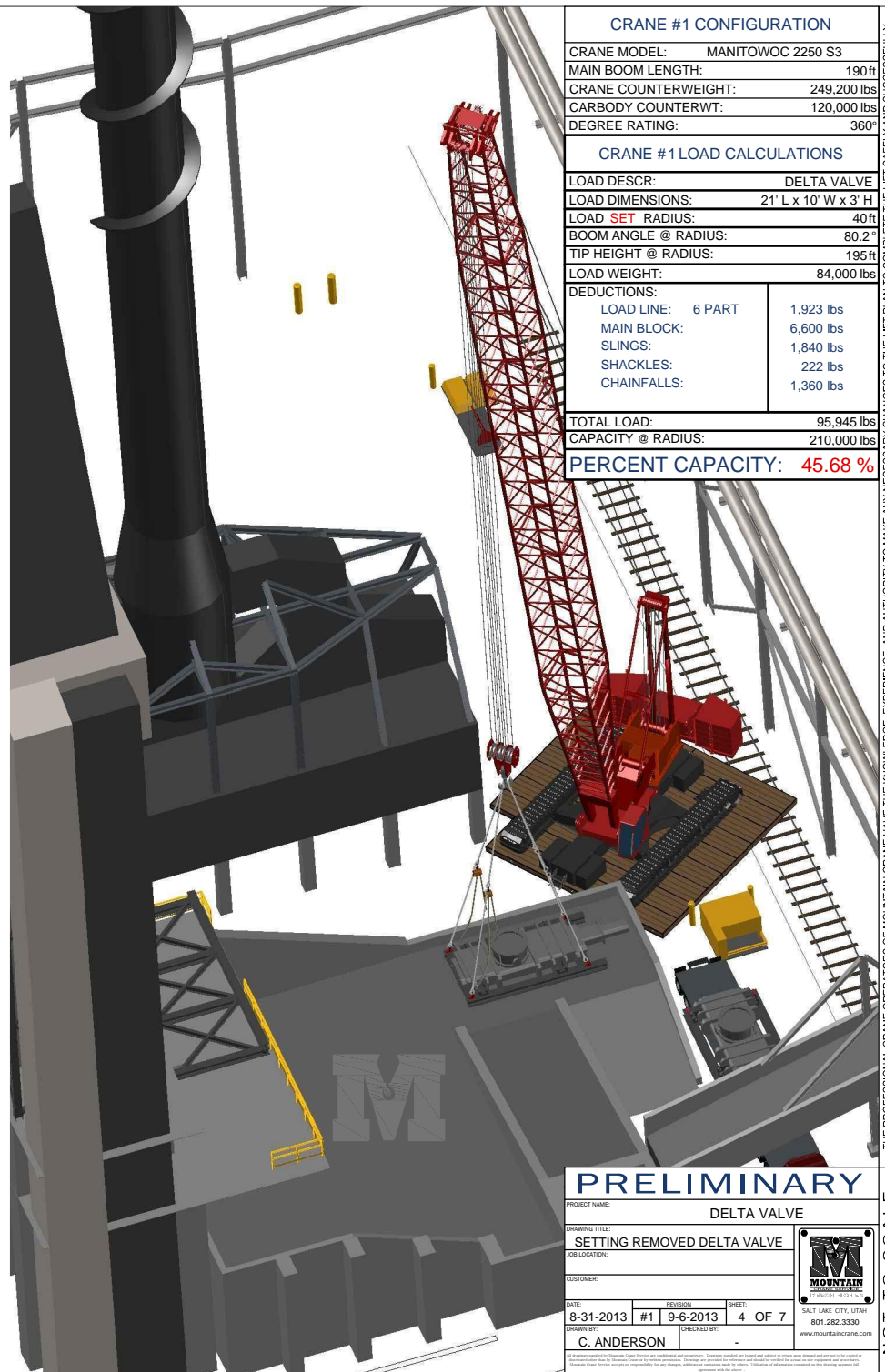
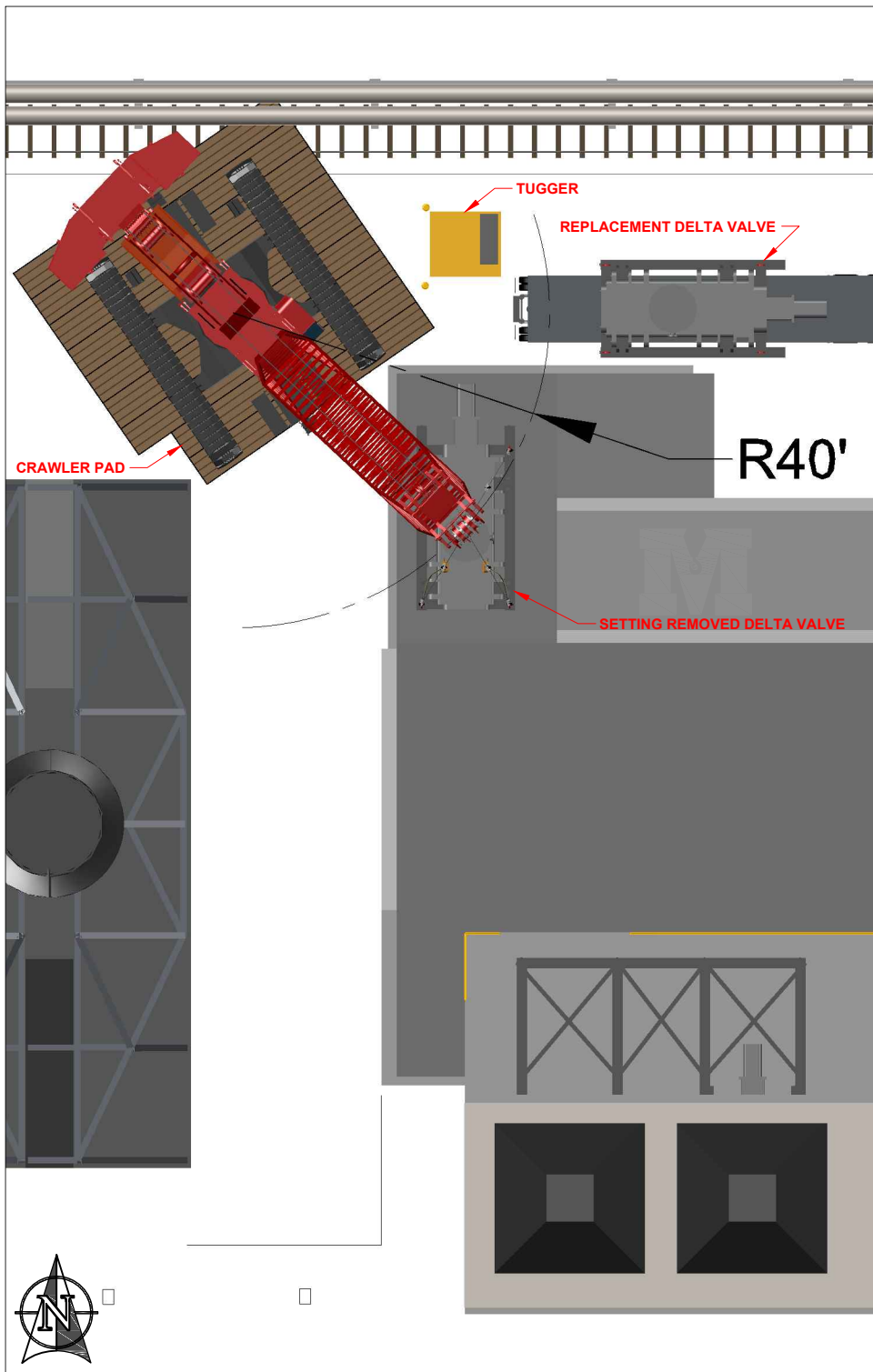
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NOT TO SCALE



CRANE #1 CONFIGURATION	
CRANE MODEL:	MANITOWOC 2250 S3
MAIN BOOM LENGTH:	190ft
CRANE COUNTERWEIGHT:	249,200 lbs
CARBODY COUNTERWT:	120,000 lbs
DEGREE RATING:	360°
CRANE #1 LOAD CALCULATIONS	
LOAD DESCR:	DELTA VALVE
LOAD DIMENSIONS:	21' L x 10' W x 3' H
LOAD SET RADIUS:	40ft
BOOM ANGLE @ RADIUS:	80.2°
TIP HEIGHT @ RADIUS:	195ft
LOAD WEIGHT:	84,000 lbs
DEDUCTIONS:	
LOAD LINE: 6 PART	1,923 lbs
MAIN BLOCK:	6,600 lbs
SLINGS:	1,840 lbs
SHACKLES:	222 lbs
CHAINFALLS:	1,360 lbs
TOTAL LOAD:	95,945 lbs
CAPACITY @ RADIUS:	210,000 lbs
<b>PERCENT CAPACITY:</b>	<b>45.68 %</b>

**PRELIMINARY**

PROJECT NAME: DELTA VALVE

DRAWING TITLE: SETTING REMOVED DELTA VALVE

FOR LOCATION:

CUSTOMER:

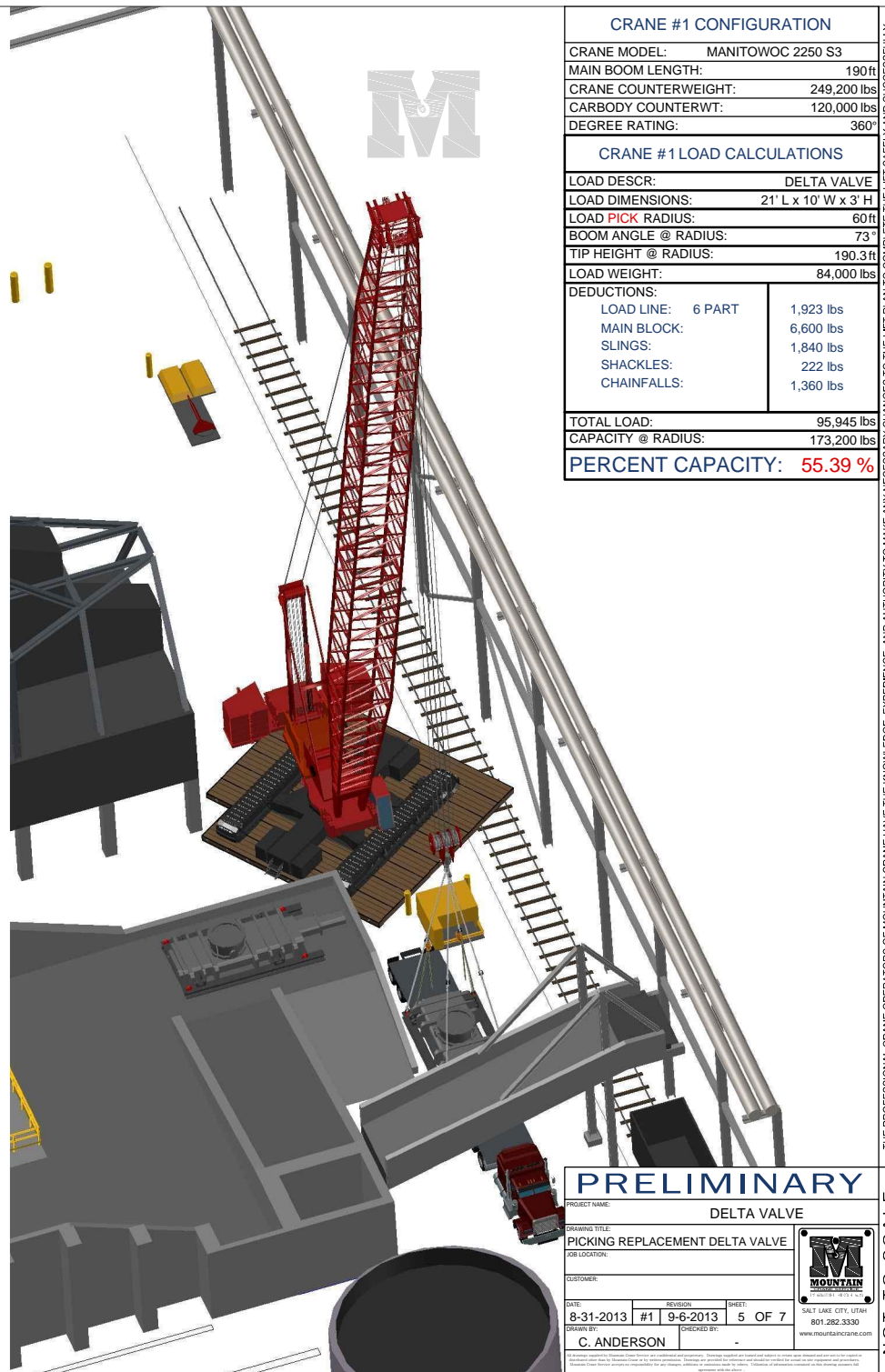
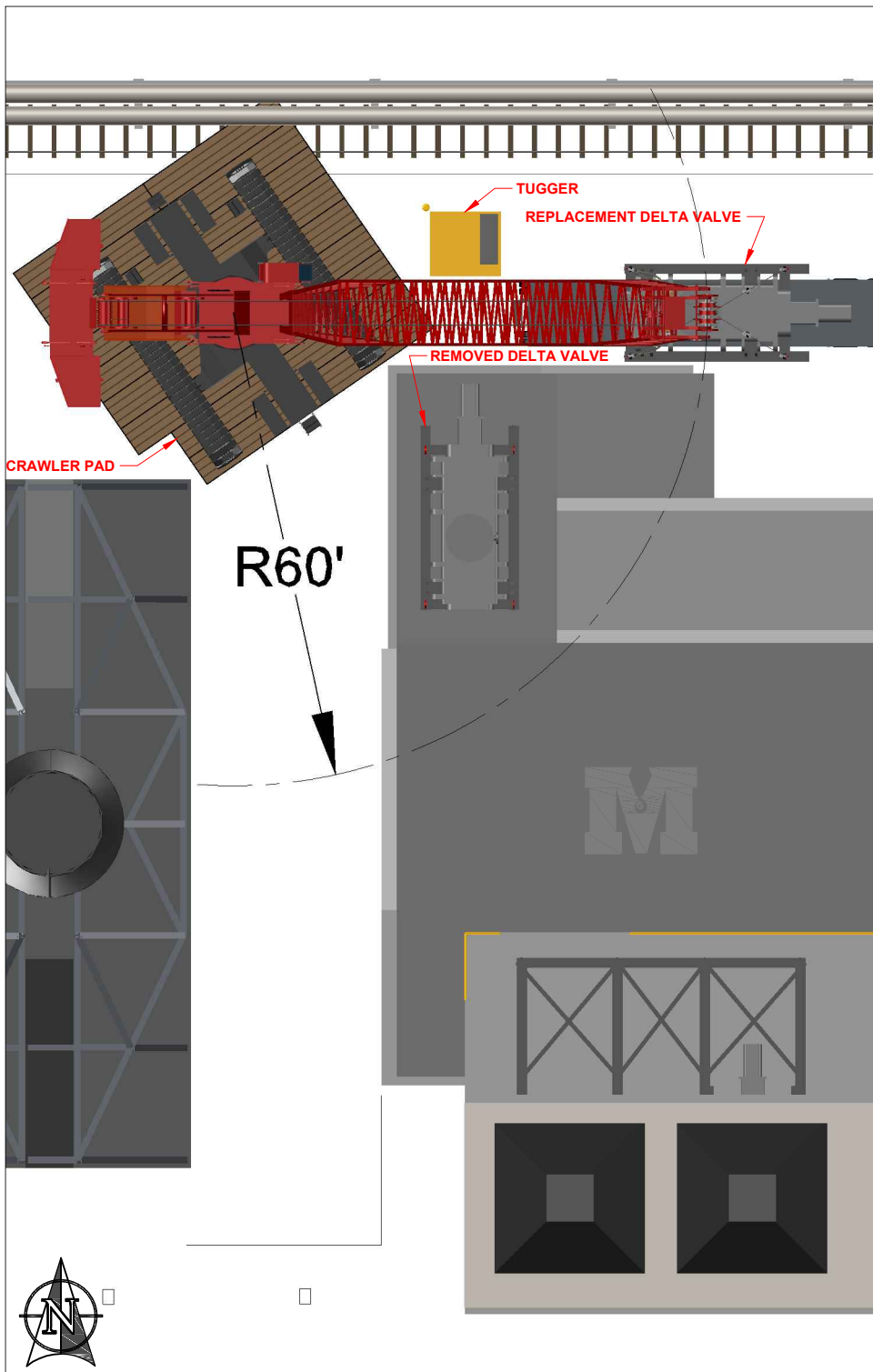
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NOT TO SCALE



CRANE #1 CONFIGURATION	
CRANE MODEL:	MANITOWOC 2250 S3
MAIN BOOM LENGTH:	190ft
CRANE COUNTERWEIGHT:	249,200 lbs
CARBODY COUNTERWT:	120,000 lbs
DEGREE RATING:	360°
CRANE #1 LOAD CALCULATIONS	
LOAD DESCR:	DELTA VALVE
LOAD DIMENSIONS:	21' L x 10' W x 3' H
LOAD PICK RADIUS:	60ft
BOOM ANGLE @ RADIUS:	73°
TIP HEIGHT @ RADIUS:	190.3ft
LOAD WEIGHT:	84,000 lbs
DEDUCTIONS:	
LOAD LINE: 6 PART	1,923 lbs
MAIN BLOCK:	6,600 lbs
SLINGS:	1,840 lbs
SHACKLES:	222 lbs
CHAINFALLS:	1,360 lbs
TOTAL LOAD:	95,945 lbs
CAPACITY @ RADIUS:	173,200 lbs
<b>PERCENT CAPACITY: 55.39 %</b>	

**PRELIMINARY**

PROJECT NAME: DELTA VALVE

DRAWING TITLE: PICKING REPLACEMENT DELTA VALVE

JOB LOCATION:

CUSTOMER:

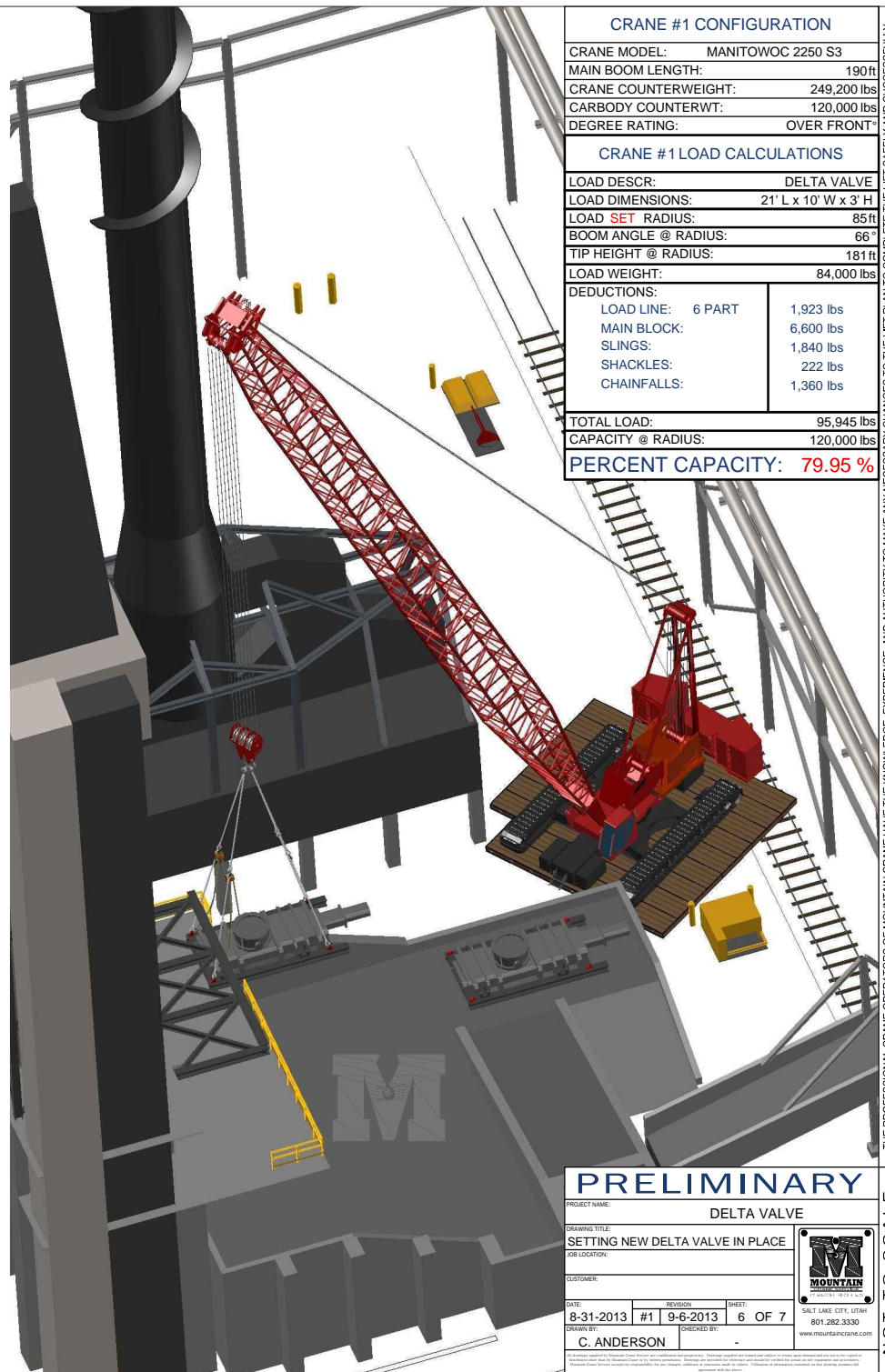
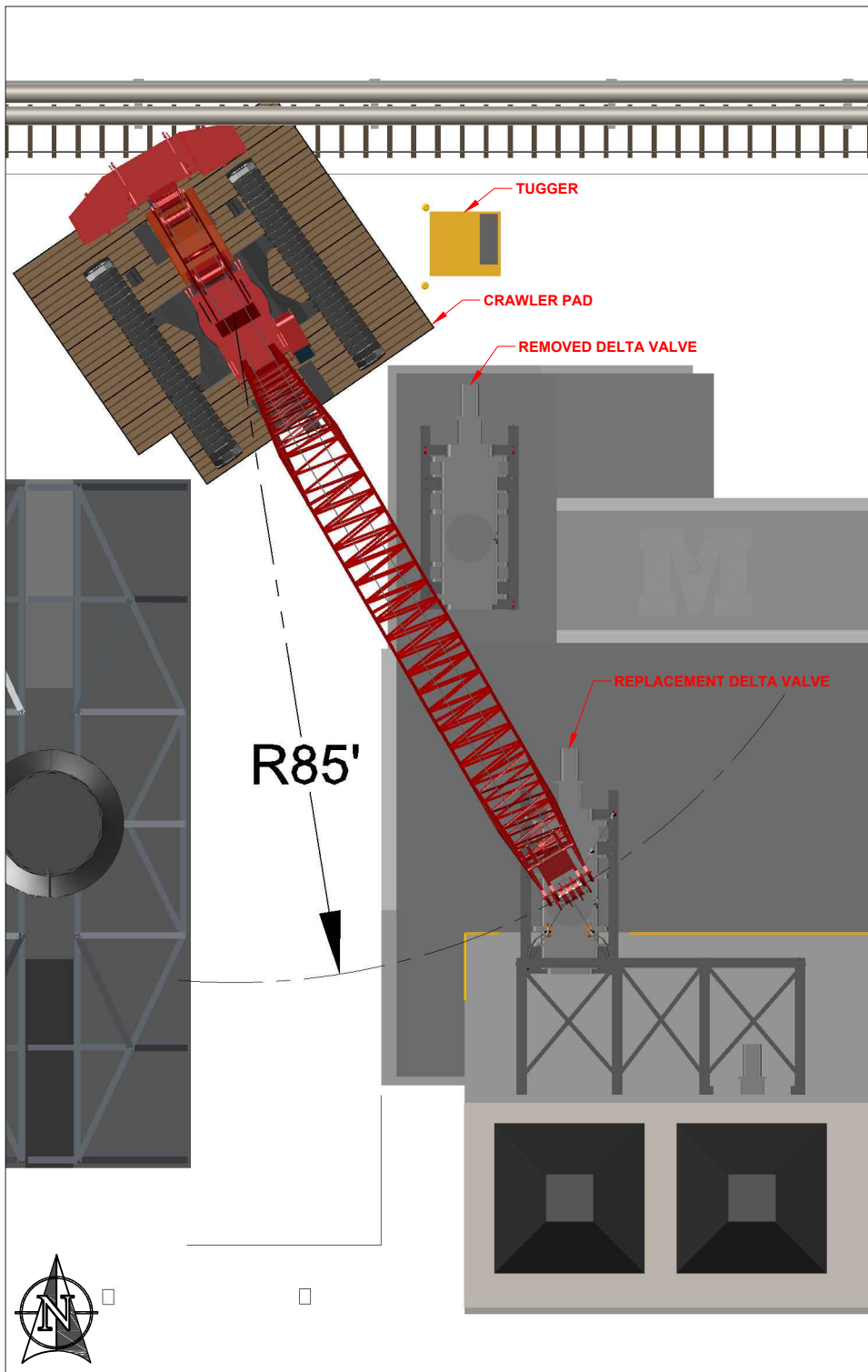
DATE: 8-31-2013    REVISION: #1    SHEET: 5 OF 7

DESIGNER: C. ANDERSON    CHECKED BY:

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CRANE #1 CONFIGURATION	
CRANE MODEL:	MANITOWOC 2250 S3
MAIN BOOM LENGTH:	190ft
CRANE COUNTERWEIGHT:	249,200 lbs
CARBODY COUNTERWT:	120,000 lbs
DEGREE RATING:	OVER FRONT
CRANE #1 LOAD CALCULATIONS	
LOAD DESCR:	DELTA VALVE
LOAD DIMENSIONS:	21' L x 10' W x 3' H
LOAD SET RADIUS:	85ft
BOOM ANGLE @ RADIUS:	66°
TIP HEIGHT @ RADIUS:	181ft
LOAD WEIGHT:	84,000 lbs
DEDUCTIONS:	
LOAD LINE: 6 PART	1,923 lbs
MAIN BLOCK:	6,600 lbs
SLINGS:	1,840 lbs
SHACKLES:	222 lbs
CHAINFALLS:	1,360 lbs
TOTAL LOAD:	95,945 lbs
CAPACITY @ RADIUS:	120,000 lbs
<b>PERCENT CAPACITY:</b>	<b>79.95 %</b>

**PRELIMINARY**

PROJECT NAME: DELTA VALVE

DRAWING TITLE: SETTING NEW DELTA VALVE IN PLACE

DATE: 8-31-2013

REVISION: #1

DATE: 9-6-2013

SHEET: 6 OF 7

DRAWN BY: C. ANDERSON

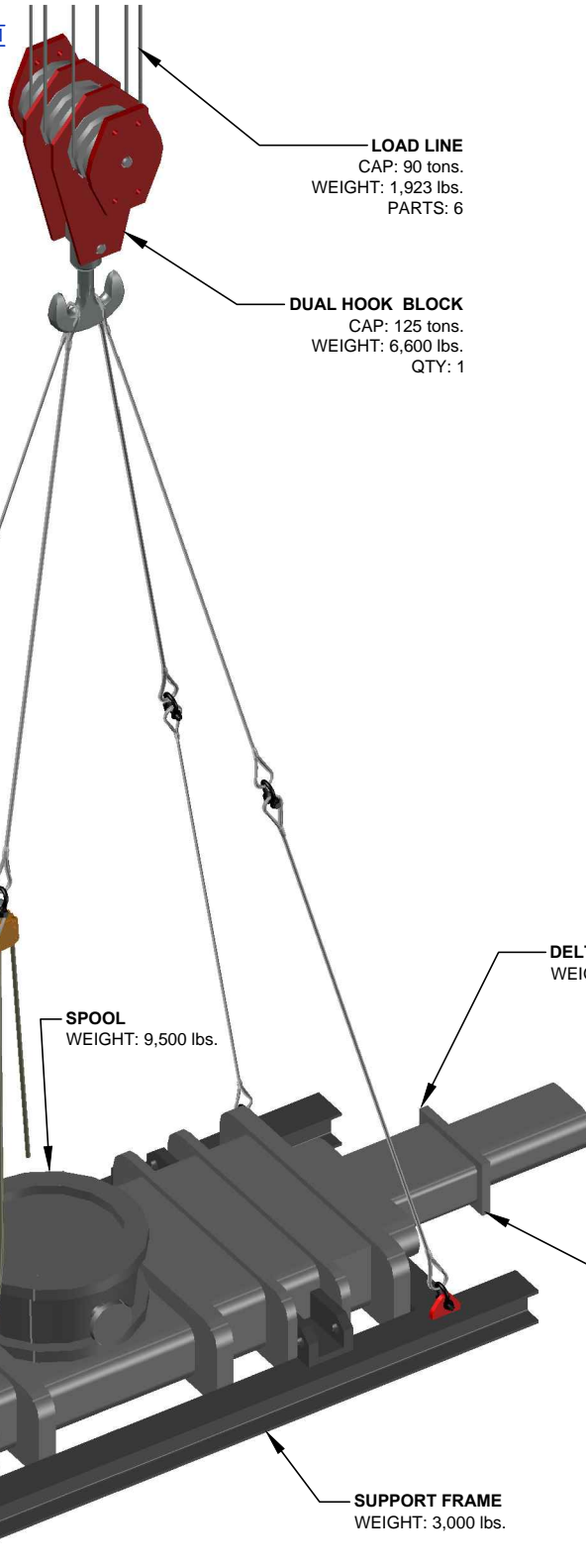
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**MANITOWOC 2250 RIGGING DIAGRAM**



**LOAD LINE**  
CAP: 90 tons.  
WEIGHT: 1,923 lbs.  
PARTS: 6

**DUAL HOOK BLOCK**  
CAP: 125 tons.  
WEIGHT: 6,600 lbs.  
QTY: 1

**2" - 20' WIRE ROPE SLING**  
CAP: 34.78 tons/ea @ 75°.  
WEIGHT: 230 lbs/ea.  
QTY: 4

**1 3/4" SCREW PIN SHACKLE**  
CAP: 25 tons/ea.  
WEIGHT: 27.78 lbs/ea.  
QTY: 4

**2" - 20' WIRE ROPE SLING**  
CAP: 34.78 tons/ea @ 75°.  
WEIGHT: 230 lbs/ea.  
QTY: 4

**CHAIN FALLS**  
CAP: 25 tons/ea.  
WEIGHT: 680 lbs/ea.  
QTY: 2

**SPOOL**  
WEIGHT: 9,500 lbs.

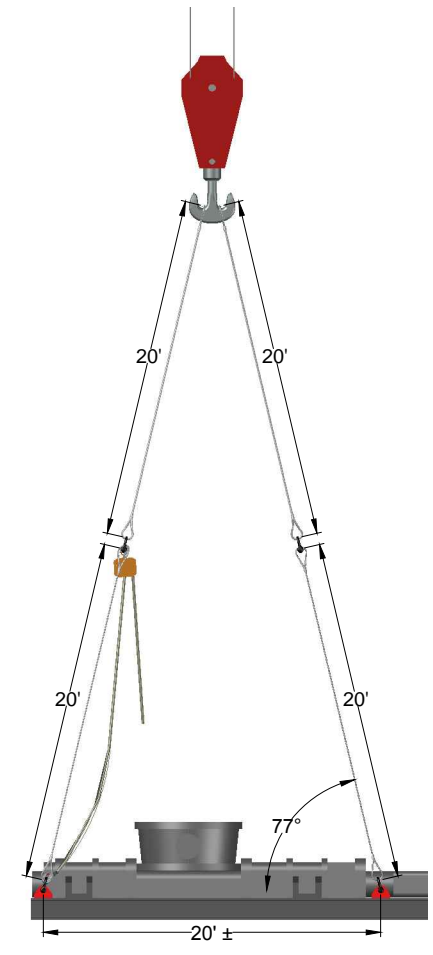
**DELTA VALVE**  
WEIGHT: 71,000 lbs.

**1 3/4" SCREW PIN SHACKLE**  
CAP: 25 tons/ea.  
WEIGHT: 27.78 lbs/ea.  
QTY: 4

**LIFTING LUGS**

**SUPPORT FRAME**  
WEIGHT: 3,000 lbs.

**TOTAL WEIGHT: 84,000 lbs.**



**PRELIMINARY**

PROJECT NAME: DELTA VALVE			
DRAWING TITLE: DELTA VALVE RIGGING DIAGRAM			
JOB LOCATION:			
CUSTOMER:			
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