



# Damaged Beam & Loose Beam End Management

**Mike Benzy / Claims Prevention**

03/01/2017

# Executive Summary

## What is the opportunity for the QAT?

- The current process for managing and shipping damaged beams and loose beam ends to beam repair locations produces too much waste from lost time and unused resources

## What data was used to determine the root cause?

- Dock observations at multiple locations, decking management report, company bills originating from the NAS center containing damaged beams.

## What is the root cause of the issue?

- Damaged beams are mixed with good beams in dock decking carts and in various piles around the dock. The loose beam ends are scattered around the dock and eventually thrown away. There is no process at NAS or in the system to collect and bundle damaged beams & ends consistently.

## What solution was developed and implemented?

- Beam stacking & bundling rack process

## After at least 90 days of measurable results, how do the measured results compare to the QATs goal and/or former process?

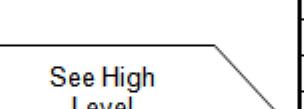
- A consistent process was developed & implemented in NAS, which led to system-wide change

# Assess – Project Charter

<b>Business Case:</b>  <b>This project supports the Chairman's \$20,000,000 Loss and Reduction Challenge</b>	<b>Opportunity Statement (High Level Problem Statement):</b>  <b>Current State:</b> Storage and transportation of damaged decking beams is inefficient  <b>Impact:</b> Tools not available, increased freight damage, Time lost collecting & bundling beams  <b>Desired State:</b> Implement a tool and plan to efficiently collect and bundle damaged beams and loose beam ends																																																											
<b>Goal Statement:</b>  Establish and implement a process where damaged deckign materials are collected seperately from good, then efficiently moved to repair facilities.	<b>Project Scope:</b>  <b>Process Start Point:</b> Damaged beams and loose ends are identified  <b>Process End Point:</b> C0 bill is cut to repair facility, beam bundle is loaded, and empty barrel is returned to NAS																																																											
<b>Expected Savings/Benefits:</b> Approximately 80% reduction in dock labor time needed to bundle damaged beams, savings of \$7.05 per loose end needed to be ordered to repair decking beams. New beam replacement is \$40.20 for standard beams & \$51.20 for wide-top.	<b>In Scope:</b> Damaged beams and loose beam ends  <b>Out of Scope:</b> Good beam collection & movement for initial test, then all excess beam collection & movement																																																											
<b>Project Plan:</b>  <table border="1"> <thead> <tr> <th>Task/Phase</th> <th>Start Date</th> <th>End Date</th> <th>Actual End</th> </tr> </thead> <tbody> <tr> <td><b>Assess</b></td> <td>05/01/15</td> <td>05/15/15</td> <td></td> </tr> <tr> <td><b>Build</b></td> <td>05/15/15</td> <td>07/01/15</td> <td></td> </tr> <tr> <td><b>Launch</b></td> <td>07/01/15</td> <td>07/08/15</td> <td></td> </tr> <tr> <td><b>Evaluate</b></td> <td>07/08/15</td> <td>04/01/16</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>Launch</b></td> <td>5/9/2016</td> <td></td> <td></td> </tr> <tr> <td><b>Evaluate</b></td> <td>5/23/2016</td> <td></td> <td></td> </tr> </tbody> </table>	Task/Phase	Start Date	End Date	Actual End	<b>Assess</b>	05/01/15	05/15/15		<b>Build</b>	05/15/15	07/01/15		<b>Launch</b>	07/01/15	07/08/15		<b>Evaluate</b>	07/08/15	04/01/16						<b>Launch</b>	5/9/2016			<b>Evaluate</b>	5/23/2016			<b>Team:</b>  <table border="1"> <thead> <tr> <th>Name:</th> <th>Role:</th> <th>Commitment (%)</th> </tr> </thead> <tbody> <tr> <td>Mike Benz</td> <td>Lead</td> <td></td> </tr> <tr> <td>Chase Arbuckle</td> <td>Participant</td> <td></td> </tr> <tr> <td>Mike Edgin</td> <td>Participant</td> <td></td> </tr> <tr> <td>Alan Elkins</td> <td>Participant</td> <td></td> </tr> <tr> <td>Dusty Roberts</td> <td>Subject Matter Expert</td> <td></td> </tr> <tr> <td>Tim Godwin</td> <td>Subject Matter Expert</td> <td></td> </tr> <tr> <td>John Smith</td> <td>Sponsor</td> <td></td> </tr> <tr> <td>Chase King</td> <td>Subject Matter Expert</td> <td></td> </tr> </tbody> </table>	Name:	Role:	Commitment (%)	Mike Benz	Lead		Chase Arbuckle	Participant		Mike Edgin	Participant		Alan Elkins	Participant		Dusty Roberts	Subject Matter Expert		Tim Godwin	Subject Matter Expert		John Smith	Sponsor		Chase King	Subject Matter Expert	
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# Assess - SIPOC

Process/Project Name:	Damaged Beam & Loose Beam End Management
Date:	4/25/2016
Prepared By:	Mike Benzey
Notes:	

Suppliers	Inputs		Process	Outputs		Customers
Provider	Input Description	Input Requirements (optional)	 See High Level Process Steps Below	Output Description	Output Requirements (optional)	Recipient of Output
Inbound trailers	Consolidation Cart	HUB location		Bundle of Beams		Consignees
Dock Employees	Collection Barrel	Any Location		Replacement Ends	Barrel Returned	Shippers
Road Drivers	Process Plan			Repaired Beams		Dock Employees
	Education					Procurement

**START Boundary:**  
Damaged beams and loose beam ends are discovered on the NAS dock



**END Boundary:**  
Repair locations receive beam bundles & loose ends. Barrel is emptied & returned to NAS.

# Assess – Current Condition / Storage & Movement

- Damaged beams and ends that are recycled or thrown away rather than repaired return approx. \$0.10 per pound scrap.
- Standard decking beams are \$40.20 each, wide-tops are \$51.20 per new beam. Replacement ends are \$7.05 each.



Damaged beams mixed in with good, often settling at the bottom

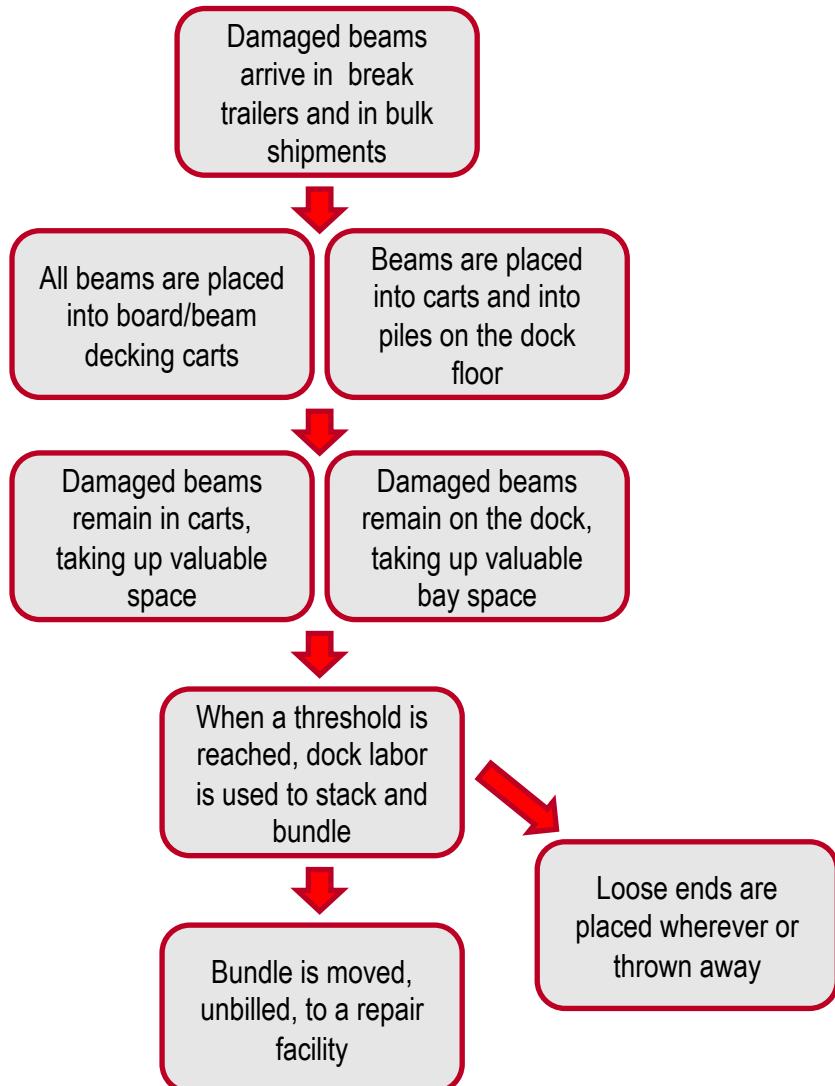


# Build – Research potential causes by performing root cause analysis

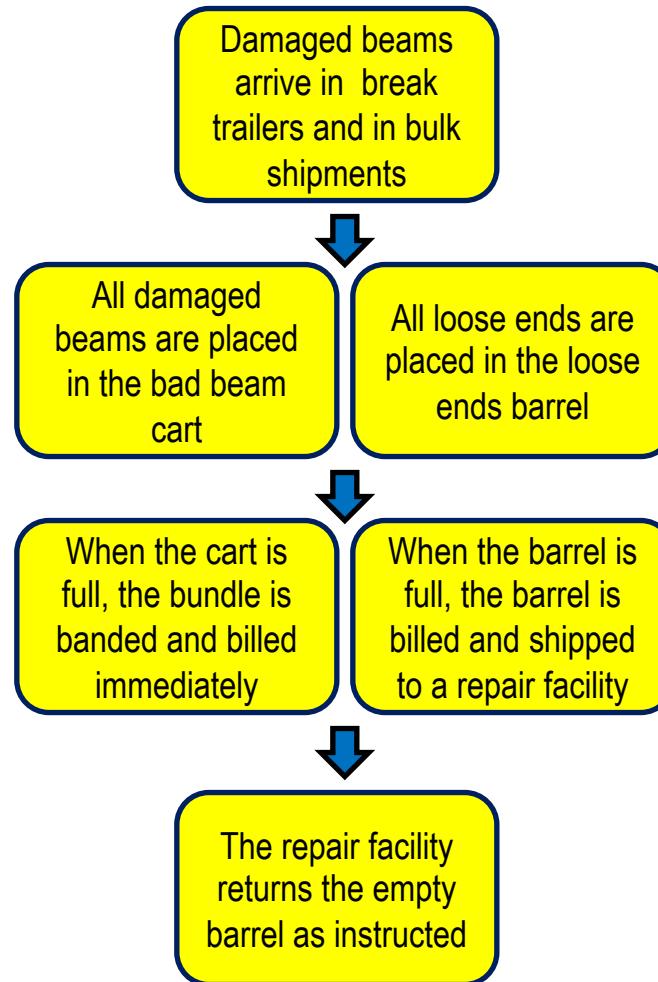
- Multi voting by the NAS team determined a dedicated, single, consolidation cart would be the most efficient way to handle the movement of damaged beams
- Through brainstorming and a waste walk, the NAS team decided the cart should have dock a sign, be placed in a centralized location, and promote use even with no education

Type of Waste	Process Step	Comments	Estimate
Reduced Cart Storage	Good & bad beams are collected in the same carts	Bad beams "sink" to the bottom, reducing available storage space.	20% of cart capacity reduced
Reduced Dock Space	Bad beams are collected in unofficial piles	Unofficial piles scatter bad beams across the dock, giving the appearance there are less than there actually are	25% of available beam supply is actually damaged & not usable
Motion - Employee Labor	Employees bundle at the	At least 30 minutes of time is required to stack & band	\$12.50 in dock labor dedicated to each bundle
Motion - Rehandle of Beams	Dock employees must sort through bad beams to get to good	Dock employees must sort through bad beams to get to good	20% of dock employee time getting beams out of carts is lost to sorting
Inventory - Improper count	Damaged beams added to good beam count, visual appearance of full carts	Damaged beams added to good beam count, visual appearance of full carts	25% of available beam supply is actually damaged & not usable
Correction - Ends thrown away	loose ends are placed wherever until eventually thrown away	loose ends are placed wherever until eventually thrown away	Close to 100% of loose ends are thrown away

## Current Process



## Proposed Process

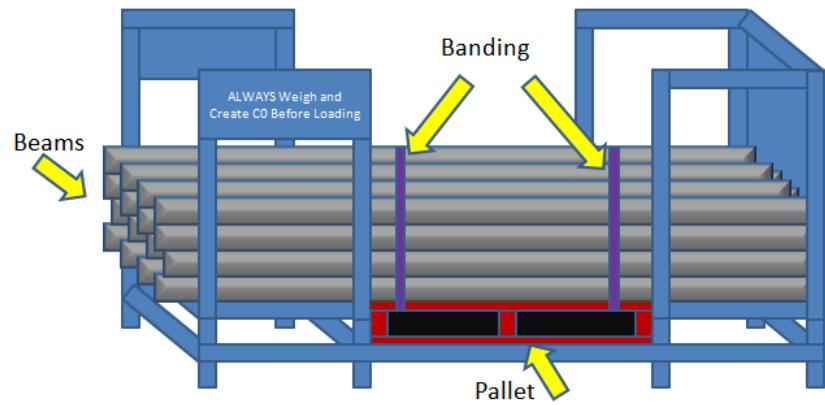


# Build – Bundling Cart Design



- Current bundling cart designs
- No policy written for usage
- No standard design
- Carts designed to move mass quantities of good beams, not bad

# Build – Proposed + Actual Bundling Cart Design



# Launch – Introduction of the Bundling Cart

- *The tool by itself did not promote intuitive use*
- *A process needed to be developed to create the desired result*
  
- **The NAS team determined the following policy:**
  - The cart is to be placed in a centralized location where the main pre-shifts are held on the dock and not moved
  - Damaged beams are to be immediately loaded into the cart and not placed in piles or in other carts, thus removing the need to use productive hours to build
  - Once full, the beams are to be banded twice around the bundle and twice to the pallet.
  - Bundles are billed immediately to repair locations with the keyword “BROK”
  - Loose ends are collected in a barrel, which will also be sent to repair locations. Repair locations will empty and send the barrel back.
  - EOL locations will send damaged beams to the hub daily, where they will be bundled.
  - All Supervision are responsible for monitoring

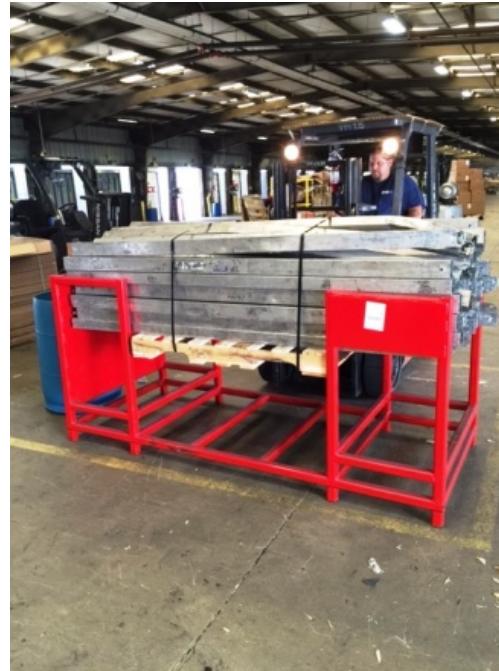


# Launch – Introduction of the Bundling Cart

Dock Placement



Bundle Removal

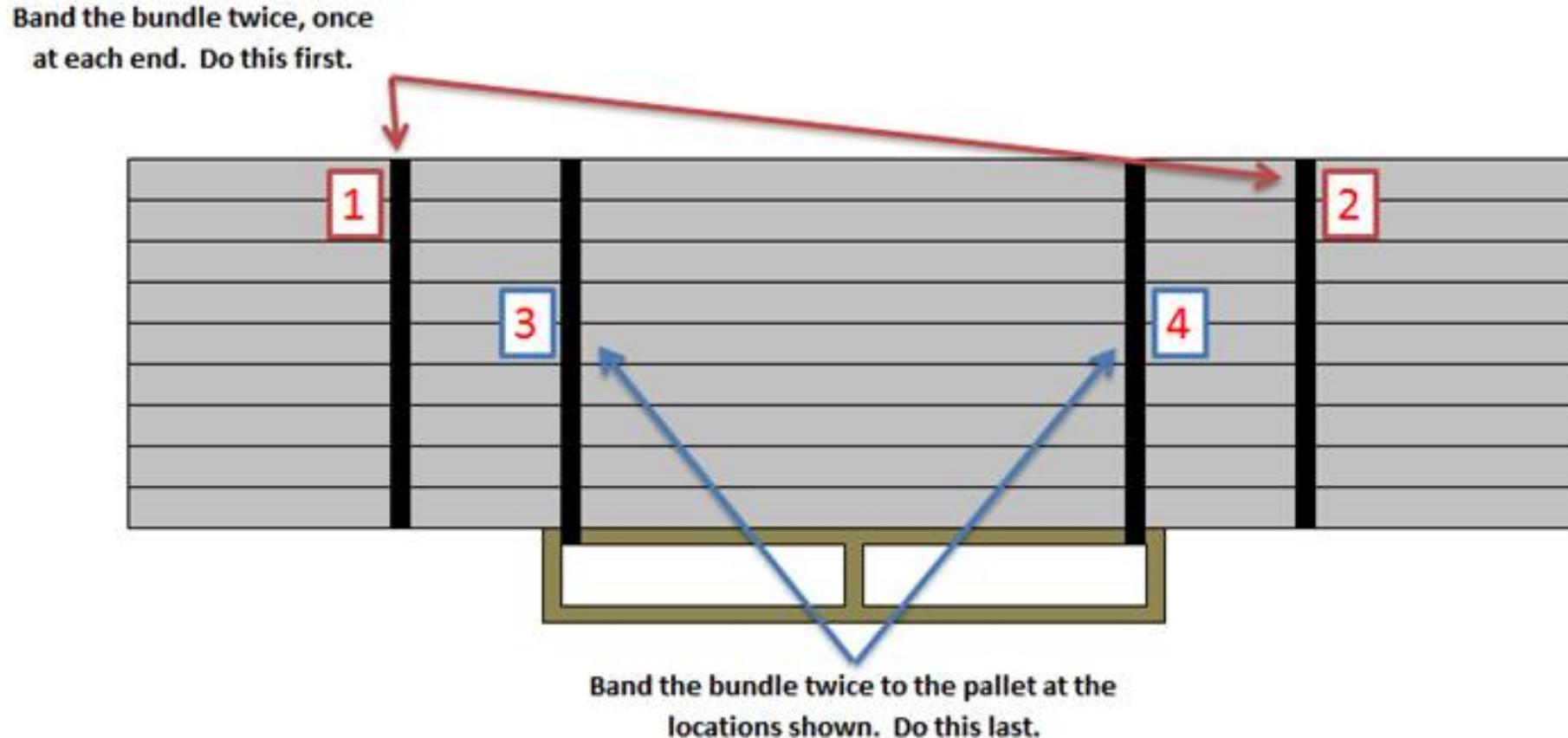


Loose Ends



# BUILD – New Banding Process

- New bundles were not staying together as planned
- The team went briefly back to the BUILD phase of ABLE to re-engineer the optimal banding sequence





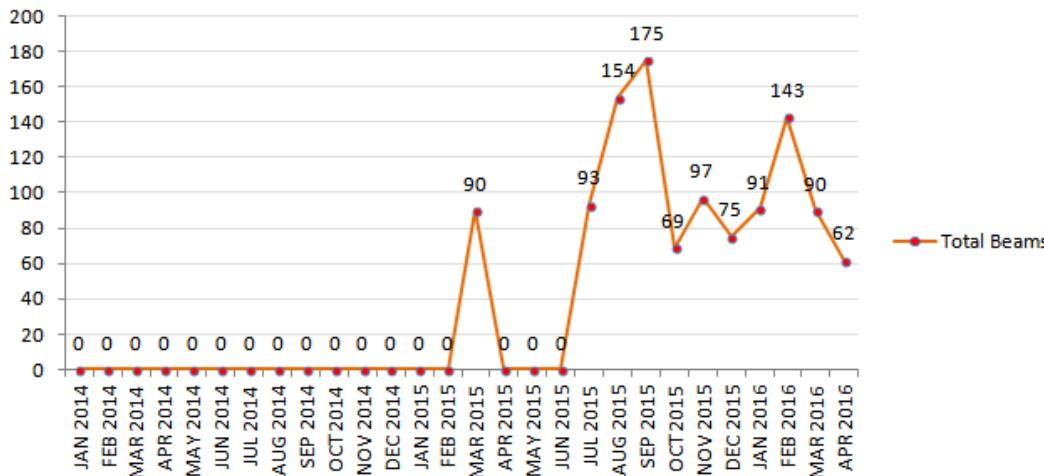
# Launch – Finalized Process

## Final Process for Damaged Beam + Loose End Consolidation & Movement:

- Consolidation cart & end collection barrel are placed in a centralized location at a HUB
- “Bad Beams” sign hung above the consolidation cart
- 1 empty pallet is loaded into the bottom of the cart
- Employees load bad beams and loose ends into the receptacles as they work
- When the cart is full it contains approximately 90-95 beams
- The bundle is to be banded twice through the pallet & around the bundle, as well as twice around just the bundle
- The bundle is to be billed as a C0 bill to a repair location with the keyword, “BROK”
- When the barrel is full, it contains approximately 120 loose ends
- The barrel is to be billed as a C0 bill to a repair location with the keyword “BROK”
- Instructions on the barrel state to return to the shipping location
- EOL centers load damaged beams & loose ends back to HUBs daily

# Evaluate - NAS

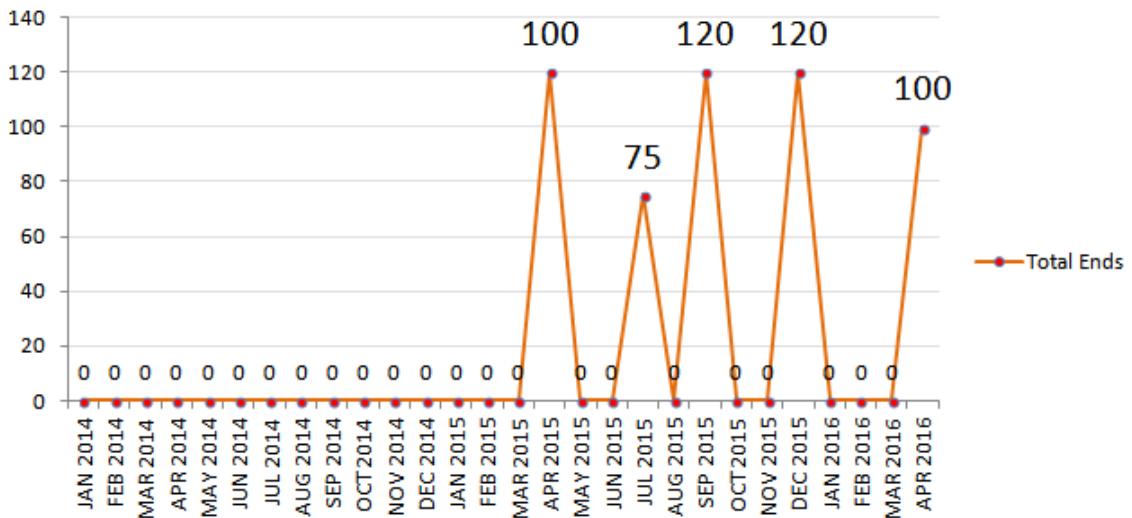
Total Damaged Decking Beams Billed out of NAS  
to Beam Repair Locations



- 1,139 damaged decking beams returned to repair facilities @ 24,925 pounds
- 11 bundles assembled
- Approximate time savings = 220 hours vs. manual bundling
- \$5,500 saved in dock labor just with the bundling
- \$45,788 to replace damaged beams with new
- Zero bundles billed JAN '14 – JAN '15

- 535 damaged beam ends returned to repair facilities @ 2,270 pounds
- 5 full barrels sent & empties returned
- \$3,771.75 in savings if all ends replaced with new
- Zero ends billed JAN '14 – JAN '15

Total Loose Decking Beam Ends Billed out of NAS  
to Beam Repair Locations



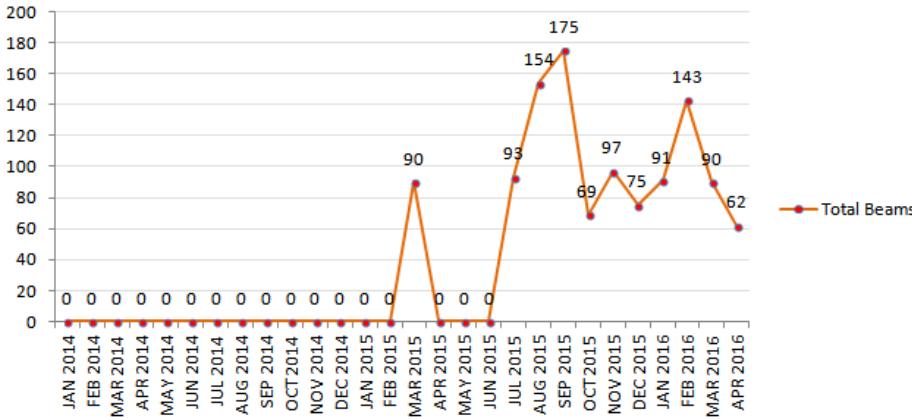
# Damaged Beam & Loose Beam End Management QAT Update (1/2)

## Launched in NAS

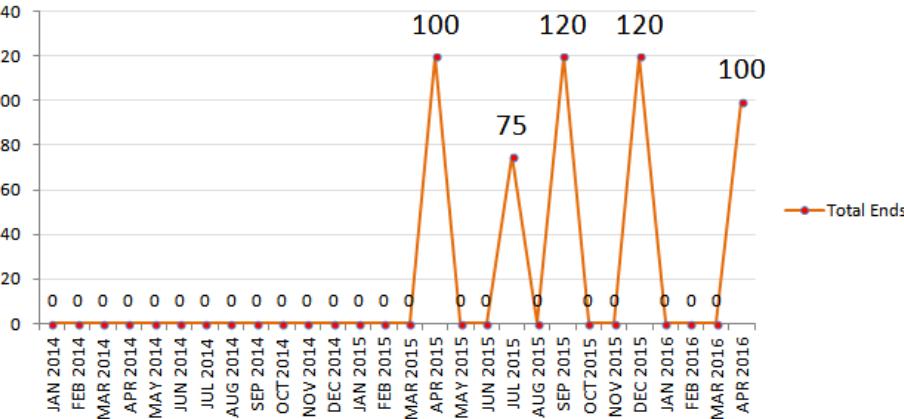
- Created a tool for collecting & consolidating decking beams, with a 10 minute bundling process
- Created a tool for collecting & shipping loose beam ends to repair locations
- Next step is to supply additional centers with green carts for good, red for bad



Total Damaged Decking Beams Billed out of NAS to Beam Repair Locations



Total Loose Decking Beam Ends Billed out of NAS to Beam Repair Locations



# Damaged Beam & Loose Beam End Management QAT Update

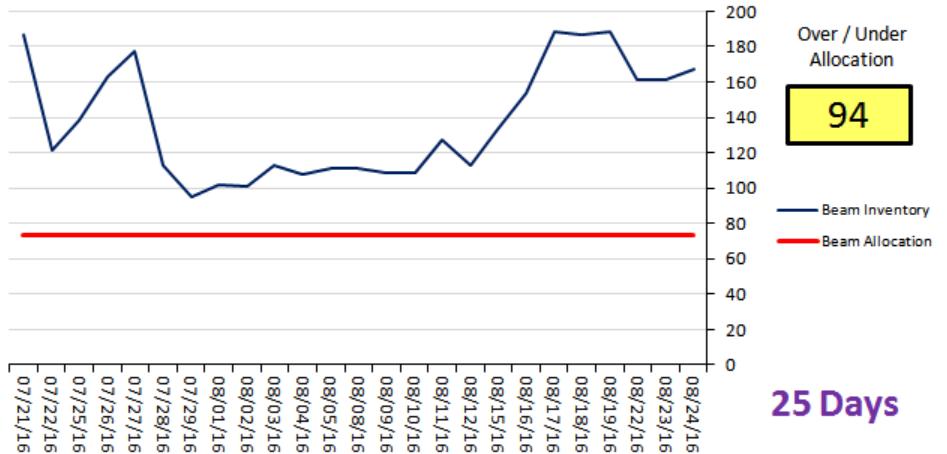
REGION	DIST	CENTER	NUMBER OF DAYS OVER 50+ BEAMS & NOTHING BILLED
SOEA	CL	CHS	15
SOEA	ME	JKM	15
SOEA	CL	FLO	14
SOEA	OR	TPA	11
SOEA	OR	HWO	11
SOEA	AT	MCN	11
SOEA	OR	OCF	9
SOEA	AT	SWA	8
SOEA	CL	FAY	7
SOEA	NA	NAS	7
SOEA	OR	ORL	7
SOEA	NA	CHA	7
SOEA	ME	WME	7
SOEA	CL	CLT	6
SOEA	CL	AVL	6
SOEA	ME	BHM	5
SOEA	AT	ATL	5
SOEA	AT	ANB	3
SOEA	ME	NEM	3
SOEA	NA	BWG	2
SOEA	AT	AGS	2
SOEA	NA	CRB	1
SOEA	AT	NEA	1
SOEA	OR	FMY	1
SOEA	AT	DOT	1
SOEA	OR	MDL	1
SOEA	ME	MEM	1
SOEA	OR	CLR	1
SOEA	CL	RDU	1
SOEA	AT	SAV	1

BEFORE CART

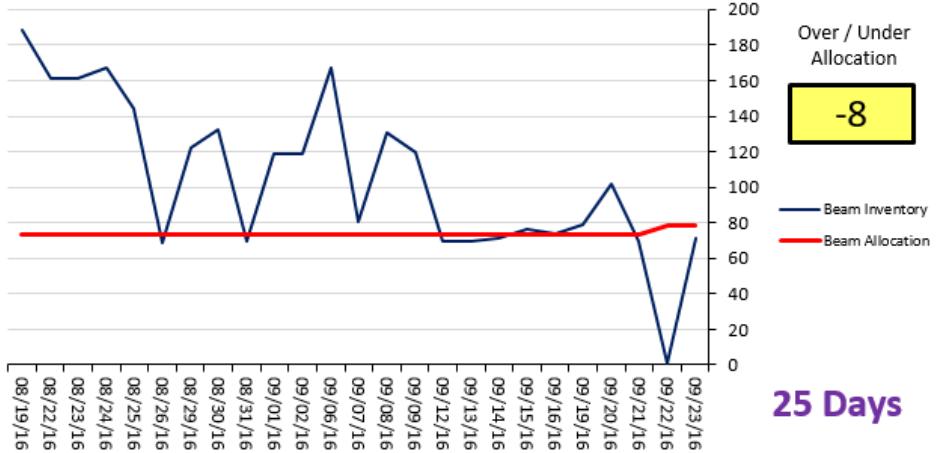
The cart process was launched in CHS to see if the same concept would work with excess beam movement

AFTER CART

CHS (SOEA/CL) Decking Beam Inventory vs. Allocation



CHS (SOEA/CL) Decking Beam Inventory vs. Allocation



# Expanding Further...

- Cart design formalized
- Green racks for excess
- Red rack for damaged
- Ordering of all supplies set up in ePro

## eProcurement Vendor Item Descriptions

**Excess Good Beam Rack (59682) \$695.00 EACH**

GOOD BEAM RACK – EXCESS DECKING BEAM CONSOLIDATION CART 94 1

BEARDS WELDING

**Damaged Beam Rack (59683) \$695.00 EACH**

BAD BEAM RACK – DAMAGED DECKING BEAM CONSOLIDATION CART 94 1

BEARDS WELDING

**Bad Beams Sign Kit (59696) \$70.00 EACH**

SIGN, BAD BEAMS 36X24 RED AND WHITE VINYL (4) S-HOOKS, 36"

IBISTEK SIGNS & ACCESSORIES

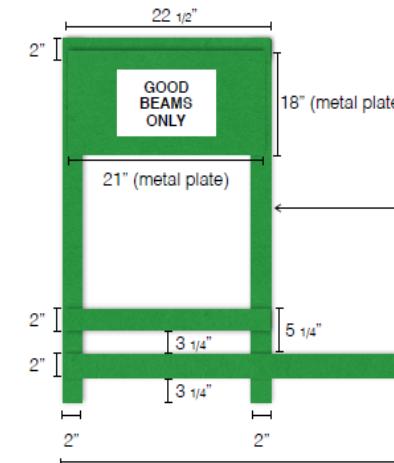
**55 Gallon Drum Get From Shop Locations**

**Loose Ends Sign for Drums Print Locally**

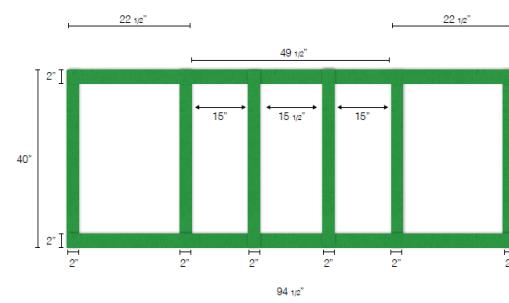
Excess Decking Beam Consolidation Cart  
Construction Plans



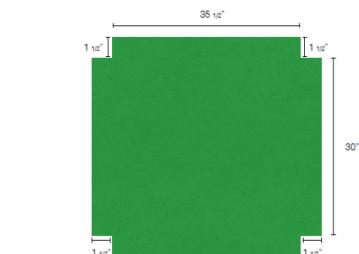
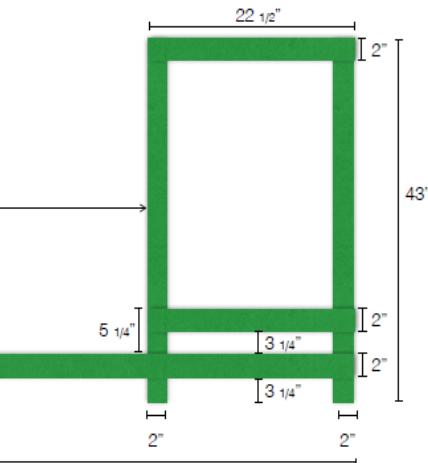
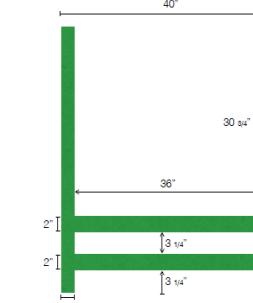
Side View



Top View



Front View



# Rollout Process & Progress

- Based off historical decking beam data, locations were chosen to be able to purchase their own tools and start the process
- Due to construction limitations, the rollout consists of 3 different waves:

## WAVE 1 – Excess GREEN + Damaged RED Decking Beam Rack Rollout Schedule:

01/20/17 – Initial data supplied to rollout centers (20 GREEN locations / 8 RED locations)

01/25/17 – Conference call scheduled with SCM, SACP, & MGR-Service Assurance

\*Locations can begin ordering immediately after the call

## WAVE 2 - Excess GREEN + Damaged RED Decking Beam Rack Rollout Schedule:

02/17/17 - Initial data supplied to rollout centers (21 GREEN locations / 10 RED locations)

02/22/17 - Conference call scheduled with SCM, SACP, & MGR-Service Assurance

\*Locations can begin ordering immediately after the call

## WAVE 2 - Excess GREEN + Damaged RED Decking Beam Rack Rollout Schedule:

03/17/17 - Initial data supplied to rollout centers (2 GREEN locations / 18 RED locations)

03/22/17 - Conference call scheduled with SCM, SACP, & MGR-Service Assurance

\*Locations can begin ordering immediately after the call