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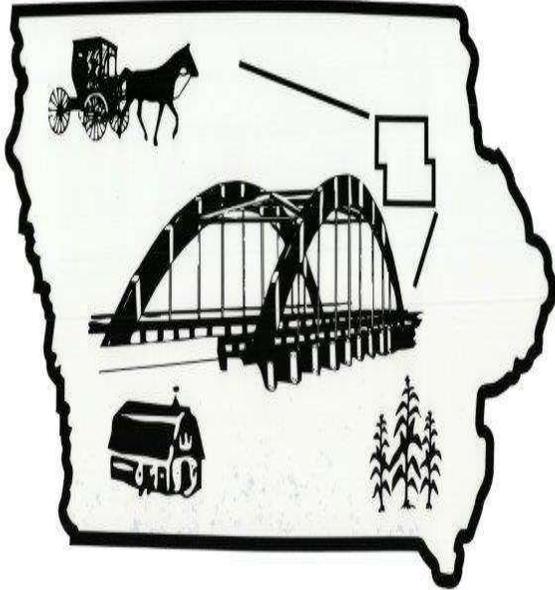
Railcar Bridges



Buchanan County Iowa

- 265- Bridges over 20'
- 35-Railcar Bridges
- 6-GRA-IBS Abutments
- 2-Cast on Site Slabs
- 3- Glue –Laminated Bridges
- 3 Internal Curing Concrete Bridges
- Continue Using railcar
- 21,000 people, 372,000 pigs

BUCHANAN CO.



SECONDARY ROADS

Many of our bridges were old



Our System Cannot meet Today's Demands



12000 2TAHD Trailboss LowPro



We Have NOT kept up with Modern Agriculture



The world and our economy relies on Food



Guthrie County, IA
6 ton posting
April 11, 2014

Weight kills



They always made it before



Be Open To New Concepts



Designs have developed



Why Do They Retire the Railcars

- Newer lighter More efficient Cars Exist
- Tax Purposes
- Derailments
- Age Limit-Not to Exceed 50 Years

What Do They Look Like?



What They Look Like To Us



Flatcars Not Boxcars



89 Ft. Flatcar



68 Ft Railcar



Load Capacity

- All our Bridges Carry LEGAL LOADS



Figure 2. BCB5 RRFC Bridge Test (May 11, 2006)

Iowa State University has Load Tested all of our RRFC Bridge Designs



Figure 1. BCB5 RRFC Bridge Test Instrumentation (May 11, 2006)

Various Types of Abutments

- 1) Existing Concrete Abutments
- 2) New Concrete Stub Abutments
- 3) Concrete Stub With Sheet piling
- 4) Typical Local Abutments
- 5) GRS Abutments
- 6) Cut Granite

Stub Abutment With Sheet Piling



Galvanized sheetpiling



Most Critical is supporting at the abutments



We place neoprene pads



Expansion Joint



Tying The Cars Together

- 1) Bolted Directly
- 2) Bolted With Concrete and # 8 Bars
- 3) Welded

Types of Decks

- Asphalt Millings
- Rock
- Asphalt Slurry

Formed steel tub ties



Asphalt Millings



Rock



Asphalt



Patch Holes in The Decks

- 1) Non-Woven Geotextile Fabric
- 2) Asphalt Treated Geotextile (petrotac)
- 3) Rubber Conveyor Belting

Placement



Equipment Requirements depend on the site



Where you find or get railcars

- Salvage yards

Erman Corp. Kansas City

Gateway pipe and Supply St. Louis

The Railyard Stillwater Okla.

Cranemasters Virginia

Why you need to inspect them

- Check for straightness
- Check for structural damage
- Check to assure all the same designs

How do you get them to site

- Does the seller arrange to get them to the site is that the purchaser? yes



ONE LANE
BRIDGE

LOAD

OVERSIZE LOAD

OVERSIZE LOAD

LOAD

ROAD
CLOSED

Types of Cars

- Pulp Cars
- Military
- 89' Flatcars, Cost \$25,000 (?) Delivered
- 89' Flatcar cut to 68', Cost \$22,050
Delivered
- Total Costs range between \$75,000 and
\$150,000

Load Rating

- BRR models?
- Templates can be developed
- We have been using load rating

Business Infrastructure News Railroad Top Stories

After hurricane, old railcars find new life as bridges in North Carolina

State sought quick fix to get roads reopened

 Stuart Chirls · Friday, February 14, 2025



 A retired flatcar installed as a temporary bridge in North Carolina. (Screenshot: NCDOT video)

- Obsolete railcars are getting a reprieve from the scrapper's torch to serve as vital road links in an area of North Carolina ravaged by Hurricane Helene.
- The North Carolina Department of Transportation and Innovative Bridge Co. are installing retired railroad flatcars as a quick fix to temporarily replace road bridges damaged or destroyed by the storm this past September.
- Petal, Mississippi-based IBC has so far installed more than 40 railcar bridges in seven counties.
- The company typically installs 180-200 such bridges each year, handling jobs from Texas to Pennsylvania. This was its first disaster response job.
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- The railcar bridges, paved and with railings installed, are one-third the cost of a typical temporary bridge.
- The NCDOT expects to have all bridge reconstruction projects under contract by the end of March and all spans rebuilt within two years.

135' x 28' 2024 \$278,060



65' x 30' 2025 about \$130,000



INFORMATION-QUESTIONS

http://www.operationsresearch.dot.state.ia.us/reports/ihrb_by_number/tr400plus.html

