

Kentucky Lock Culvert Valve Replacement

2 April – 24 May 2012

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US Army Corps of Engineers
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Purpose

- Replace four culvert valves with new ones for Nashville District
- Replace all bushings for each culvert valve
- Repair bent strut arms



Funding

- LRN funded LRL for work on their project
- Did not receive funding until 2 March 2012
- Shortened timeframe caused problems with:
 - Job planning
 - Machining bushings
 - Designing, fabricating, and testing lifting beam
 - Ordering rigging
- Delays caused scope reduction



Lifting Beam

- Not allowed to weld anywhere on new valve
- Skin sheet on old valves may not support lugs

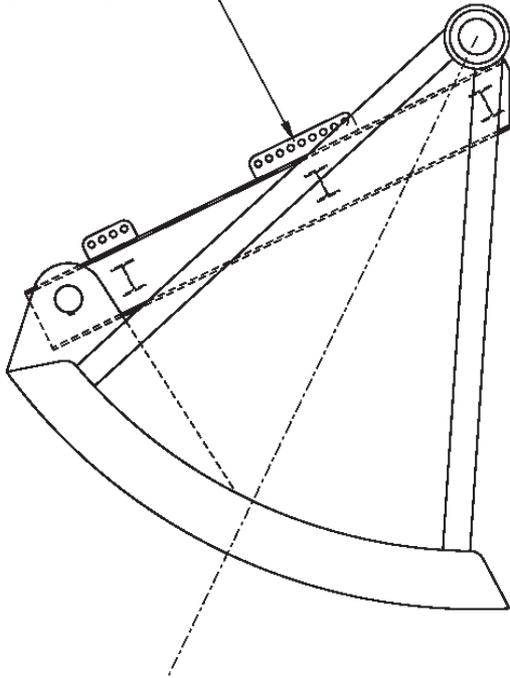


Typical LRS Lifting Arrangement



Lifting Beam

MULTIPLE HOLES TO CHANGE THE ANGLE OF THE VALVE



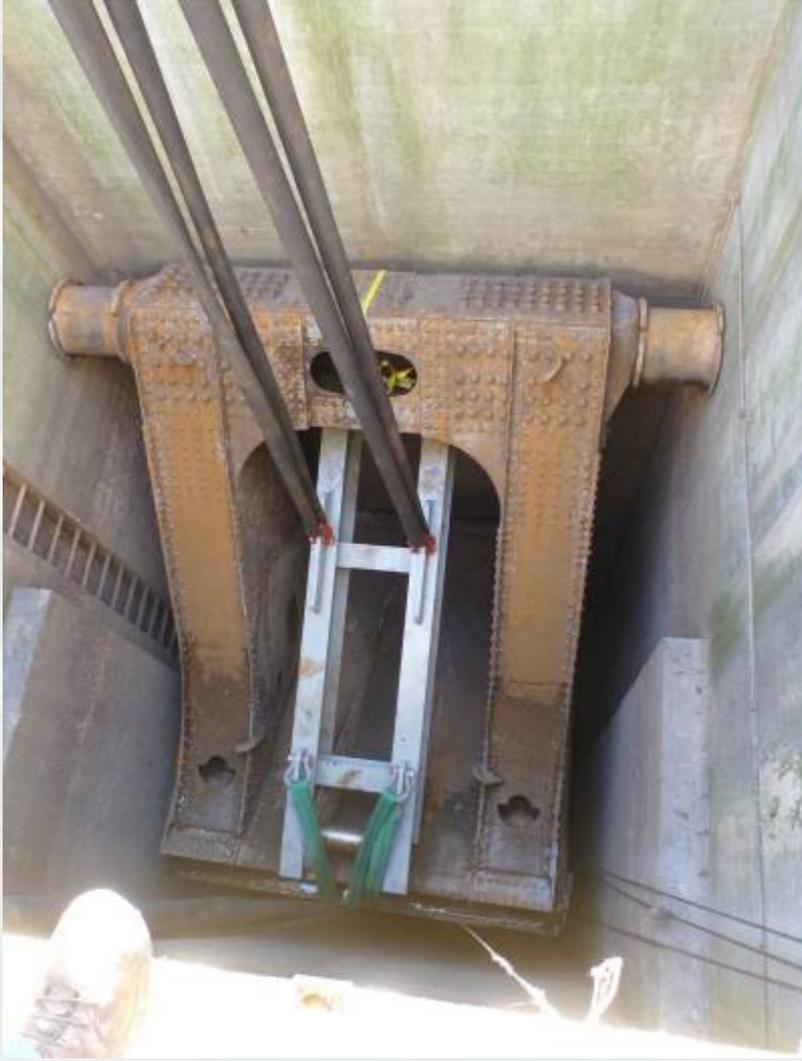
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Lifting Beam

- Tested to 88,000 lbs (125% capacity) in four positions
- Certifies beam for 70,000 lbs



Valve Lift



Trunnion Bushings

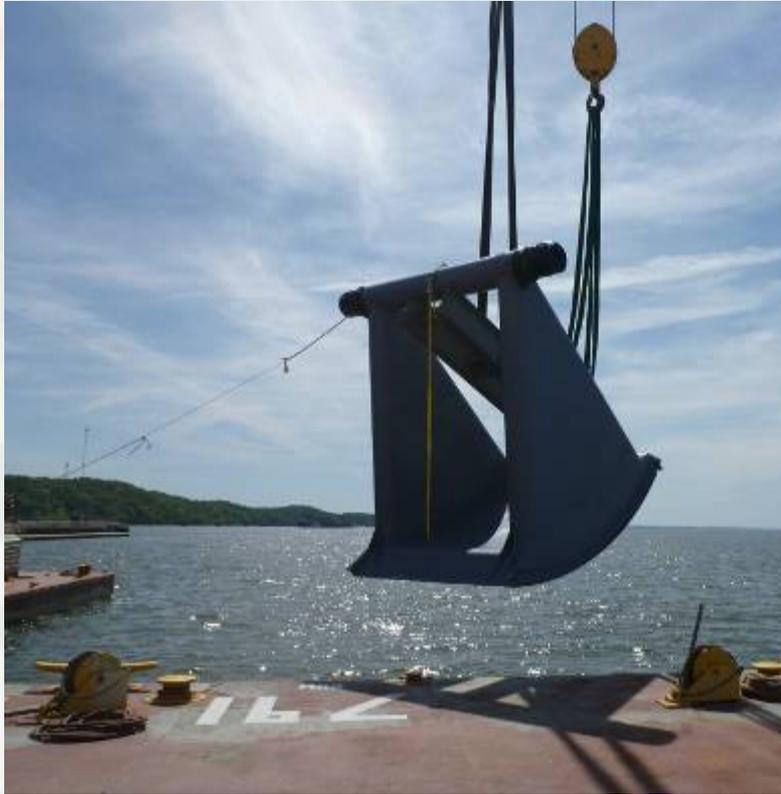


Less than 1/8" clearance to lathe bed



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Valve Floatation



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Valve Floatation



Installing mag drill bracket



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Strut Arms



It's straight-ish...



Aligning new center section



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Valve Seals



No Adjustment



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Questions?

