

Segment Lifting Beam | 3D Manipulator

C-Frame Design Requiring No Segment Inserts



Development and Design of a C-Frame Segment Lifting Beam / Manipulator.

- Innovative new segment lifting beam for 165 k segments
- Highly optimized, with a weight of under 25,000 lbs
- Works like two mechanical hands with hydraulic "thumbs"
- No segment inserts or tie-down bars required
- Segment can precisely match the previous segment
- Longitudinal slope adjustment of +/- 5%
- Transverse slope adjustment of +/- 8%
- Requires very low headroom
- Modular design with high-reliability bolted connections
- Very small hydraulic jacks compared to other designs

Project - I-49/N Segment K - Phase 2
Location - Shreveport, Louisiana
Year - 2015
Type - C-Frame Segment Manipulator
Owner - Louisiana DOTD
GC - PCL Civil Constructors, Inc.
Client - PCL Civil Constructors, Inc.