

CASE STUDY

I-64 Guyandotte River Overpass Bridge

Barboursville, West Virginia – Repairs of the 40 year old I-64 Guyandotte River Overpass Bridge consisted of steel beam replacement, concrete beam and expansion joint repairs. Ahern & Associates was contracted to undertake the \$2.7 million dollar project. Marco Concrete Lifting was sub-contracted for the \$268,000 dollar concrete repairs to the deteriorated beams.

West Virginia DOT wanted approved materials used on the job. Most work had to be performed from a 60 foot man lift. Repairs needed to be done quickly, were expected to last for years and be done at a minimal cost to the state.

The Problem:

The biggest challenge on the 1,200 foot long bridge was gaining access to the repair areas. The areas requiring repairs were limited by Guyandotte River, CSX Rail Road, hilly terrain and dense vegetation.



ChemMasters

How ChemMasters Met This Challenge



ChemPatch VO1 was placed in one application averaging 2.5 inches deep. Finishing the surface with a currycomb (serrated metal horse comb) completed the project.

Using **ChemPatch VO1** to patch the concrete:

- Reduced the number of set ups
- Eliminated most of the form needs
- Eliminated the need to use a mortar mixer or bucket
- Eliminated hand troweling

The savings were realized through:

- High production
- Material costs
- Reduced labor

What they said:

Chris Apperson, Operations Manager for Ahern & Associates said, "The biggest benefit to using the VO1 has been its rapid initial set which seems to lead to a low loss of material via rebound (we're using the Guniting method) as well as preventing the material from sagging."

ChemPatch VO1 represents a breakthrough in concrete repair technology. It is a one component, polymer modified, fast setting, non-shrink repair mortar. **ChemPatch VO1** is a proprietary structural repair compound unique for its finishing characteristics. **ChemPatch VO1** also contains a corrosion inhibitor to protect imbedded steel from oxidizing. With its high ultimate strength, density and durability, **ChemPatch VO1** is the ideal option for any vertical or overhead structural concrete repair.

ChemPatch VO1 was the chosen because it is cost effective and approved for West Virginia DOT use on vertical and overhead patching. After consultation between ChemMasters and Marco Concrete Lifting, it was decided to guniting a test panel with **ChemPatch VO1**. The test was approved by the state engineers. **All parties concerned agreed this method would be the most productive and provide a quality finished product.**

Preparation used to ready the areas for repair included saw-cutting to square off edges, removing unsound material down to the rebar and dampening the substrate prior to material application. Using a Lova Guniting machine (manufactured by Reed) and a Grimmer Schmidt 375 air compressor, three men were able to place 2,000 pounds of **ChemPatch VO1** per hour. **ChemPatch VO1** was placed directly into the hopper, blown through roughly 200 feet of hose, where it blended with water at the nozzle prior to application.



ChemMasters also provided on-site technical service which was critical on a job of this magnitude.



For more information contact:

300 Edwards Street • Madison, Ohio 44057
440.428.2105 • 800.486.7866
fax: 440.428.7091

www.chemmasters.net

General Contractor: Ahern & Associates, Inc.
Chris Apperson
tappersonc@aol.com
304.766.8062

Sub Contractor: Marco Concrete Lifting
Ross Kirk
ross@marcoconcrete.com
304.722.5438