

# UDOT I-15 CORE PROJECT & SAM WHITE BRIDGE

(American Fork, UT)

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<http://www.youtube.com/watch?v=zHLfbG1v4c&feature=endscreen&NR=1>

You tube link to learn more about this project & see bridge movement.



## Project Description:

When faced with the problem of having more freeway to construct than money to spend, the Utah Department of Transportation decided to see if a *Design-Build* bid process may help to solve this

Owner: Utah Department Transportation

Design Build Team: Provo River Constructors

Concrete Contractor: Wadsworth Constr.

Concrete Supplier: Staker/Parson Companies

LW Aggregates: Utelite Corporation

Project Location: Utah County- Interstate 15

Project Cost: \$1.725 Billion

Construction Timeframe: 36 Months

Number of Miles Completed: 24 Miles

63 Total Bridges, 52 Bridges w/ LWC

10 Freeway Interchange Re-Builds

1<sup>st</sup> Diverging Diamond Interchange in Utah

Completion Date: November 2012

dilemma. As this project went out to bid, UDOT Engineers knew they had a fixed dollar amount of \$1.725 Billion, and estimated they could rebuild 17 miles of freeway in a 54 month timeframe.

The winning design-build team, Provo River Constructors, innovatively bid 24 miles of freeway reconstruction in a 36 month period. Provo River Constructors (PRC) is a consortium of over 30 members companies led by Fluor Corporation, Ames Construction Company, Wadsworth Brothers Construction Company and Ralph L. Wadsworth Construction Company .

Part of this rebuild project included the Sam White Bridge. It was constructed using the ABC method of bridge construction. The Sam White Bridge was moved into place with the use of SPMT's, and at 354 feet, is the longest two-span bridge to ever be moved with this method in the Western Hemisphere. The width is 80 feet bringing the total square footage of the bridge to 27,500 feet. The deck utilized 1134 cubic yards of lightweight structural concrete. The plastic density weight was specified at 120 pcf and called for laboratory concrete strengths of 5200 psi, specified as 4500 psi @ 28 days in field cured conditions.

### LW AGGREGATE PROJECT REQUIREMENTS:

29,000 Cubic Yards of Utelite Structural Coarse Expanded Shale Lightweight Aggregate for structural lightweight ready mixed concrete.

6,000 Cubic Yards of Utelite Structural Coarse Expanded Shale Lightweight Aggregate for precast parapet panels, and other precast items used in ABC bridge construction.

Density Weights: 48 pcf at oven dry, 56 pcf (avg) at SSD.

Structural Lightweight Concrete: 5200 psi in laboratory trial batch, specified as 4500 psi @ 28 days in field cured conditions. Concrete plastic weight, 120 pcf with air-entrainment range of 4.5% to 6.5%. All of the structural lightweight concrete for bridge construction was pumped.