

# I-91

# Rockingham

# Bridges

## Rockingham, Vermont

Constructed in the 1960s, Interstate 91 is New England's north-south backbone. Near Rockingham, it crosses the Williams River and the Green Mountain Railroad on the "High Bridges." Fifty years of service, heavy traffic and six months of deicing annually wore on the structures. Combined with undersized and fracture critical gusset plates, VTrans faced a costly renovation to temporarily extend their service life or replace the bridges.

The new, \$50 million I-91 Rockingham Bridges are the state's first four-span spliced precast concrete girder structure and are the last of three major I-91 bridge replacements in southeastern Vermont. The design-build project used one-of-a-kind elements and some of Vermont's largest precast segments to expedite and simplify construction while overcoming a unique unbalanced layout.

The team constructed a 100-year, wider, safer bridge atop a challenging topography and 130 feet above an environmentally critical river. The precast concrete structure is slimmer and sleeker than the previous steel truss and concrete structure, beautifully nestling into the mountains.

They repurposed the old substructure as temporary supports, maintained traffic throughout construction, and surmounted VTrans' considerable pier slenderness requirements. The project overcame significant challenges, including tight site constraints, constructing the new substructure underneath the existing structure while it was still in use, Vermont's desolate winter weather, construction above a critical river, and significant topography challenges.

Completed on budget, the new I-91 Rockingham Bridges are strikingly beautiful structures, located in one of America's most picturesque environments and will play an integral role in many people's lives for decades to come.

**Project:** I-91 Rockingham Bridges | Rockingham, Vermont  
**Client:** Vermont Agency of Transportation | Barre, Vermont  
**Entrant:** HDR | Manchester, New Hampshire

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