

Interstate 15 - The Point Widening Design/Build Draper/Lehi, Utah

For this complex highway widening project, the Keystone Compac II / KeySystem II system was chosen to build seven geogrid-reinforced walls for roadway support in locations along the 7-mile reconstruction stretch of Interstate 15 in northern Utah. The wall product and design that was used provided a structurally sound system featuring design versatility and installation ease and speed, meeting a multitude of critical project requirements.

The \$215 million design/build effort widened Interstate 15 to six lanes in each direction in north-central Utah between Draper and Lehi. Commonly called "The Point," this section of I-15 is the main transportation link between Salt Lake and Utah counties. Heavy traffic conditions and buckling from aging pavement signaled the need for the Utah Department of Transportation (UDOT) to make it a high priority project. Local engineering, construction, and aggregate companies came together to form the design build team, Utah County Constructors. The team was awarded the project and devised a plan to create a smoother, less-congested and safer commute for Utah motorists in the short span of 22 months.

Owner: Utah Department of Transportation

Engineer: Keystone Retaining Wall Systems

Contractor: Innovative Companies

Keystone Producer: Amcor Masonry Products

Technical Description:

- Keystone Compac® II - Tri-plane, KeySystem™ II - KeyGrid™
- Walls: 7
- Total Wall Area: 85,805 sq.ft.
- Total Length: 9,540 ft.
- Maximum Height: 15 ft.

Installation: Summer 2015





Project challenges involving the support walls centered primarily on developing a design approach and execution strategy that would keep existing walls in place throughout the project and protect buried utilities located behind them. This was necessary due to UDOT's mandate that all existing freeway lanes be kept open during peak traffic periods throughout the entire construction phase.

Three of the seven new walls had to be constructed 5 to 10 feet in front of existing walls, creating limited staging conditions. As a part of the Utah County Constructors team, Keystone helped develop a wall design that reconfigured wall profiles, which addressed the staging space issue while meeting all requirements of the design concept from UDOT. Using the Keystone KeySystem II wall system where unanticipated obstructions were encountered rather than cast-in-place or other types of MSE (mechanically stabilized earth) walls gave the team design and installation flexibility, a valuable advantage on a complex fast-track project.

The exceptional communication and project coordination of the wall installer, Innovative Companies, with the general contractor was a significant factor in meeting tight project schedules and minimizing traffic disruption.

Keystone's structural walls are designed for stability, durability and installation efficiency to meet the rigorous requirements of DOT, AASHTO and commercial standards. Dan Tix, PE, a Keystone engineer on the project, remarked that UDOT is "well-versed in the design and utilization of segmental retaining wall technology for transportation work." He feels they are at the forefront of state transportation departments in leveraging these segmental MSE wall systems to help accomplish their primary strategic goal, "Keeping Utah Moving."