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Best Project – Small Projects (under $10 million): West River Parkway Landslide Slope

Working under a $5.6-million contract, crews were able to stabilize the West River Parkway slope and permanently repair it on schedule and $700,000 under budget.

Photo courtesy Barr Engineering Co.

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West River Parkway Landslide Slope Repair
Minneapolis
Best Project

Owner: Minneapolis Park and Recreation Board
General Contractor: Veit Cos.
Lead Design Firm: Barr Engineering Co.
Cultural Resources/Historical Consultant: Hess, Roise and Co.
Historical Architecture and Preservation: MacDonald & Mack Architects

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Record rains triggered a 10,000-sq-ft landslide in June 2014 that left the University of Minnesota Medical Center–Fairview Health Services hospital's $1 billion in infrastructure precariously close to a bluff edge above the Mississippi River. It forced closure of a section of the historic West River Parkway below. Working under a $5.6-million contract, crews were able to stabilize the slope and permanently repair it on schedule and $700,000 under budget.

Barr Engineering was contracted to monitor the stability of the slope and hospital structures; perform field investigations; and design temporary repairs and permanent slope stabilization measures. The final slope-repair design integrated soil nails, reinforced vegetation, drainage and five retaining walls to form a unified stabilization system.

Bedrock limits were not known until construction and excavation began, so specifications, such as micropile and soil-nail depths, were modified in the field to align with bedrock locations. Modular-block gravity walls were designed so that they could be reconfigured as needed to accommodate unknowns encountered in the field.

Factoring in constructibility challenges, the design's structural elements were installed using relatively small, low-vibration equipment to avoid overloading the slope and affecting sensitive hospital monitoring devices. Lightweight equipment, such as a spider excavators and smaller drill rigs, accessed the site without excessively loading the unstable slope.

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