عنوان مقاله:

Analysis and Rehabilitation Scheme for Long-Span Masonry Arch Bridges

محل انتشار:

سومین کنفرانس ملی زلزله و سازه (سال: 1391)

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خلاصه مقاله:

Masoruy construction has a history of several thousand years in Iran. A great number of wellpreserved old masoruy structures still exist in this seismic prone area which has resisted earthquakes.Among them hundreds of medium to large bridges which are still in operation and many of them areused in railways. Seismic qualification, analysis and rehabilitation of a historical railway masoruy bridge have been presented in this paper. The Ghaflankuh Bridge located in North West of Iran has eleven arch spans with maximum span length of 42 meters and the whole bridge has a curve in plan.The bridge has not been designed for seismic loads and also has some cracks due to normal operation under train passing and river floods. The study presents performance assessment of deteriorated masoruy based on its actual characteristics, dynamic and seismic analysis results of the structures anddetails of retrofit designs which consider the historical features of the bridge structure. Grouted Helibar strands have been used for retrofit of the structure. The retrofit execution has been performed during normal operation of the bridge. Various factors that affect the treatment option for conservation and restoration of such historic structures have also been discussed.

کلمات کلیدی:

Historical Masoruy Bridge, Seismic Rehabilitation, Seismic Performance, Grouted Helibars