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Seismic Performance of a Full Scale Bridge Column - As Built and A Repaired

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Seismic performance of a shear-dominated "as-built" and "as-repaired" was investigated with a 6 foot diameter column. The test unit was designed as a pre-1971 bridge pier which generally have insufficient shear reinforcement. As-built, the column failed in shear at 698 kips without showing ductile behavior. The shear capacity of the column was slightly lower than expected, possibly as a consequence of size effects. The column was repaired with the Tyfo SEH-51A System and was re-tested. The jacketing significantly improved the column seismic performance and showed strength of 1009 kips. The response of the repaired column was quite ductile up to displacement ductility $u=6$ and no strength degradation was observed, indicating the potential for jacketing as a repair measure for columns with severe shear damage.