

Building Services & Code Enforcement

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Updated 10-2012

URM FAQs

WHAT DOES THE TERM URM STAND FOR?

URM stands for unreinforced masonry building(s). This term is used by engineers to identify structures which were built with walls made of multiple layers (wythes) of individual bricks together by mortar. In general, any brick or stone home built prior to 1975 can be considered a URM building.

WHY ARE URMS SO HAZARDOUS?

The reason URM buildings are so vulnerable to earthquake damage is the brittle nature of the brick and mortar. Under cyclic loads the mortar may crumble and lose strength allowing the brick to separate and fall. The walls are not the only items that tend to fail in an earthquake event. In most cases the roof and floor framing is not adequately attached to the URM walls causing them to rip apart from the walls during an earthquake and often cause collapse. Often times the walls are supported by rubble or cut stone foundations which are also not capable of resisting cyclic ground motions.

WHAT IS THE URM DANGER IN UTAH?

We have all heard of the potential for a large earthquake in Utah. Seismologists predict that the Wasatch fault has the potential to create an earthquake measuring more than 7.0 on the Richter scale. A study was recently performed to see what type of damage would occur in the West Valley fault. That study showed that up to 17 deaths would occur, homes and businesses would suffer \$2.5 billion in damages, 1,004 buildings would be unsalvageable, 11,074 would have extensive damage and 73,979 would show light or moderate damage.

WHAT ARE THE BENEFITS TO SEISMICALLY REHABILITATING A URM?

While the greatest benefit to rehabilitating a URM building is collapse prevention and life safety, there are several other benefits as well. Some of those benefits possible include a reduction in insurance rates, an increased value to the building, historic preservation, and a more rapid recovery after an earthquake.

IS IT MANDATORY TO REHABILITATE A URM BUILDING?

There are some cases that would require seismic rehabilitation of a URM building. Those cases include performing a significant addition or alteration to an existing URM. The State of Utah also requires that roof-to-wall anchors be installed in URM buildings at the time of re-roof.

WHAT IS THE POTENTIAL COST OF REHABILITATING A URM BUILDING?

Costs for rehabilitating a URM can vary substantially. Most of the rehabilitation cost comes from the replacement of finishes after the rehabilitation work is completed. For this reason it is beneficial to incorporate rehabilitation work during periods of renovation, such as while re-roofing. FEMA has a seismic rehabilitation cost estimator on their website that provides a rough estimate of the rehabilitation costs: fema.gov/srce

ARE THERE ANY FINANCIAL INCENTIVES AVAILABLE FOR REHABILITATING A URM?

There are several financial incentives that may be available when rehabilitating a URM. A Utah Tax Credit may be available for up to 20% of the rehabilitation cost, the Utah Heritage Foundation can help with obtaining loans, and the Salt Lake City Redevelopment Agency provides several financial assistance programs. Please visit the Utah State History website for more information: history.utah.gov

WHO CAN I CONTACT IF I HAVE A QUESTION CONCERNING URMS?

If you have further questions regarding your URM building there are several organizations in Utah that are willing to help. You can contact a member of the Utah State History Department (801-533-3500), a member of the Utah Seismic Safety Commission (USSC) Ad-hoc committee on URM Buildings (801-538-3784), or a member of the Structural Engineer's Association of Utah (SEAU) Existing Building Committee (801-634-6667).