Unreinforced Masonry Buildings
Paul Lepore
How to Identify Unreinforced Masonry buildings (URM)

- Arch over window
- Deep, recessed windows
- High parapet walls
- Tie plates
- Lintel over window
- King row every 5 – 7 bricks
Hazards of URM buildings

• No rebar
• No lime in mortar
• Fire cut beams
Arch over window
Arch over window
Deep reset windows
King Row
Every 5 – 7 rows
Bricks laid on end
Lintel

Horizontal support over a window or door made of steel.

- Fails at 800 – 1200 degrees
- Only horizontal support for bricks
Lintel↑↑
Lintel ↑↑
Tie plates

- Tie horizontal floor or ceiling joists to the wall.
- Indicated by “plates” on side of building
- Plates often covered during building retrofit
This is what you see

Attached to rafter or floor joist

Captain R. Grego
No lime in mortar
URM Wall Thickness

- Seismic Upgrade
- Window Sill
- 3 Wythe’s Thick approx 13”
- Re-inforced Concrete Bondbeam

Captain R. Grego
Imitation URM
No tie plates
No King row
Too new in appearance
Space above window before arch ****

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Imitation URM
• No King row
• Too new