

7 RAPID VISUAL SCREENING OF BUILDING FOR POTENTIAL SEISMIC HAZARD FOR DIFFERENT TYPE OF SEISMIC ZONE

Rapid Visual Screening of Buildings for Potential Seismic Hazards
FEMA-154 Data Collection Form

LOW Seismicity

	<p>Address: _____ _____ Zip _____</p> <p>Other Identifiers _____</p> <p>No. Stories _____ Year Built _____</p> <p>Screener _____ Date _____</p> <p>Total Floor Area (sq. ft.) _____</p> <p>Building Name _____</p> <p>Use _____</p> <div style="text-align: center; height: 150px; border: 1px solid black;"> <p>PHOTOGRAPH</p> </div>
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Scale: _____

OCCUPANCY			SOIL		TYPE						FALLING HAZARDS			
Assembly	Govt	Office	Number of Persons	11 - 100	A	B	C	D	E	F	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commercial	Historic	Residential			0 - 10	Hard Rock	Avg. Rock	Dense Soil	Stiff Soil	Soft Soil	Poor Soil	Unreinforced Chimneys	Parapets	Cladding
Emer. Services	Industrial	School	101-1000	1000+										

BASIC SCORE, MODIFIERS, AND FINAL SCORE, S															
BUILDING TYPE	W1	W2	S1 (MRF)	S2 (BR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM
Basic Score	7.4	6.0	4.6	4.8	4.6	4.8	5.0	4.4	4.8	4.4	4.4	4.6	4.8	4.6	4.6
Mid Rise (4 to 7 stories)	N/A	N/A	+0.2	+0.4	N/A	+0.2	-0.2	+0.4	-0.2	-0.4	N/A	-0.2	-0.4	-0.2	-0.6
High Rise (>7 stories)	N/A	N/A	+1.0	+1.0	N/A	+1.0	+1.2	+1.0	0.0	-0.4	N/A	-0.2	N/A	0.0	N/A
Vertical Irregularity	-4.0	-3.0	-2.0	-2.0	N/A	-2.0	-2.0	-1.5	-2.0	-2.0	N/A	-1.5	-2.0	-1.5	-1.5
Plan Irregularity	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
Pre-Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Post-Benchmark	0.0	+0.2	+0.4	+0.6	N/A	+0.6	N/A	+0.6	+0.4	N/A	+0.2	N/A	+0.2	+0.4	+0.4
Soil Type C	-0.4	-0.4	-0.8	-0.4	-0.4	-0.4	-0.4	-0.6	-0.4	-0.4	-0.4	-0.2	-0.4	-0.2	-0.4
Soil Type D	-1.0	-0.8	-1.4	-1.2	-1.0	-1.4	-0.8	-1.4	-0.8	-0.8	-0.8	-1.0	-0.8	-0.8	-0.8
Soil Type E	-1.8	-2.0	-2.0	-2.0	-2.0	-2.2	-2.0	-2.0	-2.0	-2.0	-1.8	-2.0	-1.4	-1.6	-1.4

FINAL SCORE, S	
<p>COMMENTS</p>	<p>Detailed Evaluation Required</p> <p>YES NO</p>

* = Estimated, subjective, or unreliable data
 DNK = Do Not Know
 BR = Braced frame
 FD = Flexible diaphragm
 LM = Light metal
 MRF = Moment-resisting frame
 RC = Reinforced concrete
 RD = Rigid diaphragm
 SW = Shear wall
 TU = Tilt up
 URM INF = Unreinforced masonry infill

Scale: _____	Address: _____ _____ Zip _____ Other Identifiers _____ No. Stories _____ Year Built _____ Screener _____ Date _____ Total Floor Area (sq. ft.) _____ Building Name _____ Use _____
PHOTOGRAPH	

OCCUPANCY			SOIL		TYPE						FALLING HAZARDS			
Assembly Commercial Emer. Services	Govt Historic Industrial	Office Residential School	Number of Persons 0 - 10 11 - 100 101-1000 1000+		A Hard Rock	B Avg. Rock	C Dense Soil	D Stiff Soil	E Soft Soil	F Poor Soil	<input type="checkbox"/> Unreinforced Chimneys	<input type="checkbox"/> Parapets	<input type="checkbox"/> Cladding	<input type="checkbox"/> Other:

BASIC SCORE, MODIFIERS, AND FINAL SCORE, S															
BUILDING TYPE	W1	W2	S1 (MRF)	S2 (RR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM
Basic Score	5.2	4.8	3.6	3.6	3.8	3.6	3.6	3.0	3.6	3.2	3.2	3.2	3.6	3.4	3.4
Mid Rise (4 to 7 stories)	N/A	N/A	+0.4	+0.4	N/A	+0.4	+0.4	+0.2	+0.4	+0.2	N/A	+0.4	+0.4	+0.4	-0.4
High Rise (>7 stories)	N/A	N/A	+1.4	+1.4	N/A	+1.4	+0.8	+0.5	+0.8	+0.4	N/A	+0.6	N/A	+0.6	N/A
Vertical Irregularity	-3.5	-3.0	-2.0	-2.0	N/A	-2.0	-2.0	-2.0	-2.0	-2.0	N/A	-1.5	-2.0	-1.5	-1.5
Plan Irregularity	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Pre-Code	0.0	-0.2	-0.4	-0.4	-0.4	-0.4	-0.2	-1.0	-0.4	-1.0	-0.2	-0.4	-0.4	-0.4	-0.4
Post-Benchmark	+1.6	+1.6	+1.4	+1.4	N/A	+1.2	N/A	+1.2	+1.6	N/A	+1.8	N/A	2.0	+1.8	N/A
Soil Type C	-0.2	-0.8	-0.6	-0.8	-0.6	-0.8	-0.8	-0.6	-0.8	-0.6	-0.6	-0.6	-0.8	-0.6	-0.4
Soil Type D	-0.6	-1.2	-1.0	-1.2	-1.0	-1.2	-1.2	-1.0	-1.2	-1.0	-1.0	-1.2	-1.2	-1.2	-0.8
Soil Type E	-1.2	-1.8	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6

FINAL SCORE S	
COMMENTS	Detailed Evaluation Required YES NO

* = Estimated, subjective, or unreliable data
 DNK = Do Not Know
 BR = Braced frame
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 MRF = Moment-resisting frame
 RC = Reinforced concrete
 RD = Rigid diaphragm
 SW = Shear wall
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 URM INF = Unreinforced masonry infill

Rapid Visual Screening of Buildings for Potential Seismic Hazards
 FEMA-154 Data Collection Form

HIGH Seismicity

Scale: _____	Address: _____ _____ Zip _____ Other Identifiers _____ No. Stories _____ Year Built _____ Screener _____ Date _____ Total Floor Area (sq. ft.) _____ Building Name _____ Use _____
PHOTOGRAPH	

OCCUPANCY			SOIL		TYPE						FALLING HAZARDS			
Assembly	Govt	Office	Number of Persons		A	B	C	D	E	F	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commercial	Historic	Residential	0 - 10	11 - 100	Hard	Avg.	Dense	Stiff	Soft	Poor	Unreinforced	Parapets	Cladding	Other:
Emer. Services	Industrial	School	101-1000	1000+	Rock	Rock	Soil	Soil	Soil	Soil	Chimneys			

BASIC SCORE, MODIFIERS, AND FINAL SCORE, S																
BUILDING TYPE	W1	W2	S1 (MRF)	S2 (RR)	S3 (LM)	S4 (RC SW)	S5 (URM INF)	C1 (MRF)	C2 (SW)	C3 (URM INF)	PC1 (TU)	PC2	RM1 (FD)	RM2 (RD)	URM	
Basic Score	4.4	3.8	2.8	3.0	3.2	2.8	2.0	2.5	2.8	1.6	2.6	2.4	2.8	2.8	1.8	
Mid Rise (4 to 7 stories)	N/A	N/A	+0.2	+0.4	N/A	+0.4	+0.4	+0.4	+0.4	+0.2	N/A	+0.2	+0.4	+0.4	0.0	
High Rise (> 7 stories)	N/A	N/A	+0.6	+0.8	N/A	+0.8	+0.8	+0.6	+0.8	+0.3	N/A	+0.4	N/A	+0.6	N/A	
Vertical Irregularity	-2.5	-2.0	-1.0	-1.5	N/A	-1.0	-1.0	-1.5	-1.0	-1.0	N/A	-1.0	-1.0	-1.0	-1.0	
Plan Irregularity	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	
Pre-Code	0.0	-1.0	-1.0	-0.8	-0.6	-0.8	-0.2	-1.2	-1.0	-0.2	-0.8	-0.8	-1.0	-0.8	-0.2	
Post-Benchmark	+2.4	+2.4	+1.4	+1.4	N/A	+1.6	N/A	+1.4	+2.4	N/A	+2.4	N/A	+2.8	+2.6	N/A	
Soil Type C	0.0	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	
Soil Type D	0.0	-0.8	-0.6	-0.6	-0.6	-0.6	-0.4	-0.6	-0.6	-0.4	-0.6	-0.6	-0.6	-0.6	-0.6	
Soil Type E	0.0	-0.8	-1.2	-1.2	-1.0	-1.2	-0.8	-1.2	-0.8	-0.8	-0.4	-1.2	-0.4	-0.6	-0.8	

FINAL SCORE, S																
COMMENTS															Detailed Evaluation Required	
															YES	NO

* = Estimated, subjective, or unreliable data
 DNK = Do Not Know
 BR = Braced frame
 FD = Flexible diaphragm
 LM = Light metal
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Rapid Visual Screening of Buildings for Potential Seismic Hazards (FEMA 154)

Quick Reference Guide (for use with Data Collection Form)

1. Model Building Types and Critical Code Adoption and Enforcement Dates		Year Seismic Codes Initially Adopted and Enforced*	Benchmark Year when Codes Improved
Structural Types			
W1	Light wood frame, residential or commercial, ≤ 5000 square feet	_____	_____
W2	Wood frame buildings, > 5000 square feet.	_____	_____
S1	Steel moment-resisting frame	_____	_____
S2	Steel braced frame	_____	_____
S3	Light metal frame	_____	_____
S4	Steel frame with cast-in-place concrete shear walls	_____	_____
S5	Steel frame with unreinforced masonry infill	_____	_____
C1	Concrete moment-resisting frame	_____	_____
C2	Concrete shear wall	_____	_____
C3	Concrete frame with unreinforced masonry infill	_____	_____
PC1	Tilt-up construction	_____	_____
PC2	Precast concrete frame	_____	_____
RM1	Reinforced masonry with flexible floor and roof diaphragms	_____	_____
RM2	Reinforced masonry with rigid diaphragms	_____	_____
URM	Unreinforced masonry bearing-wall buildings	_____	_____
*Not applicable in regions of low seismicity			

2. Anchorage of Heavy Cladding
 Year in which seismic anchorage requirements were adopted: _____

3. Occupancy Loads			
Use	Square Feet, Per Person	Use	Square Feet, Per Person
Assembly	varies, 10 minimum	Industrial	200-500
Commercial	50-200	Office	100-200
Emergency Services	100	Residential	100-300
Government	100-200	School	50-100

4. Score Modifier Definitions	
Mid-Rise:	4 to 7 stories
High-Rise:	8 or more stories
Vertical Irregularity:	Steps in elevation view; inclined walls; building on hill; soft story (e.g., house over garage); building with short columns; unbraced cripple walls.
Plan Irregularity	Buildings with re-entrant corners (L, T, U, E, + or other irregular building plan); buildings with good lateral resistance in one direction but not in the other direction; eccentric stiffness in plan, (e.g. corner building, or wedge-shaped building, with one or two solid walls and all other walls open).
Pre-Code:	Building designed and constructed prior to the year in which seismic codes were first adopted and enforced in the jurisdiction; use years specified above in Item 1; default is 1941, except for PC1, which is 1973.
Post-Benchmark:	Building designed and constructed after significant improvements in seismic code requirements (e.g., ductile detailing) were adopted and enforced; the benchmark year when codes improved may be different for each building type and jurisdiction; use years specified above in Item 1 (see Table 2-2 of FEMA 154 <i>Handbook</i> for additional information).
Soil Type C:	Soft rock or very dense soil; S-wave velocity: 1200 – 2500 ft/s; blow count > 50; or undrained shear strength > 2000 psf.
Soil Type D:	Stiff soil; S-wave velocity: 600 – 1200 ft/s; blow count: 15 – 50; or undrained shear strength: 1000 – 2000 psf.
Soil Type E:	Soft soil; S-wave velocity < 600 ft/s; or more than 100 ft of soil with plasticity index > 20, water content > 40%, and undrained shear strength < 500 psf.

8. RESULT: 8.1 CONCRETE MOMENT RESISTING FRAME (C1) & WITH LOW SEISMIC ZONE (Z1):

S.no.	Basic Score	Effect of no of storey	Vertical Irregularities	Plan Irregularities	Type of Soil	Result	Remark
1	4.4	0.4	0	0	-0.6	4.2	
2	4.4	0.4	0	0	-1.4	3.4	
3	4.4	0.4	0	0	-2	2.8	
4	4.4	0.4	0	-0.8	-0.6	3.4	
5	4.4	0.4	0	-0.8	-1.4	2.6	
6	4.4	0.4	0	-0.8	-2	2	
7	4.4	0.4	-1.5	0	-0.6	2.7	
8	4.4	0.4	-1.5	0	-1.4	1.9	
9	4.4	0.4	-1.5	0	-2	1.3	
10	4.4	0.4	-1.5	-0.8	-0.6	1.9	
11	4.4	0.4	-1.5	-0.8	-1.4	1.1	
12	4.4	0.4	-1.5	-0.8	-2	0.5	Minimum Value
13	4.4	1	0	0	-0.6	4.8	Maximum Value
14	4.4	1	0	0	-1.4	4	
15	4.4	1	0	0	-2	3.4	
16	4.4	1	0	-0.8	-0.6	4	
17	4.4	1	0	-0.8	-1.4	3.2	
18	4.4	1	0	-0.8	-2	2.6	
19	4.4	1	-1.5	0	-0.6	3.3	
20	4.4	1	-1.5	0	-1.4	2.5	
21	4.4	1	-1.5	0	-2	1.9	
22	4.4	1	-1.5	-0.8	-0.6	2.5	
23	4.4	1	-1.5	-0.8	-1.4	1.7	
24	4.4	1	-1.5	-0.8	-2	1.1	

8.2. CONCRETE MOMENT RESISTING FRAME (C1) & WITH MODERATE SEISMIC ZONE (Z2):

S.no	Basic Score	Effect of no of storey	Vertical Irregularities	Plan Irregularities	Type of Soil	Result	Remark
1	3	0.2	0	0	-0.6	2.6	
2	3	0.2	0	0	-1	2.2	
3	3	0.2	0	0	-1.6	1.6	
4	3	0.2	0	-0.5	-0.6	2.1	
5	3	0.2	0	-0.5	-1	1.7	
6	3	0.2	0	-0.5	-1.6	1.1	
7	3	0.2	-2	0	-0.6	0.6	
8	3	0.2	-2	0	-1	0.2	
9	3	0.2	-2	0	-1.6	-0.4	
10	3	0.2	-2	-0.5	-0.6	0.1	
11	3	0.2	-2	-0.5	-1	-0.3	
12	3	0.2	-2	-0.5	-1.6	-0.9	Minimum Value
13	3	0.5	0	0	-0.6	2.9	Maximum Value
14	3	0.5	0	0	-1	2.5	
15	3	0.5	0	0	-1.6	1.9	
16	3	0.5	0	-0.5	-0.6	2.4	
17	3	0.5	0	-0.5	-1	2	
18	3	0.5	0	-0.5	-1.6	1.4	
19	3	0.5	-2	0	-0.6	0.9	
20	3	0.5	-2	0	-1	0.5	
21	3	0.5	-2	0	-1.6	-0.1	
22	3	0.5	-2	-0.5	-0.6	0.4	
23	3	0.5	-2	-0.5	-1	0	
24	3	0.5	-2	-0.5	-1.6	-0.6	

8.3 .CONCRETE MOMENT RESISTING FRAME (C1) & WITH HIGH SEISMIC ZONE (Z3):

S.no	Basic Score	Effect of no of storey	Vertical Irregularities	Plan Irregularities	Type of Soil	Result	Remark
1	2.5	0.4	0	0	-0.4	2.5	
2	2.5	0.4	0	0	-0.6	2.3	
3	2.5	0.4	0	0	-1.2	1.7	
4	2.5	0.4	0	-0.5	-0.4	2	
5	2.5	0.4	0	-0.5	-0.6	1.8	
6	2.5	0.4	0	-0.5	-1.2	1.2	
7	2.5	0.4	-1	0	-0.4	1.5	
8	2.5	0.4	-1	0	-0.6	1.3	
9	2.5	0.4	-1	0	-1.2	0.7	
10	2.5	0.4	-1	-0.5	-0.4	1	
11	2.5	0.4	-1	-0.5	-0.6	0.8	
12	2.5	0.4	-1	-0.5	-1.2	0.2	Minimum Value
13	2.5	0.8	0	0	-0.4	2.9	Maximum Value
14	2.5	0.8	0	0	-0.6	2.7	
15	2.5	0.8	0	0	-1.2	2.1	
16	2.5	0.8	0	-0.5	-0.4	2.4	
17	2.5	0.8	0	-0.5	-0.6	2.2	
18	2.5	0.8	0	-0.5	-1.2	1.6	
19	2.5	0.8	-1	0	-0.4	1.9	
20	2.5	0.8	-1	0	-0.6	1.7	
21	2.5	0.8	-1	0	-1.2	1.1	
22	2.5	0.8	-1	-0.5	-0.4	1.4	
23	2.5	0.8	-1	-0.5	-0.6	1.2	
24	2.5	0.8	-1	-0.5	-1.2	0.6	

8.4. CONCRETE SHEAR WALL FRAME (C2) & LOW SEISMIC ZONE (Z1):

S.no	Basic Score	Effect of no of storey	Vertical Irregularities	Plan Irregularities	Type of Soil	Result	Remark
1	4.8	-0.2	0	0	-0.4	4.2	
2	4.8	-0.2	0	0	-0.8	3.8	
3	4.8	-0.2	0	0	-2	2.6	
4	4.8	-0.2	0	-0.8	-0.4	3.4	
5	4.8	-0.2	0	-0.8	-0.8	3	
6	4.8	-0.2	0	-0.8	-2	1.8	
7	4.8	-0.2	-2	0	-0.4	2.2	
8	4.8	-0.2	-2	0	-0.8	1.8	
9	4.8	-0.2	-2	0	-2	0.6	
10	4.8	-0.2	-2	-0.8	-0.4	1.4	
11	4.8	-0.2	-2	-0.8	-0.8	1	
12	4.8	-0.2	-2	-0.8	-2	-0.2	Minimum Value
13	4.8	0	0	0	-0.4	4.4	Maximum Value
14	4.8	0	0	0	-0.8	4	
15	4.8	0	0	0	-2	2.8	
16	4.8	0	0	-0.8	-0.4	3.6	
17	4.8	0	0	-0.8	-0.8	3.2	
18	4.8	0	0	-0.8	-2	2	
19	4.8	0	-2	0	-0.4	2.4	
20	4.8	0	-2	0	-0.8	2	
21	4.8	0	-2	0	-2	0.8	
22	4.8	0	-2	-0.8	-0.4	1.6	
23	4.8	0	-2	-0.8	-0.8	1.2	
24	4.8	0	-2	-0.8	-2	0	

8.5 CONCRETE SHEAR WALL FRAME (C2) & MODERATE SEISMIC ZONE (Z2):

S.no	Basic Score	Effect of no of storey	Vertical Irregularities	Plan Irregularities	Type of Soil	Result	Remark
1	3.6	0.4	0	0	-0.8	3.2	
2	3.6	0.4	0	0	-1.2	2.8	
3	3.6	0.4	0	0	-1.6	2.4	
4	3.6	0.4	0	-0.5	-0.8	2.7	
5	3.6	0.4	0	-0.5	-1.2	2.3	
6	3.6	0.4	0	-0.5	-1.6	1.9	
7	3.6	0.4	-2	0	-0.8	1.2	
8	3.6	0.4	-2	0	-1.2	0.8	
9	3.6	0.4	-2	0	-1.6	0.4	
10	3.6	0.4	-2	-0.5	-0.8	0.7	
11	3.6	0.4	-2	-0.5	-1.2	0.3	
12	3.6	0.4	-2	-0.5	-1.6	-0.1	Minimum Value
13	3.6	0.8	0	0	-0.8	3.6	Maximum Value
14	3.6	0.8	0	0	-1.2	3.2	
15	3.6	0.8	0	0	-1.6	2.8	
16	3.6	0.8	0	-0.5	-0.8	3.1	
17	3.6	0.8	0	-0.5	-1.2	2.7	
18	3.6	0.8	0	-0.5	-1.6	2.3	
19	3.6	0.8	-2	0	-0.8	1.6	
20	3.6	0.8	-2	0	-1.2	1.2	
21	3.6	0.8	-2	0	-1.6	0.8	
22	3.6	0.8	-2	-0.5	-0.8	1.1	
23	3.6	0.8	-2	-0.5	-1.2	0.7	
24	3.6	0.8	-2	-0.5	-1.6	0.3	

8.6. CONCRETE SHEAR WALL FRAME (C2) & HIGH SEISMIC ZONE (Z3):

S.no	Basic Score	Effect of no of storey	Vertical Irregularities	Plan Irregularities	Type of Soil	Result	Remark
1	2.8	0.4	0	0	-0.4	2.8	
2	2.8	0.4	0	0	-0.6	2.6	
3	2.8	0.4	0	0	-0.8	2.4	
4	2.8	0.4	0	-0.5	-0.4	2.3	
5	2.8	0.4	0	-0.5	-0.6	2.1	
6	2.8	0.4	0	-0.5	-0.8	1.9	
7	2.8	0.4	-1.5	0	-0.4	1.3	
8	2.8	0.4	-1.5	0	-0.6	1.1	
9	2.8	0.4	-1.5	0	-0.8	0.9	
10	2.8	0.4	-1.5	-0.5	-0.4	0.8	
11	2.8	0.4	-1.5	-0.5	-0.6	0.6	
12	2.8	0.4	-1.5	-0.5	-0.8	0.4	Minimum Value
13	2.8	0.6	0	0	-0.4	3	Maximum Value
14	2.8	0.6	0	0	-0.6	2.8	
15	2.8	0.6	0	0	-0.8	2.6	
16	2.8	0.6	0	-0.5	-0.4	2.5	
17	2.8	0.6	0	-0.5	-0.6	2.3	
18	2.8	0.6	0	-0.5	-0.8	2.1	
19	2.8	0.6	-1.5	0	-0.4	1.5	
20	2.8	0.6	-1.5	0	-0.6	1.3	
21	2.8	0.6	-1.5	0	-0.8	1.1	
22	2.8	0.6	-1.5	-0.5	-0.4	1	
23	2.8	0.6	-1.5	-0.5	-0.6	0.8	
24	2.8	0.6	-1.5	-0.5	-0.8	0.6	

8.7. CONCRETE FRAME WITH UNREINFORCED MASONRY INFILL WALLS (C3) & WITH LOW SEISMIC

S.no	Basic Score	Effect of no of storey	Vertical Irregularities	Plan Irregularities	Type of Soil	Result	Remark
1	4.4	-0.4	0	0	-0.4	3.6	Maximum Value
2	4.4	-0.4	0	0	-0.8	3.2	
3	4.4	-0.4	0	0	-2	2	
4	4.4	-0.4	0	-0.8	-0.4	2.8	
5	4.4	-0.4	0	-0.8	-0.8	2.4	
6	4.4	-0.4	0	-0.8	-2	1.2	
7	4.4	-0.4	-2	0	-0.4	1.6	
8	4.4	-0.4	-2	0	-0.8	1.2	
9	4.4	-0.4	-2	0	-2	0	
10	4.4	-0.4	-2	-0.8	-0.4	0.8	
11	4.4	-0.4	-2	-0.8	-0.8	0.4	
12	4.4	-0.4	-2	-0.8	-2	-0.8	Minimum Value
13	4.4	-0.4	0	0	-0.4	3.6	Maximum Value
14	4.4	-0.4	0	0	-0.8	3.2	
15	4.4	-0.4	0	0	-2	2	
16	4.4	-0.4	0	-0.8	-0.4	2.8	
17	4.4	-0.4	0	-0.8	-0.8	2.4	
18	4.4	-0.4	0	-0.8	-2	1.2	
19	4.4	-0.4	-2	0	-0.4	1.6	
20	4.4	-0.4	-2	0	-0.8	1.2	
21	4.4	-0.4	-2	0	-2	0	
22	4.4	-0.4	-2	-0.8	-0.4	0.8	
23	4.4	-0.4	-2	-0.8	-0.8	0.4	
24	4.4	-0.4	-2	-0.8	-2	-0.8	Minimum Value

8.8. CONCRETE FRAME WITH UNREINFORCED MASONRY INFILL WALLS (C3) & WITH MODERATE

SEISMIC Zone (Z2)

S.no	Basic Score	Effect of no of storey	Vertical Irregularities	Plan Irregularities	Type of Soil	Result	Remark
1	3.2	0.2	0	0	-0.6	2.8	
2	3.2	0.2	0	0	-1	2.4	
3	3.2	0.2	0	0	-1.6	1.8	
4	3.2	0.2	0	-0.5	-0.6	2.3	
5	3.2	0.2	0	-0.5	-1	1.9	
6	3.2	0.2	0	-0.5	-1.6	1.3	
7	3.2	0.2	-2	0	-0.6	0.8	
8	3.2	0.2	-2	0	-1	0.4	
9	3.2	0.2	-2	0	-1.6	-0.2	
10	3.2	0.2	-2	-0.5	-0.6	0.3	
11	3.2	0.2	-2	-0.5	-1	-0.1	
12	3.2	0.2	-2	-0.5	-1.6	-0.7	Minimum Value
13	3.2	0.4	0	0	-0.6	3	Maximum Value
14	3.2	0.4	0	0	-1	2.6	
15	3.2	0.4	0	0	-1.6	2	
16	3.2	0.4	0	-0.5	-0.6	2.5	
17	3.2	0.4	0	-0.5	-1	2.1	
18	3.2	0.4	0	-0.5	-1.6	1.5	
19	3.2	0.4	-2	0	-0.6	1	
20	3.2	0.4	-2	0	-1	0.6	
21	3.2	0.4	-2	0	-1.6	0	
22	3.2	0.4	-2	-0.5	-0.6	0.5	
23	3.2	0.4	-2	-0.5	-1	0.1	
24	3.2	0.4	-2	-0.5	-1.6	-0.5	

8.9. CONCRETE FRAME WITH UNREINFORCED MASONRY INFILL WALLS (C3) & WITH HIGH

SEISMIC ZONE (Z3):

S.no	Basic Score	Effect of no of storey	Vertical Irregularities	Plan Irregularities	Type of Soil	Result	Remark
1	1.6	0.4	0	0	-0.4	1.6	
2	1.6	0.4	0	0	-0.4	1.6	
3	1.6	0.4	0	0	-0.8	1.2	
4	1.6	0.4	0	-0.5	-0.4	1.1	
5	1.6	0.4	0	-0.5	-0.4	1.1	
6	1.6	0.4	0	-0.5	-0.8	0.7	
7	1.6	0.4	-1	0	-0.4	0.6	
8	1.6	0.4	-1	0	-0.4	0.6	
9	1.6	0.4	-1	0	-0.8	0.2	
10	1.6	0.4	-1	-0.5	-0.4	0.1	
11	1.6	0.4	-1	-0.5	-0.4	0.1	
12	1.6	0.4	-1	-0.5	-0.8	-0.3	Minimum Value
13	1.6	0.8	0	0	-0.4	2	Maximum Value
14	1.6	0.8	0	0	-0.4	2	
15	1.6	0.8	0	0	-0.8	1.6	
16	1.6	0.8	0	-0.5	-0.4	1.5	
17	1.6	0.8	0	-0.5	-0.4	1.5	
18	1.6	0.8	0	-0.5	-0.8	1.1	
19	1.6	0.8	-1	0	-0.4	1	
20	1.6	0.8	-1	0	-0.4	1	
21	1.6	0.8	-1	0	-0.8	0.6	
22	1.6	0.8	-1	-0.5	-0.4	0.5	
23	1.6	0.8	-1	-0.5	-0.4	0.5	
24	1.6	0.8	-1	-0.5	-0.8	0.1	

9. CONCLUSION

The rapid visual screening procedure (RVS) has been developed for a broad audience, including building officials and inspectors, and government agency and private-sector building owners, to identify, inventory, and rank buildings that are potentially seismically hazardous.

- Although RVS is applicable to all buildings, its principal purpose is to identify older buildings designed and constructed before the adoption of adequate seismic design and detailing requirements,
- Buildings on soft or poor soils,
- Buildings having performance characteristics that negatively influence their seismic response.

Once identified as potentially hazardous, such buildings should be further evaluated by a design professional experienced in seismic design to determine if, in fact, they are seismically hazardous.

The RVS uses a methodology based on a “sidewalk survey” of a building and a Data Collection Form, which the person conducting the survey (hereafter referred to as the screener) completes, based on visual observation of the building from the exterior, and if possible, the interior. Once the decision to conduct rapid visual screening for a community or group of buildings has been made by the RVS authority, the screening effort can be expedited by Pre-planning, including the training of screeners, and careful overall management of the process.

10. REFERNCES

1. IS CODE 13935:2002 (seismic evaluation, repair and strengthening of masonry building) and IS CODE 1893 (Design of earthquake structures)
2. IS: 4326-1993 "Earthquake Resistant Design and Construction of Buildings - Code of Practice (Second Revision)".
3. MSK-64 based seismic intensity maps of Russia
4. Fema154:2002
5. Handbook of repair & rehabilitation of Masonry structural
6. ASCE, 1998, Handbook for the Seismic Evaluation of Buildings — A Pre-standard, prepared by the American Society of Civil Engineers for the Federal Emergency Management Agency, FEMA 310 Report.
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