

## Seismic Review Checklist

Complete General Checklist and Checklist for the Selected Level of Review

### Property Information

Project Name	
Property Address	
1997 UBC Seismic Zone	
Project Value*	

\* Data from Client

### ASTM E2557 Level of Review

Project Value	UBC Seismic Zone			
	0, 1	2A, 2B	3	4
\$0M < X < \$5M	None	None	Level 0	Level 0
\$5M < X < \$15M	None	None	Level 0	Level 1
\$15M < X < \$50M	None	None	Level 1	Level 1
\$50M < X < \$100M	None	Level 0	Level 1	Level 2
\$100M < X	None	Level 1	Level 2	Level 2

\*Complete General Checklist AND Either Level 0, 1 or 2 Checklist Based on Above Table

\*\* See ASTM document for Level 3 requirements

### Seismic Report Required Information

#### General Checklist

ASTM Required Information	Is information in the report? Present (P) Not Present (NP) Inadequate (I)	Not Present (NP) or Inadequate (I) responses (Reference Note 1, 2, etc.)
<b>Introduction</b>		
Project Name and Address		
Purpose of Review		
Detailed Scope of Services		
Site Visit Date and Name of Person Conducting Site Visit		

Documentation Reviewed		
Limitations and Exceptions		
Special Terms and Conditions		
Reliance Language		
<b>Property Description</b>		
Number of Buildings on Site		
Date of Building(s) Construction		
Approx. Area of Building(s)		
No. of Stories of Building(s)		
Building Framing System(s)		
Lateral Force Resisting System(s)		
<b>Analysis Procedure</b>		
Level of Review Performed Ground Motion Hazard Assessment (G) Building Stability Assessment (BS) Site Stability Assessment (SS) Damageability Assessment (D) Contents Damageability (C) - Optional Business Interruption (B) - Optional		
Loss Estimation Methodology Defined		
Discussion of Adjustments to Loss Estimation		
Building Stability Analysis Defined		
<b>Credentials</b>		
Loss Estimator/Preparer Named		
Loss Estimator Qualifications		
Site Visit Personnel Named		
Site Reviewer Qualifications		
Resume Provided for All Reviewers		
Software Programs Used (Including Vendor, Edition, Date and Limitations)		
Software Users Identity & Experience		
<b>Summary &amp; Recommendations</b>		
Definition of Loss Estimation (Return Period, SEL, SUL, PL, etc.)		
Reported 475-yr SEL and SUL Values		
Building Stability Statement		

Method Used for Determining Building Stability		
Level of Study Performed Indicated		
Findings Statement per 12.4.1		
Deviations From Standards		
Documentation to Support Conclusions		
Is More Detailed Analysis Recommended and Why		
SEL < 20%		
Recommendations to Reduce Loss to Below SEL = 20% or To Correct Building Stability (Life-Safety) Issues, If Necessary		
Signature		
Additional Services If Necessary		
Does Opinion of Level of Study Performed Meet or Exceed Level of Study Indicated in Report?		

Notes:

## Seismic Report Required Information

### Level 0 Checklist

ASTM Required Information	Is information in the report? Present (P) Not Present (NP) Inadequate (I)	Not Present (NP) or Inadequate (I) responses (Reference Note 1, 2, etc.)
<b>Credentials</b>		
Reviewer - No specific requirements <sup>1</sup>		
Site Visit Personnel - No specific requirements <sup>1</sup>		
<b>Probabilistic Ground Motion Hazard Assessment</b>		
Ground Motion Values from Maps or Commercial Software or 1997 UBC		
<b>Building Stability Assessment</b>		
Gravity Load Resisting System Defined		
Lateral Load Resisting System Defined		
Evaluate Building Stability Based on Type and Era of Construction		
Noted Irregular or Special Conditions		
<b>Site Stability Assessment</b>		
Site Conditions From Maps and/or Reports		
Liquefaction		
Landslide		
Tsunami, Seiche, Dam Rupture		
<b>Damageability Assessment</b>		
Determine PL or SL Values from Tables or Equivalent Procedures or Interactive Computer Program		
Definition of Loss Estimation (Return Period, SEL, SUL, PL, etc.)		

Notes:

<sup>1</sup> It is advisable that the individual performing the assessment be a registered professional and that their area of competence in the related area of the assessment be declared.

## Seismic Report Required Information

### Level 1 Checklist

ASTM Required Information	Is information in the report? Present (P) Not Present (NP) Inadequate (I)	Not Present (NP) or Inadequate (I) responses (Reference Note 1, 2, etc.)
<b>Credentials</b>		
Reviewer - General experience in professional practice of evaluating structures <sup>2</sup>		
Site Visit Personnel - Specific experience in review of structural systems <sup>2</sup>		
<b>Probabilistic Ground Motion Hazard Assessment</b>		
Ground Motion Values from Commercial Software based on latitude/longitude coordinates and assessed site conditions		
<b>Building Stability Assessment</b>		
Gravity Load Resisting System Defined		
Lateral Load Resisting System Defined		
Walkthrough to determine condition, quality of construction, modifications and special conditions		
Cursory Review of Construction Documents		
Methodology used to evaluate the seismic loads and capacities of selected systems, elements, and connections.		
Determine if conditions exist that lead to unacceptable behavior under the code prescribed ground motions or interstory displacements.		
<b>Site Stability Assessment</b>		
Site Conditions From Maps and/or Reports		
Review Geotechnical Report		

<sup>2</sup> Recommended that the reviewer has 20 years experience in the specific professional area of building design and analysis (Civil or Structural Engineering) and 5 years experience in performing loss estimations.

Liquefaction		
Landslide		
Tsunami, Seiche, Dam Rupture		
<b>Damageability Assessment</b>		
Determine PL or SL Values from Tables or Equivalent Procedures or Interactive Computer Program		
Modification of Loss Based on Building Specific Properties		
Definition of Loss Estimation (Return Period, SEL, SUL, PL, etc.)		

Notes:

## Seismic Report Required Information

### Level 2 Checklist

ASTM Required Information	Is information in the report? Present (P) Not Present (NP) Inadequate (I)	Not Present (NP) or Inadequate (I) responses  (Reference Note 1, 2, etc.)
<b>Credentials</b>		
Reviewer - Substantial experience in the specific technical issues that pertain to the particular type structure <sup>3</sup>		
Site Visit Personnel - Specific experience in review of the particular structural system <sup>3</sup>		
<b>Probabilistic Ground Motion Hazard Assessment</b>		
Ground Motion Values developed for the site developed as a specific project site probabilistic seismic hazard analysis (PSHA).		
<b>Building Stability Assessment</b>		
Gravity Load Resisting System Defined		
Lateral Load Resisting System Defined		
Walk-through to determine condition, quality of construction, modifications and special conditions		
Review of Construction Documents or Take Measurements of Building and Critical Elements		
Methodology used to evaluate the strength of primary building elements and connections including items such as weak column-strong beam conditions, bracing members and connections, and interstory drift.		
Determine if conditions exist that lead to unacceptable behavior under the code prescribed ground motions or interstory displacements.		
<b>Site Stability Assessment</b>		

<sup>3</sup> Recommended that the reviewer has 20 years experience in the specific professional area (Civil or Structural Engineering), expertise in the specific building type, and a minimum of 5 years experience in performing loss estimations.

Review Geotechnical Report		
Site Specific Assessment		
Liquefaction		
Landslide		
Tsunami, Seiche, Dam Rupture		
<b>Damageability Assessment</b>		
Criteria used to perform calculations to verify demand/capacity characteristics of the building's expected seismic response		
Determine the seismic response characteristics by assessing those issues likely to dominate its performance.		
PL or SL Values shall not be determined from Tables or Equivalent Procedures or Interactive Computer Program		
Definition of Loss Estimation (Return Period, SEL, SUL, PL, etc.)		

Notes: