



FORM 1
CERTIFICATE OF SEISMIC PERFORMANCE LEVEL

- UC-Designed & Constructed Facility
 Campus-Acquired or Leased Facility

BUILDING DATA

Building Name: 1440 5th Avenue
Address: 1440 5th Avenue, San Francisco
Site location coordinates: Latitude 37.76161 Longitudinal -122.46166

UCOP SEISMIC PERFORMANCE LEVEL (OR "RATING"): III

ASCE 41-17 Model Building Type:

- a. Longitudinal Direction: W1: Wood Frame with Wood Shear Panels
- b. Transverse Direction: W1: Wood Frame with Wood Shear Panels

Gross Square Footage: 5815 sf
Number of stories *above* grade: 3
Number of basement stories *below* grade: 0

Year Original Building was Constructed: 1915
Original Building Design Code & Year: NA
Retrofit Building Design Code & Code (if applicable): FEMA 356, November 2000

SITE INFORMATION

Site Class: C Basis: UCSF Group 3 Buildings – Geotechnical Assessment, Egan (2019)
Geologic Hazards:
Fault Rupture: No Basis: UCSF Group 3 Buildings – Geotechnical Assessment, Egan (2019)
Liquefaction: No Basis: UCSF Group 3 Buildings – Geotechnical Assessment, Egan (2019)
Landslide: No Basis: UCSF Group 3 Buildings – Geotechnical Assessment, Egan (2019)

ATTACHMENT

Original Structural Drawings: NA
Seismic Evaluation: NA
Retrofit Structural Drawings: 1440 5th Avenue Housing Remodel, UCSF Project M3406, by Degenkolb Enigneers dated 9/30/2004 (10 sheets); Sheet S0.1 attached.



CERTIFICATION & PRESUMPTIVE RATING VERIFICATION STATEMENT

I, [Maryann T. Phipps](#), a California-licensed structural engineer, am responsible for the completion of this certificate, and I have no ownership interest in the property identified above. My scope of review to support the completion of this certificate included both of the following ("No" responses must include an explanation):

- a) the review of structural drawings indicating that they are as-built or record drawings, or that they otherwise are the basis for the construction of the building: Yes No
- b) visiting the building to verify the observable existing conditions are reasonably consistent with those shown on the structural drawings: Yes No

Based on my review, I have verified that the UCOP Seismic Performance Level (SPL) is presumptively permitted by the following UC Seismic Program Guidebook provision (choose one of the following):

- 1) Contract documents indicate that the original design and construction of the aforementioned building is in accordance with the benchmark design code year (or later) building code seismic design provisions for UBC or IBC listed in Table 1 below.
- 2) The existing SPL rating is based on an acceptable basis of seismic evaluation completed in 2006 or later.
- 3) Contract documents indicate that a comprehensive¹ building seismic retrofit design was fully-constructed with an engineered design based on the 1997 UBC/1998 **or later** CBC, and (choose one of the following):
 - the retrofit project was completed by the UC campus. Further, the design was based on ground motion parameters, at a minimum, corresponding to BSE-1E (or BSE-R) and BSE-2E (or BSE-C) as defined in ASCE 41, or the full design basis ground motion required in the 1997 UBC/1998 CBC **or later** for EXISTING buildings, and is presumptively assigned an SPL rating of IV.
 - the retrofit project was completed by the UC campus. Further, the design was based on ground motion parameters, at a minimum, corresponding to BSE-1 (or BSE-1N) and BSE-2 (or BSE-2N) as defined in ASCE 41, or the full design basis ground motion required in the 1997 UBC/1998 **or later** CBC for NEW buildings, and is presumptively assigned an SPL rating of III.
 - the retrofit project was not completed by the UC campus following UC policies, and is presumptively assigned an SPL rating of IV.

¹ A comprehensive retrofit addresses the entire building structural system as indicated by the associated seismic evaluation, as opposed to addressing selective portions of the structural system.

Campus: UCSF Parnassus
Building Name: 1440 5th Ave.
CAAN ID: 2058
Auxiliary Building ID: NA



UNIVERSITY
OF
CALIFORNIA

Date: 2/3/2020

CERTIFICATION SIGNATURE

AFFIX SEAL HERE

Maryann T. Phipps
Print Name

President
Title

S2995
CA Professional Registration No.

6/30/2020
License Expiration Date

Maryann T. Phipps
Signature

2/3/2020
Date



Estructure, (510) 235-3116, 1144 65th St Suite A, Oakland
Firm Name, Phone Number, and Address



Table 1: Benchmark Building Codes and Standards

Building Type ^{a,b}	Building Seismic Design Provisions	
	UBC	IBC
Wood frame, wood shear panels (Types W1 and W2)	1976	2000
Wood frame, wood shear panels (Type W1a)	1976	2000
Steel moment-resisting frame (Types S1 and S1a)	1997	2000
Steel concentrically braced frame (Types S2 and S2a)	1997	2000
Steel eccentrically braced frame (Types S2 and S2a)	1988 ^g	2000
Buckling-restrained braced frame (Types S2 and S2a)	^f	2006
Metal building frames (Type S3)	^f	2000
Steel frame with concrete shear walls (Type S4)	1994	2000
Steel frame with URM infill (Types S5 and S5a)	^f	2000
Steel plate shear wall (Type S6)	^f	2006
Cold-formed steel light-frame construction—shear wall system (Type CFS1)	1997 ^h	2000
Cold-formed steel light-frame construction—strap-braced wall system (Type CFS2)	^f	2003
Reinforced concrete moment-resisting frame (Type C1) ⁱ	1994	2000
Reinforced concrete shear walls (Types C2 and C2a)	1994	2000
Concrete frame with URM infill (Types C3 and C3a)	^f	^f
Tilt-up concrete (Types PC1 and PC1a)	1997	2000
Precast concrete frame (Types PC2 and PC2a)	^f	2000
Reinforced masonry (Type RM1)	1997	2000
Reinforced masonry (Type RM2)	1994	2000
Unreinforced masonry (Type URM)	^f	^f
Unreinforced masonry (Type URMa)	^f	^f
Seismic isolation or passive dissipation	1991	2000

Note: This table has been adapted from ASCE 41-17 Table 3-2. Benchmark Building Codes and Standards for Life Safety Structural Performed at BSE-1E.

Note: UBC = Uniform Building Code. IBC = International Building Code.

^a Building type refers to one of the common building types defined in Table 3-1 of ASCE 41-17.

^b Buildings on hillside sites shall not be considered Benchmark Buildings.

^c not used

^d not used

^e not used

^f No benchmark year; buildings shall be evaluated in accordance with Section III.J.

^g Steel eccentrically braced frames with links adjacent to columns shall comply with the 1994 UBC Emergency Provisions, published September/October 1994, or subsequent requirements.

^h Cold-formed steel shear walls with wood structural panels only.

ⁱ Flat slab concrete moment frames shall not be considered Benchmark Buildings.

Basis for Rating

The retrofit of 1440 5th Avenue was based on FEMA 356 (November 2000) and was designed to satisfy the performance objective of Life Safety in the BSE-1 hazard. The pseudo lateral force used for design was 0.73W. Linear procedures were used for design. FEMA 356 would have required an m value of 3 for plywood shear walls with low aspect ratios and holdowns. Thus, the walls would have been effectively designed for $V = 0.73/3 = 0.24g$.

The retrofit of the adjacent building, 1432-34 5th Avenue, also by Degenkolb, was undertaken the following year. Design was based on the 2001 CBC. The design base shear for that building was 0.22W.

The FEMA 356 criteria used for the project is essentially equivalent to the 2001 CBC criteria for new buildings. The retrofit was comprehensive and included plywood shear walls and holdowns at all levels well distributed throughout the building. Collectors were added at the front of the building. This satisfies the conditions for a Seismic Performance Level II, defined in the UCOP Guidebook (Version 1.3) as follows:

- g. A building that has been retrofitted by the campus following UC policies may meet this requirement. Unless the campus has reason to further investigate a building using ASCE 41, a building for which a comprehensive building seismic retrofit design was fully-constructed with a design completed in 2000 or later, as indicated on the contract documents, may be presumptively rated as described below:
 - (i) For retrofit designs based on ground motion parameters corresponding to BSE-1 (or BSE-1N) and BSE-2 (or BSE-2N) as defined in ASCE 41, or the full design basis ground motion required in the 1997 UBC/1998 *or later* CBC for NEW buildings, the Seismic Performance Level may be presumed to be III.
 - (ii) For retrofit designs based on ground motion parameters corresponding to BSE-1E (or BSE-R) and BSE-2E (or BSE-C) as defined in ASCE 41, or the full design basis ground motion required in the 1997 UBC/1998 CBC *or later* for EXISTING buildings, the Seismic Performance Level may be presumed to be IV.

On this basis, the building is rated Seismic Performance Level III.

By: Maryann Phipps
Estructure
2/3/2020