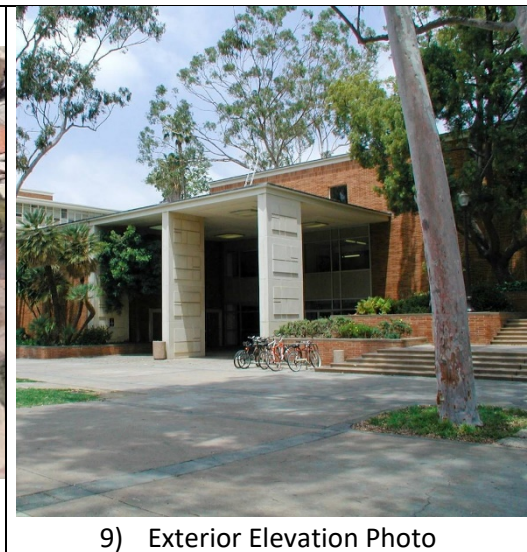




BUILDING REPORT

- 1) UC Campus: [UCLA](#)
- 2) Building Name: [Rolfe Hall-Center Portion](#)
- 3) Building CAAN ID: [4216](#)
- 4) Auxiliary Building ID<sup>1</sup>: [N/A](#)

- 5) Date of Evaluation: [October 30, 2020](#)
- 6) Evaluation by (Firm, Evaluator Name, Signature, Stamp): [John A. Martin & Associates, Inc., JJ, JL](#)
- 7) Seismic Performance Rating<sup>2</sup> and Basis of Rating: [V, University of California Seismic Safety Policy and ASCE 41-17 Tier 1 evaluation. A rating level V is given based on the anticipated overall structural performance of the building. A Tier 2 analysis is recommended to confirm this seismic performance rating.](#)



10) Site Location

- (a) Latitude Decimal Coordinates: [34.07](#)
- (b) Longitude Decimal Coordinates: [-118.44](#)

11) ASCE 41-17 Model Building Type and Description<sup>3</sup>

- (a) Longitudinal Direction: [Building Type C2 \(Concrete Shear Walls with Stiff Diaphragms\) and RM2 \(Reinforced Masonry Shear Walls with Stiff Diaphragms\)](#)
- (b) Transverse Direction: [Building Type C2 \(Concrete Shear Walls with Stiff Diaphragms\) and RM2 \(Reinforced Masonry Shear Walls with Stiff Diaphragms\)](#)

[Rolfe Hall is comprised of three seismically separated structures – the Office Wing, the Classroom Wing, and the Center Portion. The Center Portion is separated from the Office and Classroom](#)

<sup>1</sup> Applicable only for individual buildings that are structurally separate units within a building complex. Each auxiliary building shall be designated with the main building CAAN ID with a decimal number suffix (i.e. main building CAAN ID 5534; auxiliary building CAAN ID 5534.1). Auxiliary building ID is null for a single building or the main building in a building complex.

<sup>2</sup> The designated Seismic Performance Rating shall be a Roman numeral associated with the most applicable performance description from Table 1 of the UC Facilities Manual, UC Seismic Program Guidelines.

<sup>3</sup> If a building has multiple building types in one story, the model building type should be designated based on engineering judgement as the lateral system that would have the most predominantly negative effect on the seismic behavior of the building in that respective direction.



wings with a 3" seismic joint on each side of the structure. The first elevated floor level consists of 4½-inch thick one-way slabs in the corridor and a 5½-inch thick one-way slab in the Storage and Projection rooms. A pan joist slab system is utilized in the remaining areas. The roof framing consists of 3½" one-way slabs supported by steel beams spanning between long span steel trusses. The steel trusses are spaced at 12 feet on center and joists are spaced at 6 feet on center. The lateral load resisting system consists primarily of reinforced brick masonry walls and reinforced concrete walls at the ground floor level. The walls are supported on continuous wall footings and the columns rest on conventional spread footings.

12) Number of Stories

- (a) Above grade: 2
- (b) Below grade: 0

13) Original Building Design Code & Year: **Uniform Building Code 1952**

14) Retrofit Building Design Code & Year (if applicable): **Not Applicable**

15) Cost Range to Retrofit (if applicable)<sup>4</sup> (Low, Medium, High, or Very High): **Low**

Please assume a "Low" cost-range corresponds to a complete retrofit cost less than \$50 per square foot (sf), a "Medium" cost-range corresponds to a complete retrofit cost greater than \$50 per sf and less than \$200 per sf, a "High" cost-range corresponds to a complete retrofit cost greater than \$200 per sf and less than \$400 per sf, and a "Very High" cost-range corresponds to a complete retrofit cost greater than \$400 per sf.

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<sup>4</sup> Assume a complete retrofit conforming to the current UC Seismic Safety Policy. Note this range includes all construction costs, including code upgrades (e.g., accessibility, fire and life safety, mechanical, electrical, plumbing) triggered by the seismic retrofit. No specific estimate is required to be supplied at this time (i.e., provide an approximate cost to retrofit using Low, Medium, High or Very High cost-range categories). It is acknowledged that such a cost range is assumed to be based only on the engineer's rough estimate and is not intended to require input from a professional cost estimator. For estimation purposes, CSEs may judgmentally determine an approximate cost range for seismic retrofits based on recent relevant experience, and then apply a multiplier to approximate total construction costs.



**BACKGROUND INFORMATION**

**Site Information**

16) Site Class (A – F) and Basis of Assessment: [Site Class D \(default site class; no geotechnical reports available\)](#)

17) Geologic Hazards

- (a) Fault Rupture (Yes, No or Unknown) and Basis of Assessment: [No, based on “Fault Activity Map of California” from California Geological Survey.](#)
- (b) Liquefaction (Yes, No or Unknown) and Basis of Assessment: [No, based on “Earthquake Zones of Required Investigation Beverly Hills Quadrangle” map published by the California Geological Survey, dated January 11, 2018.](#)
- (c) Landslide (Yes, No or Unknown) and Basis of Assessment: [No, based on “Earthquake Zones of Required Investigation Beverly Hills Quadrangle” map published by the California Geological Survey, dated January 11, 2018.](#)

18) Site-specific Ground Motion Study? (Yes or No): [No](#)

<a href="#">Seismic design acceleration parameters of interest:</a>	
<a href="#">For BSE-2E</a>	<a href="#">S<sub>Xs</sub>: 1.861g</a> <a href="#">S<sub>X1</sub>: 0.948g</a>
<a href="#">For BSE-1E</a>	<a href="#">S<sub>Xs</sub>: 0.898g</a> <a href="#">S<sub>X1</sub>: 0.517g</a>

19) Estimated Fundamental Period (seconds)

- (d) Longitudinal  
Center Portion: [0.21sec](#)
- (e) Transverse  
Center Portion: [0.21sec](#)

20) Falling Hazards Assessment Summary: [A structural observation could not be conducted as the campus is currently closed due to the Covid-19 pandemic. Based on the record architectural drawings, the precast roof coping overhanging around the perimeter of the roof is reinforced with light mesh and anchored to the roof slab with ½” diameter expansion bolts at 3’-0” on center spacing. The minimal reinforcing and anchorage may result in localized spalling and may present a falling hazard.](#)

21) Structural Non-Compliances/Findings Significantly Affecting Rating Determination Summary  
Significant Structural Deficiencies, Potentially Affecting *Seismic Performance Rating* Designation:

(a) [Adjacent Buildings](#)

[The separation between the office wing and center portion as well the classroom wing and center portion of Rolfe Hall is 3 inches per the structural drawings \(reference sheet S-3\). This is less than the required clear distance per the Tier 1 checklist. A tier 2 evaluation is recommended to verify if the existing seismic joints are sufficient to accommodate the drifts of the adjacent buildings.](#)



(b) Geometry (vertical irregularities)

Center Portion: Shear wall vertical discontinuity occurs at the brick masonry shear wall north of Gridline Ba at the breezeway from the ground floor to the first floor level.

22) Brief Description of Anticipated Failure Mechanism

The beam and columns supporting the discontinuous shear wall may lack sufficient transverse reinforcing.

23) Seismic Retrofit Concept Sketches/Description (only required for buildings rated V or worse)

Strengthen the existing beam and columns supporting the discontinuous wall by applying fiber reinforced polymer (FRP) wrap.

**Building Report Appendices**

A) ASCE 41-17 Tier 1 Checklists (Structural only)

B) Quick Check Calculations