UC Seismic Evaluation – Ueberroth Building

Date:	10/30/20
UC Campus:	UCLA – on campus
Building Name:	Ueberroth Building
Building Address:	10945 Le Conte Ave, Los Angeles, CA 90024
CAAN ID:	4410
Auxiliary Building ID[1]:	N/A

Summary of information provided by Evaluator:
Nabih Youssef Associates Structural Engineers

UCOP Seismic Performance Level[2] (or "Rating") based on ASCE 41-17 Tier 1 - evaluation findings: VI

Plan Image or Aerial Photo

Exterior Elevation Photo

Site location coordinates (decimal):
Latitude: 34.064032
Longitude: -118.446977

Is this a "Partial" Building (i.e., a single structure in a complex building? (Y or N): N

ASCE 41-17 Model Building Type[3]:
Longitudinal Direction: S1 – Steel Moment Frames (with Stiff Diaphragms)
Transverse Direction: S2 – Steel Braced Frames (with Stiff Diaphragms)

Number of stories:
Above grade: 3
Below grade: 1

Original Building Design Code and Year: N/A, was not specified on the existing drawings

Retrofit Building Design Code and Year: N/A

Cost Range to Retrofit (if applicable)[4]: Medium
"Low" cost-range corresponds to a complete retrofit cost less than $50 per square foot (sf), "Medium" cost-range corresponds to a complete retrofit cost greater than $50 per sf and less than $200 per sf, "High" cost-range corresponds to a complete retrofit cost greater than $200 per sf and less than $400 per sf, and "Very High" cost-range corresponds to a complete retrofit cost greater than $400 per sf.

Building information used in this evaluation:
Structural drawings by Hillman, Biddison & Loevenguth Structural Engineers, "LAOOC/UCLA Office Building", dated October 29, 1982

Scope for completing this form:
Reviewed structural drawings for original construction and performed ASCE 41-17 Tier 1 evaluation.

Brief description of structure:

The 3-story building has an area of approximately 66,193 square feet and was built in 1982. The building is regular in shape.

Foundation System: The typical foundation system consists of concrete piles with 24" to 36" diameter at perimeter basement wall and columns.

Structural System for Vertical (gravity) loads: The floor framing consists of metal deck with light weight concrete fill supported by steel wide flange beams spanning to steel wide flange girders. The girders are supported by steel wide flange columns that are continuous to the foundations.

Structural System for Lateral (seismic/wind) loads: The metal deck with light weight concrete fill acts as diaphragms to transfer seismic forces to steel moment frames at building perimeter in longitudinal direction and steel braced frames at transverse direction.

BACKGROUND INFORMATION

Site Information:
Site Class (A-F): D; Default

Geologic Hazards (Y or N):

- Fault Rupture: N; EZRIM Beverly Hills
- Liquefaction: Y; EZRIM Beverly Hills
- Landslide: N; EZRIM Beverly Hills

Site-specific Ground Motion Study? N

Site-modified Spectral Response (0.2s), Hazard Level BSE-1E, S_{XS}: 0.896

Site-modified Spectral Response (1.0s), Hazard Level BSE-1E, S_{X1}: 0.515

Estimated Fundamental Period (seconds):

- Longitudinal Direction: 0.69s
- Transverse Direction: 0.33s

Falling Hazards Assessment Summary: None observed.

Summary of Tier 1 Seismic Evaluation Structural Non-compliances/Findings Significantly Affecting Rating Determination:

Significant Structural Deficiencies, Potentially Affecting *Seismic Performance Level* Designation:

- ☒ Lateral System Stress Check (wall shear, column shear or flexure, or brace axial as applicable)
- ☐ Load Path
- ☐ Adjacent Buildings
- ☐ Weak Story
- ☐ Soft Story
- ☐ Geometry (vertical irregularities)
- ☐ Torsion
- ☐ Mass – Vertical Irregularity
- ☐ Cripple Walls
- ☐ Wood Sills (bolting)
- ☐ Diaphragm Continuity
- ☐ Openings at Shear Walls (concrete or masonry)
- ☒ Liquefaction (Based on the existing drawings, the potential hazard of liquefaction should be mitigated as the building has deep pile foundations)
- ☐ Slope Failure
- ☐ Surface Fault Rupture
- ☐ Masonry or Concrete Wall Anchorage at Flexible Diaphragm
- ☐ URM wall height to thickness ratio
- ☐ URM Parapets or Cornices
- ☐ URM Chimney
- ☐ Heavy Partitions Braced by Ceilings
- ☐ Appendages

Brief Description of Anticipated Failure Mechanism: Over-stress at braced frames and moment frames. The connections of the existing braced frames do not have the capacity for the expected yielding strength of the braces, also, the braced frame beams does not have the capacity for the unbalanced loads from the braces. The existing moment frames utilize pre-Northridge welded connections and fail to satisfy the strong column – weak beam at lower floors, which cause the potentials of joint connection failure and the hinging in the columns.

Comments and Additional Deficiencies:
Tier 2 and detailed evaluations are required if needed.

Seismic Retrofit Concept Sketches/Description (only if above-listed rating is V or greater): In the transverse direction, add additional frames. In the longitudinal direction, strengthen the moment frame columns and connections.

Appendices:

A. ASCE 41-17 Tier 1 Checklists
B. Quick Check Calculations