APPENDIX J

STRUCTURAL INTEGRITY MEMO

FORELL | ELSESSER
STRUCTURAL ENGINEERS

March 8, 2024

Rachel Goren
PlaceWorks
2040 Bancroft Way, Suite 400
Berkeley, CA 94704

Re: **UC Law SF 201-247 Golden Gate Avenue Project**
Structural Integrity Memo
F|E Job Number: 23-045

Dear Rachel:

We understand that as part of your environmental review process for University of California College of the Law, San Francisco's (UC Law SF) current redevelopment project involving the properties at 201-205 Golden Gate Avenue, 209 Golden Gate Avenue, 215-229 Golden Gate Avenue, 241-243 Golden Gate Avenue, and 247 Golden Gate Avenue (201-247 Golden Gate Avenue) in San Francisco, you are required to investigate the feasibility of various options of reuse of the current buildings in the new development.
Below we discuss four potential strategies of building reuse and the structural implications of each.

Strategy 1: Preserving the entire existing building and building additional stories on top. Based on investigation of the properties from Google Maps the buildings are one-story buildings with decorative concrete façades on Golden Gate Avenue. Structures of this type in San Francisco are typically made of concrete or brick bearing walls at their perimeter with roof structures typically framed with repetitive wood framing. According to the Historic Resources Technical Report (HRTR) prepared for the project by Page & Turnbull, the buildings at 201-205 Golden Gate Avenue, 209 Golden Gate Avenue, and 215-229 Golden Gate Avenue are built of reinforced concrete, while 241-243 Golden Gate Avenue and 247 Golden Gate Avenue are of brick construction. These types of structures would not typically have been designed for future vertical expansion, so the only way to build "on top" of this structure would be to provide a complete new gravity and lateral structural frame that penetrates the roof of the existing structure and lands on new foundations within the building footprint. While possible, this approach may prove highly impractical since the new building elements would be highly constrained by the existing structure layout. Additionally, the existing roof will make it very challenging and expensive to place new foundations and new vertical structure within the existing building. Beyond this, the existing structure will likely prove to be inadequate to current earthquake standards in Title 24, Part 2, of the California Code of Regulations (CCR), commonly referred to as the California Building Code (CBC), meaning that the existing structure would also require a potentially costly retrofit.

Strategy 2: Preserving the façade of the existing building and putting the new development behind it.
Considering the discussion from Strategy 1 above, this would be a better option to preserving the historical character of the existing buildings in a more practical way. By only preserving the façade, the

rest of the site would be opened up to make construction of a new building behind the façade more practical and less expensive. Since the façade would partially block access to the site from Golden Gate Avenue, there would be some effects on the efficiency of construction compared to a completely clean site. Additionally, the layout of the façades of the existing buildings will cause some design effects on the layout of the new building behind the façades which may result in some compromises of the use of the site to meet the Owner's (Unite Here Local 2 and UC Law SF) goals. There will also be cost to temporarily shore and potentially underpin the existing façade in addition to the cost of preserving and potentially strengthening the façade and connecting it to the new building structure.

Strategy 3: Salvage of the existing building's materials prior to demolition.
There is some precedent for reuse of materials from existing buildings, but it typically falls into a few limited applications. Existing rebar and steel can be salvaged and recycled, but it would not be possible to reuse this specific steel on site as recycling of steel is a bulk operation with materials coming from many sources. Existing concrete can be broken down into small pieces and sometimes used as fill under the building pad of the new building that goes on the same site. This will be subject to the specific condition of the existing concrete, the soil conditions, and other factors. This method has been used on other construction sites, so should be at least considered. Non-structural piping and wiring can sometimes also be recycled for making new materials for buildings in general. Finally, some of the building finishes may be able to be salvaged and reused in the new building if they can be removed in good condition and can be incorporated into the new architectural design.

Strategy 4: Relocation of the existing building prior to demolition.
For the type of building that these appear to be from review by Google Maps, it would be very costly to relocate these existing buildings. In addition to the design and physical work to implement a move of the building, there is a high probability that the building would also need to be retrofitted wherever it was to be placed in the future. The cost of these efforts would likely be several times the cost of simply building a new building of similar size at the location where the existing building would be relocated.

Please let us know if you have any questions or comments on this analysis of building reuse. We would be happy to discuss these options further at your convenience.

Sincerely,
FORELL | ELSESSER ENGINEERS

René Vignos, SE
Principal