

**Exhibit L**

**Structural Assessment for Reuse Scenarios by The Harman Group Structural Engineers**

This exhibit has been amended from the original October 29, 2015 application submission to limit the scope of the exhibit to 1918-1920 Sansom Street.

**1918-20 SANSOM STREET  
"OLIVER H. BAIR FUNERAL HOME"  
STRUCTURAL RE-USE EVALUATION**

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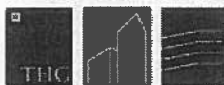
**PHILADELPHIA, PA**

**Submitted by:**

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## **DESCRIPTION**

The building at 1918-20 Sansom Street was constructed in 1910. It is two (2) stories with no basement and is constructed with exterior load bearing masonry walls. The floor and roof framing consists of concrete encased steel beams spanning to the exterior bearing walls and a cast concrete slab. There is a skylight that has been filled in with corrugated steel deck.

There is one interior egress stair on the west side of the building and a concrete masonry elevator shaft off the main corridor.

## **BUILDING CONDITION**

See Keast and Hood Report dated October 12, 2015. The Keast and Hood report recommends complete demolition and replacement of the north exterior wall of the building in addition to partial demolition and replacement of portions of the side and rear (south) walls.

## **BUILDING STRUCTURAL UPGRADE REQUIREMENTS FOR RE-USE AS RESTAURANT/RETAIL, RESIDENTIAL, OFFICE**

### **Load Review**

The floor framing has been adequately used for office use previously. As such, and due to similar load requirements for restaurant/retail use and lower load requirements for residential use, in conformance with the Philadelphia Building Construction and Occupancy Code (Building Subcode: IBC 2009), upgrade of the structural floor framing is not required except at the first (northernmost) bay. With that exception, the balance of the existing structural floor framing is acceptable for the re-uses listed above which correspond to the floor loadings mandated by the Philadelphia Building Construction and Occupancy Code (Building Subcode: IBC 2009) listed in Table 1 below .



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9. Dining rooms and restaurants	100	—
37. Stores		
Retail		
First floor	100	1,000
Upper floors	75	1,000
Wholesale, all floors	125	1,000
27. Residential		
One- and two-family dwellings		
Uninhabitable attics without storage	10	
Uninhabitable attics with limited storage <sup>a, b</sup>	20	
Habitable attics and sleeping areas	30	
All other areas	40	—
Hotels and multifamily dwellings		
Private rooms and corridors serving them	40	
Public rooms and corridors serving them	100	
25. Office buildings		
Corridors above first floor	80	2,000
File and computer rooms shall be designed for heavier loads based on anticipated occupancy	—	—
Lobbies and first-floor corridors	100	2,000
Offices	50	2,000

TABLE 1 – EXCERPT FROM IBC 2009 TABLE 1607.1

With respect to the first bay of framing at the 2<sup>nd</sup> floor and roof, the Keast and Hood report recommends removal and replacement of the north exterior wall of the building. Due to logistics and the structural feasibility of removing and replacing this wall without negatively affecting the adjacent structure, the first bay of slab at the 2<sup>nd</sup> floor and roof will need to be removed and replaced. Additionally, any segments of the side/rear walls which require demolition per the Keast and Hood report should be replaced in kind. This work will require temporary structural stabilization (see “BUILDING STRUCTURAL STABILIZATION REQUIREMENTS” below) until new metal deck has been placed and the new concrete slab has been poured and reached its design strength. See below for estimated construction quantities.

#### Geometry Review – Elevator/Stair Impact

Based on information obtained from Solomon Cordwell Buenz, the Architect, (2) new stairs and (1) new elevator would need to be constructed for the restaurant/retail and office re-uses. These elements would require new openings and supplemental framing in the existing structure. The existing stair and elevator openings would need to be demolished and infilled.

Reconstruction for elevator/stair openings/first (northernmost) bay of framing:

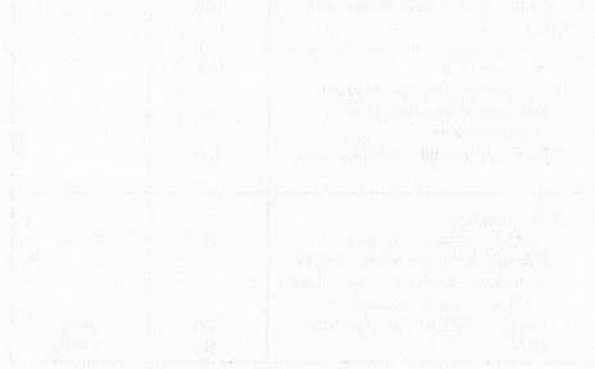
- Estimated area (infill and reconstructed areas) = 1900 s.f. total
- Construction methods: non-combustible, 2 hour rated
  - 3-1/2" light weight concrete on 2" composite metal deck
  - Estimated steel tonnage: 10 tons



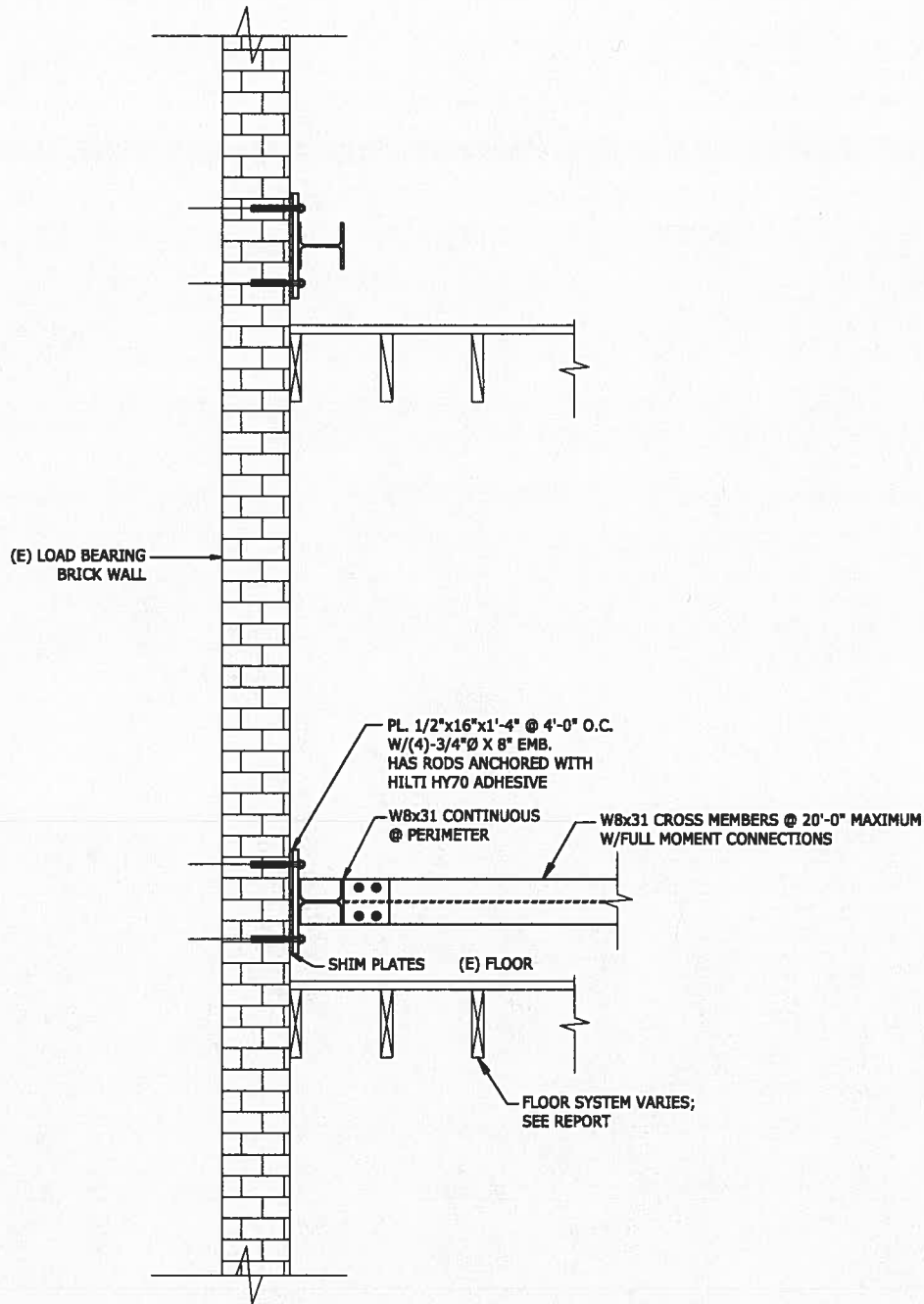
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**BUILDING STRUCTURAL STABILIZATION REQUIREMENTS**


See attached CSKS-01 for main building structure stabilization requirements. Due to the nature of demolition and new construction activity within the existing space, other non-structural elements may require stabilization. See Keast and Hood report for further information. Sketch CSKS-01 shows installation of a perimeter ring of structural steel cinched to the exterior walls at (4) feet on center with intermediate full-width bracing members. These members are to be completely installed prior to any demolition occurring.



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**1** TEMPORARY STABILIZATION

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			<b>TEMPORARY STABILIZATION PRIOR TO FLOOR DEMOLITION</b>	
		JBV		
		<b>CSKS-01</b>		