# LEONARD KALISHENKO & ASSOCIATES LIMITED

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Attn.: Mr. Joe Donato New Horizon Homes 69 John St., Suite 304 Hamilton, ON L8N 2B9

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## RE: 2480-2496 Old Bronte Road Oakville, Ontario

At your request, Leonard Kalishenko and Associates Ltd. performed a visual inspection on the storage facility located at 2480 Old Bronte Road in Oakville. The purpose of this investigation was to determine the structural adequacy of the building. The investigation was performed on November 27<sup>th</sup>, the results of which are presented below.

#### 1.0 Building Description:

The building is located at the South-East side of the property at 2480 Old Bronte Road in Oakville. It consists of a two storey wood structure approximately 24 feet wide by 36 feet long with metal cladding covering the exterior walls of the building and the roof (see Picture 1). The foundations walls are built out of masonry units which extend above the grade by 3 courses. It looks to have functioned mainly as a storage facility. A smaller one storey portion, 24 feet by 12 feet, is attached to the main structure on the North-West of the building. This addition was not accessible at the time of the visit.

#### 2.0 Main Structural Framing:

The building is supported by 8 large wood columns varying 8"x8" to 12"x12" posts. These columns are spaced at 12'-0" on centre along the two longer sides of the structure and are sitting directly on the masonry foundation wall. The second floor structure consists of 2" deep planks of varying width spanning between large wood beams approximately 8" wide x 10" deep spaced at 12'-0" and connecting to the main building columns (see Picture 2). Due to the unsafe and unstable nature of the second floor

structure, the roof framing members could not be accurately measured and only a visual inspection from the stair opening could be conducted. The roof structure consists of wood planks unevenly spaced supported on roof rafters spaced approximately at 3'-0" on centre. No ridge beam was noticed. The rafters are supported on large wood beams spanning continuously over the columns along the perimeter of the structure (see Picture 3). The lateral stability of the building relies on wood knee braced connecting the wood columns and beams.

#### 3.0 Structural Deficiencies:

Overall, the structure was found to be in very poor conditions. Numerous large holes were noticed in the main structural elements, the foundations under the columns are severely deteriorated, the second floor structure is dangerously under strength, and a number of the knee braces have been removed seriously compromising the lateral stability of the entire structure. A list of the most critical deficiencies is presented below.

#### 3.1 Roof Structure:

As indicated above, the roof structure could not be examined closely, as the second floor was deemed unsafe. A visual inspection from below led to the following conclusions. The roof structure does not have rafter ties or ceiling joist to provide integrity to the roof framing, preventing it from spreading the walls when loaded (see Picture 3). A single steel wire connected the two walls but this cable is not sufficient to assure the stability of the roof. Diagonal members were provided to brace the walls, The rafters were not noticed to be mechanically fastened to their supporting beams, and no uplift resistance system was noticed to tie down the roof. In the event of a large snow storm or heavy winds, there is a significant chance of the roof structure failing and either dislodging itself or failing and spreading the walls. These items are of significant concern and the roof structure is considered to be unsafe.

#### 3.2 Second Floor:

The floor structure is significantly under-strength. The floor planks are only 2" deep and are not sufficient to span between the supporting beams and significant sagging was noticed. In addition, a number of the planks are damaged or poorly supported and have lost a majority of their strength (see Pictures 5, 6). No structural framing of any significance is provided around the stair opening. An opening is provided for the brick oven vent and the cut joist is currently supported on a brick which has been loosely laid diagonally on the brick structure below (see Picture 7). The large wood beams have minimal bearing on the perimeter columns, sometimes as little as  $\frac{1}{4}$ " and at one location the beam was propped up by a shim, leaving only a 2" x  $\frac{1}{4}$ " bearing area (see Pictures 8, 9). These deficiencies represent a very significant threat to human safety. If someone were to step on the second floor, there is a high chance of the floor failing resulting in severe injury.

#### 3.3 Building Columns:

The building columns consisted of very large wood posts, however, numerous holes have been created in these posts (see Picture 10), compromising their strength. The columns are resting directly on the foundation walls, with no shoe or mechanical connection provided to hold down the structure. The foundation wall, especially at the column bearings, was noticed to be in extremely poor condition (see Pictures 11, 12, 13). Severe damage was noticed at 6 of the 8 main building conditions. Although the column section may be strong enough to support the applied loads, the very poor connections to the floor beam and extremely deteriorated bearing conditions create an unsafe condition which, under regular loading conditions, could lead to a sudden and overall failure of the structure.

#### 3.4 Lateral Force Resistance System:

A number of the knee braces originally provided to stabilize the structure have since been removed to accommodate new openings or shelving. Removal of these items seriously compromises the lateral stability of the building, and could lead to failure of the entire structure in the event of high winds or a seismic event.

### 4.0 Conclusions:

Based on our site investigation and the findings outlined in the above report, it is our professional opinion that the storage facility located at 2480 Old Bronte road is structurally unsafe and represents a real and immediate danger to public safety. It is our recommendation that access to this structure and its surrounding area be prohibited and that it be demolished to prevent injury or harm to any person attempting to use the building.

Hope the above is satisfactory and meets your requirements.

Yours truly,

Leonard Kalishenko & Associates

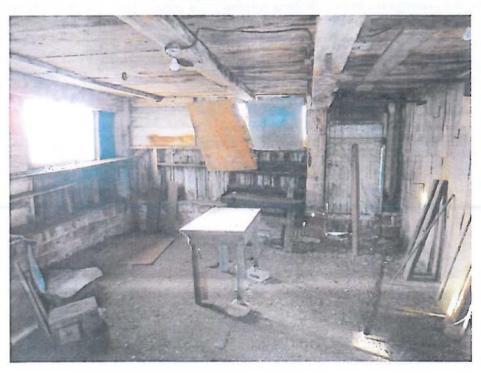
Leonard Kalishenko, P. Eng. President



L.K.: ow Letter. New Horizon, Old Bronte Barn



Picture 1: Barn Exterior



Picture 2: Barn Ground Floor



Picture 3: Barn Second Floor



Picture 4: Barn Roof Structure



Picture 5: Damaged Floor Planks



Picture 6: Damaged Floor Planks



Picture 7: Floor Opening Improperly Re-Supported



Picture 8: Improper Beam Bearing



Picture 9: Improper Beam Bearing



Picture 10: Hole in Column



Picture 11: Damaged Foundation Wall at Column



Picture 12: Damaged Foundation Wall at Column



Picture 12: Damaged Foundation Wall at Corner Column