



Main entrance

*The newest redevelopment project in downtown Battle Creek, is The Milton— consisting of luxury apartments combined with retail and business space. Erected in 1930 - 1931 as the Old Merchants National Bank, the building is listed in the National Register of Historic Places and is one of the last projects designed by Chicago architectural firm Weary and Alford. The repurposing of the 19-floor historic downtown high-rise building is transforming the heart of the city.*

**Location:** Battle Creek, Michigan, USA

**Type:** High-rise, 19-stories.

Adaptive reuse, historic restoration

**Architect:**

Architecture Plus Design

**General contractor:**

The Christman Company

**Distributor:**

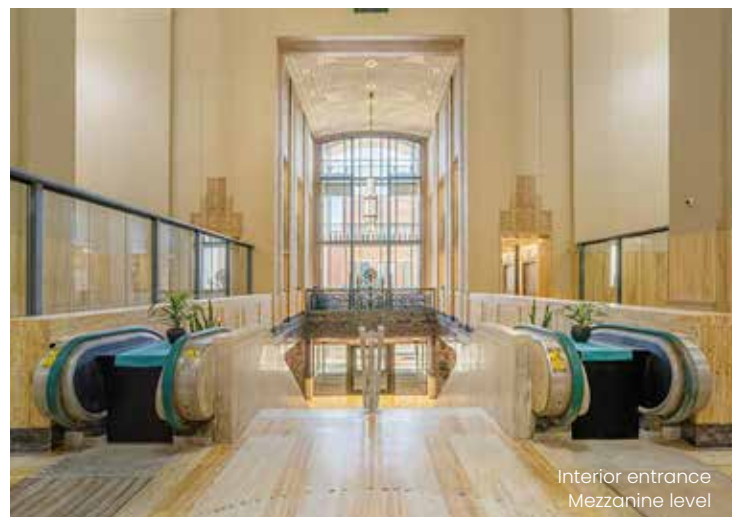
Blackberry Systems Inc.

**Window system manufacturer:**

Quaker Window and Doors

- Historic Series H600 - replication based on original design with Trickle Ventilators (or trickle vents)

AZON Technology/Machinery: 

Interior entrance  
Mezzanine level

# Makeover in Battle Creek

When The Milton renovation is complete, the iconic structure will feature 85 residential units and two floors of office space with the original jazz-age, Art Deco-inspired adornments meticulously restored.

Since Michigan is located in a climate zone exposed to extreme weather conditions—Battle Creek averages 53-in. of snowfall annually— facade materials must be thermally efficient against harsh northern winters. The warm season lasts for 3.8 months from May to September where temperatures in the city will average 75°F and will reach 95°F or greater on the hottest days.

Fenestration materials used in the windows of historic high-rise buildings were comprised primarily of single pane glass, galvanized steel, cast aluminum, and wrought iron. Windows and fenestration components—glass, frames, infills, and attachments—used in any opening are possibly the most visible materials in any facade, whether a building is old or new. Modern aluminum framing is the ideal material to replicate historic windows due to its inherent flexibility, ability to facilitate taller and wider sizes, offer narrow sightlines, bent shapes and provide the worry-free structural performance of the thermal barrier composite.



## The action plan

Preserving the look of The Milton high-rise treasured facade is possible through accurate reproduction by matching the appearance of the original panning, window stiles, meeting rails and muntins.

“Shop drawings and a mockup were provided for review by the State Historic Preservation Office before use in this historic structure,” says architect Randy Case, LEED AP, NCARB, president of Architecture Plus Design. “I enjoyed working in partnership with Quaker Windows and regional supplier and window installation company, Blackberry Systems, in the preliminary design stage since both companies have a good understanding of preservation projects that meet the Secretary of Interiors Standards for the Treatment of Historic Properties,” he says adding that, “besides being able to meet acceptable sightlines and configurations we worked together on finding a solution to the complex issues of fixed windows versus operable on high rise structures.”

Case explains, “People like to be able to smell and feel the air, and higher wind velocities in tall buildings leads to wall hangings, papers, and light object blowing all over. The Milton is using a unique ‘Trickle vent’ system at the sill that has a small operable slot to allow natural ventilation when opened from the inside, while not putting a burden on energy efficiency of mechanical systems.”

## The fenestration products

Using structural aluminum fenestration materials in The Milton facade with polyurethane polymer thermal barriers will optimize energy savings, increase comfort, and lower operational costs. The custom thermal barrier windows are based on the Historic Series H600 design manufactured by Quaker Windows. The window glazing consists of 1-in. insulating glass with double silver low-E, argon filling, warm edge spacers provide a U-factor of 0.30 for high energy efficiency, comfort, and protection when the weather and temperatures are extremely cold or hot. Simulation software allows a visual snapshot of the overall performance of the fenestration system shown in the image below.

