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## **Crystal Window & Door Systems supplies 1,100 energy efficient windows for 120 year-old Castle Park Apartments renovation: Project team included Dalco Remodeling, E.M. Harris Const., Steele Props., Community Housing Concepts and Monroe Group**

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Crystal Window & Door Systems completed the shipment of over 1,100 new energy efficient windows for the major rehabilitation of the historic Castle Park Apartments complex. The 120-year old building celebrated its grand re-opening and now offers 209 units of affordable housing in a truly unique structure. Castle Park Apartments is the latest addition to Crystal's growing portfolio of impressive historic projects.

The massive castle-like structure was completed in the 1890s as a Catholic sanatorium hospital for the mentally ill. The 200,000 s/f 4-story red brick building, with attic and basement spaces, was originally designed by architects Charles Mann and Harvey Ellis. Fittingly situated on a hilltop, a slate roof and numerous turrets and tall spires adorn the chÅ¢teauesque style edifice. The impressive structure located just outside the city of St. Louis is listed on the National Register of Historic Places.

Following many decades as a hospital, the property was sold and the building was converted into apartments in 1982. Unfortunately, over the next 25 years many of the units fell into disrepair. In 2007 a Denver-based non-profit affordable housing developer stepped in and began a \$27 million acquisition and redevelopment effort. The major rehabilitation called for significant interior and exterior restoration including the installation of new windows. The project's complex financing included federal and state historic preservation tax credits which required compliance with historic preservation and restoration practices. The project has drawn much general public and trade media attention, including the St. Louis FOX TV News affiliate, the St. Louis Business Journal, and national publication Affordable Housing Finance.

Crystal supplied the historic restoration project with 966 Series 5000 aluminum double-hung windows and 176 Series 2100 aluminum picture windows. Both aluminum window models feature 3.25" energy efficient frames and .875" insulated glass units with Solarban 60 low-E coating and argon gas filling. The Crystal windows are finished with a durable, environmentally friendly AAMA 2604 powder coat bronze color paint.

The Series 5000 window boasts AAMA performance ratings of H-HC45 and CW-PG45 and features a heavy-duty frame, tilt-in sashes with custodial latches, equal sightlines and full width anti-drift clip locks on both sashes. The Series 2100 picture window is AAMA rated at FW-HC55, utilizes double strength glass and features a minimal sightline frame to maximize day lighting.

The historical nature of the project presented Crystal with some additional requirements and challenges. An exterior applied grid frame was installed around the glass perimeter of each new

window sash to replicate the look of an historic putty line glazing bead. On the new picture windows, a 2" applied exterior horizontal muntin was used to mimic the building's original double-hung windows. Crystal was further challenged to develop special window frame extrusions which eliminated the screen track, as required by the historical specifications. Historical panning finished off the new window installations.

The aluminum window frame material was provided by Crystal's aluminum extrusion subsidiary in nearby Union, MO and the sale was coordinated by Crystal's Fenton, MO branch.

The Castle Park Apartments new windows were installed by Dalco Remodeling's Commercial Division and the general contractor was E.M. Harris Construction Co. of St. Louis. The property was developed by national firm Steele Properties, and is owned and managed by its affiliates Community Housing Concepts (CHC) and The Monroe Group.

Crystal Window & Door Systems is one of the top 40 manufacturers in North America of replacement and new construction vinyl and aluminum window and door products and high-end fenestration systems.

New England Real Estate Journal - 17 Accord Park Drive #207, Norwell MA 02061 - (781) 878-4540