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To: David Blumenthal

From: George M. Janes, AICP  
Environmental Simulation Center

Date: May 4, 2007

**RE: Simulations for the Bennett College Redevelopment**

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You have asked the Environmental Simulation Center, Ltd. (ESC) to create verifiable digital photomontages (also known as photosimulations) for the Bennett College Redevelopment in Millbrook, NY. This document explains that process and its results.

A verifiable digital photomontage is the process of merging proposed future conditions with a photograph of existing conditions to show impacts on visual resources from a particular viewpoint represented by a photograph. This is done by marrying the precision of a 3D CAD model for a development with the photograph by using match points that exist in both the photograph and the CAD plan. Proposed conditions are then rendered so that the perspective, lighting, colors, shade and shadow properly reflect the time of day and season of when the photograph was taken, and the lens and location of the camera that took the photograph.

Photosimulations vary from artist renderings in several ways, including that they are verifiable, meaning that elements added to the photograph can be measured, and their locations verified, in three dimensions along with their relationship with the existing conditions photograph. The lighting reflects the time of day, day of the year, and the location where the photographs were taken, which means that shade and shadow are calculated by computer, not interpreted by human eye. There are artistic elements to photosimulations, usually involving the filtering of views through vegetation, but the major elements of any photosimulation will look materially similar regardless of who performs them. The ESC has been producing such simulations since 1993 and developed many of the techniques that have become standard practice. Photosimulations are usually not meant to be used for design review. Rather, they are meant to help assess impacts on an area's visual resources.

The simulations used information from many sources, including: Millbrook Architects (architecture), TRC (site, grading and demolition plans), Slaker Design Group (landscape architecture), and Howard & Associates (3D models).

### **The Photosimulations**



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The photosimulations are based on existing conditions photographs taken from four viewpoints, the locations of which are mapped on the key map. The photographs were taken by the ESC on March 28, 2007, in the early afternoon. They were taken with a Canon EOS film camera using 400 speed Fuji film. The photographs were then scanned using an Epson Expressions flatbed scanner at 600 DPI.

The photographs were taken on a clear day and the time of day reflects a period with short shadows. Trees are in leaf-off conditions and there is no snow on the ground. These conditions were consciously selected and reflect a reasonable worst case condition for assessing impacts to visual resources under New York State's Environmental Quality Review (SEQR).

The four viewpoints analyzed are as follows:

- 1) Facing west toward the property from the Millbrook Golf and Tennis Club snack shack.
- 2) Facing north on Route 343 looking toward Halcyon Hall.
- 3) Facing east on Route 82 west of the light at the intersection of Routes 44, 82 and 343.
- 4) Facing east on Route 44 toward Carroll Boulevard.

Viewpoints 1 and 3 use a 50mm lens, which best represents the perspective of the human eye. Viewpoints 2 and 4 use a 35mm lens, which is a wide-angle lens. Typically, most photosimulations use a photograph taken with a 50mm lens. While both 50mm and 35mm photographs were taken for Viewpoints 2 and 4, the 35mm perspective was selected for simulation so that more of the proposed development would be visible from these close-up viewpoints and visual impacts could be better disclosed.

#### **Existing Conditions:**

The site is a sloping, irregularly-shaped, partially wooded site that includes the abandoned Halcyon Hall and related structures of the former Bennett College. All viewpoints analyzed show visibility to at least some of these existing buildings.

Views from on site are dominated by the abandoned College buildings. These buildings range from two to five stories and are in various states of repair, though all have been boarded-up.

Trees partially screen the existing buildings from most long-range views. Except from Viewpoint 2, the dilapidated condition of most of the existing buildings is not immediately apparent from off-site viewpoints, as typically only the tops of



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the buildings are unscreened by vegetation. Viewpoint 2 clearly shows the condition of Halcyon Hall, which dominates the viewpoint.

#### **Proposed Development:**

The proposed development calls for the removal of existing buildings, grading of the site, removal of many existing trees and the planting of many new trees. The plan calls for 91 units of housing, related facilities and streets. Most of the new buildings are about 30 feet tall and are two or two and ½ stories.

While the action does not dramatically change the volume of development on the site, it does change what is known as the “grain” of the development. The existing development of the site is a coarse grain (fewer larger, taller buildings) while the proposed development is a finer grain (more buildings that are smaller and shorter). This change in grain, with a few exceptions, is more in keeping with development in and around the Village of Millbrook.

#### **Visual Impacts and Mitigation:**

The visual impacts and mitigation vary according to the viewpoint and each is discussed below. In summary, from longer distance views (Viewpoints 1 and 3) the proposed development has a little or no impact on the visual resources of the area, as much of the proposed development replaces buildings on an already developed site, and on- and off-site vegetation provide substantial screening from longer distances. While the plan calls for many new trees to be planted, the proposed development does remove many of the existing trees on the site. This tree removal is most apparent in close-up views immediately adjacent to the site, especially Viewpoint 4, where the proposed development replaces a wooded area around Carroll Boulevard.

The design of the proposal attempts to mitigate visual impacts through screening (the planting of new trees), and a design that keeps building height low. Color variation and architectural articulation also helps to mitigate visual impacts by breaking up building massing. The specifics of the proposed development’s impacts on visual resources are as follows:

**Viewpoint 1 (view from the Millbrook Golf and Tennis Club):** This photograph was taken with a normal lens (50mm) to replicate the human perspective from this viewpoint. The visual impact of the proposed action from this viewpoint is small, largely due to screening from existing vegetation. Some of the new buildings to the right (north side) of the photograph will be partially visible through the existing trees on the Golf and Tennis Club. Halcyon Hall at the left of the photograph will be removed and replaced with buildings that will also be visible. A few of the larger trees that are visible in existing conditions will be removed, though others stay due to a deliberate effort to preserve some of the site’s larger trees.

**Viewpoint 2 (view facing north on Route 343 looking toward Halcyon Hall):** This photograph was taken with a wide-angle lens (35mm) to show all of Halcyon



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Hall visible from this viewpoint. The action dramatically changes the view from this viewpoint, which is currently dominated by the dilapidated, though distinctive, Halcyon Hall. The action removes most of Halcyon Hall visible from this viewpoint but does salvage the fieldstone foundation and portions of the building, which will be rebuilt and reused as a part of the facilities of the community. This reuse of the building acknowledges the site's history.

This viewpoint may show the most change of any of the viewpoints, as it shows the removal Halcyon Hall, which is its dominant feature. Even though this viewpoints shows considerable change, this does not necessarily mean that it shows any impact on the area's visual resources. In this case, one development is replacing another development, and the proposed development is actually less imposing than Halcyon Hall. Unless the extant Halcyon Hall itself can be identified as one of the area's visual resources, then this viewpoint shows no negative impact on the area's visual resources<sup>1</sup>.

**Viewpoint 3 (Facing east on Route 82 west of the light at the intersection of Routes 44, 82 and 343):** This photograph was taken with a normal lens (50mm) to replicate the human perspective from this viewpoint. The simulation shows that Halcyon Hall (to the right of the photograph) is removed and replaced with development that is slightly more visible due to the removal of several intervening trees. To the left of the photograph, the red brick science building was removed and replaced with lower, less visible development. During leaf-off season, portions of the development will be visible through the trees, and these portions can be seen on careful inspection of the photosimulation. Visual impacts have been mitigated by keeping the proposed buildings relatively low so that they will be largely screened by existing vegetation and any impacts on visual resources from this viewpoint marginal.

**Viewpoint 4 (Facing east on Route 82 toward Carroll Boulevard):** This photograph was taken with a wide-angle lens (35mm) to show more of the development than would be visible with a normal lens. Many of the trees that screen the current development on the site are removed in this viewpoint. This tree removal means that much more of the site is clearly visible. This newly visible site provides only partially screened views to many of the proposed buildings on the west side of the site. The landscape plan shows the planting of many new trees on the site, but at time of occupancy they will not provide as much screening as the existing trees. The visual impact of the proposed development is largest from this viewpoint as the development will significantly

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<sup>1</sup> The photosimulation from this viewpoint uses 2D textures on existing portions of Halcyon Hall to represent future conditions. While this is not typically done in photosimulation (usually textures are applied in the 3D model and rendered for merge with the photo) this method was selected to represent the visual conditions of the salvaged portions of the building after they were stabilized and cleaned. Their exact appearance will vary according to the amount of stabilization and cleaning necessary, which we were unable to determine. Instead, parts of the building that were in very good shape were sampled and reapplied to represent the cleaned and stabilized portions. Textures for cleaned wood were sampled from renderings and then applied.



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alter the view from this location, transforming its character from semi-rural to that of a village. The grain of the development as well as the use of well-articulated buildings and varied colors will mitigate some of the visual impacts from this viewpoint by breaking up building massing, but until the planted vegetation matures, much of the west side of the site will be visible from this viewpoint. Nevertheless, the character of the proposed development is in keeping with other nearby development that is similarly visible, and the viewpoint itself does not represent a unique visual resource.

**Questions or comments**

Questions or comments should be referred to me at 212-279-1851 or at [janes@simcenter.org](mailto:janes@simcenter.org).