12-5-13   Viewshed Study from Lamp House towards Lake Mendota

* Except for the Lamp House Block, which illustrates a much higher level of detail and accuracy, the surrounding blocks are derived from a previous 3-D model of the city. Please see the last page of this handout for information on the limitations of the model.

Diagram 1:   Lake Mendota Viewshed Study: The grey cone illustrates the viewshed over the Capitol North parking garage parcel, the green cone overlooks James Madison Park Neighborhood.

Diagram #2:   Viewshed corridor in comparison to Downtown Plan height recommendations.
    This diagram illustrates the reason for the two-tone viewshed corridor, as the garage parcel as the pinch point that separates the grey from the green viewshed.

Notes: 8-Stories (88 ft) shown on parking garage parcel, 4-stories (44 ft) shown on neighborhood blocks
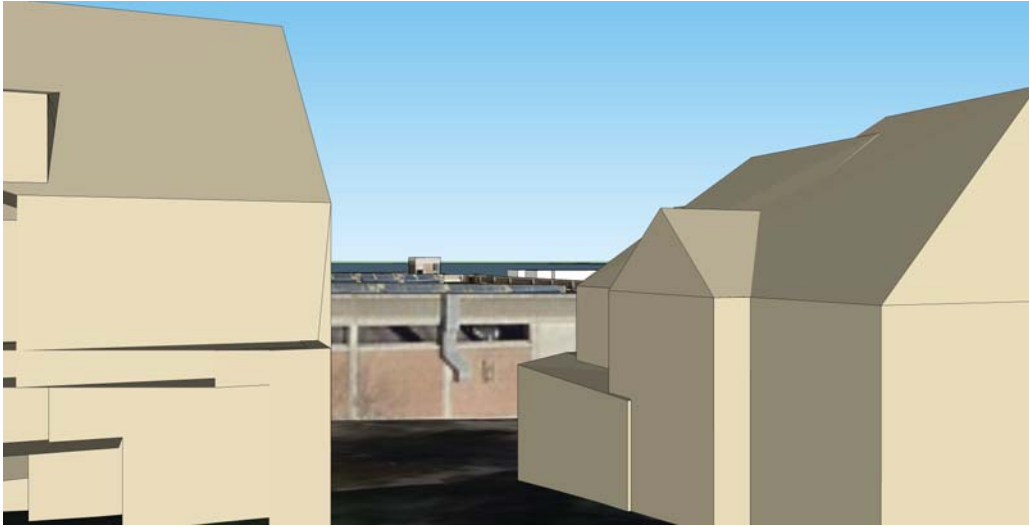
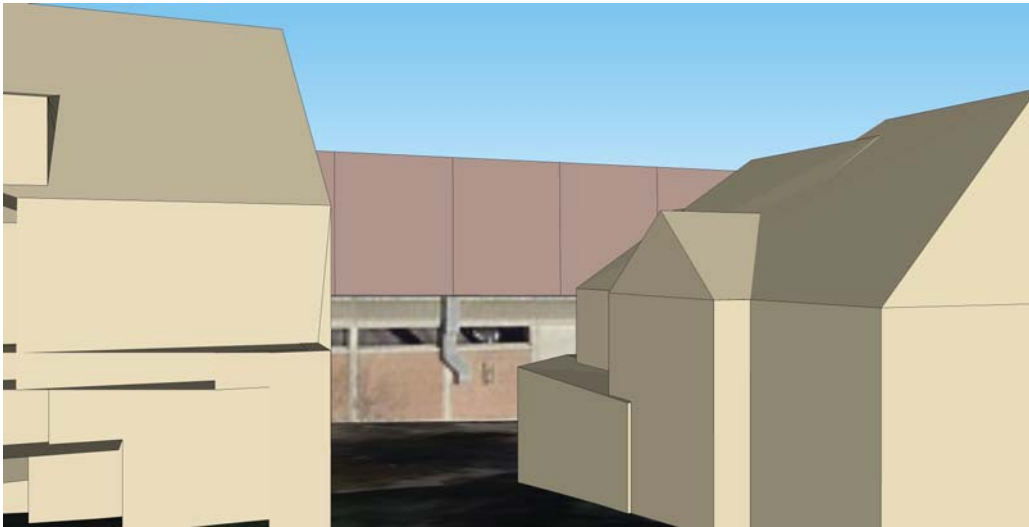12-5-13 Views from Lamp House towards Lake Mendota

Diagram 3:   First Floor Views
Notes: These views illustrate existing first floor views in comparison with views if redevelopment would
               occur at different heights:

Existing first floor view:

First floor view with 4 story redevelopment across the street (44 feet):

First floor view with 8 story redevelopment across the street (88 feet):

12-5-13 Views from Lamp House towards Lake Mendota

Diagram 4:   Second Floor Views
Notes: These views illustrate existing first floor views in comparison with views if redevelopment would occur at different heights:

Existing second floor view:

Second floor view with 4 story redevelopment across the street (44 feet):

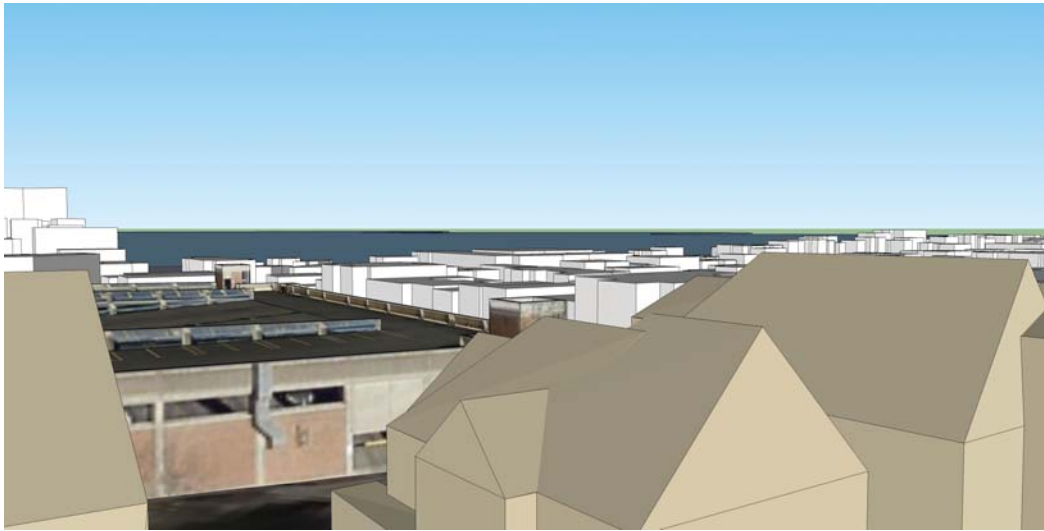Second floor view with 8 story redevelopment across the street (88 feet):

12-5-13 Views from Lamp House towards Lake Mendota

Diagram 5:   Third Floor Views
Notes: These views illustrate existing first floor views in comparison with views if redevelopment would
                occur at different heights:

Existing third floor view:

Third floor view with 4 story redevelopment across the street and adjacent neighborhood (44 feet):

Third floor view with 8 story redevelopment across the street (88 feet) and 4 stories in the neighborhood:

12-5-13 Views from Lamp House towards Lake Mendota

Diagram 6:   Effect of Capitol North garage parcel redevelopment on viewshed
Notes: These views illustrate that the effect of development on lake views is greatly reduced if
              8 story redevelopment is limited to only half of the Capitol North garage parcel.
              The remaining half, along with neighborhood is shown at 4 stories.

Viewshed corridor with 8 stories on 1/2 of parking garage parcel, and 4 stories on neighborhood parcels:

First, second and third floor views from the above height configuration:

first floor view

second floor view

third floor view
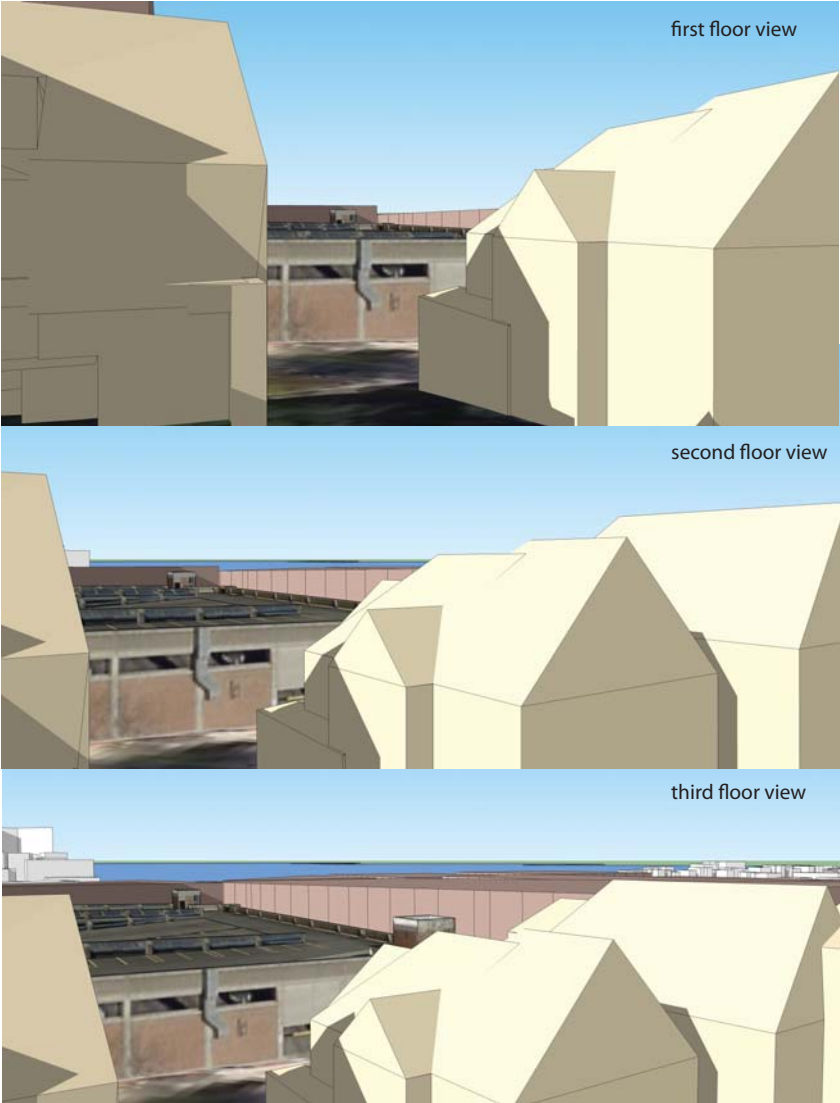
Department of Planning & Community & Economic Development
Planning Division

December 5, 2013

City of Madison Sketchup 3D Model

The following information shall serve as a reference for those using the 3D SketchUp model of Downtown Madison (file name – *SketchUpModel_SharingFormat.skp*), which is a computer-based digital representation of downtown.

This information describes the file generally and some of its limitations. This information shall serve as a "disclaimer" used by City staff when working with the 3D model, and it should provide a sense of the model's overall accuracy: "*Baseline information for existing buildings and topography is taken from Light Detection and Ranging (L.I.D.A.R.) data and is intended to reflect general building scale and massing relationships only.*" To highlight a few issues more specifically, included below is some detailed information about each layer/group found in the SketchUp file:

- **Block Outlines** – This layer/group represents the street right-of-way boundaries.
    - The space between the right-of-way line and curb (sidewalk/terrace area) is not included.
    - Each "block" is positioned at a vertical dimension from a specific point for that individual block. This is helpful in portraying broader changes in topography, but because each block appears as a flat plane, grade changes within the block are not reflected (for this reason, some buildings are floating above/below the block).

- **Building Footprints** – This layer/group represents the building footprints (from L.I.D.A.R.) extruded to the highest point of the building.
    - Each building form appears to have a flat roof. This can be a bit misleading when looking at the massing for buildings with pitched roofs or roofs of varying heights.
    - The building forms are positioned vertically to represent their relative height. While these locations are correct, block outlines appear as a flat plane and grade changes within the block are not reflected as mentioned above.
    - Because the building footprints themselves are a product of L.I.D.A.R. data, some building form details are skewed/lost due to the building's appearance from an aerial perspective (issues with shadows, trees, etc.). This also is the cause for the horizontal shifting of buildings from their exact location (resulting in some buildings extending beyond the block outlines).
    - Multiple buildings close to or adjoining one another sometimes appear as a single building mass.