

to disappear below the upper edge of the building façade, while another part of the eastern section, which appears to be much higher, is visible further toward the center of the roof. The difference in heights is even larger than it appears, since the southern edge of the penthouse is considerably further away from the camera location. From the more distant Camera 2 view in Figure 5–194, it is clear that the eastern and western sections of the east penthouse have fully separated. In this view, the roofline of the eastern section appears to be parallel to the main roof, even though it lies well below the upper end of the western section and its original location (compare with Figure 5–185). Since the northern part of the eastern section is about to fully disappear into the roof, this observation suggests that the southern part is actually collapsing by rotating as a single unit toward the north, indicating that the eastern section of the penthouse had broken into at least two pieces.

A large fraction of the west wall of the east penthouse is rotating towards the east in the closer view from Camera 3 and appears to be intact. The appearance of this area in the Camera 2 view in Figure 5–194 is consistent with this interpretation.

The appearance of the north face recorded by Camera 3 in Figure 5–194 has changed somewhat over the 0.33 s since the frame in Figure 5–193 was taken. An additional window on the 40th floor, 40-43E, has opened. The bright spot on the 45th floor near Column 44 is still prominent, but the one near Column 46 has become much less distinct. The vertical line near Column 44 is no longer evident. In the Camera 2 view, a faint lighter area is visible near the 42nd and 43rd floors below the collapsing penthouse. This lighter area appeared as the penthouse began to sink into the roof and seems to be associated with changes in reflected light from the face at this location.

The two views of the collapsing penthouse 10 frames later (1.7 s after it began to descend) are shown in Figure 5–195. From the long distance Camera 2 view, it is clear that the eastern portion of the penthouse has disappeared completely below the parapet running around the building and has presumably fallen into the building, while the western half is still visible and continues to rotate into the opening. In the view from West Street (Camera 3), it appears as if the west wall of the east penthouse is still intact.

In the closer view, an additional window (40-45A) on the 40th floor has opened. The bright spot near Column 43 is still prominent on the 45th floor. A light area has appeared near the tops of the windows on the 46th and 47th floors below the collapsing penthouse. In the longer distance view, the lighter area on the north face below the collapsing penthouse has extended further down the face to the 41st floor.

The videos show that it took $2.0 \text{ s} \pm 0.2 \text{ s}$ for the entire east penthouse to disappear from view. The last portion to disappear was the southwest corner. There is a small uncertainty in the timing because a small section of the north screenwall near the penthouse began to break away at $1.9 \text{ s} \pm 0.1 \text{ s}$ and rotated counterclockwise toward the collapsing penthouse. As it rotated, it blocked the view of the last section of the penthouse to disappear. Figure 5–196 shows the two views of WTC 7 taken $2.0 \text{ s} \pm 0.1$ after the penthouse began to move downward. The small black object visible at the right side of the location where the penthouse had been is the section of the collapsing screenwall. The penthouse itself is no longer visible.

Except for the missing penthouse and broken windows, the north face of WTC 7 in the Camera 3 view from West Street is little changed from Figure 5–186. In the more distant view, the area of increased light reflection on the north face has continued to move downward.