

“Strategies for Flood-risk Mitigation: Who Pays – and How?”

presented at the

PennDesign CPLN 600 Planning Workshop, March 28, 2019

Allen Kratz, Principal, Resilience Works, LLC

In this final part of today’s class, we’ll go north in New Jersey for a four-minute look at another historic city: Hoboken, on the Hudson River, which flooded the community badly during Superstorm Sandy in 2012.

Flood-prone communities like Hoboken, that also have a historic built environment face a dual adaptation challenge: adapting historic preservation standards, regulations and design guidelines to climate adaption.

Hoboken’s adopted a Flood Damage Prevention Ordinance in 2013. The New Jersey Historic Preservation Office has looked at 1,600 properties in Hoboken and identified four approaches evolving in the community to mitigate flood risk.

Flood Mitigation in Hoboken Historic District

1. **Landscaping** adjacent to foundation
2. Basement window **infill**
3. First floor abandoned – **residential uses moved above** Design Flood Elevation (DFE)
4. **Rooftop addition**

1

2

The owner of this property traded an impervious front courtyard (either cement or stone) for rain-absorbing vegetation.

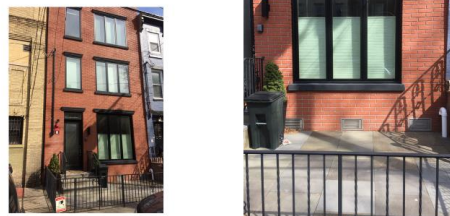
1. Landscaping adjacent to foundation



3

During reconstruction of this dwelling, the basement was filled in. For some property owners, relinquishing a basement may be economically feasible. In the hands of a skilled architect, the results can be aesthetically pleasing.

2. Basement window infill



Resilience Works, LLC – Climate-change Consulting to Give the Future a Future

Allen Kratz, Principal

resiliencworks.info ■ allenkratz@optonline.net ■ 201-214-7476 ■ 207-326-0845

4

Nonetheless, is there an ethical dimension to filling in basements. Diverted rainwater goes somewhere – perhaps into the basement apartments that are common in Hoboken.

2. Basement window infill



5

Diverting water to less-prepared, less fortunate neighbors reminds me of the 1960s – underscored by this vestigial Civil Defense sign in Burlington on a building on High Street.

In the early 1960s, Americans were encouraged to build backyard fallout shelters – ready to protect themselves against a Soviet nuclear attack – and presumably to protect themselves against friends and neighbors who had not built their own shelters. In short, is a piecemeal approach to flood mitigation ethically sound?

2. Basement window infill



6

A third intervention is to abandon the first floor for habitable use. In these two properties – one a former manufactory and the other a residence – the ground level is reserved for garage use. Residential space is situated above the design flood elevation.

3. 1st floor abandoned; DFE residential use



7

One of the most controversial effects of Hoboken's 2013 Flood Damage Prevention Ordinance has been the trend to allow rooftop additions in return for abandoning the basement. Historic preservation purists object to these additions, but perhaps sacrificing historic integrity is the price a community pays to fortify itself against sea level rise.

4. Rooftop addition



Here's another under construction around the corner. One could even characterize this obviously modern addition as satisfying the Secretary of the Interior's standard for new construction: to differentiate new construction from the original resource. The photo on the right shows a slightly earlier rooftop addition. Those non-original mansard roofs create a false sense of history, an alteration disfavored by the Secretary of the Interior's standards for the treatment of historic properties.

8

4. Rooftop addition



51

In historic communities throughout the Delaware Valley and beyond, planners, architects, historic preservationists, chief resilience officers, their colleagues and their communities will do well to develop the skill of flexible thinking as they themselves adapt to climate adaptation.

9

4. Rooftop addition



51

This photo and the ones on the next slide suggest an evolving change in attitude. When the owners of this corner property topped their late 19th-century home in the late 1970s, the community reacted with horror. Shunned by neighbors, the husband and wife sold their and moved away from civic opprobrium.

Four decades later, rooftop additions down the same block and across the street evoke more concern than scorn. Perhaps the evolving – and grudging – acceptance of new rooftop additions indicates a new paradigm: a flexibility intended to give the past a future -- and to give the future a future.

10

4. Rooftop addition



51

What are your thoughts as Chief Resilience Officers who directly report to the mayor and offer advice on city planning, historic preservation, economic development and housing in conjunction with flood-risk reduction?

Resilience Works, LLC – Climate-change Consulting to Give the Future a Future

Allen Kratz, Principal

resiliencworks.info ■ allenkratz@optonline.net ■ 201-214-7476 ■ 207-326-0845