Alewife District Plan Update

December 6, 2018

ENVISION CAMBRIDGE

Agenda

- Urban Design Guidelines
- Climate Change Preparedness and Resiliency Recommendations

Alewife Urban Design Guidelines

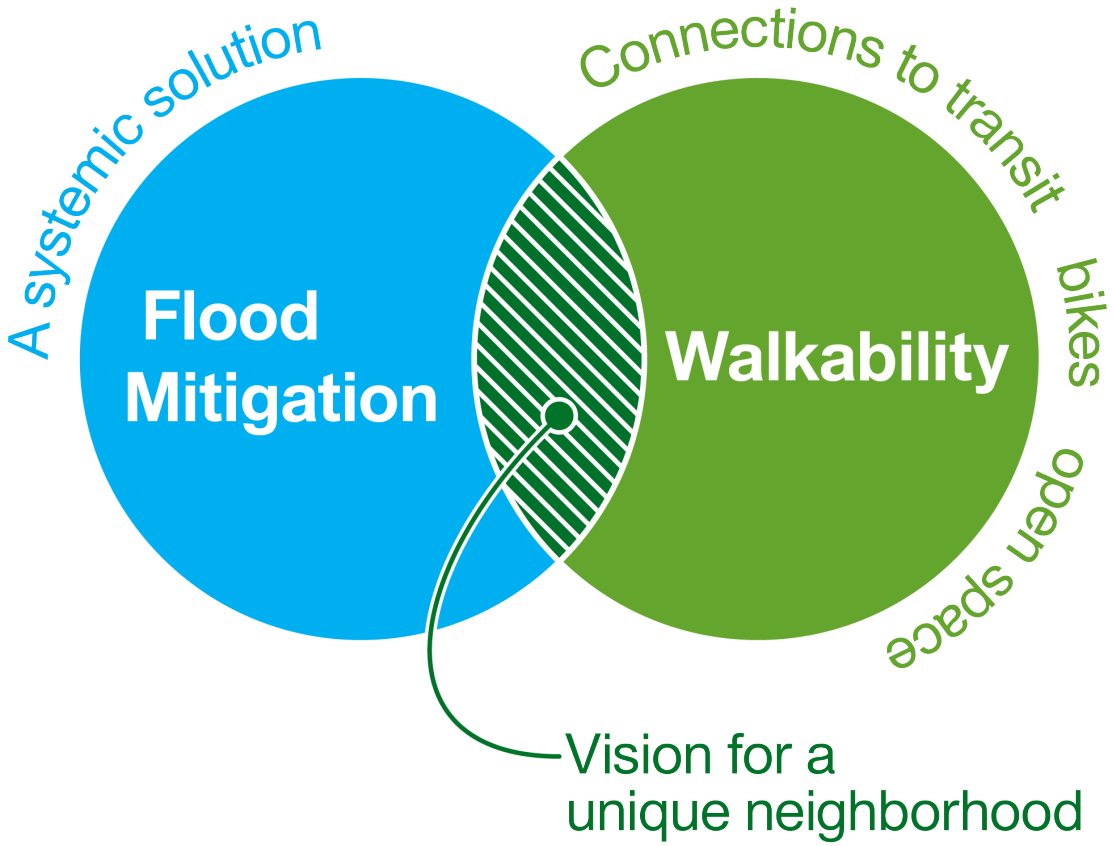
Urban Design Vision

- **A place of opportunity and connection**. Its urban form will encourage meeting, engagement, and interaction.
- **Varied.** It will be comprised of areas of differing character, and will accommodate a wide range of functions and uses, and serve Cambridge's diverse residents and workers.
- **Inclusive and welcoming.** It will serve both the immediate community and the region.
- **Comfortable, beautiful, and safe.** It will offer an enjoyable environment in which to live, work, play, and shop.
- **Sustainable.** It will be designed for resiliency and environmental sustainability, and to support the communities of Cambridge.

Resiliency and Urban Form Benefits

Find a systemic solution to the impacts of climate change by aligning with the preparedness planning process

- Build to an elevation of 4’ or over for the first habitable floor level, which reduces flood risk from 2070 SLR/SS



Create a mixed-use walkable neighborhood that also promotes bicycles and transit

- Create a distributive multimodal transportation network by “completing the street grid” and making better connections to the T
- Create a “there there” for daytime and evening populations and to improve the “quality of address”
- Achieve a scaled transition of new development towards Cambridge Highlands

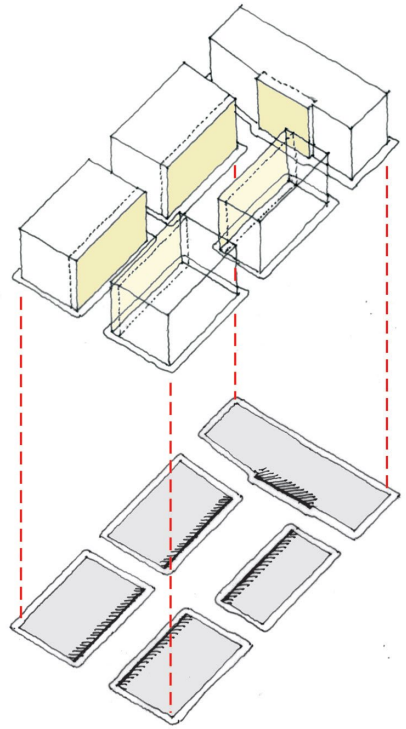
In order to realize our vision of transforming Alewife into a resilient neighborhood with strong amenities and sense of place, we need to retain a sufficient amount of value in order to encourage redevelopment.

Raised Sidewalk

Site and Building Organization

Create Human Scaled Urban Blocks

Break up large blocks to create a walking/cycling environment.



Frame Urban Space

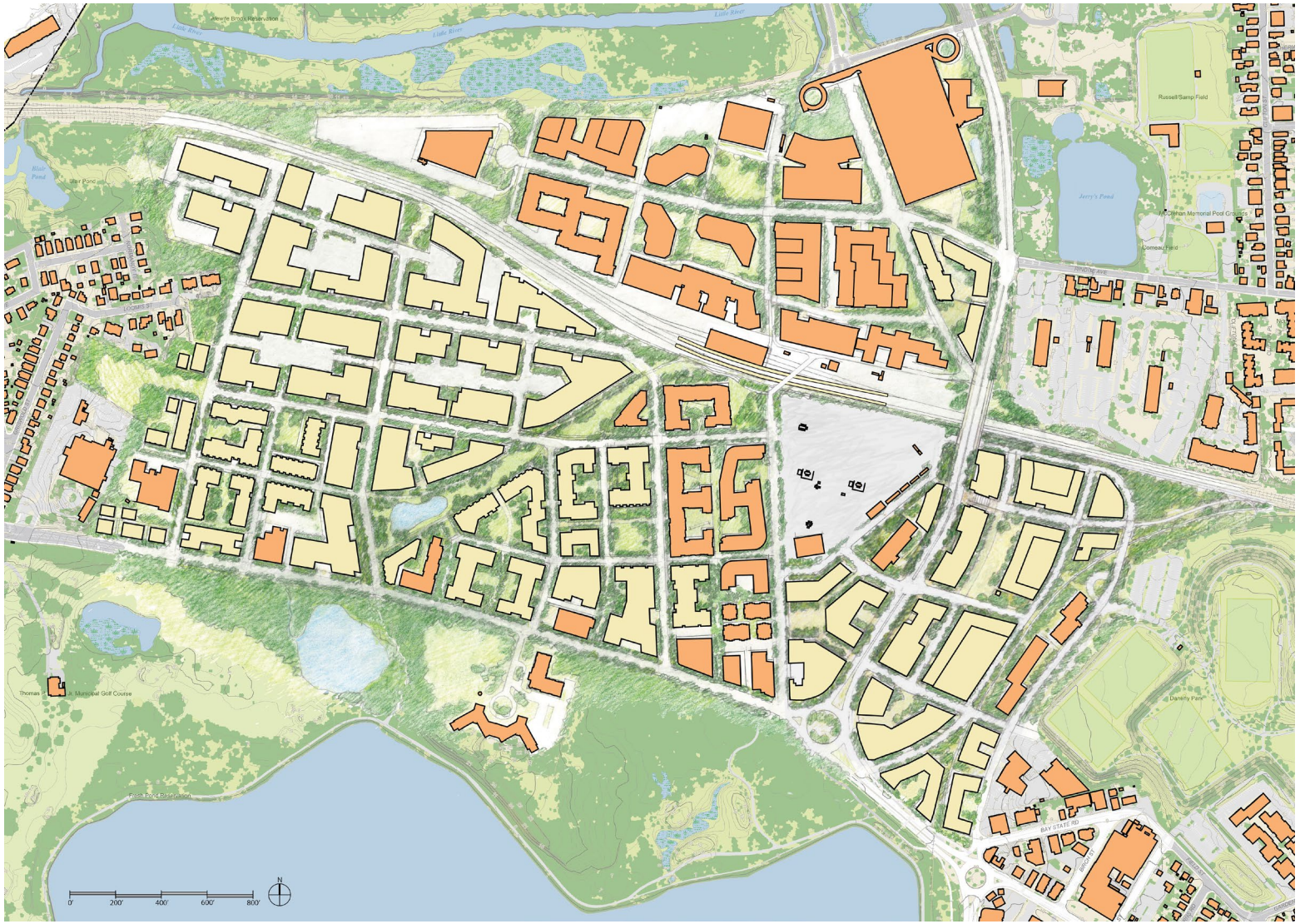
Create continuous street walls that define streets and public spaces.

Entries, Access and Utilities

Minimize intrusion of entries, access and utilities on the public realm.

Urban Blocks

- Create more streets and connections
- Break up large blocks to create a walking/cycling environment.



Built Form

Architectural Character

Design buildings and facades that emphasize the human scale and create an engaging pedestrian environment.

Building Materials

Use high quality, durable and sustainable materials.

Building types

Incorporate a broad range of building types accommodating a variety of uses to create a rich urban environment.

Open Spaces

Open Spaces and Site Design

Public open spaces should be visually and programmatically rich; varied in size and character

Streets and paths

Design streets that accommodate all modes and mediate between the public and the private realm.

Parks

Parks should be welcoming, offer connections to nature and provide opportunities for a wide range of activities.

Universal Access

Design the district's public and private outdoor spaces for universal access.

Open Spaces cont.

Squares and Plazas

Squares and plazas should be the foci of community life: predominately pedestrian, enlivened by outdoor uses and by the ground floor retail of the buildings that frame them.

Privately-Owned Open Space (POPS)

POPS should be perceived as fully public components of the urban environment.

Environmental Comfort and Public Amenities

Open spaces should be designed to provide a safe and comfortable pedestrian environment.

Conceptual Open Space

- Diagonal pedestrian/bicycle path linking through district
- Mitigate stormwater
- Framed by architectural facades

Conceptual Aerial Perspective

Climate Change Preparedness and Resiliency Recommendations

Flood protection and resiliency for buildings

- Build/protect to the 2070 10-yr flood elevation from SLR/storm surge (i.e first floors at or above this level)
  - Quad: Elevate to 4 feet in Quad and provide additional flood protection up to 2070 10-yr if necessary

  *Height limit is measured from the 2070 10-year flood or 4-ft elevated plinth in Quad

- Recover to the 2070 100-yr flood elevation from SLR/storm surge (i.e., elevate or floodproof residential units, critical building equipment)

- Require building utilities to be located above the 2070 100-yr flood

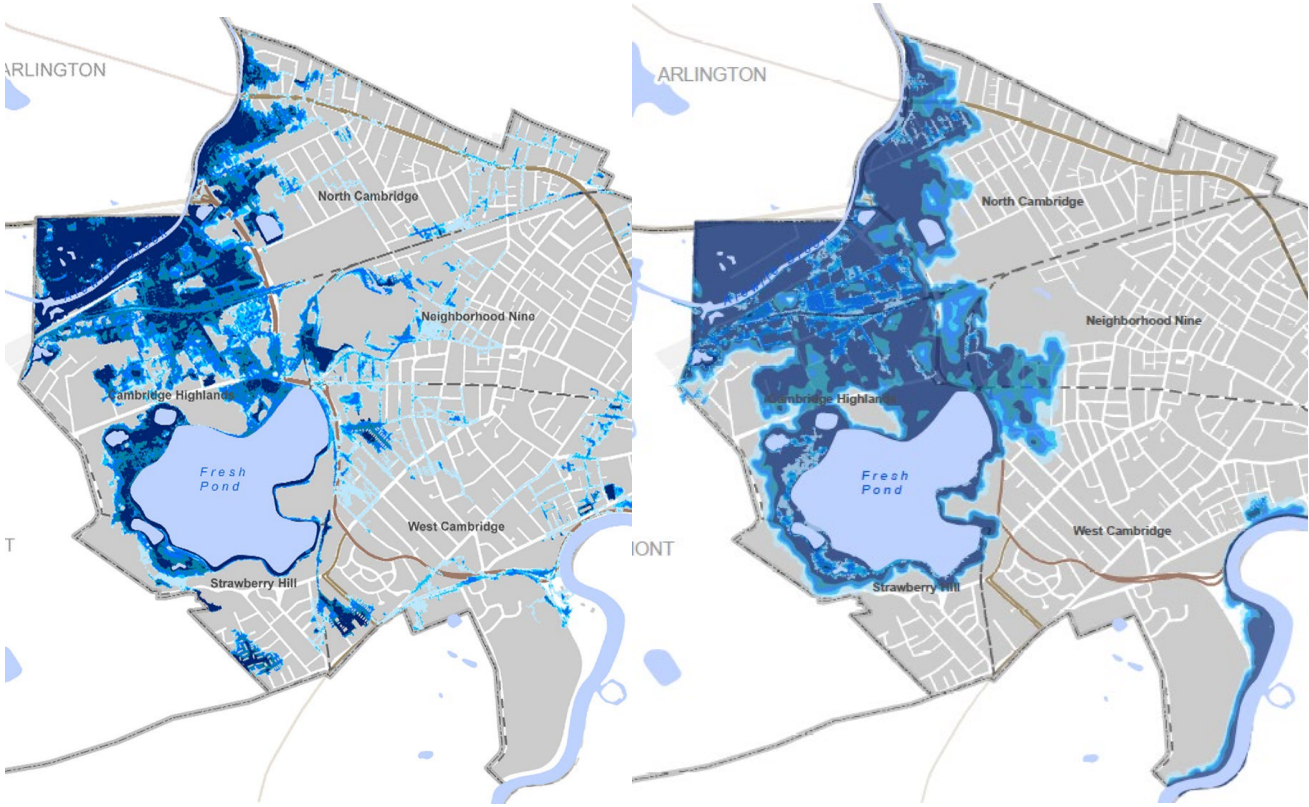
- Requirements for floodproofing of structured parking

- Flood protection standards for building systems

4’ raised sidewalk in Quad

Resiliency for critical infrastructure

- Protect the Fresh Pond Reservoir (i.e. vegetated berm)
- Complete street grid by adding new local roads for better connectivity
- Plan, design, and implement storm-surge barriers and improvements at appropriate sites.
- Continue sewer separation to reduce adverse public health impacts
- Engage with state and regional partners to increase the resiliency of critical infrastructure (Alewife electrical substation; transportation and transit infrastructure; Amelia Earhart Dam)



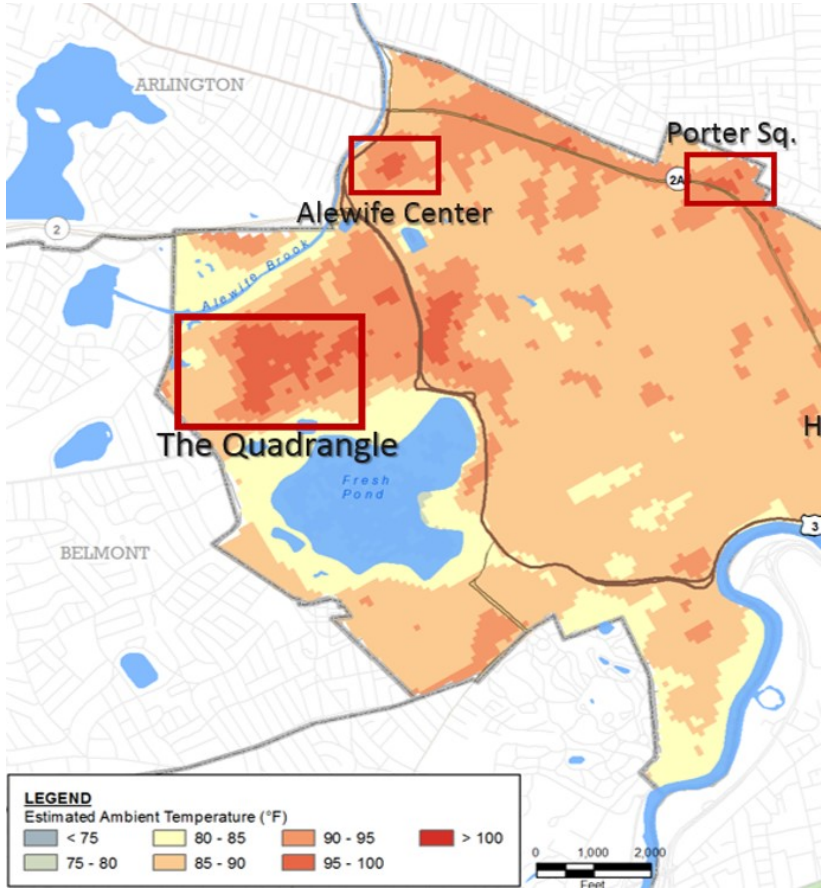
2070 100-yr Precipitation Flood

2070 100-yr SLR/Storm Surge Flood

Heat protection and resiliency for buildings

Cool roofs and other building structures:

- Require all roofs, parking decks, and other surfaces to be high albedo with minimum SRI of 78 for 75% of roof area
  - Require mechanical equipment on roofs to have ventilated, high albedo screen
  - Require any rooftop habitable areas (i.e. decks) to use high albedo material
  - Require top side of all architectural canopies to use high albedo material or incorporate solar panels
- Encourage solar or green roofs as alternatives
- Consider SRI requirements for building facades



2030 Heat Islands

Heat protection and resiliency for sites

Paved surfaces for light industrial district:

- Require high albedo materials for pavements where feasible
- Paved surfaces that do not conflict with a truck's path of movement and access to loading docks are required to incorporate shade trees or canopy structures to minimize the urban heat island effect

Cool pavement with gray coating is 10 degrees cooler than black asphalt.

Heat protection and resiliency for sites

Green space and tree canopy:

- Retain open space and permeable area requirements
- Require 30’ contiguous green space behind buildings (except light industrial)
- Incorporate standards for vegetated area and tree plantings
- Utility corridors to be located under streets wherever possible to allow for unobstructed tree planting and soil volumes within the sidewalk zone
- Street trees to be spaced every 20-30’ where feasible
- Encourage green facades

Discussion

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