City of Cambridge
Conservation Commission
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Public Meeting – Monday, September 15, 2025, at 7:00 PM
Zoom
MEETING MINUTES

The following meeting minutes were taken by Lena Frappier and are respectfully submitted.

Present Commission Members: Jennifer Letourneau, Director; David Lyons, Chair; Elysse Magnotto-Cleary, Vice Chair; Kathryn Hess; Erum Sattar; Khyati Saraf; Lorie Graham; Jim Gerstle, Associate

Absent Commission Members: Sean Bedingfield, Associate

David Lyons, Chair opened the meeting.

7:00 – FloodViewer Map Update – Kara Falise, PE
FloodViewer Mapping Tool - City of Cambridge, MA

Kara Falise of DPW introduced that the city has a Flood Viewer (FV) map in the process of being updated and this presentation has been given to engineering staff, as well as the planning and zoning staff in the City of Cambridge. It will briefly cover what the FV is, the history of it, what is being updated, and what it means for the future of the FV. This is an online GIS mapping tool that shows, at the parcel level, the risk of precipitation-based flooding and storm surge sea level rise-based flooding for any given parcel for both current and projected storm events. Flood Viewer 2025 (FV2025), which is currently published as a draft, is the third iteration of this FV. The city had a working model of our drainage and sewer infrastructure, so it lived on the computers first, of people in the city engineering division and then eventually subbed out to consultants that have more expertise in operating and maintaining models of this complexity. She stated in 2019, as part of climate vulnerability assessment discussions in the city, they really started to think about how to share information on the model that showed how the city's storm system functioned under rain events with the public. The FV2019 was posted and available online to the public to allow residents to understand their level of risk for flooding in the city. In March of 2022 the city reissued the FV with an update to the maps and that is currently what is the jurisdictional FV. Kara said the climate resiliency planners were using it for some of their efforts and engineering was using this model in the background to do the 10-year capital improvement plan for sewer and drain and other projects. So that's why we had the model, to help us with our capital planning, but we found that the information could be useful to get out there more broadly. The elevations of the floods in 2070 that were shown in the 2022 map started

to be used by the planning board for what was deemed precedent standards. Through the climate change initiatives and other departments of the city the conclusion was that new construction in the city should be resilient and built to address the flooding. The standards started as new builds shouldn't flood in 2070, 100-year storm event. Kara said these were not jurisdictional in any way and there was no authority to make these requirements of a developer outside of the fact that they were into the planning board for a special permit. They needed permission from the city to build their project, and these were some of the requirements that the planning board started to put on them. As part of the Climate Resiliency Zoning that was passed in 2023, there are standards that new construction and significant renovations have to meet associated with how the structure they build on their parcel will react to the flooding that is predicted in the city, whether it's precipitation-based flooding or storm surge sea level rise-based flooding. The zoning sets the standards for the 2070 100-year flood, or the 2070 10-year flood and then it gives DPW the authority to establish what those (LTFE) long-term flood elevations are. So, the zoning says DPW is going to define the long-term flood elevations and these are the things that you can and can't do above and below the long-term flood elevations. Elevations now have zoning requirements when filing a building permit with Inspectional Services. Since the Flood Viewer 2022 (FV2022) was issued, the city has continued to update the model. The model that is posted online is frozen in time. There have been no changes to that FV since it was published, but in the background, the city is constantly updating the model. There are enough updates to publish and become new jurisdictional elevations.

David interjected to confirm the zoning ordinance, section 22.80, that delegates the regulatory authority to DPW for issuing these regulations.

Kara responded the zoning ordinance was very specific to not define what the LTFE's were so that the city can continue to update them without updating the zoning ordinance which is harder to do. That zoning also indicates that when the city reissues maps and LTFE's, they must be published for 90 days before they become active. FV2025 was published in July and in the next week or two, they are going to publish a final promulgation date, which is probably going to be the end of October so they will have been up for at least 90 days. Kara proceeded to demonstrate how to navigate the FV and the information provided. It gives; the maximum and minimum. Ground elevation of the site, 2070, 2030, and present day, 10% precipitation, 1% precipitation, 10% storm surge sea level rise, and 1% storm surge sea level rise. LTFE is the 1% elevation that is higher of precipitation or storm surge and the 10% is the 10% that's higher. From FV2022 to FV2025, they gathered a lot of new data and updated the hydraulic model. FV2022 projected to 2030 and 2070. The year 2070 is a very common planning horizon for regional resiliency efforts and is the number that the LTFEs are based on. The 2030 numbers in looking at probabilities that were shown in the FV2022 said plus or minus 5 years, so those were becoming pretty close to typical. The FV2025 projects to 2050 and 2070, but the LTFEs are still and always have been defined by the 2070 storm events. They changed the rainfall events to match other rainfall depth projections that are more consistent around the state, which changes not only the depth of any given storm, but also how that rain falls. The DEP has shifted from using what they called this Type III distribution to NOAA10 Type C or D distributions. The models are certain depths of rain over 24 hours with the rainfall distribution and how the bell curve looks. The city currently looks at two kinds of flooding, storm surge sea level rise and precipitation-based floodings. The city is in a very fortunate position in Cambridge that all our storm surge sea level rise flooding hopefully will be addressed by modifications and regional interventions to the Amelia Earhart

and the Charles River Dam. Those are interventions and modifications that the city has helped identify with our regional partners and continue to advocate for. The city does not control either of those dams. When republishing these maps, if both of those dams get raised in conjunction with the regional interventions that'll prevent water from sort of going around the dam, some of the low-flanking points identified and assuming that there will be no modifications to the dams by 2070, the City of Cambridge will be impacted by storm surge sea level rise. All flooding is based off the ground surface elevation, and the city has updated ground surface using a 2014 flyover to use a 2021 GIS layer. The long-term Combined Sewer Overflow (CSO) plan uses a unified hydraulic model because so many of our systems are combined. The modeling team worked closely with GIS folks to make FV2025 more consistent with City GIS standards. They were making a lot of assumptions in the FV2022 of how much water is coming from the Belmont system into Cambridge, FV2025 metered that, and with information from Belmont to incorporate into the model it better reflects what is actually coming from Belmont. It resulted in significant changes in the precipitation-based flood depths for areas that are adjacent to Belmont including Cochrane Park CHA development that is undergoing a redesign right now. In FV2022 consultants could see Garden Street flooded, the shaded areas are only showing yes-no flooding and now they can look at the depth of the flooding in this Garden Street area and realize maybe it's pretty minimal. The map needs to be published for 90 days minimum. The review period is intended to provide a preview of the map not necessarily available for comment. The review period is really to give people who are working on a project some advanced time to plan for a change in the regulation. There has been some outreach with a presentation like this, and information sent to anyone that's pulled a permit. They are continuing to collect comments on data inconsistencies and have the ability to continually update the user interface. There have been some glitches in FV2025, and GIS folks are working with consultants to iron some of those out. It's not impacting on the data that's presented, which is really what needs to be reviewed for 90 days. They can even update the viewer after the promulgation of the new regulations. Around October 13th they will issue the regulations, which will bring the FV2025 into jurisdiction. The reason FV2025 was issued as draft on July 8th was that's the day the new FEMA maps became active. These maps used to live in two separate applications on the website and in the effort of streamlining things and pulling things together consultants worked with GIS to pull them into the FV2025. So, the FV2025 now serves as our Flood Viewer, and it also serves as our FEMA. The FEMA flood elevations did not change, the limits of where FEMA indicates that flooding elevation hits is what changed. Just as a reminder, FEMA flood regulations regulate flood volumes and compensatory storage volumes on a foot-by-foot basis. FEMA says, if you're in the FEMA 100-year floodplain, and your project occupies space that was available for water to flood into, you must provide exactly that much space or more at the exact elevation to compensate for that flood volume. FEMA regulations compensate for flood volume while Cambridge Flood Resiliency Standards talk to if you are going to build a structure that will be impacted by flooding, you will build it in a way that will have it be resilient.

Sean Bedingfield asked if FEMA maps of the area were able to be backed up locally.

Kara stated if you disagree with the FEMA designation for your parcel there is a process you can go through to get your parcel surveyed and understand how your abutting properties interact with yours. You can file a letter of map amendment to get the FEMA flood map altered.

Sean questioned if we knew why the FEMA plane has changed.

Jennifer Letourneau answered that it changed in the area solely of Mooney Street and speaks specifically to urban development and not floodplain specifically. Mooney Street was an isolated floodplain, and it still is so you will get some flooding in isolated areas because of the capacity of the pipe and not because it is adjacent to a pond or a stream. It's specific to the capacity of the pipes and the catch basins and everything that is in the street. The redevelopment of Mooney Street will be addressed with the resiliency zoning, and everything will have to be built to the standards Kara talked about to a greater degree than what FEMA would have them do.

Sean said federal data reserves are dynamic in their existence right now and for the sake of the viewer, are we able to back up versions of this.

Jennifer answered that Cambridge is in a very unique place from a regulatory standpoint. From a wetlands Protection Act jurisdictional area, we go by the FEMA maps as we're mitigating for floodplain impacts and if in a wetland resource area, we're getting that compensatory flood storage back, from a redevelopment standpoint, we're getting even more back including detention, retention, upsizing of pipes and tanks. If somebody wants to be opted out of having to have flood insurance, there are several properties that have removed their properties because the yard is in the floodplain, but the house is out of it. But if you go to redevelop your property, that property is still solely in the floodplain, so you don't have the right to redevelop the balance of the land.

Sean added it seems like the city is investing a good amount of effort in making the data more accessible and interpretable, but do we have high confidence that the FEMA map data will be available with continuity over the next 5 years.

Jennifer responded with the FEMA data set, and the cities are all in one place, so when you get that sort of chart on your property you'll see all of them listed right there. FEMA bases their maps on historic flooding events and Cambridge is basing their mapping on future storm events. That's a very different lens for which to do the analysis.

David added the question may be whether the maps themselves are maintained by FEMA, and whether they could be made inaccessible by FEMA. They're in third parties' hands like insurers and local municipalities. It's sort of an iterative, ongoing process of updating these maps.

Jennifer stated we are also in the community rating system called a CRS community within FEMA as well. The city is about to go through another audit cycle on November 4th. Being a CRS community provides a discount rate to anyone who must have flood insurance.

Erum Sattar asked if the experience with potential property developers was positive when developing the regulations.

Kara responded that because all the plans are assessing risks and the maps were published well before they became jurisdictional, formally, people sort of weaned into the idea of these flood elevations becoming regulatory. Big developers and the projects that required any permit from the planning board were being asked to do things without us having real jurisdictional authority to do so and a lot of it they were doing. Now the small guys, for example if you have a basement

you want to refinish, and you cannot get your basement to meet the flood resiliency standards, those are the phone calls that DPW is fielding now and trying to work through solutions with homeowners. There are different standards based off of the type of space. The standards also ask that things are passively protected, which means we don't want an intervention by a property manager to have to deploy barriers if they live in Worcester and a storm's coming in, but to a homeowner, if your basement tenant is out of town and they leave a window open all of the protections that you had go down the drain. They have been very constructive partners. They were doing a lot of analysis on cost-benefit. What is the technology that seems to have worked elsewhere. They were going out and finding all these things that we could have found, but they were interested because they needed to get this permit, and they wanted to offer a solution. The multifamily housing change which reduced the gross floor area (GFA) standard in people in residential structures would only allow basements to be exempt if they met the flood resiliency standards, now basements may not trigger flood resiliency standards if it's not new construction.

Kathryn Hess questioned the maintenance of the modeling and if Cambridge has full ownership of this model.

Kara answered that the city does own the model and the technology advanced faster than city staff and software upgrades could keep up with, so they have outsourced to a consultant. There's a lot of overlap in the consultant team that's doing resiliency planning for the city and the combined sewer overflow planning for the city. She stated they present the FV at conferences, and get questions from other municipalities, and get great feedback and questions on cost and what we can't tell them is how much it costs us, because we've been building it for 30 years.

Elysse Magnotto-Cleary questioned how DPW is keeping track of its success and performance management while addressing questions and concerns from calls.

Kara responded with any zoning change they always track for about 5 years after seeing what the trickle-down effects are. She also stated she is in multiple reoccurring meetings with ISD on topics like this.

Jennifer asked if it would be possible to get an abbreviated presentation concerning the CSO control plan.

Kara said she is not as involved with that, but they do have a public meeting at the end of September. They are at the tail end of an alternatives analysis where they're starting to understand cost-benefit of different projects that'll help to reduce CSOs into adjacent water bodies.

7:54 – Administrative Topics

Kathryn moved to approve March 10, 2025, meeting minutes.

Elysse seconded the motion.

7:57 – Meeting Minutes Approved- March 10, 2025
8 – In Favor

David Lyons - Yes
Elysse Magnotto-Cleary- Yes
Kathryn Hess- Yes
Erum Sattar- Yes
Khyati Saraf- Yes
Lorie Graham- Yes
Jim Gerstle, Associate- Yes
Sean Bedingfield, Associate- Yes

Kathryn moved to approve May 12, 2025, meeting minutes.

Elysse seconded the motion.

7:59 – Meeting Minutes Approved- May 12, 2025
8 – In Favor
David Lyons - Yes
Elysse Magnotto-Cleary- Yes
Kathryn Hess- Yes
Erum Sattar- Yes
Khyati Saraf- Yes
Lorie Graham- Yes
Jim Gerstle, Associate- Yes
Sean Bedingfield, Associate- Yes

Jennifer asked David to give a recap of the CPA process as they went to City Council tonight and were unanimously approved.

David stated he is the commission representative to the Community Preservation Act Committee and they have had four meetings over the last four months reviewing the process, soliciting proposals from the public, staff and working groups. The standard is at least 10% for each affordable housing, historic preservation, and open space work. Historically, we've always done 80% to affordable housing and 10% to the other two priorities and stuck with that allocation recommendation this year. The full recommendation booklet has a lot of interesting information about historic use of these funds. Some of the open space highlights that we funded included more work at the Lynch Skate Park, Hell's Half Acre, and Alewife Reservation. There was also funding for the golf course and how nutrients might or might not flow into Fresh Pond and funding for Danehy Park.

Lena Frappier added the MACC Fall Conference is October 25th for anyone who wants to register and submit invoices.

David moved to adjourn the meeting.

Kathryn seconded the motion.

8:06 – Meeting Adjourned
8 – In Favor

David Lyons - Yes
Elysse Magnotto-Cleary- Yes
Kathryn Hess- Yes
Erum Sattar- Yes
Khyati Saraf- Yes
Lorie Graham- Yes
Jim Gerstle, Associate- Yes
Sean Bedingfield, Associate- Yes