

Broome County LAMP General Meeting – 7.26.2016

- County Official
 - Praised more collaborative approach
 - Recapped response to previous floods
 - Wants to prepare for future flooding/make the area flood smart
 - Highlighted buyouts and how she was previously against it and how the 2011 flood showed her how it works by turning buyouts into green spaces (but she herself hasn't done the buyout on her own home). Highlighted how it disrupts neighborhoods
 - Has a meeting with Senator Schumer's office over this project
 - Having accurate, up-to-date flood maps is important to residents and businesses
 - Admits flood maps are outdated
- Alan
 - LAMP for non-accredited levees overview
 - Studies were started a few years ago
 - Important to have the most up-to-date flood maps
 - Preliminary FIRM uses
 - Released pre-lim flood maps in 2010
 - These maps are not effective for flood insurance purposes, but the info can still be used for decision making
- Question
 - Developer in our community, who hasn't adopted a new code/ordinance, and a new developer comes in
 - Without the ordinance, you cannot force the developer to comply, but you can heavily suggest it
 - Developers who use federal funds have to go to the higher elevations/measures anyway
 - Keystone Associates student housing re-design so their first floor was above the flood
 - Changes to NFIP
 - Gave background about Hurricane Katrina then Sandy issues that drained the program
 - How Congress eliminated the subsidies and why you have to pay more
 - Purpose of Meetings
 - Stresses establishing relationships/partnership between FEMA and these communities
 - Project Communities
 - Vestal, Union, Endicott, Port Dickinson, City of Binghamton
 - Over 6,000 structures are impacted by the levees
 - LAMP
 - Specific details will be discussed at the individual community meetings
 - LAMP Analyses & Methodology
 - Five general approaches to LAMP
 - Natural Valley

- Looking at the breach in a levee system as not providing a lot of protection besides that it exists
- Structural-Based Inundation
 - There's some weaknesses in one specific piece of the levee
- Overtopping
 - The expected 100-year flood is X feet higher than the levee
- Freeboard Deficient
 - Expected flood is 15 ft, for levee accreditation, levee needs to be 18 feet high. This distance is the freeboard
- Sound Reach
 - If a piece of a levee meets all of FEMA's accreditations, instead of the entire system
- Levee Reach - Dewberry
 - Could have four different approaches and apply different approaches for the different reach sections of the levee
- Natural Valley Procedure
 - This is a default for this County's levees
 - Depending on the data that is gathered from each community, will be able to refine and do a different approach
- Modeling example
 - Have existing models from pre-lim studies, can use these as a starting point
 - Can apply new hydrology from more recent flooding for the animations
- Question
 - On historical record that the analysis is done on, pre-lim maps do include the 2006 flood. Will there be a whole new analysis that includes 2011+ maps.
 - New funding hasn't been authorized for new maps. This determination depends on how these meetings go, the funding available, etc.
 - Can take what we have as pre-lims and include the 2011 flood and hydrological model and could make this separately
 - But if there's a lot of voices that want updated maps, there is a possibility to have new maps created
- Alan
 - Flood Zone Designations
 - Zone A – Does not have BFE shown on the map.
 - Some of these in the County
 - Used LiDAR to interpret what the cross sections look like
 - Good for understanding flood risk in less-developed areas
 - Zone AE
 - Both of these zones are high flood risk, all building are required to have flood insurance, and certain building requirements are necessary
 - Shaded Zone X/500-year-floodplain – No flood insurance purchase requirements, there to inform decision making
 - Not high risk but want to have flood insurance anyways, lower cost
 - Cities can implement stricter ordinances

- Zone X – Less flood risk
 - Floodway – Down the center of a river/stream
 - Regulatory limitations on what can/cannot be built
 - This is the highest impacted area of a flood
 - Zone D
 - Undetermined, but possible, flood hazards
 - No BFEs so no base elevation to build to
 - Good chance if you have a house in this area you will have to carry flood insurance, but not required from federal gov.
 - Don't know exactly what is going to happen
 - Rates of flood insurance are the same in Zone AE (with BFE that informs construction)
- LLPT
- LAMP Path Forward
 - Timeline
 - Starting now through February, 2017
 - Three series
 - Another meeting in a month or so – could be conference call/webinar
 - Third meeting will be early next year in person to make decisions on how to move forward
- NY Department of Environmental Conservation – Al Fuchs
 - New York State is responsible for operating and maintaining of these projects
 - We operate and maintain these projects to the material and level USACE specifies
 - They are inspected every year
 - Entering into an agreement with the USACE to do a Feasibility Study to see what areas would benefit from additional flood control products
 - \$3 Million study split between USACE and the State
 - Will start this fall
 - Can apply for your own city's grant for these kinds of studies
 - Nicholas got a grant
 - Lancaster is applying for a grant
- Question
 - Nichols had a freeboard capacity
 - Lancaster is questionable
 - Timelines
 - Starting in the fall.
 - USACE is looking to do the study in three years typically
 - Was the three years for the first phase only?
 - First step, because the area is so large, is to do some basic modeling to find out what areas should be looked at.
 - Will have to have additional follow-up studies afterwards
 - “3-3-3” goal; 3 years, \$3 mil,
 - Even if levees are found to be sound, if they don't have three foot of freeboard, they will still be declassified?

- Yes.
- If these levees don't have three feet already, then why do the studies
- In first pass analysis, will have the freeboard levels necessary. Will be able to move forward with what should be done with the levees from that point forward
 - Just because you don't have that freeboard necessarily doesn't mean they do not do a lot of good
- Proposing to do hard surface DTMs of these levees or is everything aerial?
 - 2007 LiDAR amounts, have a National Levee Database
 - Survey grading the levees – was done in 2007. With loading in 2011, may have to resurvey them
 - During feasibility study, could look at redoing the topping study
- LiDAR won't pick up inches on a levee. Wants to see a hard surface DTM of their levees so they know where they really stand. Even if it's just the tops along the actual elevations
- Bill – levee that doesn't hit a freeboard but it structurally sound, still needs to prove that the segment is structurally sound so you end up with an overtop analysis
 - Alan – Would go into freeboard deficient in this case. Slight difference in how you look at each system.
 - Every single levee is completely unique to how it responds to the environment it is in. Looks at the levees on its own merits and relationships to the areas around it.
 - Two-dimensional modeling. Far more accurate in areas of overbank flooding, where the flood impacts the built-in environment. Helps us get the detailed info that will be mixed with everything else to show you the best view of your risk.
 - NYDEC – your levees have been tested and performed how they were supposed to
- We've had the test, someone established what the flood was (100-200-500), wouldn't that give us the freeboard besides analyzing the level of the storm and how it performed?
 - NYDEC – freeboard is tied to the storm and X feet of freeboard
 - Alan – a 1% storm will change over time depending on the changing environment
 - Pre-lim maps in Broome County did a freeboard analysis on every levee. Lee will move the pointer a little bit until they reanalyze the data
 - It is likely higher than it was in the current pre-lims if we recalculate the 1% today
 - Freeboard is likely less today than in the maps that we had before.
- Thomas – Floods do not happen uniformly. Your area may have events that did not happen in other communities. Can only assess risk in the area based on what the worst case scenario would be across the board, not based on a specific event in a specific area.

- Conklin and branch of Susquehanna could have worse flooding in 2011 than lower down the river. Instead of looking at the HWM from a single flood event, you do modeling across the area and look at the period of record and the 1% reoccurrence interval which will give them an elevation.
- A single storm in Conklin could be 100-year storm but a 200-year storm in Port Dickinson
- Three foot freeboard, if a community wanted to establish accreditation for their levees, how is the 1% “moving target” analyzed
 - Alan - FEMA provides insurance for flood mitigation purposes. When a map is created and adopted for floodplain ordinance, we accept that that is the official 1% level. They know it is going to move up and down, but the map legally ties you to a certain level until you do a new study
 - May re-look at it later on with the new maps
 - The new map, because it covers the entire county/watershed, it tends to be much more even.
 - We don’t know what can happen but try to set an acceptable level
 - Need to review what is in the pre-lim when the 1% level has been significantly exceeded
 - Thomas – use the best-available data at the moment.
 - Maps can be changed if there is a better analysis/approach/better info down the road and present it to FEMA
 - You will not lose your accreditation if the storm happens to exceed the level of freeboard. Maps would have to be redone to officially change the “legal” 1%
- Understands the investment is important to do these studies and to bring your levees to accredited levels. If I’m a long-range person, if we get here in 2022, I’ve left something that isn’t any better than it was.
 - NYDEC – when you redo a map every 5-6 years, will accreditation will be included.
 - Alan – FEMA does not have a sunset on accreditation. If USACE does accreditation on a project, they go 10 years, sometimes 5 years. If someone puts a timeline on certification, it puts a timeline on accreditation. In most accreditations, there is no timeline. The only thing that can change an accreditation if the BFE goes up enough to remove that freeboard, and the risk analysis studies with the USACE are hoping to also change this.
 - It will be a while just to do updating with new maps.
 - USACE – FEMA is here to give as much info as possible and vice versa to have a much better idea of what factors are involved in the process
 - Alan – New modeling will assist not just structure and development, but provide valuable info to emergency managers

so, when an event is coming, where resources can be allocated to make the biggest impact. Understanding what the relative risk is from the flooding

- Frank – Maps used to be community-based, but are now county wide. At the end of the LAMP process, are new maps issued?
 - No, not necessarily. No flood insurance implications. Will influence future flood maps.
- From looking at period of record, what is the procedure for doing this? Look at the trend over the last 30 years, if you have 100/120 years of data?
 - Alan – Take what period of data we have. USGS gauges general to the mid-1930s. Depends what kind of data we have where, but can generally look at over 30 years in this area. More years and longer the time frame the more accurate the possibilities can become. Climate change may throw it a complete curveball but we don't know – can only look at the average past events and map to that.
- 3 feet of freeboard and all or nothing proposition
 - Alan – freeboard changes due to regulations but in general is 3 ft
 - Can accept down to 2 ft of freeboard with the appropriate USACE identification of risk
- Joe, USACE – Levee Safety Program and Screening Level Risk Assessments
 - Terminology
 - Levee area – the areas that are impacted by the levee
 - Some reaches of the levee are maintained by different counties/entities
 - Where are the levees?
 - Only a listing of the levees that the USACE knows about – there are other levees out there
 - Three systems in Binghamton, were built by the USACE in the early 40s, finished in the 50s. Have risk assessments, inspection reports, and a lot of data. Same with Endicott, Vestal City, etc.
 - Town of Union, don't have a lot of information about
 - Across the country, there's a lot of levees that USACE does not know about/have information on
 - Levee Safety Program Guiding Principles
 - Try to openly communicate all of their findings
 - Program Activities
 - Routinely doing inspections, 125 items to inspect
 - Technical assistance and review any kinds of modifications
 - Make sure the sponsor knows about any projects going on to change a levee
 - Screening Level Risk Assessments
 - Congress mandated the USACE to find all levees, assess their potential risks, and work to mitigate those risks
 - Prioritize levee safety activities
 - Levee system

- How likely is it that the hazard (flood) will occur?
 - What will actually load the levee?
 - How will the infrastructure perform during the hazard?
 - What are the consequences for non-performance?
 - Depth of water; critical infrastructure; homes and businesses affected
- Sources of Information
 - Limited number crunching – just trying to use existing data to get the ball rolling to work with specific risks
- Why are we communicating risks: our responsibilities
 - Kicked off due to Katrina in 2005
 - All in addition to their continued inspection mission
- Dave Robbins, George Bielen, and City of Johnson were on the GoToMeeting