

MINUTES

**PLANNING COMMISSION
COMMITTEE OF THE WHOLE
CITY AND BOROUGH OF JUNEAU
Dennis Watson, Vice-Chairman**

April 23, 2013

I. ROLL CALL

Vice-Chairman, Dennis Watson, called the Committee of the Whole meeting of the City and Borough of Juneau (CBJ) Planning Commission (PC), held in the Assembly Chambers of the Municipal Building to order at 6:05 p.m.

Members present: Dennis Watson (acting Chair), Dan Miller, Benjamin Haight, Marsha Bennett, Nicole Grewe, Jerry Medina, Nathan Bishop.

Members absent: Michael Satre and Karen Lawfer.

Staff present: Hal Hart, Director; Greg Chaney, Planning Manager; Eric Feldt, Planner.

II. REGULAR AGENDA

AME2010 0009: Discuss New FEMA Flood Maps.
Applicant: City and Borough of Juneau
Location: Borough-wide

Staff Report:

Eric Feldt, Planner: Tonight, we will talk about, just generally, a discussion of the issues that staff has received during the past neighborhood meetings to develop new flood maps. I'm going to show a few screens on the TV and it won't be that long at all. When we included a document schedule, the Assembly put it in neighborhood meetings and we needed to find out the best way to notify property owners who will be either burdened by the new flood map meeting, that they will be put into a high-risk flood zone and may likely need to pay for flood insurance and those properties who will be taken out of the high-risk flood zone. When I say high-risk flood zone, I am talking about zones A and velocity flood zones.

The way that we came up with the method to find out the property that will be put in or out is by overlaying the adopted flood maps onto the aerial photograph and overlaying the new draft flood map onto the same map. What is shown on the screen here are the two flood maps overlaid onto the aerial photograph. The adopted flood maps are what you see in a thick black line and the light blue area represents a new draft flood area. There are a lot of things going on in this map and I don't expect you to memorize it or take in a whole lot right away, but what I do want to

show you is, when we made this effort to pick out the buildings and the properties that will be put in or taken out of the high-risk flood zone, we primarily relied on this overlay mapping.

One big issue in certain areas of the Borough is that the adopted flood maps did not line up very well with the aerial photographs. What I mean by that is, using the roads, which are shown on all three maps as reference points, when all three maps are lined up, the adopted flood maps do not line up well with the two roads - the roads on the draft map and the roads on the aerial photographs. What this means is, if we were to do a flood zone determination for a building in this general area and this is downtown, it would be very difficult to get an accurate flood zone determination without the flood map. So, using the road was a great reference point; it worked in many areas of the Borough, but it also didn't work in many areas of the Borough as well.

Secondly, we used aerial photographs, which provided a tremendous help in determining where buildings are located. Obviously, you can see the roads and the buildings. What this map is showing is Auke Bay and the thick black line again is from the adopted maps and that is supposed to go out to 22 feet in elevation. Again, that's tidal datum elevation representing the 100-year storm reach.

The property line [arrow to the left in the presented slide], is pointing to the Main High Tide, so a lot of property lines are based off of the Main High Tide Line, which is approximately 15.3 feet. They change very slightly in different parts of the Borough. What this shows is, for some odd reason, 22 feet is being shown seaward of 15 feet. That's backwards, because 22 feet should be shown farther inland than that seaward property line where that last arrow is pointing to. The roads are great reference points in certain areas. The adopted flood lines do not line up well at all in other areas along the coastal region and may go to another area of the Borough - this is Industrial Boulevard, Glacier Highway is to the top of the picture and Mendenhall River is to the right. In the adopted flood maps, a large part of this land is in a velocity flood zone. What that means is, during a 100-year storm event, +3-foot waves or higher would come all the way up to that line, which most people would think, 'that is very far' and may be unrealistic; but, it is what it is on the map, so we overlaid that onto the land and is difficult to read. This shaded area represents the reach of the velocity flood zone.

The new draft maps are not only converting that velocity to an A zone, but the 100-year storm area is farther back or closer towards the water. A lot of that area, if you have been in the golf course area, you can tell that the land is very low, there are lots of little streams and it's very wet, so it probably wouldn't take a whole lot of force for a storm to surge water into that location; however, a +3-foot wave or higher seems very far.

The third point of the adopted maps is that we feel it's very difficult to provide an accurate flood zone determination. What that means is when we printed this mailing list of 150 properties or buildings being put in and 260 properties being taken out, that is covering all the easy areas where all three maps lined up very well and staff could easily say that there is a degree of accuracy with calling this building in or out because the draft flood maps, road networks lined up well with the aerial photographs - we know that provides a degree of accuracy. The draft maps as shown on these three screens appear to line up fairly well, the river channels, projections of

the land, you've got the parking lot here across from the Waffle House, so the water comes around there; but, the adopted map doesn't appear to represent that land map during 100-year storm events.

So those are a few big issues that staff found right away when we were able to overlay those two flood maps onto the aerial photographs.

Now I want to discuss the staff report.

The staff report provides certain issues or problem areas or elements of the new map that we find troubling. The adoption schedule, which shows that by the end of June, staff will present the draft flood maps, flood insurance study, and new regulations to the Assembly for their decision-making. After that is the neighborhood sign-in-sheet of the four neighborhood meetings that staff had scheduled and provided along with peoples' comments. Does anyone have any questions before we get into these 7 items?

No questions were raised.

Mr. Feldt: Each of these problems have fixes, because we obviously need to make the maps better after they are adopted. FEMA has made it very clear that we cannot make any changes until after the maps are adopted, which is unfortunate, but we know what many of the problems are and we plan on fixing them.

1. Velocity Flood Zones: The velocity flood zones appear to be mapped too far inland and place more buildings within the flood zone. Fix: Hire a coastal hydrologist to study the hydrologic and hydraulic water conditions to determine appropriate base flood elevation or reach of flood zone line to better represent storm conditions.

So what this means is, the flood zone line, the blue area, is shown too far inland, maybe quite a ways uphill than the base flood elevation that it is indicating. To better represent where that line should be drawn on the maps, we would hire a hydrologist who will study the coastal modeling system that is used for the flood insurance study and see if there are any discrepancies or areas that seem out of line. With that information, the hydrologist can contact FEMA to see how different data can be put into the coastal modeling system to better draw the line on the topography. In the previous Planning Commission meeting, we discussed that the elevation that these flood lines are using as drawn on a map along the shoreline is based off of 2001 LiDAR (Light Detection and Ranging) where they can find exactly where 22 feet in elevation is along a specific flood zone; so that's why these are where they are shown to be.

The hydrologist can ask FEMA how and what type of modeling system can be slightly changed, because the coastal modeling system that was used for Juneau was used for more open ocean shorelines along Washington and Oregon and we find that its application in Juneau is not a best fit scenario. So, it's kind of complicated to understand what the hydrologist would use. Certainly, there's a lot of data that's beyond my comprehension, because I'm not a hydrologist, but certainly we have used in the past, a hydrologist who is now familiar with our coastal terrain and certain wave modeling systems that we can have them look at certain areas of the Borough,

specifically Auke Bay and other areas that have velocity flood lines shown very far inland; so they would be familiar with what we are asking them to perform. Are there any questions?

Mr. Miller: Are there any other communities that are using this model? Have they found discrepancies and if so, have they hired hydrologists and, if so, what have the hydrologists found?

Mr. Feldt: I'm not aware of those committees having similar issues, but it's certainly something that we could look into and share information that might help.

Ms. Grewe: I have a related question....hiring a hydrologist to restudy. What leads us to believe that our hydrologist would come up with any better information?

Mr. Chaney: We actually hired a hydrologist, Coast & Harbor Engineering, Washington, who is familiar with this new model and he looked at Auke Bay, for example - The ferry terminal area is forecasted to have waves over the parking lot which if you can imagine a storm event like that, that's probably more than a 100-year storm, that would be like a catastrophic event. But, they did something wrong in their calibrations, we're not quite sure, but we didn't have enough money at that time to pay him to re-run the whole thing and figure out where they made mistakes and then show it to a panel of experts and have them all agree. So it's a complicated, long, expensive process. We tried to do that when we were in the protest period; but they said that we've missed the deadline and they wouldn't accept any of our information. So, we have to adopt the maps and then do it again.

Mr. Feldt:

2. Auke Bay: There are unusually high base flood elevations in the Auke Bay area. Effect of the new Statter Harbor breakwater to waves in the Auke Bay area do not seem to match with the new velocity flood zone in this area. We have already talked about hiring a hydrologist to figure out a different reach into the shoreline, so that kind of ties into how high is the base flood elevation. So, you've got the horizontal reach and then you have the height of the base flood elevation. The hydrologist can address two of those issues at the same time. There is a breakwater in the Statter Harbor that staff did not believe FEMA had taken into consideration when figuring out what type of flood zone this area would be. So, on the new maps, this area is shown to be a velocity flood zone, but the breakwater would negate that effect from continuing closer into that part of Auke Bay, so that's something also the hydrologist can examine.

Vice-Chair Watson: Eric, you mentioned Auke Bay, are we also including the Fritz Cove Road area where we've had a lot of comments from citizens.

Mr. Feldt: Yes, No. 1 and No. 2 would refer to the Greater Auke Bay area reaching from probably Indian Cove all the way around to probably the end of Fritz Cove.

So the fix, hire a costal hydrologist, research CBJ Docks & Harbors elevation data to find flood elevation line and use last year's LiDAR (and future 2013 LiDAR) topographic lines. Since 2001 LiDAR is becoming out of date because of iso-static rebound and because the pixel rating, which actually is how close can we see it before it gets blurry, is not as focused or as detailed as last year's and this year's LiDAR. So, we can use the newer LiDAR to get you more of that

topographic map, on the line to see where that line matches or doesn't match and see where the LiDAR line actually shows that same elevation. Any questions for #2?

3: Auke Lake: So, Auke Lake has been in zone A since the 1970s. What that means is, FEMA's contractors never studied the hydraulic and the hydrologic flood modeling that produce a base flood elevation. What that means is, during a 100-year storm event, we don't know how high the water will come up to along the shorelines of Auke Lake. Given this comparison along the northern end, where there are more residences, it appears that the new map is actually putting homes into zone A, where they originally weren't; however, there's still a discrepancy on how the adopted flood line is drawn on the map. So, the fix is to, again, hire a hydrologist to figure out where the flood line will be drawn, which will relate to how they come up with the base flood elevation. If they come up with a base flood elevation of, say 30 feet, then 30 feet will be the regulated go to height and will be drawn on the shoreline, wherever 30 feet is. Any questions on #3?

4: Isostatic Rebound: We all know that the land is rising and the water isn't rising with it. So, the 2001 LiDAR that I had mentioned is becoming out of date, because of isostatic rebound. It's a snapshot in time of the land relative to 2001. Using the 2012 new LiDAR we'll be jumping into current time isostatic rebound elevation. However, we will need to contact local surveyors and other professionals in that industry to learn about how frequently the tidal gauges get updated that bring them into present day, more current isostatic rebound measurements. So, as the land rises, it is my understanding from contacting a local surveyor that about every 15 years, the tidal gauges get refreshed. We need to learn exactly how often that is refreshed or re-examined. Looking at NOAA's Tides & Current web page, <http://tidesandcurrents.noaa.gov/sltrends/sltrends.shtml>, the sea level in Juneau is lowering by about 1/2 inch per year. So, think about 20 or 30 years' of time comparing the adopted maps to today's map; that's a lot of isostatic rebound, a lot of uplift that has occurred. So, the adopted maps are certainly very out of date and continue to be out of date. Any questions on #4?

5: Gold Creek: Similar issue to Auke Lake; however, it is another re-occurring condition and we don't have a known base flood elevation, because it was never studied in detail. So, we don't know how high the water will come up to during a 100-year storm event. We don't know how to protect the public along that Gold Creek corridor. In the new map, because of the overlay onto that aerial photograph, does put homes into the flood zone, it doesn't mean that they are on the flood zone, because the draft adopted map has some discrepancies where we can't line up the road as reference points to see if it is actually accurate or not. So, we need to learn more about Gold Creek, so again, hire a hydrologist to come up with a base flood elevation, from which we can draw the base flood elevation line and better help the public.

Mr. Bishop: What are they using, if they are not using contour data to find base flood elevation...make an arbitrary guess at the map or what?

Mr. Feldt: The answer is unclear and it would appear that way.

Mr. Bishop: They are making a base flood elevation up, but they're not saying they have done any work to define it.

Mr. Feldt: We have overlaid the latest LiDAR, the 2012 on to Auke Lake as one example to figure out what line they've used and it does not match up with the LiDAR lines. So, that is also troubling because we have this new LiDAR, but the new map flood lines are not lining up with the new LiDAR. I have a feeling that it is not the LiDAR that is inaccurate, it's just that the new flood lines don't have a tide elevation, so they may not be following an elevation at all. So, hopefully, we can get a hydrologist and fix that since that continues to be a troubling area in Auke Lake and Gold Creek.

Mr. Bishop: It is a complicated equation for confined water bodies like that.

Mr. Feldt: Right, and Gold Creek has concrete walls that were built in the 1950s or 1960s by the Army Corps to hold the overflow capacity to prevent it from over-topping the banks; however, when you look at the flood maps, it would appear that someone just ran a line over the banks all the way down to the channel and rarely water will flow around higher lands and probably into the road whereas the least path of resistance.

Ms. Bennett: Down by Casey-Shattuck, it's only about an inch high, the water is so low, it's never very high. So, the idea that it is going to go up on either side is just ludicrous to me.

Mr. Feldt:

6. Concrete Way next to Lemon Creek, next to Breeze-In: So, the flood elevation and the flood zone line show that almost the entire subdivision is under water during a 100-year storm event, that is a flooding event from Lemon Creek. Lemon Creek shorelines on both sides have been recently re-engineered with rock quite-a-ways up the stream and with the recent mining up the stream, the creek bed is lowering and then annually backfilling when floods come in during the fall, more silt comes up and raises the creek bed. Lemon Creek itself has undergone a lot of different movement and creek bed height and how high the water is coming up. Looking at the Concrete Way subdivision, it appears that the water is just shown too far inland and too high.

Mr. Miller: When was their study done? Was it with the old bridge that was removed fairly recently within 10 years or something, so do you know if ...because I know that that bridge was a flooding hazard?

Mr. Feldt: I do not know; I will have to look into that.

So, there are no base flood elevations that show where the flood line comes up to and we can use current LiDAR to see what land elevation that flood elevation lines up with. If it shows a very different elevation, you can send that to FEMA and tell them that LiDAR which was created by a professional shows the flood elevation line closer towards the creek, you want to amend or revise from that. If they say that it is not sufficient enough, then we will have to hire a hydrologist to get more detailed information.

Vice-Chair Watson: Right now, we have a 50-foot setback from Lemon Creek. So, it sounds like if we stay with the 50-foot setback and FEMA buys off on our suggestions ____ existing structure ____ we really don't know.

Mr. Feldt: Well, the 50-foot stream setback isn't tied to a known elevation. I don't think they will accept that as being a professional elevated line.

Vice-Chair Watson: I was reaching a little bit there because there is a lot of potential for building properties there.

Mr. Medina: Could you refresh my memory on what a flood type A Zone is?

Mr. Feldt: Yes, an A flood zone is a high-risk flood zone. You find those along rivers and coastal areas. During a 100-year storm event that floods the river, the flood water will rise up to a certain point and wherever that flood area drawn on the line is, it represents Zone A. Along a coastal area, where you may have A coastal flood area drawn on the maps, it represents during a 100-year storm event, wave action that is lower than 3 feet. Waves that are higher than 3 feet are velocity flood zones and you only get velocity flood zones along the coastal areas.

Mr. Medina: If the CBJ were to hire a hydrologist, does it need to be certified by FEMA, is there a certain amount of hydrologists that they recognize or can the CBJ go out and hire anybody they want?

Mr. Feldt: FEMA will likely say that you have to use FEMA's modeling system. They probably don't differentiate an Alaskan special engineer versus any other state professional engineer as long as they can perform the duties and they are licensed for the FEMA modeling system, they will likely accept that. Any more questions on #6?

7. Inaccurate Elevations: Due to inaccuracies in the base maps, many properties/buildings may be inadvertently placed in an A or V flood zone that is naturally elevated above the flood elevation. The fix is to use current LiDAR to help refine flood locations and look at CBJ's record of properties to find elevation data. This could lead to map amendment or revision to remove a building or property from a mapped flood zone.

A common complaint that staff has received, which is my building is shown in an A or B zone, but my house/building is elevated quite a bit higher than the 100-year flood reach. What we will have to do is – you can look at the LiDAR, you can look at our records to see if we have any topographic or elevation plan that was submitted during a grading permit for the building, if that was done by a surveyor or a professional engineer, we can send that professionally done document to FEMA that has an elevation that proves that the house is built above the base flood elevation. Take it to FEMA and they will make a determination based off of the elevation data, of whether or not they can remove the building. So, this can be done through a letter of map amendment or a letter of map revision based on fill.

So, the one based on fill is when you bring in fill and then you build a house on top of it, and during a 100-year storm event, the water will go around the fill and create an island or a peninsula. Both the letter of map revision and the LOMA, if your building is in an A or B flood zone, requires elevation data. If the building is currently shown in an A or B zone on the adopted map but is taken out of the A or B zone on the draft map, elevation data is not required because the map already shows the house outside of the flood zone.

So, that is kind of a common complaint and if we have records supporting a map amendment is an easy fix, map amendments are free, letter of map revision based on fill aren't free because FEMA's engineers have to do a more thorough examination of how the fill was engineered to withstand a 100-year storm event.

Hal Hart: What does that cost?

Mr. Feldt: The letter of map revision based on fill is probably a few 100 dollars. FEMA changes the pricing every 5 years or so to keep up with cost of reviewing and there is a cost table that is on FEMA's website.

Mr. Miller: On the LOMA where you do need elevation data....so, the elevation data, if you have it, then I guess it would be great, but otherwise you'd have to hire; if it was a public building, I guess the public would be informed, but if it is a private building, then the private person would be...?

Mr. Feldt: That is correct, the landowner. The City may want to invest in hiring a surveyor to go out to a neighborhood or part of the Borough and perform what would be a mass letter map amendment by surveying that flood elevation line and if it's smaller or further back than what is shown on the flood maps, then we submit that topographic information to FEMA. We did that last year in the Mendenhall Mall region. We were able to shrink that flood zone just because the LiDAR wasn't as accurate as on-site survey information and we removed 35 homes and 3 commercial buildings. After the map adoption, there would be a mass letter of map amendment, we were able to wrap it into what is currently shown on the draft map.

So, I went through all 7 problem areas and fixes. What we will do is contact FEMA and present these fixes and hope that they can accept them. Certainly, the fixes that require hydrologist's review is one of their methodologies, that is already accepted. So, we just have to look into LiDAR and using that current information and so far the City has entered into a partnership agreement with FEMA that kind of creates a better bridge for our communication and you can relate data better.

Ms. Bennett: In terms of cost, the fixes you're talking about would be paid for by the City, right.... hiring the hydrologist?

Mr. Feldt: Yes. FEMA is down with amending our maps, so the cost will be on the City.

Ms. Bennett: But, if your property has been in a new area that's now in a flood zone where it wasn't before and FEMA says that you can't change their data until after the City has gone along with their plan, so then say you're one of those people, you end up paying for various studies or whatever and you also are going to be paying more flood insurance all of a sudden and then the FEMA determination to accept what CBJ has come up with - so, I'm just thinking in terms of the average tax payer billed those expenses and if that's the case, then making sure that people are aware that their flood insurance is going to go up and maybe it will be just temporary, but maybe

it won't be just temporary and then any other studies that need to be done on top of what the City is doing, so that could be fairly expensive.

Mr. Feldt: Certainly individual property owners probably won't want to pay that expense and I'm sure if a full neighborhood could take a request to the Assembly and the Assembly can make the decision of whether or not to put that expense into the Capital Improvement Plan. So, that's one mechanism of how the City and the Assembly wishes to make the maps more accurate to help people get taken out of the flood zone.

Ms. Bennett: In terms of timing, you'd end up paying the extra fee first, because FEMA won't have come through, right?

Mr. Feldt: Which fee?

Ms. Bennett: The additional flood insurance, you'd end up paying that first before the determination was..... probably 6 months or something?

Mr. Feldt: Maybe.

Ms. Bennett: Yes, but I'm just thinking in terms of letting people know...

Mr. Chaney: Just a quick comment. You only have to pay flood insurance if you have a federally backed mortgage loan. If your house is paid off, you don't have to buy flood insurance, it's an option. You can, you don't have to. But if you have federally mortgage loans, the federal government will require you to buy flood insurance. Those folks who have already paid off their homes, a lot of people who are retired have their homes paid off, it won't impact them unless they want to, there is an option of paying for it.

Mr. Miller: So, you've got 7 potential issues and most of these issues have come forward from people saying "oh! wait a minute" and you've identified them and you've given us fixes that I guess somebody is going to pay for, but I would suspect that once the federally backed mortgages start tacking on the flood insurance to folks, there might be more folks that are going to come up and point out more problem areas and that would make a potential for somebody to pay for more hydrologists. So, what are we supposed to do? What do you want from the Planning Commission today? Do we want to study a way to come up with fixtures or design a little group of folks that can help the community through the process or do we just pass it on to the Assembly to deal with?

Mr. Feldt: Tonight, I just wanted to make you aware of the big issues that we have with the maps. There are ways that we want to fix them and all these fixes have ____such as by FEMA. So, when we get further down in the adoption list shown in the packet; when you make a decision, you will have all information in front of you. Certainly, this 7-point list is not the end, and even after map adoption we can make more fixes, if we see more problems.

Ms. Grewe: Just a quick clarification for the fix. The method that you are proposing has been accepted by FEMA, but not the end result, that will be under negotiation....

Mr. Feldt: Right, only FEMA can change.....

Ms. Grewe: Right, but our method of refuting their findings has been accepted?

Mr. Feldt: The use of a hydrologist to come up with different data is acceptable. The LiDAR, we will certainly push for a second since we already have that data in front of us.

Mr. Chaney: Just a quick comment and that is we are not saying that we will hire a hydrologist; we will have to find out how much it costs. We don't have money for this. I don't want it to be implied that just because a hydrologist study might help us whether we can afford one. So, it's the message being outlined here, we are not committing to that action, it's an unknown expense.

Vice-Chair Watson: What are the priorities? Obviously, we've got 7 here, are they listed in priority? Would the priority be based upon the number of residents or property owners that are impacted with the process?

Mr. Feldt: This is just a random list in no priority level and based off of cost, we'll kind of determine the priority level, but certainly all the elevation data that we already have such as the LiDAR is something that we can quickly use. The Planning Commission at a later hearing could make a priority list, but it will likely be determined from what data we already have and future costs of all the data.

Vice-Chair Watson: We are certainly looking for recommendations on priority. I guess the other question is, right now, I understand you all are short staffed and this looks like it's going to be an almost full-time job, just dealing with this. So, is there enough staffing to deal with this in an expeditious way?

Hal-Hart: Priorities are given both through City Management and through the governing body, the Assembly members and others. At this time, we are doing everything we can to hire, we'll take care from that side.

Ms. Bennett: I just was thinking that in terms of time instead of waiting for people to complain, it might be better to be proactive and that would save you a lot of effort, maybe put some of it on a website and have a news article or something that really gets the word out to people, so that they know what's planned and what's likely, and I am sure that if you are proactive about it, it will reduce the number of complaints and saves you a lot of time.

Mr. Feldt: That's a great idea.

III. OTHER BUSINESS

IV. REPORT OF REGULAR AND SPECIAL COMMITTEES

V. ADJOURNMENT

MOTION: *Vice-Chair Watson adjourned the meeting at 6:52 pm.*