MINUTES

PLANNING BOARD WORK SESSION
PORTSMOUTH, NEW HAMPSHIRE

CITY HALL, MUNICIPAL COMPLEX, 1 JUNKINS AVENUE

7:00 P.M. **FEBRUARY 28, 2013**

MEMBERS PRESENT: John Ricci, Chairman; Anthony Blenkinsop, Vice Chairman; Nancy Novelline Clayburgh, City Council Representative; David Allen, Deputy City Manager; Richard Hopley, Building Inspector; John Rice; William Gladhill; Karina Quintans; and Elizabeth Moreau, Alternate

MEMBERS EXCUSED: n/a

ALSO PRESENT: Rick Taintor, Planning Director and Peter Britz, Environmental Planner and Sustainability Coordinator

I. WORK SESSION

Chairman Ricci called the meeting to order and turned the meeting over to Peter Britz, the City Environmental Planner and Sustainability Coordinator.

A. Discussion on Coastal Resilience Study

Mr. Britz stated that the City received funding from NOAA for a Coastal Resilience Initiative study which is ultimately a sea level rise and storm surge study of the coastal area of the City. Portsmouth was selected along with seven other communities on the east coast. They hired the Rockingham Planning Commission and some researchers at UNH who have done similar work in Boston. The intent is to take a look at areas in the City that are subject to storm flooding and sea level rise impacts in the future. They are still underway with the study but they wanted to give the Planning Board an update on what they are doing as the study is meant to feed into some the Master Plan recommendations and input.

A slide show was presented showing tide levels at different locations during recent Hurricane Sandy, including the Bratskellar, Newcastle Avenue, and Prescott Park. NOAA has a website which can be very interesting during a storm as they show tidal predictions on any given day and the observation of what the actual high tide is and the difference between the two is what storm surge is. It is the amount of water that is pushed up against the shore by the wind and the waves and that is where they now see problems. In NYC Hurricane Sandy had a 14' storm or tidal surge.

The purpose of the study was an overview of risk and vulnerability resulting from changes in climate and was for general planning purposes and not an intensive engineering study. It is more for long range planning.

Mr. Britz displayed a table that showed what the study looked at. The top row was the projected sea level rise based on different scenarios. In the year 2050 the low projected sea level rise will be 1' and this is quite a change in the Great Bay Piscataqua region. A report done by the UNH researchers and the Carbon Solutions New England Group took a look at some national models and international models and brought it to the regional level by looking at Fort Point and Seavey Island and they saw that there could be as much as 1' of sea level rise by 2050 or as much as 6' of sea level rise by 2100. The City's mean high water is 4.4' and by 2050, based on this study and on a low carbon emission scenario, there would be 1' of sea level rise. This would make their high tide 1' higher than normal or 5.4'. In 2100, with a high emission scenario and the most extreme sea level rise it could be 10.7'.

Mr. Taintor felt it was very important to emphasize that these are just scenarios and they are going from the most conservative greenhouse gas emissions vs. a more extreme scenario. These are the ranges in which most predictions fall so the most conservative estimate is that they will have an additional 1' of sea level rise within the next 40 years or, with more green house gas emissions, they will have a 1.7' sea level rise. This is the beginning of how they will do their analysis and their mapping.

Mr. Britz stated that the 100 year flood level today is at 11.2' at high tide. In 2100 with the low greenhouse gas scenario the 100 year flood level would be 13.7'. It is interesting to keep in mind that at the most extreme emission scenarios in 2050, the highest sea level rise is predicted at 6.3' which, added to the main high water 4.4', it is still not at the elevation of our 100 year flood.

Mr. Blenkinsop asked how relevant the 100 year flood number was now that the storms are coming much frequently. Mr. Britz responded that the 100 year flood they are talking about is a coastal storm flood, which is different than the flood that they are hearing about in the news which is about the amount of rain fall in a 24 hour period. That is a rain fall storm event vs. a coastal flood event. This study talks about when the ocean level comes 6.8' above whatever the tide stage is at the time. Mr. Allen also noted this was at a perfect storm, happening at the same time as high tide. Mr. Britz agreed it was at the worst conditions.

Mr. Taintor pointed out that while these scenarios are using different projections of sea level rise, they are holding the 100 year storm constant so they are adding 6.8' to everything. They are not assuming any change in the intensity of 100 year coastal storms.

Mr. Hopley asked if there was data taken for the perfect storm in 1967. Mr. Britz indicated they have not gone back and compared past storms to this data. The mapping was not based on the scenarios but rather was just elevations. So the 13.7' is the scenario that was modeled to show what would happen at the low greenhouse gas scenarios if they had a 100 year flood. They looked at a mapped elevation of 13.5' to see what it would look like.

Mr. Britz referred to the Emissions Scenario and Sea Level Change report prepared by UNH. He described a graph by NOAA in 2012 which is the National Climate Assessment. This also looked at sea level rise scenarios in the United States. He mentioned this to show that the data they are looking at falls in line with the data being published nationally. There was also a graph of mapped elevations.

Mr. Britz moved on to display the map sets of Portsmouth. The first set shows buildings at different flood depths. The Northern Tier was displayed at 7.5', 11.5', 13.5' and 18'. This shows the water moving all the way up to the Portwalk area. Mr. Taintor explained this is called a Stillwater approach, or bathtub model, where the water fills up regularly with no waves and does not take into account any

constrictions such as where water enters into the North Mill Pond which would naturally slow it down. Therefore, the entire area would not be flooded for an extended period of time but this shows the areas of vulnerability. Also, the current FEMA 100 year flood level is at 9' feet so their current 100' storm is right between the maps.

Mr. Britz also showed maps from the south end/Pleasant Point area, the North Mill Pond and Sagamore Creek. This mapping will show where they will see problems at a first cut level, what they could start to think about and what studies they need to understand it better.

Mr. Allen understands this study is talking in general terms but asked if it takes into effect the geometry of Little Harbor and Pierce Island. Mr. Taintor confirmed that it did not.

Mr. Hopley was surprised at the impact on Pierce Island as he saw that as a much higher elevation. Mr. Taintor indicated that was not the point. It was the swimming pool and not the sewer plant.

Mr. Blenkinsop asked how this impacts the ability of the City's waste water and storm water systems to be able to remove water out of the City. Mr. Britz explained that is part of the reason for the study. If they start to address this early, it will be much most cost effective over the long run.

Wetland and marsh areas were also displayed, by the Urban Forestry Center and the High School. The In the areas that are not developed, the City has a lot of conservation land and open space and one of the things that is also being studied is the impact to natural resources. The fresh water wetlands become inundated with salt water impacts to the plant species. Even a greater impact is when the sea level rise comes up on the salt marshes and starts to cover them and the salt marsh will not be able to handle it and will move inland. There are some areas in the City for this marsh migration where they can put some conservation measures in.

Mr. Brtiz reviewed some recommendations for zoning which they have been working on.

- Floodplain Standards – Recommend an extended flood hazard overlay
- Historic District – Standards for adaptation of historic properties
- Setbacks and Buffers – Larger buffers adjacent to salt marsh areas
- Redevelopment Standards – Require increased elevation, relocation or flood proofing.
- Shoreland Protection Options – Approval requirements for shoreline protection.

Mr. Taintor stated they can extend the FEMA Flood Maps and require an additional flood hazard overlay district.

Some other recommendations are:

- Master Plan – Include a Coastal Resilience Chapter
- Coastal Wetlands – Identify key parcels to plan for marsh migration.
- Public Health – Response plans for changing health impacts. (Disease, mosquitos, ticks)
- Emergency Management and Hazard Mitigation Planning – Amend Hazard Mitigation Plan and Evacuation Routes

Mr. Britz explained that a Hazard Mitigation Plan looks at hazards throughout City – fires, floods, bad storms – and how they will impact the City and where response will need to go. It is updated every 5

years and they work with Rockingham Planning Commission and Police & Fire constantly thinking about the Seabrook Power Plant. This will incorporate what could happen in the future into that planning process.

Chairman Ricci asked for some examples of the approval requirements for Shoreline Protections. Mr. Britz responded that there are a lot and have received a few recommendations from the Study to start to look at but they have not finalized those yet. They are trying to get input from Conservation Commission and come up with standards that will allow for a balancing.

Mr. Rice asked if we would ever get to the level of New Orleans. Mr. Britz felt that was important to keep in mind. Portsmouth is in a fairly good landscape position. They have a few areas that are vulnerable for a very strong sea level rise or storm surge but not as bad as Hampton Beach and York Beach which will have sea level rise come in from the ocean and from behind. Quite a bit of the City is up high and dry. There are areas where, if you want to keep the water out such as the North Mill Pond, they may want to put tide gates back into the North Mill Pond for example.

Mr. Allen remembers when they had the Mother's Day storm 5 years ago and the Rye line pump station was flooded because of the beaver dams. They have since rebuilt the pump station and they actually raised the entire foundation 2'. That showed how they learned from the past. With this type of information they can plan on designing a better pump station that will last for years to come.

Councilor Novelline Clayburgh asked if the Waste Water Plant will be up high enough to not be flooded. Mr. Taintor stated it is quite high and would only be impacted by the most extreme scenario.

Chairman Ricci asked if there was something they could provide to show a contour line of downtown to show the different level of impacts. That would be a very powerful exhibit. Mr. Britz explained they will be getting GIS maps from the consultants which will then enable them to do their own mapping.

Mr. Taintor noted that the areas that are impacted are the thin strip along all of the coastlines and you have to zoom way in to see the difference in the different scenarios. They are supposed to have a product to NOAA by the end of March and this is all though the grant money. There will be a public meeting in May. The grant was two parts. The first was to do the study and the second was an outreach piece to educate the public. The Department will also be creating a website to share their information.

Mr. Gladhill noticed they left off some prominent areas around the City. Mr. Taintor explained they just chose a few representative areas that they thought would be a good illustration. When the final report comes out the complete maps will be in it.

Mr. Rice asked if it was plausible that in 50 years the whole south end will be in the flood zone. Mr. Britz responded that the study indicates that there will not be much sea level rise in the next 50 years. Mr. Taintor noted it really starts picking up after 2050. Mr. Taintor was not even sure that these models take into account the most recent data on the Greenland ice cap. Mr. Britz agreed that things keep changing and as the models change they will be able to plug in new scenarios and update their maps.

Chairman Ricci asked exactly what the grant money will cover. Mr. Britz stated that the report will be produced which provides more detailed city-wide maps of each of the different buildings, infrastructure and wetlands as well as more extensive recommendations for each area. They can then start to use them as a starting point for Master Plan recommendations at the end of March.

II. ADJOURNMENT

A motion to adjourn at 7:20 pm was made and seconded and passed unanimously.

Respectfully submitted,

Jane M. Shouse
Acting Secretary for the Planning Board

These minutes were approved by the Planning Board on June 20, 2013.