

**TOWN OF OLD ORCHARD BEACH
TOWN COUNCIL WORKSHOP
WEDNESDAY, AUGUST 25, 2010
TOWN HALL CHAMBERS
8:30 p.m.**

A Town Council Workshop of the Old Orchard Beach Town Council was held on Wednesday, August 25, 2010. The purpose of the Workshop was discussion on an Update of the West Grand Avenue Bond issue. Chair MacDonald opened the meeting at 8:30 p.m. following the Special Town Council Workshop.

The following were in attendance:

**Chair Sharri MacDonald
Vice Chair Michael Tousignant
Councilor Shawn O'Neill
Councilor Robin Dayton
Town Manager Jack Turcotte
Assistant Town Manager Louise Reid
Public Works Director Bill Robertson
John Edgerton – Wright Pierce**

Absent: Councilor Laura Bolduc

The Workshop this evening was to discuss the updates of each of the bond issues listed below. First, to provide updates to the previous workshop, the following information was given again as an update: John Edgerton of Wright Pierce gave a summary of past workshops and how we got to this evening and the issues to be discussed to move this project forward.

Historical Information:

In June of 2008, the community approved a number of bond issues to support a variety of infrastructure improvements. This evening we will be discussion the West Grand Stormwater Bond Project. There have been two other previous sessions held on this subject but administration is waiting for further direction from the Council on how to proceed. The current West Grand Stormwater Project initial bond issue was in the amount of \$1,850,000.

- **Tasks Completed on West Grand Avenue Project:**
 - **Topographic Survey**
 - **Analysis of Existing Conditions**
 - **Hydrology/Hydraulic Modeling**
 - **Developed Conceptual Design Materials**
 - **Conducted Two Public Meetings**
 - **On-Site Meetings with Residents**
 - **Completing Review of Alternate Approaches to Achieve Project Goals (see Council Packet)**

The bond proposal includes \$1.85 million to address public infrastructure improvements in the vicinity of West Grand Avenue which would address issues associated with periodic flooding. In the fall of 2008, Wright-Pierce initiated a preliminary design process to evaluate the nature and extent of the flooding and to better understand the factors behind it. The evaluation focused on site topography and its relation to sea level, the tide gates, hydrology, and hydraulics. The evaluation also included two public meetings at the Town Hall Chambers (March 24, 2008 and June 24, 2009), one follow-up meeting at a resident's home on July 6, 2009, and various meetings with members of the Ocean Park Conservation Society (OPCS), a group concerned with preservation of the local marsh ecosystem.

A major factor driving the necessity for the project is the need to maintain a safe and dry evacuation route during a 100-year flood event. The existing evacuation route in the area utilizes a portion of West Grand Avenue (From Pavia Avenue to New Salt Road) that is frequently inundated with flood waters during storm events significantly less than the 100-year flood. Adding to the complexity of flooding issues is the mandate that improvements be confined to within the Rights-of-Way (ROW). Public bond money expenditures can not be used on private property to mitigate flooding on that property. Localized flooding has been observed outside of the ROW in several locations. Particular attention must be paid to ensure that the flood mitigation projects selected do not exacerbate the localized flooding outside of the ROW.

The following have already been completed:

Topographic Survey

A topographic survey of West Grand Avenue was conducted in the fall of 2008. The survey showed that West Grand Avenue has a centerline low elevation of 6.0 feet (NGVD29), located near its intersection with Ancona Avenue. A review of tidal predictions by the National Oceanic and Atmospheric Administration (NOAA) shows that spring high tides can get up to elevation 6.78 feet (NGVD29). The survey also identified that much of West Grand Avenue, a designated emergency evacuation route, is inundated with as much as 3 feet of water when compared to the FEMA 100-year flood inundation mapping.

Hydrologic Analysis

A hydrologic analysis was conducted to determine the size of the tributary watershed area that contributes stormwater runoff to the West Grand area. The results showed that the watershed is approximately 724 acres in size (1.13 square miles), and runoff from up to 1.5 miles away flows towards West Grand Avenue. A preliminary hydrologic runoff analysis with HydroCAD computer modeling software was conducted for a 63.5 acre area in the immediate vicinity of West Grand Avenue. The model predicted that as much as 56,000 gallons per minute (gpm) of runoff is generated by this region during a 10-year, 24-hour storm event.

Tidal Analysis

The watershed, described above and shown in Figure 1, outlets into Goosefare Brook, a tidally influenced estuary. The existing stormwater conveyance system (open channels and piping) is connected to the estuary with three culverts under New Salt Road. Two of the three culverts have flap gates installed on the ocean side, which allow water to discharge and prevent salt water from flowing in. The third culvert has a Self Regulating Tide gate (SRT), which is an electrically powered flap gate that rises to let salt water in to preserve the salt water marshes. The SRT is equipped with a water level sensor, which automatically closes the gate during

periods of high tides to prevent salt water from flooding inhabited areas. The SRT sensor is currently calibrated to close the gate once tide waters on the ocean side of the tide gate rise above an elevation of approximately 5.83 feet (NGVD29), and open once the tide waters recede below 5.83 feet. This elevation was determined based on the lowest centerline elevation along West Grand Avenue of 6.0 feet at Ancona Avenue. In order for stormwater to drain out into the tidal receiving waters, the tide water elevation downstream of the tide gates needs to be below the upstream water level.

Preliminary Findings

Based on our analyses, it appears that the problematic flooding that occurs along West Grand Avenue is the result of the combined effects of high tide events and runoff from rain events. If a significant rainfall occurs during a period of extreme tides or storm surges, the problem is magnified because the local runoff has no way to escape and drain out of the area. Because the area is low lying with respect to the ocean, there is little elevation difference available to "push" the incoming runoff towards the ocean, therefore flood waters continue to rise, often above the lowest elevation of West Grand Avenue.

As identified in the Town's general philosophy related to flood mitigation and stormwater management a key component of this evaluation is maintaining a safe/dry evacuation route during a 100-year flood event. West Grand Avenue is designated as an emergency evacuation route from Pavia Avenue to New Salt Road. For this reason, an initial design focus was to reconstruct and raise West Grand Avenue to maintain it passable during these events. Multiple public meetings with residents of the area were held to discuss this approach. The feedback obtained in these meetings from the residents was mainly of extensive concern that raising West Grand would exacerbate issues on adjacent parcels. While the engineering analysis suggested that this could be addressed, concern that the Town would be perceived as worsening flooding appeared to justify evaluating alternative options.

During the past workshops three alternatives were presented. This evening Alternative Two was presented as the present suggestion for moving forward with the project:

Alternative No. 1 - No Build Scenario

Alternative No. 2 - Moderate Improvements Scenario - Based on goals for the project as presented to voters (work within the public domain to mitigate flood hazards and to maintain a safe/dry emergency evacuation route during a 100-year storm), the following "lower impact" alternatives are suggested for further analysis. These alternatives will minimize impacts to private property and are more localized flood mitigation solutions.

- o Relocate emergency evacuation route from West Grand Avenue to Seaside Avenue.
- o Appears to work based on topographic elevations.
- o Requires some capital improvements in addition to pavement markings and signage.
- o On-street parking, etc. probably not big issues at times when the evacuation route would be needed due to flooding.
- General stormwater improvements along West Grand Avenue:
 - o Improve local stormwater infrastructure near 17 Tunis Avenue (Kelly Raye's),
 - o Improve local stormwater infrastructure near inlet to box culvert,
 - o Adjust drainage structures at Temple Avenue and,
 - o Optimize tide gate operation especially prior to large rain events.
- Add storage upstream of Free Street culvert (not shown on Figure 2):

- o Requires extensive coordination with OPCS.
- o Requires Free Street be raised 2-3 feet to prevent overtopping.
- Potential for other limited capital improvement work along West Grand Avenue.
- This alternative could be structured to select the appropriate projects based on the "biggest bang for the buck" and the amount of bond funding approved.

Alternative No. 2 Advantages

- Local stormwater infrastructure improved;
- Minimized construction impacts and schedule;
- Minimized impacts to wetlands and marsh areas;
- Passable emergency evacuation route;
- New infrastructure at Free Street;
- Increased storage in marsh prior to rain event;
- Enhanced SCADA operation;
- Decreased potential for negative impacts to private property drainage; and
- Costs are within original bond amount.

Alternative No. 2 Disadvantages

- Flood protection not mitigated for significant floods;
- Increased traffic on smaller local roads, (Seaside Avenue and side streets); and
- Significant coordination with OPCS is required.

Preliminary Estimate of Probable Construction Cost = \$ 1.4M to \$ 1.6M

Preliminary Estimate of Probable Engineering Cost = \$0.21M to \$0.24M

Preliminary Estimate of Probable Total Cost = \$ 1.62M to \$ 1.84M

Alternative No. 3 - Full Mitigation Scenario

The Alternative 2 - a plan that John Edgerton presented to the Council would be within the bond budget and would improve infrastructure, provide a passable emergency evacuation route, and minimize impact to private properties, but would not provide flood mitigation for significant floods. This plan would relocate the emergency evacuation route from West Grand Avenue to Seaside Avenue, would include stormwater improvements along West Grand Avenue, and would raise Free Street, adding storage upstream of the Free Street culvert. However, the "Cadillac option" could cost up to \$4 million and would include a stormwater pump station adjacent to tide gates. It would provide mitigation for more significant flooding events and would maintain the current emergency evacuation route. Because of the cost of this option, it would require a referendum vote to allocate the additional funding. Flooding in the West Grand area occurs both from significant high tide and rain events. If there is significant rainfall, during a period of extreme tides, the problem is magnified because there is no place for local runoff to drain. The area is low-lying with respect to the ocean, and runoff continues to rise instead of being pushed to the ocean.

Below is the Discussion Points presented by John Edgerton of Wright Pierce this evening at the Workshop.

Background:

- **In June of 2008 the voters of OOB authorized a \$5.3 million bond to address a variety of infrastructure issues throughout the community.**
- **One of the six designated projects related to addressing storm water and flooding along West Grand Avenue.**
- **Following completion of preliminary engineering and public input phases early last fall, the project was put on hold pending concurrence on direction from Council.**
- **There are a number of both technical and political issues surrounding the project.**
- **We met in a workshop session on June 1, 2010 to discuss the project and provide Council with an understanding of the various issues in order to provide that direction.**
- **Among the "outcomes" from the June 1 meeting was that members of Council should have some time to think about it and that the engineer (Wright-Pierce) should provide more guidance in how to move forward.**

Next Steps / Options:

For the purposes of discussion, we included 3 optional approaches in our discussion on June 1: "no build"; modest infrastructure improvements; and storm water pumping station.

Option 1 - No Build: We don't really think this is on the table, it's really whether the Town elects to do something now, with the bond money that was approved by the voters or whether that money remains unspent (or applied to a more comprehensive project).

Option 2 - Modest Infrastructure Improvements: This option consists of a variety of components structured around the goals of mitigating some of the flooding impacts, particularly as they pertain to the street, which is a designated evacuation route:

- **Relocate (or redesign) emergency evacuation route from West Grand Avenue to Seaside Avenue, which requires some capital improvements in addition to pavement markings and signage. On-street parking, etc. probably not big issues at times when the evacuation route would be needed due to flooding.**
- **General storm water improvements along West Grand Avenue:**
 - **Improve local storm water infrastructure near 17 Tunis Avenue (Kelly Raye),**
 - **Improve local storm water infrastructure near the inlet to the box culvert,**
 - **Adjust drainage structures at Temple Avenue and,**
 - **Optimize tide gate operation especially prior to large rain events.**
- **Potentially add storage upstream of Free Street culvert**
 - **Requires coordination with OPCS.**
 - **Requires Free Street be raised to prevent overtopping.**

- Potential for other limited infrastructure work along West Grand Avenue.
- Optimize use of the currently available bond funding.

Option 3 - Storm water Pumping Station: Given the low-lying nature of the impacted area and the relative elevation of the ocean/Goosefare Brook, this appears to be the only viable option for addressing flooding levels throughout the West Grand area. The cost would be significant (\$3 -\$4 million) and hence voter approval would be required to move forward with this option. Council will need to consider other elements of capital investment that may be on the horizon (Wastewater plant & pump stations, possible flood mitigation in the vicinity of Walnut and Milliken Streets, etc.) as well as the current state of the economy in deciding when and if to put this in front of the voters.

Recommendation:

After due consideration, we recommend proceeding with Option 2 - Modest Infrastructure Improvements. Our rationale is thus:

- We believe that this will achieve some benefit in terms of providing for enhanced safety for evacuation during events that involve flooding, access for emergency vehicles and reduced street flooding in some of the worst areas.
- We have reviewed the PowerPoint slides that were used for public information prior to the bond vote and feel that the currently proposed improvements are, in fact, generally consistent with the message that was presented about the nature of the planned improvements.
- We suspect that that majority of the planned improvements are warranted regardless of whether the Town elects to pursue Option 3 (or other comprehensive measure to mitigate flooding) in the future.
- We are concerned that given the current state of the economy, as well as other likely needs for capital funding, the timeframe for implementing a more significant project to mitigate flooding in this part of the community may be some years off.

Informational Needs:

What information does Council need from their consultant in order to support further action?

Instructions from Council: The Council instructed John Edgerton and Wright Pierce to move forward and to bring detailed plans to the Council showing what is to be done, what it will accomplish and to do it a timely manner. Kelly Raye again indicated to the Council that too much time has gone by and they have been patient but now it is time for action and patience has run out.

Discussion on the Tide Gate and the Marsh:

A great deal of discussion resulted on the issue of the Ocean Park Tide Gate. The Town Manager indicated that the Tide Gate is operating on a daily basis by Public Works based on the anticipation of severe thunder storms and factoring the height of the tides. Due to the warm weather and lack of rain, Public Works is daily opening the gate to allow a flow of sea water into the marsh. Public Works recently made the adjustment as it was noted that the marsh was actually too dry and lacking in salt water. In a nutshell, if heavy rains are predicted or if a tide is predicted to be close to ten feet over, the gate is closed. As a result of the marsh conditions he indicated that he met with Public Works to discuss in more detail this situation. He brought to the table a topic that he had discussed with John Bird months ago. It centered on the idea of having the Tide Gate on full automatic all the time (which at one point we tried.) The end result of today's discussion was a determination that we need to contract with Allgash Valve and Control. The question is at what setting is the Tide Gate set when the gate is left in the automatic position and is the Tide Gate working properly? The reason this question was generated is there seems to be support for the automatic theory if:

- 1. The gate is set to close at ten (10) feet tide;**
- 2. If the gate closes quickly enough to prevent flooding level of water to reenter inside the gate.**

If we set the gate to close at ten feet and we manually attend to the gate when we are faced with heavy rains, this practice seems to be the most popular solution. The Town Manager said he was not sure if the solutions are a compromise of the theories or if we have just come fully circle. Keeping the gate manually if heavy rains are predicted also seems sensible but Public Works must be diligent when and if manual operations is implemented. The goal is to keep the marsh fresh with salt water and simultaneously keep the water level low enough to allow space for run offs caused by heavy rains. Over the last four months he said he had learned a lot regarding the marsh, its condition, functions, purposes, and its challenges. He indicated that he had been in touch with Allagash Valve and Controls of Portland and is setting up a meeting for them to come and view the Gate and make their recommendations.

Discussion between the Council and Kelly Raye, Jim Walker, Norman Means, John Bird and Jerome Begart continued on the issue of the marsh. Questions were raised and discussion held on the awareness of the salt marsh and the question of life and death of the salt marsh. They focused on many aspects of the ecology of the marsh including geology and species, seasons and topics of marsh pollution and conservation. The dominant species of the salt marsh are the spar Tina grasses. Preservation of this marsh is vital and there are growing concerns about variety of species, water quality, fish migration, invasive plants (such as phragmites), salt marsh degradation, population growth, and development. The protection of our natural resources is vital. Alt marshes rank among the most productive ecosystems on earth and the concerns that were made this evening include the desire to more actively address the issues presented by those participating in the discussions. Many people don't understand the value of the marshes. Most destruction of marshes is due to some of the conditions we are experiencing in our own marsh and the loss of quality and function of the marsh is a serious problem. Subtle impacts which affect salt marshes include water flow modifications and pollution.

The Town Manager and the Chair thanked everyone for their participation in this evening's workshop and looked forward to an early presentation by Wright Pierce on definitive plans.

Respectfully Submitted,

**V. Louise Reid
Town Council Secretary**

I, V. Louise Reid, Secretary to the Town Council of Old Orchard Beach, Maine, do hereby certify that the foregoing document consisting of eight (8) pages is a true copy of the original Minutes of the Town Council Workshop of August 25, 2010.

Louise Reid