COMMITTEE TO PROTECT BELVEDERE'S SEAWALLS, LEVEES, AND UTILTIES
TUESDAY, MAY 21, 2019, 1:00 P.M.
BELVEDERE CITY HALL - COUNCIL CHAMBERS
450 SAN RAFAEL AVENUE
BELVEDERE, CALIFORNIA

MINUTES

COMMITTEE PRESENT: Andrew Allen, Denise Bauer, Glenn Isaacson, Ken Johnson, Nancy Kemnitzer, Bob McCaskill, William Rothman, Larry Wheat, Sally Wilkinson, and Chair Jim Lynch

COMMITTEE ABSENT: Justin Faggioli

OTHERS PRESENT: City Clerk Alison Foulis, City Manager Craig Middleton, Stetson Engineer James Reilly, Miller Pacific Engineer Scott Stephens, and Public Works Manager Robert Zadnik

CALL TO ORDER OF REGULAR MEETING

The meeting was called to order at 1:10 PM by City Manager Craig Middleton in the absence of the Chair.

OPEN FORUM

No one wished to speak.

SCHEDULED ITEMS

1. Welcome and Introductions/Comments from the Chair

City Manager Middleton welcomed the Committee Members and members of the public.

2. Expectations and Timeline – City Manager

City Manager Middleton stated that the goal of the Committee is to review Stetson Engineers-provided design alternatives and nature-based innovations and to provide a recommendation to the City Council as to the most appropriate for protecting the City from the effects of sea level rise, flooding, and seismic activities.

3a. History of flooding and response in Belvedere.

Committee Member Wilkinson presented information on Belvedere's flood history, clarifying the timeline of flooding events in the 1980s that led to storm damage and improvements to the San Rafael Avenue Seawall. The Committee discussed the lowest lying areas of San Rafael Avenue and their vulnerability to sheet flows of water over the roadway in extreme tide conditions. The Committee also discussed differing studies on the long-term projections of sea level rise and the effect of rebuilding Lagoon homes to FEMA-regulated elevations over time on lessening the severity of future storm damage. However it was noted that elevating Lagoon homes does not protect San Rafael Avenue and Beach Road as crucial access ways on/off Belvedere Island and as utility conveyances.

3b. Review of current sea level rise assumptions and other effects of climate change.

Committee Member Wilkinson presented the range of sea level rise potential based on the State's recent projections. Based on a low risk aversion approach, Ms. Wilkinson stated that the projected sea level rise by 2050 would be 1.1 feet, and 3.4 feet by 2100. Stetson Engineer James Reilly commented that projections could vary from the actual rise and therefore it is important to build improvements with the potential for future enhanced resiliency should sea level rise exceed projections.

3c. Susceptibility of levees to flooding – Today and 2050.

Stetson Engineer James Reilly presented graphs detailing San Rafael Avenue and Beach Road's elevation profiles and the potential for overtopping at certain water surface levels during various extreme tides at present day conditions as well as at 2050 projected sea level rise. Mr. Reilly noted that, while the Belvedere Lagoon Property Owners Association (BLPOA) operates a system of pumps and culverts to lower the water level of the Lagoon to protect the shoreline in a rainfall event, during still level extreme tides, the volume of water in sheet flow into the Lagoon would not be able to be accommodated by BLPOA pumps.

The Committee discussed whether there were any recent instances of sheet flow into the Lagoon, and none were recalled since the 1983 storm. The Committee asked questions about the individual efficacy of proposed improvements around the City and Mr. Reilly answered that the four improvement locations (San Rafael Ave Levee, San Rafael Ave/West Shore Rd, Beach Road Levee, and Tiburon barrier) would provide comprehensive protection. Mr. Reilly answered additional questions about the San Rafael Avenue rip rap's effect on wave velocity and the data used to map the elevation profiles of San Rafael Avenue and Beach Road.

During Item 3c, Chair Jim Lynch arrived at 1:47 PM and Committee Member Andrew Allen arrived at 1:53 PM.

3d. Flood mapping – Today and 2050.

Todd Hallenbeck, BCDC GIS Specialist representing the Adapting to Rising Tides Program, provided a presentation on BCDC's Bay Shoreline Flood Explorer mapping tool. The mapping tool, developed to support local planning for current and future sea level rise and storm surges, was used to present potential future flooding scenarios for Belvedere. The Committee asked questions about BCDC's evaluation of projects in the Bay and whether projects shown to provide shoreline protection would be viewed favorably. Mr. Hallenbeck discussed BCDC's project review process based on state guidelines, upcoming amendments to the San Francisco Bay Plan, and the potential future trend of allowing greater leeway for shoreline protection devices. Lastly, the Committee discussed how the mapping tool does not assume change in future storm severity and whether that assumption has been studied.

3e. Seismic-related vulnerabilities to levees and utilities.

Public Works Manager Zadnik discussed the effects of overtopping and seismic events on utilities buried along San Rafael Avenue and Beach Road. Mr. Zadnik reported that: PG&E lines along both roads are susceptible to damage due to storm overtopping or sea level rise; MMWD lines are fragile and susceptible to seismic activity and that a water main break could lead to unsafe drinking water or a lack of a continuous supply of water for firefighting; and sewer lines are susceptible to overtopping and water overwhelming the sewer system. The Committee asked for clarification on whether the utility lines on San Rafael Avenue and Beach Road serve all areas of Belvedere or only certain areas. Mr. Zadnik responded that the City's utilities were all connected and a breakdown in one area may have an impact on service to a larger area of the City. It was noted later in the meeting that BLPOA culverts and pumps were another important utility that are vulnerable to sea level rise and seismic events.

3f. Potential impacts on City from levee deformation or seawall failures.

Miller Pacific Engineer Scott Stephens presented geological cross sections of San Rafael Avenue and Beach Road and discussed the potential impacts of seismic activity. Mr. Stephens stated that the biggest geological issues at the roadways are loose sand and bay mud, and he shared calculations on future settlement of both roads. The Committee discussed the positive impact of sheetpiling on levee stability and the potential long term cost increases to fix future problems if sheetpiling was not done at this time. Mr. Stephens also discussed the potential of adding significant weight on or near the levee to exacerbate settling of the levee.

4. Wrap up and review of agenda for next meeting on May 28, 2019.

City Manager Middleton announced the wrap up of the meeting. The Committee asked for future clarification on the peril at various flooding levels, the expected costs to re-open Belvedere Way for emergency access, and examples of cities in which temporary water-filled dams or bladders have proven successful. The Committee also discussed the need for a working definition of "flood" for precise conversation among the Committee.

City Manager Middleton called for any additional public comment and no one wished to speak.

Chair Lynch apologized for being late to the meeting and thanked the Committee Members for volunteering for the Committee.

ADJOURN

The Committee meeting was adjourned at 3:21 PM.

THE FOREGOING MINUTES were approved at a meeting of the Committee to Protect Belvedere's Seawalls, Levees, and Utilities on May 28, 2019, by the following vote:

AYES: Denise Bauer, Justin Faggioli, Glenn Isaacson, Ken Johnson, Nancy Kemnitzer, Bob McCaskill, William Rothman, Larry Wheat, Sally Wilkinson, and Chair Jim Lynch
NOES: None
ABSENT: Andrew Allen