VILLAGE OF

Kenilworth

KENILWORTH, IL

Special Meeting of the Committee of the Whole of the Board of Trustees June 27, 2016

CALL TO ORDER

Village President William Russell called to order the special meeting of the Committee of the Whole of the Board of Trustees of the Village of Kenilworth in the Kenilworth Village Hall, Kenilworth, Illinois at 5:33 pm on May 27, 2016.

ROLL CALL

President Russell requested that Deputy Village Clerk Brennan call the roll:

Trustees:

Trustee Scott Lien	Present
Trustee Kevin Lennon	Present
Trustee Ann Potter	Present
Trustee Joe Konen	Present
Trustee Alison Winslow	Present
Trustee Peter Shadek	Present
President William Russell	Present

A quorum was present.

Others Recorded as in Attendance:

Village Officials and Staff*:*

Patrick Brennan	Village Manager
Nadim Badran	Assistant to the Village Manger
Peter Nickell	Management Analyst
Barbara Adams	Village Attorney
Larry Thomas, P.E.	Stanley Consulting

Others, Signing In:

David Ward	Kenilworth
Eleanor Prince	Kenilworth
Justin Mohr	Kenilworth
Alison Dempsey	Kenilworth
Jean Corvine	Kenilworth
George Kocalis	Kenilworth
Bridget Pennise	Kenilworth
Emily Tzur	Kenilworth
Robert Arroyo	Kenilworth
Carolyn Johnson	Kenilworth
Colleen O'Malley Driscoll	Kenilworth

AGENDA ITEM II: REGULAR SCHEDULED BUSINESS

1. Presentation and Discussion of the Impacts of Operating the Elevated Water Tank at a Reduced Volume to Address Recommended Operational Limitations.

President Russell addressed the group and explained that the purpose of the meeting was to determine the impact of lowering the water level in the village's water tank. He stated that the question was raised as part of the process of evaluating the necessity of relocating the cellular antenna from the water tank. He stated that the meeting was not intended to answer the question regarding the relocation, rather it was to hear from a specialist about the anticipated impacts of standardizing the operational limitations. He then introduced Mr. Larry Thomas a Professional Engineer and Water Department Manger with Stanley Engineering.

Mr. Thomas directed the group's attention to a PowerPoint display that he used to guide his presentation. He opened the presentation with an overview of the Kenilworth Water System and explained that the village's average daily water consumption is 0.39 million gallons per day (mgd) and historical maximum day flow is 1.30 mgd. He explained the structural characteristics of the elevated water tank which was built in 1976 to store up to 200,000 gallons of water and pressurizes the water system between 45 and 49 pounds per square inch (psi). Trustee Konen inquired about the existence of standards for water pressure. Mr. Thomas stated that it was required that pressure be maintained in excess of 20 psi, but that many communities average around 35 psi.

The elevated water tank provides multiple functions for the water system. Those functions include: maintaining water system pressure, dampening pressure variations, attenuating water hammer, providing fire flow storage, supplying diurnal and peak hour water, and providing water during loss of supply emergencies.

Mr. Thomas next explained that the presence of the cellular antennas upon the water tower have an impact upon the tank. He stated that they both add weight and wind load to the tank causing impacts to the structural elements of the tank. The proposed mitigation recommended by two engineering firms was to limit the maximum capacity of the tank to 160,000 gallons and minimum capacity to 20,000 gallons. He stated that the structural reports indicated that the upper limits effected the overall soil bearing capacity and that the minimum volume related to the stress upon the anchor bolts. He stated that the anchor bolt concern is likely a relatively simple fix. The soil bearing pressure concerns were more complex. Trustee Shadek inquired about the ability to increase the soil bearing capacity. Mr. Thomas stated that the 6,000 psi bearing capacity specified in the design drawings seemed to be unusually high and it would be unlikely to be easily increased.

Mr. Thomas next discussed the impact of maintaining a lower water tank capacity. He stated that the water level within the tank would be lowered by approximately seven feet to achieve the 160,000-gallon capacity. He stated that this would result in an average pressure decline of two psi, but could be as much as three psi. The reduced water storage capacity would also reduce the amount of fire flow during a water emergency by 36 minutes. Mr. Thomas noted that the water tank, even when at full capacity is not able to meet a 1,000 gallon per minute fire flow for three-hours. He added that the new booster pump station planned for later this year is capable of meeting fire flow demands, but that in a situation where emergency supply was not available the water tank would be the primary supply. The reduction in flows at fire hydrants was also calculated by Mr. Thomas. He stated that the reduced water tank capacity would result in a decline of 50-80 gallons per minute at 20 psi of discharge pressure.

Loss of supply emergencies were also reviewed. Mr. Thomas stated that the 40,000 gallons of storage would provide approximately 10 to 13 minutes of pressure before the system dropped below 20 psi. If the booster station were to fail, it has been designed with an emergency by-pass that would allow Wilmette water to flow into the system. He stated that the Village benefits from three emergency interconnections. This allows for one to fail with two others available. He added that if the Wilmette system were to fail, the Village could receive water through its emergency connection with Winnetka.

Mr. Thomas stated that there are other considerations associated with lowering the water storage volume. He stated that energy cost of operating the booster station would be reduced by approximately $180/year, water quality would marginally improve due to the shorter residence time of the water, water main breaks would be reduced due to lower system pressure, and the system water loss would be reduced due to lower system pressure. Mr. Thomas also explained what would happen if a system wide pressure loss was encountered. He stated that this could happen if the primary and

secondary supplies failed and the storage was unavailable. If the system-wide pressure dropped below 20 psi, a boil order would need to be issued for the community. It would remain in place for at least 48 hours to allow time for bacteriological testing.

Upon the conclusion of Mr. Thomas' presentation. President Russell opened the floor to questions from the Trustees. Trustee Potter inquired if having Wilmette as a water supply would then make it easier to maintain a lower volume in the water tank. Mr. Thomas stated that the computer equipment can easily be set to maintain the desired water levels, regardless of the water source. Trustee Lien inquired about any maintenance considerations related to having a lower tank level. Mr. Thomas stated that the internal ice scraping within the tank would occur within a smaller operational range and that he does not think that the life of the interior coating would be reduced. Trustee Konen stated that the Village had received requests for additional antenna upon the water tank. He asked what impact that may cause. Mr. Thomas said that the addition of any cellular antenna should be evaluated by a structural engineer, but he felt it was likely that additional antenna would result in a recommendation to further lower the water level in the tank. Trustee Lien asked Mr. Thomas what risks he saw with lowering the level of water in the tank. Mr. Thomas said that it would result in less storage and lower system pressures. He said that it is the Village Board has the difficult decision to make. He stated that the availability of emergency connections with two neighboring suppliers is a definite benefit to the dependability of the water supply.

Upon addressing the questions posed by the Trustees, President Russell opened the meeting to questions from the audience. Eileen McDonald asked if the pressure reductions mentioned factored in the recent water main infrastructure work. Mr. Thomas stated that the work did not impact the overall system pressure, rather the volume of available water which had been improved. Cary Johnson asked if it were true that additional cellular carriers had asked to have antennas on the water tank. President Russell stated that Verizon Wireless has expressed interest. Mr. Johnson asked if they would be allowed to have a presence within the Village. President Russell stated that it was too soon to know. David Ward inquired about the initial soil bearing calculations from the tank design and if they were overstated. Mr. Thomas stated that he has not seen the initial soil bearing studies or know if they were conducted. Coleen Driscoll expressed her concern that the Trustees were considering lowering the amount of water maintained in storage to serve and protect the community. She questioned the variables used for assumptions, if initial testing was done when the tank was constructed, and why the Village Board was willing to risk having minimal water storage and the potential failure of the water tank. George Kocalis asked if lowering the water storage would lower the pressure at the fire hydrants. Mr. Thomas stated that it would lower the pressure. Mr. Kocalis then asked if Mr. Thomas thought it was a good idea.

Mr. Thomas stated that the decision was a policy decision for the Village Board, not an engineering decision.

Upon exhausting the questions and discussions, President Russell stated that no final decisions were anticipated to result from this meeting. Rather, it was one of a series of meetings intended to provide the Trustees with additional information necessary to make their decision in the future. He stated that the next step was to set a meeting for Dr. Taflove to present his findings and hoped that it would happen within a few weeks. He also asked the Village Manager to bring forward options for conducting soil bearing capacity tests. Finally, he stated that the stability of the elevated water tank is a matter of public safety and a situation that the Village Board of Trustees needs to resolve.

AGENDA ITEM VIII: BUSINESS FROM THE PUBLIC RELATED TO ITEMS NOT ON THE AGENDA

President Russell opened the floor to the public to discuss items that were not related to items on the agenda for the meeting. No members of the public expressed a desire to raise non-agenda items and President Russell stated that he would entertain a motion to adjourn the meeting.

AGENDA ITEM IX: ADJOURN

With no further business, Trustee Lien offered a motion, and Trustee Shadek seconded the motion, to adjourn the meeting. The meeting was concluded by voice vote at 6:56 pm.

Respectfully Submitted,

Patrick Brennan
Deputy Village Clerk