

capital plan, a schedule and a financing strategy to make those improvements happen and reduce the risk of flooding. To get to that point, there are a lot of data and facts to be considered to make sure the Village has the right solution and is making a good decision. He said they are focused on structure flooding and access impairment.

Mr. Johnson reviewed Wilmette's topography in the power point presentation (attached) noting the low ground elevations and lack of positive overland outlet make draining the west side of Wilmette difficult.

Trustee Kurzman asked if Mr. Johnson is using Bulletin 70 for measurements of what constitutes a 10-year storm event and whether in Mr. Johnson's opinion Bulletin 70 is still accurate.

Mr. Johnson said the State is currently reviewing rainfall statistics and it is possible the existing conditions for 10-year storms and other year storm analysis could change. He said it is likely, regardless of what type of work is done on the west side of Wilmette, there will be events in the future that will exceed the capacity of what can be put in the public right of way. There is real value in continuing to educate residents that live in flood prone areas to look at their property and ask for advice to help protect the property in extreme rain events. Even with the most comprehensive alternative that will be discussed this evening, it certainly cannot be guaranteed that residents will not flood on the west side of Wilmette.

Trustee Dodd said Mr. Johnson has the opportunity to meet with many municipalities and asked if it is normal for communities to look at 10-year storm conditions.

Mr. Johnson said he has seen that a representative approach is that a 10-year storm is a typical design storm for laying out a new storm sewer system. He said municipalities and the State will also look at what a 50 or 100-year storm event will cause in catastrophic flooding. He said communities also consider what they can afford and that is the challenge in laying out options.

Mr. Johnson said the approach to date has been:

- January 2015 Stormwater Management Report by CBBEL
- Stantec Review of Relief Sewer Project
- Development of Reduced Cost Alternative
- Value Engineering Review of CBBEL Alternative 1
- Supplemental Analysis of Potential Alternatives

Mr. Johnson reviewed the Relief Sewer Option 1 noting the objectives are to prevent structure and street flooding for the 10-year design storm and eliminate trunk sewer conveyance limitations. He said value engineering did not identify options to dramatically reduce the cost of the relief sewer project. Refinements in design criteria and implementation strategy could

provide cost savings on the order of 5-10%. He said to significantly reduce the cost of the west side stormwater project, Wilmette will have to reduce the portion of the area served, the design level of protection, or both.

Mr. Johnson said there are three additional alternatives; 1) Reduced Relief Sewer plus Neighborhood Storage, 2) Reduced Relief Sewer, 3) Neighborhood Storage.

Mr. Johnson discussed the Reduced Relief Sewer plus Neighborhood Storage objective to blend advantages of conveyance and storage elements, and reduce the overall project cost. He observed that it will provide a 10-year protection for about 80% of the west side. Local storage can be effective in areas far from the SWPS and conveyance provides localized benefits for more severe events.

Trustee Kurzman asked if the plan would give better or worse protection to the Kenilworth Gardens neighborhood.

Mr. Johnson said when he reviews the comparison numbers, they looked at protection of structures and reduction in flooded properties. From the property standpoint, this alternative does a little better in Kenilworth Gardens than Alternative 1, from a structure standpoint, they are basically the same.

He noted the project cost for Alternative 1 is in the \$80-95 million dollar range so it is a little more expensive than the \$70-80 million dollar range. The combination of the neighborhood storage and not building storm sewers all the way out Lake Avenue is less costly than building the pipe all the way out east.

Trustee Plunkett said if you build a relief sewer all the way west on Lake Avenue, what kind of disruption would there be to the neighborhood.

Mr. Johnson said they would have to remove traffic lanes so Lake Avenue would probably be down to 2 lanes from 4 lanes for a few blocks and that would have to be coordinated with the County as Lake Avenue is a Cook County road. There would have to be a road plan to deal with detours and reduced traffic lanes during construction times which may be weeks into months.

The Reduced Relief Sewer Option objective is to evaluate relative cost to serve study areas and seek out a "cost effective" solution. The observations are it does not provide 10-year protection for all areas, the cost to address flooding is relatively high across all areas and cost-effectiveness is influenced by the density of vulnerable structures.

Trustee Dodd asked why the flood density study from CBBEL is significantly different than the one presented this evening.

Mr. Johnson said they used a different approach because in order to evaluate new alternatives, they needed to have an approach that they could use consistently across all the alternatives that they were developing. They have to use the data from models and look at the elevation mapping to see how far the water spreads out and there are a variety of ways to do that. They used a piece of software that was able to show the inundation area and how far it goes back and whether it touches a piece of property. The other difference in the CBBEL report was the criteria they used for flood elevation was one foot below the highest elevation on a piece of property, they used something different so they could quickly replicate to go through different alternatives and they could not find a way to easily duplicate what CBBEL had previously done.

Mr. Johnson continued with reviewing the Neighborhood Storage alternative which uses distributed storage to reduce peak flows and reduces the length and cost of the sewer required. The observations are that it does not provide 10-year level of protection for all area and involves the significant disruption of three parks. The Benefit Evaluation for structures and properties showed the number comparisons for the relief sewer, reduced relief sewer and neighborhood storage, reduced relief sewer and neighborhood storage.

Trustee Kurzman asked how much water the pump station could handle, if conveyance were not an issue What year storm event could it handle?

Mr. Johnson said there was an evaluation of the pump station in the CBBEL report that they reviewed and it is upwards of 500 cubic feet per second which places it on the order of a 10-year storm.

Mr. Johnson finished reviewing the alternative comparisons and the cost/benefit comparison.

Trustee Leonard asked for clarification in Mr. Johnson's report versus the CBBEL report, of the number of structures protected.

Mr. Johnson said for the 10-year the numbers were 311 (Stantec) as opposed to 120 (CBBEL) and for the 100-year it was 1300 (Stantec) as opposed to 700 (CBBEL) and those numbers were included in the cost comparisons for the alternatives.

Mr. Johnson said the intention tonight was to provide some more data and hopefully provide some clarity around the data that was received. The next steps for the Village Board is to consider the options, receive additional clarification, stakeholder input, detailed financial analysis and then come to a decision.

Trustee Plunkett asked what the risks would be for neighborhood storage, how long are they built to last.

Mr. Johnson said engineering analysis is usually 50 years for sewers but he is aware there are sewers well over 50 years that are still in service. He said the storage tank structure is also estimated for a life of 50 years.

President Bielinski called for a short recess at 8:55 p.m.

President Bielinski called the meeting back to order at 9:05 p.m.

President Bielinski reviewed the Response to Consolidated Trustee Questions (attached). There were no comments from Trustees regarding questions and responses to numbers 1 and 2.

Trustee Dodd noted that in Question 3, in response to possibilities for neighborhood storage, the response was that an estimated 8-12 parcels would need to be purchased to provide sufficient area for construction of a storage facility. She asked if it was possible to purchase only four homes in the isolated, smaller areas.

Mr. Johnson said it may be possible but some areas in west Wilmette are very flat and water may get high enough to move from one block to the next in some storm events and a smaller storage area would fill up and not be cost-effective for providing flood relief.

President Bielinski noted there were no comments for Questions 4, 5, 6, 7, 8 & 9.

Trustee Dodd asked if it was possible to increase the capacity of the Ridge Road bowl to help flooding in the Kenilworth Gardens area.

Mr. Johnson said storage benefits the area downstream of the storage but the challenges for Kenilworth Gardens is the need for something larger to hold the water.

President Bielinski asked for more explanation regarding Question #11- what are the biggest risk areas for this project and what are the areas where the cost of the project is most unknown and could change.

Mr. Johnson said any of the alternatives involve significant underground construction and when you get into underground construction, there are unknowns that can potentially impact the cost. He said their costs were estimated higher as they were concerned about how it would be possible to fit some of the bigger pipes in the streets where there are a lot of utilities. He is confident it can be done but it may not be as cheap as if we were building a big pipe across an open, green field. The biggest risks for this type of project from a construction standpoint are the subsurface risks.

Trustee Leonard asked what the risk is for getting part way through the project and having costs sky rocket.

Mr. Johnson said with typical design approaches now, the risks get much smaller. He believes in this case with the combination of utility mapping and laying out the sewer will greatly improve the ability of an estimate. Much of the cost will be addressed in a preliminary design and by the final bid package, typically there is a 5% contingency.

Trustee Leonard asked about the cost risk of tunneling underneath the Edens expressway.

Mr. Johnson said there is more risk there but they would lay out a plan, have boring at both ends, would look at whatever available information there is about what is beneath the Edens and collect the data. There are risk management tools that are used in writing a specification for tunneling that can define what risk falls on the contractor and on the Village to protect both parties.

Trustee Plunkett asked if there is any benefit of our existing sewer maintenance program in terms of being under the ground and seeing the existing sewers and repairing and maintaining them as the ground is already open.

Ms. Berger-Raish said with a project of this magnitude, any street that we disrupt, we would take the opportunity to look at every underground utility, including water main and certainly our existing sanitary and storm systems.

Trustee Plunkett asked how that would align with the Village's proposal to replace 1% of the water main.

Ms. Berger-Raish said it would align very nicely as it would save the restoration cost, we would be doing it one time versus twice, and the inconvenience to the public is reduced.

President Bielinski asked if it was correlated to geography where the water mains are replaced.

Ms. Berger Raish said the water main replacement program is Village-wide and some of the water mains on the west side actually have a higher number of water main breaks than mains on the east side.

President Bielinski asked if the project costs include the replacement of the road pavement.

Ms. Berger-Raish said yes it does include the replacement of the road pavement.

President Bielinski noted there were no comments regarding questions 12 and 13.

President Bielinski asked Mr. Johnson to comment on question 14 regarding green stormwater projects.

Mr. Johnson said alternatives presented do not specifically include green stormwater management measures. It is clear in the report presented that green infrastructure can have some benefits but we cannot solve the problems in these intensity of storm events with green infrastructure. He does recommend that the Village continue to develop and implement a strategy for encouraging residents throughout Wilmette to adopt stormwater best management practices for their individual properties as a compliment to its plans for significant upgrades to the stormwater management infrastructure.

He did note that green infrastructure is very effective for improving the quality of stormwater that is discharged into waterways.

Trustee Dodd asked if something green could be created on all the public right of way areas, would that type of solution work.

Mr. Johnson said the foundation of a stormwater management system really needs to be an infrastructure system that is designed to capture and convey the stormwater. There are locations where the green infrastructure can be used to possibly increase the level of performance but there is an added maintenance cost so it is hard to make a cost effective alternative that it will solve flooding at the 10 or 100 year level.

President Bielinski noted there were no comments on questions 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 and 25.

President Bielinski moved on to the response to Trustee question prepared by staff. He noted there was no comments on questions 1 and 2. In response to question 3, "what is the pathway and timeline to an up-or-down vote on the project", he believes it may depend on a few issues but at a minimum there will be two more meetings. At the next meeting, follow up questions from the Trustees should be addressed as well as questions from residents. He also believes there should be discussion regarding the financial ramifications with the Finance Director working through what the project will cost, how to bond for it, what that would mean in terms of annual debt service and how it affects property tax. The Village Board will then need to discuss the issue and reach a consensus.

Trustee Wolf said she is a proponent of green infrastructure and although she realizes it will not solve all the problems, one thing that was previously mentioned was the financing decision and whether it would be through

taxes or a stormwater utility which would have the option for giving incentives for runoff.

Trustee Plunkett said it was her impression from the last meeting that they were working through the design phases to reach a financial number.

President Bielinski said that is correct, they would like to reach a design phase and that will take some difficult work by the Village Board. If they are able to talk about finance and reach a consensus, then he believes it is the Village Board's duty to let residents know what the plans are and explain them to the residents.

President Bielinski noted there were no comments on questions 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15.

Trustee Kurzman said he was curious about the data provided for question 6 regarding "how many basement restoration-related permits are typically issued in a given period of time". He thinks of stormwater management comprehensively, such as the data we receive, the impact in the community, and the permitting process.

Ms. Berger-Raish said it is difficult to draw any conclusion that the storms that have been referenced and provided data for have produced any more or less permits than two typical years without any storms of record.

Trustee Plunkett said there are many things for a flooded basement that you do not need a permit for such as taking out old carpet and installing new and taking out drywall and replacing it.

Trustee Kurzman said he was concerned that some residents did not go through the permit process and it is important for safety purposes.

President Bielinski asked if there were any further questions for staff or the consultant.

Trustee Plunkett asked if there were examples from other communities doing similar projects and facing similar situations.

Mr. Johnson said Glenview has been dealing with stormwater for many years as have other surrounding communities but what is unique with Wilmette is the fact that there is a large area on the west side of Wilmette that has one outlet. He said Wilmette and Winnetka share the same problem of having only one outlet for stormwater on the west side so it is hard to solve the problem without having an integrated solution.

Trustee Leonard said we are dealing with a 10-year flood event as that is the information we have but we all understand that our climate is changing. If we were to come to some type of consensus that a 10-year flood is really a 5-year flood, and we are not doing this project for a few years in the future,

would Mr. Johnson change the label on the project being done or change the scope of the project.

Mr. Johnson said the CBEL team was asked previously what it would take to take a project to a 10-year level of protection for Wilmette. The important thing for Wilmette becomes the capacity of the stormwater pump station as we can build conveyance up to the capacity of the stormwater pump station. He believes it would be very difficult to get a permit right now to increase the capacity of the pump station to put more water in the North Branch of the Chicago River. He said the question becomes how far could we go to put in the best level of protection for the community without going off the charts in terms of cost. He said there may be some value in discussing flood proofing solutions with residents that have been done in other places which will give them the option of a higher level of protection for flooding.

President Bielinski asked if there was anyone present to address the Village Board. He noted there was no public comment.

III. Adjournment

Trustee Sullivan moved to adjourn the meeting at 10:00 p.m., seconded by Trustee Wolf. There was no further discussion on the motion. All voted aye, the motion carried.

Respectfully submitted,

Barbara Hirsch
Deputy Village Clerk