



# VILLAGE OF LINCOLNSHIRE

## **AGENDA COMMITTEE OF THE WHOLE Village Hall – Board Room Tuesday, May 26, 2020 Following Regular Village Board**

### **PUBLIC REMOTE PARTICIPATION OPTIONS**

- **View/Listen**

- Watch live on Cable Channel 10 or <https://attendee.gotowebinar.com/register/6580455453508001551>. After registering, you will receive a confirmation email containing information about joining the meeting.
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- **Public Comment**

- Call 847-913-2312 to leave a voicemail message with your comment by 5:00 p.m. on Tuesday, May 26, 2020.
- Email your comment to [VOLPublicComment@lincolnshireil.gov](mailto:VOLPublicComment@lincolnshireil.gov) by 5:00 p.m. on Tuesday, May 26, 2020.
- Comments received before the meeting will be read concurrent with respective agenda item. Comments may be sent to the [VOLPublicComment@lincolnshireil.gov](mailto:VOLPublicComment@lincolnshireil.gov) email address during the meeting, but it is not guaranteed they will be read until the end of the meeting.

### **CALL TO ORDER**

1.0 **ROLL CALL**

2.0 **ITEMS OF GENERAL BUSINESS**

2.1 Planning, Zoning and Land Use

2.2 Finance and Administration

2.3 Public Works

2.31 Presentation of the Village-Wide Drainage Study (Village of Lincolnshire)

2.4 Public Safety

2.5 Parks and Recreation

2.6 Judiciary and Personnel

3.0 **UNFINISHED BUSINESS**

4.0 **NEW BUSINESS**

5.0 **EXECUTIVE SESSION**

6.0 **ADJOURNMENT**

*Reasonable accommodations / auxiliary aids will be provided to enable persons with disabilities to effectively*

*participate in any public meetings of the Board. Please contact the Village Administrative Office (847-883-8600) 48 hours in advance if you need special accommodations to attend. The Committee of the Whole will not proceed past 10:30 p.m. unless there is a consensus of the majority of the Trustees to do so. Citizens wishing to address the Board on agenda items may speak when the agenda item is open, prior to Board discussion.*



**ITEM SUMMARY**

<b>Reviewing Body / Meeting Date:</b>	<b>Committee of the Whole</b>
<b>Subject:</b>	Village-wide Drainage Study Update
<b>Action Requested</b>	Presentation on the Village-Wide Drainage Study (Village of Lincolnshire)
<b>Prepared By:</b>	Wally Dittrich – Assistant Public Works Director/Village Engineer
<b>Staff Recommendation:</b>	N/A
<b>Budgeted Amount:</b>	N/A
<b>Actual Amount:</b>	N/A
<b>Level of Service Impact:</b>	TBD
<b>Meeting History:</b>	N/A
<b>Tentative Meeting Schedule:</b>	N/A
<b>Reports / Documents Attached:</b>	Village-wide Drainage Study Executive Summary

**Request Summary**

Staff will be present at Monday’s meeting with representatives from Christopher Burke Engineering to present a summary of the progress made on the Village-Wide Drainage Study.

**Project Description**

The executive summary is attached for reference. The purpose of the study was to compile and assess all of the Village’s drainage needs and provide analysis on the benefits of completing various capital improvements to help the Village understand at a Village-wide level, the level of drainage system improvements needed and the costs involved. The information presented will help provide the data for decisions that need to be made in the future. This presentation is the first step in what will be an ongoing discussion regarding project needs, priorities, funding ability, and project responsibility.

**Budget Impact**

Approximately \$260,000 has been included in the 2020 budget for drainage improvements.

**Level of Service Impact**

N/A

**Approval Process**

Projects recommended for implementation will be presented in the 10-Year Capital Plan which is scheduled for the June 8, 2020 Committee of the Whole meeting.

**Staff Recommendation / Next Steps**

The Preliminary draft of the plan will be posted on-line for Village Board members and the public to review. Project recommendations will be discussed annually as part of the Village’s budget development process.

## EXECUTIVE SUMMARY

Due to localized surface flooding in numerous locations during moderate to heavy rain fall events, the Village of Lincolnshire (Village) initiated the development of a village-wide Stormwater Management Plan (Plan) to identify and develop proposed flood reduction projects and policies to address drainage problems within the residential portions of the Village.

The methodology for analyzing the storm sewer system for the Plan included a comprehensive review of the existing storm sewer system, resident meetings, hydrologic and hydraulic modeling of the existing drainage system, identification of system limitations and development of proposed drainage improvements. The proposed drainage improvements in this Plan can be incorporated into the Village's current infrastructure projects, green infrastructure planning and long-term capital improvement plan.

Public input was a significant component of the development of the Plan, and a public open house was held in July 2019 prior to the start of the detailed analysis. Approximately 60 residents attended the open house. In addition to this, online flood questionnaires were made available to every resident through the Village website. During the public input portion of the analysis, the Village experienced a significant storm event on September 12-13 2019 which recorded a burst of 1.6 inches in a half hour. In addition to this short duration event, Lake County and areas in Wisconsin within the Des Plaines River Watershed received several inches of rainfall, which caused flooding on the Des Plaines River. This high-intensity short burst of precipitation is becoming a common occurrence. CBBEL was able to collect drone footage and additional public input relative to this storm event. Overall the outreach effort generated over 250 total responses.

CBBEL identified 10 Flood Study Areas (FSA) where detailed drainage analyses were completed. CBBEL developed and calibrated hydrologic and hydraulic models for each FSA using the detailed accounts and pictures from residents. The modeling was verified based on the high water marks observed during the September 12-13 storm event. The existing drainage systems in some of the FSAs have approximately a 2-year level of service before street flooding begins, which is less than the current design standard of a 10-year level of service. This is due largely to the fact that these portions of the Village were developed prior to modern stormwater management practices.

CBBEL developed proposed drainage improvements to provide a minimum 10-year level of service in the storm sewer systems as well as a stormwater management mapping system and accounting table with maintenance plan. A conceptual engineer's estimate of probable cost for each of the proposed drainage improvement alternatives was prepared. These long-term capital improvements projects range in cost from \$2.2 to \$7.6 Million and total approximately \$19 Million. Based on discussions with the Village, the recommended proposed improvements are summarized in Table 2.

In addition to the underground drainage system, the Village has numerous existing detention and stormwater management facilities scattered throughout the residential portions of the Village. There are approximately 69 stormwater storage areas within the residential study area where there is not an

established responsibility of how maintenance is handled on these private properties that receive stormwater runoff from public roadways/property or neighboring properties. The subdivisions were designed in such a way that documentation does not exist on how the future maintenance of issues caused by this type of stormwater runoff would be addressed. Many basins are in various states of disrepair and in need of restoration and ongoing maintenance to function properly. It is estimated that an additional \$1.25 Million would be required to restore and maintain the detention basins within Village-owned property. This figure would grow to approximately \$4.7 Million if detention basins on private property were included (Table 3).

Finally, numerous reports of flooding on private property throughout the residential portions of the Village were received through the data collection process. There were approximately 140 reported instances of yard flooding on private property. Many of these are due to the nature of development in the Village, which sought to preserve mature trees and environmentally sensitive areas rather than mass grade development sites. This has led to low-lying areas and drainageways with shallow slopes with standing water after storm events. The proposed capital improvement projects and detention basins will be designed to accept this water, but it is our recommendation that the residential drainage improvements be the responsibility of the landowners in accordance with Illinois Drainage Law. Should the Village take responsibility for private drainage concerns, an estimated additional \$3 Million in funding would be required. This figure would likely be higher given the response rate of the survey. One option for the Village to consider is the possibility of providing design assistance to property owners that wish to implement drainage improvements on their property.

Flood Study Area	Engineer's Estimate of Probable Cost (2020 Dollars)	Number of Properties Benefitted (10-year)
Lincolnshire Drive North	\$4,300,000	111
Lincolnshire Drive South	\$7,600,000	83
Lincolnshire Creek – Coventry Lane	\$2,200,000	38
Southeast – Windsor Drive	\$4,200,000	101
Surrey Lane – East of Riverwoods Road	\$546,000	10
<b>Capital Improvement Total</b>	<b>\$18,846,000</b>	<b>343</b>
Detention Basin Improvements	\$2,400,000 - \$4,700,000	Village Wide
Yard Flooding Improvements	\$3,000,000	Village Wide
<b>Total</b>	<b>26,546,000<sup>1</sup></b>	<b>343</b>

<sup>1</sup>Includes all detention basin improvements and 10-year maintenance costs.

**Table 1. Summary of Proposed Improvements per FSA**

Proposed Level of Flood Protection	Number of Identified Locations	Construction Cost	Total Cost Year 5	Total Cost Year 10
Designed Detention on Village Property	17	\$674,000	\$962,000	\$1,250,000
Designed Detention on Private Property	37	\$1,150,000	\$1,807,000	\$2,476,000
<b>DETENTION BASIN TOTAL</b>	<b>54</b>	<b>\$1,824,000</b>	<b>\$2,769,000</b>	<b>\$3,726,000</b>
Natural Stormwater Storage Areas on Private Property	15	\$537,000	\$742,000	\$948,000
<b>TOTAL</b>	<b>69</b>	<b>\$2,361,000</b>	<b>\$3,511,000</b>	<b>\$4,674,000</b>

**Table 2. Detention Basin Improvement Summary based on Property Ownership**