PUBLIC MEETING NOTICE AND AGENDA
COMMITTEE OF THE WHOLE MEETING

JULY 9, 2024
7:30 P.M.

AGENDA

1. Call to Order

2. Pledge of Allegiance

3. Audience Participation
   The public is invited to make an issue-oriented comment on any matter of public concern. The public comment may be no longer than 3 minutes in duration.

4. Staff Presentations
   A. Administration
      1. Agreement with Granicus for Maintenance, Hosting, and Licensing of the Village's website
      2. Amendment to the Architect Agreement for the new Police Facility

   B. Finance
      1. Review of Actuarial Valuations
      2. Police Pension Plan Annual Financial Report for the Fiscal Year Ended December 31, 2023

   C. Public Works
      1. Amendment to Engineering Services Agreement with Crawford, Murphy, and Tilly, Inc. for the 3CK-4814 Airport Project

5. Board of Trustees

6. Village President

7. Adjournment

MEETING LOCATION
Lake in the Hills Village Hall
600 Harvest Gate
Lake in the Hills, IL 60156

The Village of Lake in the Hills is subject to the requirements of the Americans with Disabilities Act of 1990. Individuals with disabilities who plan to attend this meeting and who require certain accommodations so that they can observe and/or participate in this meeting, or who have questions regarding the accessibility of the meeting or the Village's facilities, should contact the Village's ADA Coordinator at (847) 960-7400 [TDD (847) 658-4511] promptly to allow the Village to make reasonable accommodations for those persons.

Posted by: __________________________ Date:__________________ Time:_________________

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AGENDA ITEM NO: 4.A.1

REQUST FOR BOARD ACTION

MEETING DATE: July 9, 2024

DEPARTMENT: Administration

SUBJECT: One-year extension with Granicus, with two additional one-year renewal terms, for maintenance, hosting, and licensing of the Village's website

EXECUTIVE SUMMARY

Staff seeks Village Board consideration to enter into a one-year extension, with two additional one-year renewal terms, related to the maintenance, hosting, and licensing of the Village's website with Granicus.

The Village redesigned the lith.org website and transitioned to Granicus as the website host in 2019 following Village Board approval of a design contract, and five-year progressive maintenance, hosting, and licensing contract. At the time, the cost to redesign the website was $24,240 and was identified in the FY19 Capital Improvement Plan. Instead of moving forward with a comprehensive redesign of the Village's website this year, staff is requesting an extension of the maintenance, hosting, and licensing agreement with Granicus.

Granicus initially responded with a proposal that reflected a seven percent (7%) increase, year over year, for these services. Staff requested a review of the quote to be consistent with the five percent (5%) year over year increase terms that were initially provided in 2019. Granicus was able to honor this request, as evidenced in the agreement proposed for Village Board consideration.

Staff would like to highlight two additional items for consideration including (1) as a part of the previous agreement, the Village has the option to exercise a redesign of the website at no cost to the client and (2) the extension of the agreement allows for the Village to provide thirty (30) days notice for non-renewal. Regarding these items, staff does plan to explore the redesign options to understand what would be included with a potential early 2025 implementation of a redesigned website.

FINANCIAL IMPACT

The Village's Fiscal Year 2024 Budget anticipated a 5% increase over the FY23 costs in a FY24 budgeted amount of $6,685.29 for website maintenance, hosting, and licensing. The costs for 2025 and 2026 also reflect a 5% increase in cost, at $7,019.55 and $7,370.53, respectively.

ATTACHMENTS

1. Granicus Proposal for Lake in the Hills IL

SUGGESTED DIRECTION

Motion to enter into a one-year extension with Granicus, with two additional one-year renewal terms, for maintenance, hosting, and licensing of the Village's website.

THIS IS NOT AN INVOICE

Order Form
Prepared for
Lake in the Hills IL

Granicus Proposal for Lake in the Hills IL

ORDER DETAILS

Prepared By:	Mark Miller
Phone:	
Email:	mark.miller@granicus.com
Order #:	Q-346922
Prepared On:	14 Jun 2024
Expires On:	24 Jul 2024

ORDER TERMS

Currency:	USD
Payment Terms:	Net 30 (Payments for subscriptions are due at the beginning of the period of performance.)
Current Subscription End Date:	24 Jul 2024
Initial Order Term End Date:	24 Jul 2027
Period of Performance:	25 Jul 2024 - 24 Jul 2025

PRICING SUMMARY

The pricing and terms within this Proposal are specific to the products and volumes contained within this Proposal.

Renewing Subscription Fees			
Solution	**Billing Frequency**	**Quantity/Unit**	**Annual Fee**
govAccess - Maintenance, Hosting, & Licensing Fee - Core	Annual	1 Each	$6,685.29
		SUBTOTAL:	**$6,685.29**

FUTURE YEAR PRICING

Solution(s)	Period of Performance	
	25 Jul 2025 - 24 Jul 2026	**25 Jul 2026 - 24 Jul 2027**
govAccess - Maintenance, Hosting, & Licensing Fee - Core	$7,019.55	$7,370.53
SUBTOTAL:	**$7,019.55**	**$7,370.53**

PRODUCT DESCRIPTIONS

Solution	Description
govAccess - Maintenance, Hosting, & Licensing Fee - Core	The govAccess Maintenance, Hosting, and Licensing plan is designed to equip the client with the technology, expertise and training to keep the client's website relevant and effective over time. Services include the following: • Ongoing software updates • Unlimited technical support (6:00 AM - 6:00 PM PT, Monday - Friday) • Access to training webinars and on-demand video library • Access to best practice webinars and resources • Annual health check with research-based recommendations for website optimization • DDoS mitigation • Disaster recovery with 90-minute failover (RTO) and 15-minute data replication (RPO)

TERMS & CONDITIONS

- This quote, and all products and services delivered hereunder are governed by the terms located at https://granicus.com/legal/licensing, including any product-specific terms included therein (the "License Agreement"). If your organization and Granicus has entered into a separate agreement or is utilizing a contract vehicle for this transaction, the terms of the License Agreement are incorporated into such separate agreement or contract vehicle by reference, with any directly conflicting terms and conditions being resolved in favor of the separate agreement or contract vehicle to the extent applicable.
- If submitting a Purchase Order, please include the following language: The pricing, terms and conditions of quote Q-346922 dated 14 Jun 2024 are incorporated into this Purchase Order by reference and shall take precedence over any terms and conditions included in this Purchase Order.
- This quote is exclusive of applicable state, local, and federal taxes, which, if any, will be included in the invoice. It is the responsibility of Lake in the Hills IL to provide applicable exemption certificate(s).
- Any lapse in payment may result in suspension of service and will require the payment of a setup fee to reinstate the subscription.

BILLING INFORMATION

Billing Contact:		**Purchase Order Required?**	[ ] - No [ ] - Yes
Billing Address:		**PO Number:** *If PO required*	
Billing Email:		**Billing Phone:**	

If submitting a Purchase Order, please include the following language:
The pricing, terms, and conditions of quote Q-346922 dated 14 Jun 2024 are incorporated into this Purchase Order by reference and shall take precedence over any terms and conditions included in this Purchase Order.

AGREEMENT AND ACCEPTANCE

By signing this document, the undersigned certifies they have authority to enter the agreement. The undersigned also understands the services and terms.

Lake in the Hills IL	
Signature:	
Name:	
Title:	
Date:	

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AGENDA ITEM NO: 4.A.2

REQUEST FOR BOARD ACTION

MEETING DATE: July 9, 2024

DEPARTMENT: Administration

SUBJECT: Amendment to the Architect Agreement for the new Police Facility

EXECUTIVE SUMMARY

Staff is seeking Board approval of an amendment to the AIA Document B101-2017, Standard Form of Agreement Between Owner and Architect, that was previously Board approved on July 28, 2022.

Upon completion of the final design of the new police facility, Dewberry Architects highlighted a few items that had not been previously included in the agreement, which may be of benefit to the Village. This includes:

1) A set of "conformed documents for construction" at a cost of $6,850. This would provide the Village with a clean set of documents for ease of inspection and ensure accuracy in the field.
2) A set of "as-constructed record drawings" or as-builts, at a cost of $12,975. These drawings incorporate all trades markups throughout the project.

In addition, when the project was put out for bid, a number of bid packages had come in higher than anticipated, including the landscaping and electronic security. Dewberry performed what is called "value analysis" work to identify ways to reduce the project cost in order to better align with the Village's expectations. Based on the standard hourly billing within the agreement, Dewberry is seeking a payment of $21,056 in compensation for their efforts. In exchange for this work performed by Dewberry, the Village ultimately saved over $800,000.

The Village's contract had previously contemplated one site visit per month for the architect to monitor the alignment of the project against the design. At the time of signing, the project was expected to be 16 months, but was extended to 18 months when the GMP was established. The attached amendment captures the additional two site visits necessary to extend all the way through the length of the contract.

Finally, since the Village granted Camosy the ability to self-perform work on this project, third party oversight will be necessary to monitor Camosy's work on two bid packages – structural carpentry and general trades. Dewberry has agreed to perform this oversight at a cost not to exceed $38,640 for the additional 42 site visits necessary to monitor this work. While the Village will pay Dewberry directly for this expense, our agreement with Camosy allows us to charge them back for these services.

FINANCIAL IMPACT

Overall, the changes to the agreement are expected to cost $79,521; however, $38,640 of this will be reimbursed by Camosy. The remainder of the Village specific expenses total $40,881.

ATTACHMENTS

1. Amendment to the Architect Agreement

RECOMMENDED MOTION

Motion to approve the amendments to the AIA Document B101-2017, Standard Form of Agreement between Owner and Architect, at a cost not to exceed $79,521.00.

Dewberry

Contract Amendment

The Parties to this Contract Amendment are:

Consultant:		**Client / Owner:**	
Dewberry Architects Inc.		Village of Lake in the Hills	
Points of Contact for this Agreement			
Name:	Jennifer Betancourt	Name:	Shannon Andrews
Email:	jbetancourt@dewberry.com	Email:	sandrews@lith.org
Phone:	847-841-0573	Phone:	847-960-7411

Modification #	1	**Job #**	50153618
Prime Agreement #	n/a	**Prime Agreement Date**	July 28, 2022
Project	Lake in the Hills Police Facility		
Brief Description of Services			

This amendment modifies the contract to include the following Article 4 Supplemental and Additional Services requested by the Owner including:

- **4.1.1.11 Value analysis**: Actual time spent on Value Engineering / Value Analysis Efforts.
    - Schedule: Services complete.
- **4.1.1.13 On-site project representation**:
    - For general observation of 2 Construction Manager (Camosy) self-performed trade packages: Additional 42 site visits at an estimated $920 per visit, invoiced hourly not-to-exceed (NTE).
    - For 2 additional monthly Construction Administration (CA) phase site visits, change from 16 to 18 month schedule at an estimated $920 per visit, invoiced hourly not-to-exceed (NTE).
        - Schedule: CA Phase 05/2024 – 10/2025.
- **4.1.1.14 Conformed documents for construction**: Incorporates Addenda and Bid Phase changes into a clean Issued for Construction set of documents.
    - Schedule: Services complete.
- **4.1.1.16 As-constructed record drawings**: Incorporate trades' "As-Built" markups into a clean Record Drawings set of documents, all disciplines.
    - Schedule: Services to be completed within 6 weeks of receiving completed contractor "As-Built documents".

Compensation Type and Amount:	
☒ Fixed Price/Lump Sum	$ 21,056 for 4.1.1.11 Services
☒ Time & Materials	NTE $ 38,640 for 4.1.1.13 CM Trade Packages Site Observation Services
☒ Time & Materials	NTE $ 1,840 for 4.1.1.13 Additional CA Phase Site Observation Services
☒ Fixed Price/Lump Sum	$ 6,850 for 4.1.1.14 Services
☒ Fixed Price/Lump Sum	$ 12,975 for 4.1.1.16 Services

All terms and conditions of the Prime Agreement, unless specifically modified herein, govern this amendment.

The parties hereto have, through duly authorized officials, executed this amendment which modifies the prime agreement between the parties with respect to the subject matter hereof and supersedes all prior representations, proposals, statements, negotiations and understandings, whether written or oral, and it shall not be varied except by a written instrument of subsequent date, duly executed by authorized representatives of the parties.

DEWBERRY ARCHITECTS INC.		**VILLAGE OF LAKE IN THE HILLS**	
By:	Betancourt	By:	
Name:	Jennifer Betancourt	Name:	Ray Bogdanowski
Title:	Associate Principal	Title:	Village President
Date:	07/05/2024	Date:	

ARTICLE 4 SUPPLEMENTAL AND ADDITIONAL SERVICES

§ 4.1 Supplemental Services

§ 4.1.1 The services listed below are not included in Basic Services but may be required for the Project. The Architect shall provide the listed Supplemental Services only if specifically designated in the table below as the Architect's responsibility, and the Owner shall compensate the Architect as provided in Section 11.2. Unless otherwise specifically addressed in this Agreement, if neither the Owner nor the Architect is designated, the parties agree that the listed Supplemental Service is not being provided for the Project.
(Designate the Architect's Supplemental Services and the Owner's Supplemental Services required for the Project by indicating whether the Architect or Owner shall be responsible for providing the identified Supplemental Service. Insert a description of the Supplemental Services in Section 4.1.2 below or attach the description of services as an exhibit to this Agreement.)

Supplemental Services	**Responsibility** *(Architect, Owner, or not provided)*
§ 4.1.1.1 Program Validation	Architect
§ 4.1.1.2 Multiple preliminary designs	Architect
§ 4.1.1.3 Measured drawings	Not Provided
§ 4.1.1.4 Existing facilities surveys	Not Provided
§ 4.1.1.5 Site evaluation and planning	Not Provided
§ 4.1.1.6 Building Information Model management responsibilities	Not Provided
§ 4.1.1.7 Development of Building Information Models for post construction use	Not Provided
§ 4.1.1.8 Civil engineering	Architect
§ 4.1.1.9 Landscape design	Architect
§ 4.1.1.10 Architectural interior design	Architect
§ 4.1.1.11 Value analysis Actual time spent on VE Efforts = $21,056	Not Provided
§ 4.1.1.12 Detailed cost estimating beyond that required in Section 6.3	Architect through Schematic Design
§ 4.1.1.13 On-site project representation	For observation of 2 Camosy trade packages: approx. 3x's/month x 14 months (42 site visits) + 2 add'l CA site visits ($920 x 2) to bring from 16 to 18 months = $40,480 NTE Allowance
§ 4.1.1.14 Conformed documents for construction	Incorporate all Addenda & Bid Phase changes into a clean Issued for Construction Set = $6,850
§ 4.1.1.15 As-designed record drawings	
§ 4.1.1.16 As-constructed record drawings	Incorporate all trades' "As-Built" markups into a clean Record Set, all disciplines = $12,975
§ 4.1.1.17 Post-occupancy evaluation	Not Provided
§ 4.1.1.18 Facility support services	Not Provided
§ 4.1.1.19 Tenant-related services	Not Provided
§ 4.1.1.20 Architect's coordination of the Owner's consultants	Not Provided
§ 4.1.1.21 Telecommunications/data design / security	Architect
§ 4.1.1.22 Security evaluation and planning	Not Provided
§ 4.1.1.23 Commissioning	Not Provided
§ 4.1.1.24 Sustainable Project Services pursuant to Section 4.1.3	Not Provided
§ 4.1.1.25 Fast-track design services	Not Provided
§ 4.1.1.26 Multiple bid packages	Architect (limited to 2 packages)
§ 4.1.1.27 Historic preservation	Not Provided
§ 4.1.1.28 Furniture, furnishings, and equipment design	Architect
§ 4.1.1.29 Interior Signage	Architect

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AGENDA ITEM NO: 4.B.1

REQUEST FOR BOARD ACTION

MEETING DATE: July 9, 2024

DEPARTMENT: Finance

SUBJECT: Review of Actuarial Valuations

EXECUTIVE SUMMARY

Each year, the Village has three actuarial valuation reports performed, the results of which are incorporated into the Annual Comprehensive Financial Report and/or used to determine the recommended amount of contributions to be made into the Lake in the Hills Police Pension Fund. Those reports are:

- Village of Lake in the Hills Postretirement Health Plan Actuarial Valuation
- Lake in the Hills Police Pension Fund GASB 67/68 Report Actuarial Valuation
- Lake in the Hills Police Pension Fund Actuarial Funding Report Actuarial Valuation

The Postretirement Health Plan Actuarial Valuation details the costs of the Village's mandated postretirement health care costs which are comprised of the direct costs of prior employees receiving Public Safety Employee Benefits Act benefits (currently one) as well as the implicit subsidies all retirees receive by only having to contribute the same premium towards health insurance continuation coverage as active employees although retiree health care costs, in general, are more expensive. Both the direct costs and the implicit subsidies are required to be shown as liabilities on the Village's financial statements.

The costs for the latter two reports are shared equally between the Village and the Police Pension Fund and are formally presented to each Board. The Police Pension Board then prepares an annual Municipal Compliance Report that is presented to the Village Board prior to any tax levy being adopted. A representative from Lauterbach & Amen, LLP will be present at the Committee of the Whole meeting to make a presentation on the Police Pension Fund reports and answer questions on any of the three reports.

FINANCIAL IMPACT

None

ATTACHMENTS

1. Lake in the Hills Police Pension Fund Reporting Presentation Slides
2. Lake in the Hills Police Pension Fund Actuarial Funding Report Actuarial Valuation as of January 1, 2024
3. Lake in the Hills Police Pension Fund GASB 67/68 Report Actuarial Valuation as of January 1, 2023
4. Village of Lake in the Hills Postretirement Health Plan Actuarial Valuation as of January 1, 2023

RECOMMENDED MOTION

Motion to accept and place on file the Lake in the Hills Police Pension Fund Actuarial Funding Report Actuarial Valuation as of January 1, 2024, the Lake in the Hills Police Pension Fund GASB 67/68 Report Actuarial Valuation as of January 1, 2023, and the Village of Lake in the Hills Postretirement Health Plan Actuarial Valuation as of January 1, 2023.

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Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

Lake in the Hills Police Pension Fund Reporting

For the Contribution Year Ending December 31, 2024 for Funding Purposes
For the Fiscal Year Ending December 31, 2023 for Financial Statement Reporting

Presented by:
Kevin Cavanaugh, Principal

Actuarial | Audit | Client Accounting & Advisory Services | Pension | Tax

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Recommended Contribution & Funded Status

Page 8 in Report

	Prior Valuation	Current Valuation	Difference
Recommended Contribution	$1,016,887	$1,003,223	-$13,664 (1.34% Decrease)
Fair Value of Assets (FVA)	$43,931,600	$49,058,800	$5,127,200
Actuarial Value of Assets (AVA)	$48,324,800	$51,059,300	$2,734,500
Actuarial Accrued Liability	$49,844,100	$52,549,400	$2,705,300
EAN Unfunded Actuarial Accrued Liability/(Surplus)	$1,519,300	$1,490,100	($29,200)
Percent Funded (AVA)	96.95%	97.16%	0.21%
Percent Funded (FVA)	88.14%	93.36%	5.22%

Current Funding Policy is level % pay contributions to a 100% funding target over a layered amortization period of 15 years.

Recommended Contribution Reconciliation

Page 16 in Report

	Actuarial Liability	Recommended Contribution
Expected Changes	$2,790,500	$33,000
Salary Increases Greater than Expected	$9,600	$7,900
Actuarial Experience	($94,800)	($78,900)
Plan Changes	$0	$0
Investment Return Greater than Expected	$0	($2,800)
Contributions Less than Expected	$0	$27,000
Net Increase/(Decrease)	$2,705,300	($13,700)

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Recommended Contribution Breakdown

Page 27 in Report

	Prior Valuation	Current Valuation	Difference
Employer Normal Cost (with interest)	$695,669	$654,714	($40,955)
Amortization of Unfunded Accrued Liability/(Surplus)	$321,218	$348,509	$27,291
Recommended Contribution	$1,016,887	$1,003,223	($13,664)

The Recommended Contribution has Decreased by 1.34% from the Prior Valuation.

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Demographic Changes

Page 13-14 in Report

- There were 4 Members who were hired during the year. This increased the Recommended Contribution by approximately $32,300.
- There were 2 Members who retired during the year. This increased the Recommended Contribution by approximately $900.
- There were 6 Members who terminated employment during the year, 2 of whom were hired during the year. This decreased the Recommended Contribution by approximately $94,800.
- There were 24 inactive Members who continued to collect benefits. This increased the Recommended Contribution by approximately $7,700.
- Other demographic changes experienced during the year were minimal.

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Age and Service Distribution

Page 37 in Report

1/1/2024 Age and Service Distribution - Tier 1|Tier 2 Active Members											
	Service	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Age												
Under 25		0|1										0|1
25 to 29			0|5									0|5
30 to 34		0|3	0|4									0|7
35 to 39			0|1	0|2	0|2	1|0						1|5
40 to 44				0|1	2|0	3|0	1|0					6|1
45 to 49						3|0	3|0					6|0
50 to 54				1|0		1|0	4|0	1|0				7|0
55 to 59								1|0				1|0
60 to 64												
65 to 69												
70 & up												
Total		0|4	0|10	1|3	2|2	8|0	8|0	2|0				21|19

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Expected Benefit Payments

Page 9 & 36 in Report

Current Valuation	
Total Active Members	40
Total Inactive Members	37
Current Benefit Payments	$1,670,800
Expected Benefit Payments in 5 Years	$2,687,000
Expected Benefit Payments in 10 Years	$3,903,600

Benefit Payments are Anticipated to Increase 61% in the Next 5 Years and 134% in the Next 10 Years.

Plan Changes

Page 14 in Report

- Public Act 102-0811 passed on May 13, 2022 and is effective as of January 1, 2023 for Article 3 Pension Funds. The Act establishes that a surviving spouse of a deceased police retiree may be eligible for a survivor's pension of up to 15 years of benefit payments if (a) the surviving spouse has attained age 62 and (b) if the police officer was married to the surviving spouse after retirement, and for at least 5 years prior to the officer's death.
  - Previously, there was no survivor's pension for spouses married after retirement.
  - For any current retirees who were married after retirement and have been married for at least 5 years, as well as any surviving spouses currently in receipt of benefits under this provision, we have valued the liability of the benefit granted.

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Change in Fair Value of Assets

Page 18 in Report

Current Valuation	
Beginning Fair Value of Assets	$43,931,600
Employer Contributions	$732,300
Member Contributions	$407,500
Return on Investments	$5,735,700
Benefits and Refunds	($1,670,800)
Other Expenses	($77,500)
Change in Fair Value	$5,127,200
Ending Fair Value of Assets	$49,058,800

The Rate of Return on Investments on a Fair Value of Assets Basis for the Fund was Approximately 12.96% Net of Administrative Expense. The Expected Rate of Return on Investments is 6.75%.

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Risk Management

Page 11, 13 & 24 in Report

- The ratio of benefit payments to the Fair Value of Assets is 3.41%, compared to an Expected Rate of Return on Investments of 6.75%.
- Based on the number of active Members in the Plan, there is a moderate demographic risk.

	0.25% Decrease (6.50%)	Current Expected Rate of Return on Investments (6.75%)	0.25% Increase (7.00%)
Recommended Contribution	$1,241,758	$1,003,223	$588,834
Dollar Impact	$238,535		($414,389)
Percentage Impact	23.78%		(41.31%)

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Alternative Contribution

Page 32 in Report

	Prior Valuation	Current Valuation	Difference
Alternative Contribution	$647,724	$571,760	($75,964)
PUC Unfunded Actuarial Accrued Liability/(Surplus)	$2,749,300	$2,745,100	($4,200)
Alternative Contribution Funded Percentage (AVA)	94.62%	94.90%	0.28%

Alternative Contribution Funding Policy is Level % Pay Contributions to a 90% Funding Target Over the Remaining 17 Years.

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Five-Year Employer Contribution History

Page 33 in GASB 67/68 Report

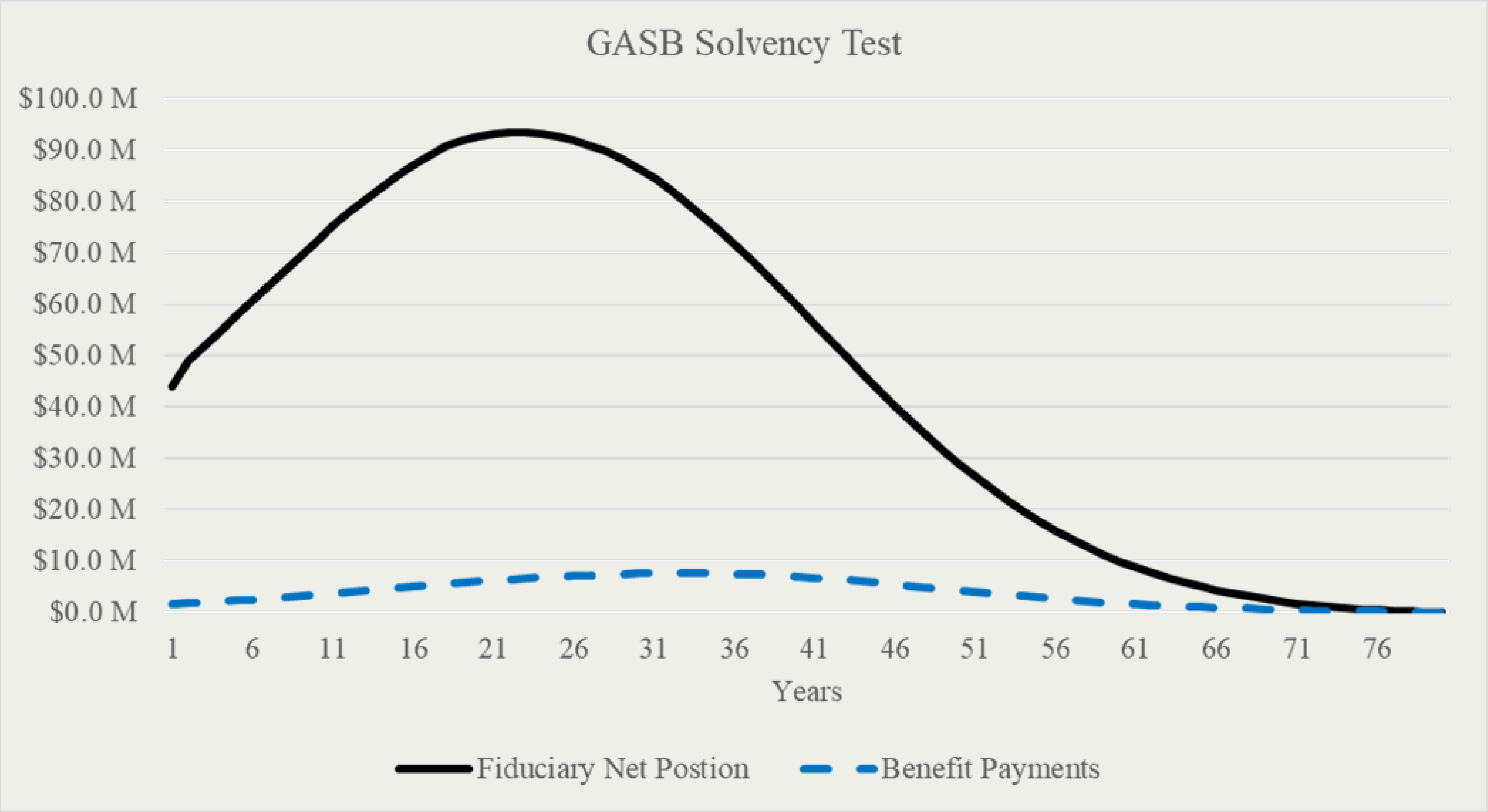
Fiscal Year End	Employer Contribution	Actuarially Determined Contribution (ADC)	% of ADC
12/31/2023	$732,300	$1,256,791	58.27%
12/31/2022	$1,435,332	$1,435,317	100.00%
12/31/2021	$1,645,039	$1,634,382	100.65%
12/31/2020	$1,484,407	$1,498,027	99.09%
12/31/2019	$1,370,263	$1,372,114	99.87%
		5 - Year Average	**91.58%**

The Actuarially Determined Contribution for the Current Year is the Recommended Contribution from the January 1, 2022 Actuarial Valuation Completed by Lauterbach & Amen, LLP.

For the Fiscal Year End December 31, 2022, there was an additional $4,613,070 in Employer Contributions, which was treated as a one-time contribution, and therefore, are not included in the determination of the Informal Funding Policy.

GASB Solvency Test

Page 42 in GASB 67/68 Report



The Plan's Projected Fiduciary Net Position is Anticipated to Cover Projected Benefit Payments in Full for the Current Employees.

Actuarial Certification

- The valuation results summarized in this presentation are from the January 1, 2024 Actuarial Funding Report & January 1, 2023 GASB 67/68 Report, which have been reviewed by Actuarial Consultants that meet the Qualification Standards of the American Academy of Actuaries.
    - This report is not intended for purposes other than determining the Recommended Contribution, under the selected Funding Policy, and the Alternative Contribution.
    - This report contains the full description of the data, assumptions, methods, and provisions used to produce these actuarial results.
    - For any rounded figures shown in this presentation, please refer to the Actuarial Funding Report for more exact figures.

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LAKE IN THE HILLS POLICE PENSION FUND

FUNDING ACTUARIAL VALUATION AS OF JANUARY 1, 2024

FOR THE CONTRIBUTION YEAR
JANUARY 1, 2024 TO DECEMBER 31, 2024

668 N. River Road
Naperville, IL 60563
Phone: 630.393.1483
Fax: 630.393.2516
lauterbachamen.com

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Actuarial Funding Report

Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

LAKE IN THE HILLS POLICE PENSION FUND

Contribution Year Ending: December 31, 2024
Actuarial Valuation Date: January 1, 2024
Data Date: December 31, 2023

Contact:

Todd A. Schroeder
Partner
June 17, 2024

LAUTERBACH & AMEN, LLP

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ACTUARIAL CERTIFICATION

This report documents the results of the Actuarial Valuation for the Lake in the Hills Police Pension Fund. The information was prepared for use by the Lake in the Hills Police Pension Fund and the Village of Lake in the Hills, Illinois for determining the Recommended Contribution, under the selected Funding Policy, and the Alternative Contribution for the Contribution Year January 1, 2024 to December 31, 2024. It is not intended or suitable for other purposes. Determinations for purposes other than the Employer's Actuarial Recommended Contribution may be significantly different from the results herein.

The results in this report are based on the demographic data and financial information submitted by the Village of Lake in the Hills, Illinois, and may include results from the prior Actuary. We did not prepare the Actuarial Valuations for the years prior to January 1, 2016. Those valuations were prepared by the prior Actuary whose reports have been furnished to us, and our disclosures are based on those reports. An audit of the prior Actuary's results was not performed, but high-level reviews were completed for general reasonableness, as appropriate, based on the purpose of this valuation. The accuracy of the results is dependent on the precision and completeness of the underlying information.

In addition, the results of the Actuarial Valuation involve certain risks and uncertainty as they are based on future assumptions, market conditions, and events that may never materialize as assumed. For this reason, certain assumptions and future results may be materially different than those presented in this report. See the *Management Summary* section of this report for a more detailed discussion of the Defined Benefit Plan Risks, as well as the limitations of this Actuarial Valuation on assessing those risks. We are not aware of any known events subsequent to the Actuarial Valuation Date, which are not reflected in this report but should be valued, that may materially impact the results.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The Village of Lake in the Hills, Illinois selected certain assumptions, while others were the result of guidance and/or judgment from the Plan's Actuary or Advisors. We believe that the assumptions used in this valuation are reasonable and appropriate for the purposes for which they have been used. The selected assumptions represent our best estimate of the anticipated long-term experience of the Plan, and meet the guidelines set forth in the Actuarial Standards of Practice.

In preparing the results, our Actuaries used commercially available software (ProVal) developed by Winklevoss Technologies, LLC. This software is widely used for the purpose of performing Actuarial Valuations. Our Actuaries coded the plan provisions, assumptions, methods, and demographic data summarized in this report, and reviewed the liability and cost outputs for reasonableness. We are not aware of any material weaknesses or limitations in the software, and have determined it is appropriate for performing this valuation.

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To the best of our knowledge, all calculations are in accordance with the applicable funding requirements, and the procedures followed and presentation of results conform to generally accepted actuarial principles and practices as prescribed by the Actuarial Standards Board. The undersigned consultants of Lauterbach & Amen, LLP, with actuarial credentials, meet the Qualification Standards of the American Academy of Actuaries to render this Actuarial Certification. There is no relationship between the Village of Lake in the Hills, Illinois and Lauterbach & Amen, LLP that impairs our objectivity.

Respectfully Submitted,

LAUTERBACH & AMEN, LLP

Todd A. Schroeder

Todd A. Schroeder, ASA, FCA, EA, MAAA

Robert L. Rietz, Jr., FCA, EA, MAAA

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MANAGEMENT SUMMARY

Recommended Contribution
Funded Status
Management Summary – Comments and Analysis
Actuarial Recommended Contribution – Reconciliation

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MANAGEMENT SUMMARY

RECOMMENDED CONTRIBUTION

	Prior Valuation	Current Valuation
Recommended Contribution	$1,016,887	$1,003,223
Expected Payroll	$4,378,717	$4,307,207
Recommended Contribution as a Percent of Expected Payroll	23.22%	23.29%

The Recommended Contribution has Decreased by $13,664 from the Prior Valuation.

FUNDED STATUS

	Prior Valuation	Current Valuation
Normal Cost	$1,078,674	$1,033,334
Fair Value of Assets	$43,931,645	$49,058,819
Actuarial Value of Assets	$48,324,810	$51,059,309
Actuarial Accrued Liability	$49,844,127	$52,549,420
Unfunded Actuarial Accrued Liability/(Surplus)	$1,519,317	$1,490,111
Percent Funded		
Actuarial Value of Assets	96.95%	97.16%
Fair Value of Assets	88.14%	93.36%

The Percent Funded has Increased by 0.21% on an Actuarial Value of Assets Basis.

MANAGEMENT SUMMARY – COMMENTS AND ANALYSIS

Contribution Results

The Recommended Contribution is based on the selected Funding Policy and methods that are outlined in the *Actuarial Funding Policies* section of this report.

“Contribution Risk” is defined by the Actuarial Standards of Practice as the potential for actual future contributions to deviate from expected future contributions. For example, when actual contributions are not made in accordance to the Plan’s Funding Policy, or when future experience deviates materially from assumed. While it is essential for the Actuary and Plan Sponsor to collaborate on implementing a sound and financially feasible Funding Policy, it is important to note that the Actuary is not required, and is not in the position to, evaluate the ability or willingness of the Plan Sponsor to make the Recommended Contribution under the selected Funding Policy.

As a result, while Contribution Risk may be a significant source of risk for the Plan, this Actuarial Valuation makes no attempt to assess the impact of future contributions falling short of those recommended under the selected Funding Policy. Notwithstanding the above, see the *Actuarial Recommended Contribution – Reconciliation* section of this report for the impact on the current Recommended Contribution of any contribution shortfalls or excesses from the prior year.

Defined Benefit Plan Risks

Asset Growth:

Pension funding involves preparing Fund assets to pay for benefits when Members retire. During their working careers, assets grow with contributions and investment earnings; and then, the Pension Fund distributes assets in retirement. Based on the Plan’s current mix of Members and Funded Status, the Plan should experience positive asset growth, on average, if the Recommended Contributions are made and expected investment earnings come in. In the current year, the Fund asset growth was positive by approximately $5,127,200.

Asset growth is important in the long-term. Long-term cash flow out of the Pension Fund is primarily benefit payments, and expenses are a smaller portion. The Plan should monitor the impact of expected benefit payments on future asset growth. We assess and project all future benefit payments as part of the determination of liability. The assessment is made on all current Members of the Fund, both active and inactive. For active Members, the assessment includes the probability that Members terminate or retire and begin receiving benefits. In the next 5 years, benefit payments are anticipated to increase 60-65%, or approximately $1,016,100. In the next 10 years, the expected increase in benefit payments is 130-135%, or approximately $2,232,800. The estimated increase in benefit payments is being compared against the benefits paid to inactive Members during the fiscal year, excluding any refunds of Member Contributions.

Furthermore, plans with a large number of inactive Members have an increased “Longevity Risk”. Longevity Risk is the possibility that inactive Members may live longer than projected by the Plan’s mortality assumption. As shown in the previous paragraph, benefit payments are expected to increase over

MANAGEMENT SUMMARY

the next 5-year and 10-year horizons. The projected increases assume that current inactive Members pass away according to the Plan's mortality assumption. To the extent that current inactive Members live longer than expected, the future 5-year and 10-year benefit projections may be larger than the amounts disclosed in the previous paragraph. Higher levels of benefit payments, payable for a longer period of time, may cause a significant strain on the Plan's cash flow, future Recommended Contributions, and may lead to Plan insolvency.

Unfunded Liability:
Unfunded Liability represents the financial shortfall of the Actuarial Value of Assets compared to the Actuarial Accrued Liability. To the extent that Unfunded Liability exists, the Plan is losing potential investment earnings due to the financial shortfall. Contributions towards Unfunded Liability pay for the lost investment earnings, as well as the outstanding unfunded amount. If payments towards Unfunded Liability are not made, the Unfunded Liability will grow.

In the early 1990s, many Pension Funds in Illinois adopted an increasing payment towards Unfunded Liability due to a change in legislation. The initial payment decreased, and future payments are anticipated to increase annually after that. In many situations, payments early on were less than the interest on Unfunded Liability, which means that Unfunded Liability increased even though contributions were made at the recommended level.

The current Recommended Contribution includes a payment towards Unfunded Liability that is approximately $247,900 greater than the interest on Unfunded Liability. All else being equal, and contributions being made, Unfunded Liability is expected to decrease. The Employer and Fund should anticipate improvement in the current Percent Funded in the short-term. The Employer and Fund should understand this impact as we progress forward to manage expectations.

Actuarial Value of Assets:
The Pension Fund smooths investment returns that vary from expectations over a 5-year period. The intention over time is that investment returns for purposes of funding recommendations are a combination of several years. The impact is intended to smooth out the volatility of Recommended Contributions over time, but not necessarily increase or decrease the level of contributions over the long-term.

When investment returns are smoothed, there are always gains or losses on the Fair Value of Assets that are going to be deferred for current funding purposes, and recognized in future years. Currently, the Pension Fund is deferring approximately $2,000,500 in losses on the Fair Value of Assets. These are asset losses that will be recognized in upcoming periods, independent of the future performance of the Fair Value of Assets.

MANAGEMENT SUMMARY

Cash Flow Risk:

Assets, liabilities, and Funded Status are good metrics to monitor over time to assess the progress of the Funding Policy. However, these metrics may provide limited forward-looking insights. Specifically, the maturity of a Pension Fund can pose certain risks that often cannot be assessed with a point-in-time metric such as Percent Funded.

For example, two different Pension Funds could have the same Percent Funded, but have completely different risk profiles. One Fund might mostly cover active Members with little to no Members in pay status, whereas a second Fund might mostly cover inactive Members with a significant level of annual benefit payments. The latter Fund has a greater "Cash Flow Risk", i.e. a more significant chance that negative cash flows could lead to a deteriorating, rather than improving, Percent Funded over time.

It is important to note that, in general, positive net cash flows are good, but also need to be sufficient to cover the growth in the liabilities (i.e. the Normal Cost as well as interest on the Actuarial Accrued Liability). Typically, when cash flows are assumed to be insufficient to cover the growth in liabilities, the Percent Funded will decline, while future Recommended Contributions will increase.

Benefit Payment Risk:

Ideally, plans in a sound financial position will have the ratio of annual benefits payments to the Fair Value of Assets to be less than the Expected Rate of Return on Investments assumption (i.e., 6.75%). Theoretically, in this case it can be considered that investment returns will fully cover the annual benefit payments, and therefore, all Employer and Member Contributions made to the Fund will be used to pay for future benefit accruals and pay down the existing Unfunded Liability. To the extent that the ratio of the annual benefit payments to the Fair Value of Assets increases to above the Expected Rate of Return on Investments assumption, the Plan may experience some additional risks, such as the need to keep assets in more liquid investments, inability to pay down Unfunded Liability, and may lead to Plan insolvency.

As of the Valuation Date, the Lake in the Hills Police Pension Fund has a ratio of benefit payments to the Fair Value of Assets of 3.41%. In this case, the Plan is currently in a sound financial position and has a reduced amount of Benefit Payment Risk and Cash Flow Risk. It would be expected that adherence to the current Funding Policy would lead to an increasing Percent Funded.

<u>Fund Assets</u>

The results in this report are based on the assets held in the Pension Fund. Assets consist of funds held for investment and for benefit payments as of the Actuarial Valuation Date. In addition, assets may be adjusted for other events representing dollars that are reasonably expected to be paid out from the Pension Fund or deposited into the Pension Fund after the Actuarial Valuation Date as well.

MANAGEMENT SUMMARY

The current Fund assets are audited.

The Actuarial Value of Assets under the Funding Policy is equal to the Fair Value of Assets, with unexpected gains and losses smoothed over 5 years. More detail on the Actuarial Value of Assets can be found in the *Actuarial Funding Policies* section of this report.

The Fund Assets Used in this Report are Audited.

MANAGEMENT SUMMARY

Demographic Data

Demographic factors can change from year to year within the Pension Fund. Changes in this category include hiring new Members, Members retiring or becoming disabled, inactive Members passing away, and other changes. Demographic changes can cause an actuarial gain (contribution that is less than expected compared to the prior year) or an actuarial loss (contribution that is greater than expected compared to the prior year).

Demographic gains and losses occur when the assumptions over the one-year period for Member changes do not meet our long-term expectation. For example, if no Members become disabled during the year, we would expect a liability gain. If more Members become disabled than anticipated during the year, we would expect a liability loss. Generally, we expect short-term fluctuations in demographic experience to create gains or losses of 1%-3% of the Actuarial Accrued Liability in any given year, but to balance out in the long-term.

"Demographic Risk" occurs when Plan demographic experience differs significantly from expected. Similar to Longevity Risk discussed previously, additional risk is created when demographic experience differs from the assumed rates of disability, retirement, or termination. Under the chosen assumptions, actuarial gains and/or losses will always occur, as the assumptions will never be exactly realized. However, the magnitude of the gain and/or loss and its influence on the Recommended Contribution largely depends on the size of the Plan.

A key Demographic Risk is mortality improvement differing from expected. While the actuarial assumptions reflect small, continuous improvements in mortality experience and these assumptions are refined upon the completion of each actuarial experience study, the risk arises because there is a possibility of a sudden shift in mortality experience. This report reflects the impact of COVID-19 experience that has been accounted for in the underlying demographic data. This report does not reflect the ongoing impact of COVID-19, which is likely to influence demographic and economic experience, at least in the short-term. We will continue to monitor these developments and their impact on the Plan. Actual future experience will be reflected in each subsequent Actuarial Valuation, as experience emerges.

Based on the number of active Members in the Plan, the Recommended Contribution has a moderate risk of having a significant increase due to demographic experience. For example, 1 new disabled Member would typically generate a substantial increase to the Actuarial Accrued Liability, which in turn, may increase the Recommended Contribution.

In the current report, the key demographic changes were as follows:

New Hires: There were 4 Members of the Fund who were hired during the year. When a Member is admitted to the Pension Fund, the Employer Contribution will increase to reflect the new Member. The increase in the Recommended Contribution in the current year due to the new Member experience is approximately $32,300.

MANAGEMENT SUMMARY

Retirement: There were 2 Members of the Fund who retired during the year. When a Member retires, the Normal Cost will decrease. Any change in the Actuarial Accrued Liability will be considered when determining the amount to pay towards Unfunded Liability each year. The increase in the Recommended Contribution in the current year due to the retirement experience is approximately $900.

Termination: There were 6 Members of the Fund who terminated employment during the year, 2 of whom were hired during the year. The Fund may be obligated to pay a benefit or a refund of Member Contributions to the Members in the future. The decrease in the Recommended Contribution in the current year due to the termination experience is approximately $94,800.

Mortality: As inactive Members age and continue to collect benefits, the Fund liability will increase. In the current year, there were 24 inactive Members who maintained their benefit collection status throughout the year. The increase in the Recommended Contribution in the current year due to the mortality experience is approximately $7,700.

Salary Increases: Salary increases were greater than anticipated in the current year. This caused an increase in the Recommended Contribution in the current year of approximately $7,900.

<u>Assumption Changes</u>
The assumptions were not changed from the prior valuation.

<u>Plan Changes</u>
Public Act 102-0811 passed on May 13, 2022 and is effective as of January 1, 2023 for Article 3 Pension Funds. The Act establishes that a surviving spouse of a deceased police retiree may be eligible for a survivor's pension of up to 15 years of benefit payments if (a) the surviving spouse has attained age 62 and (b) if the police officer was married to the surviving spouse after retirement, and for at least 5 years prior to the officer's death. Previously, there was no survivor's pension for spouses married after retirement. In our opinion, under a prudent interpretation of the provisions, we believe the impact to be de minimis. The legal community has suggested some uncertainty about multiple provisions contained in the Act, and the IDOI Public Pension Division has not provided an interpretation. The client has not made an administrative interpretation as to how the provisions of the Act will impact future surviving spouses. Due to the uncertainty around the interpretation and the expected *de minimis* impact, we have not valued this contingency separately for active Members. However, for any current retirees who were married after retirement and have been married for at least 5 years, as well as any surviving spouses currently in receipt of benefits under this provision, we have valued the liability of the benefit granted.

<u>Funding Policy Changes</u>
The Funding Policy was not changed from the prior valuation.

<u>Output Smoothing</u>
Contributions are determined annually by allocating dollars over a specified period of time. Procedures that are used to allocate contributions over a period of time may include asset smoothing, amortization

period, and output smoothing. Each procedure becomes part of the Actuarial Methodology. Output smoothing involves measuring the impact of a specific result on a contribution and recognizing the result. The final contribution should maintain a reasonable relationship to the full Actuarially Determined Contribution.

The current results shown throughout the report reflect the full Actuarially Determined Contribution.

ACTUARIAL RECOMMENDED CONTRIBUTION – RECONCILIATION

Actuarial Accrued Liability is expected to increase each year for both interest for the year and as active Members earn additional service years towards retirement. Similarly, Actuarial Accrued Liability is expected to decrease when the Fund pays benefits to inactive Members.

Contributions are expected to increase as expected pay increases under the Funding Policy for the Fund.

	Actuarial Liability	Recommended Contribution
Prior Valuation	$ 49,844,127	$ 1,016,887
Expected Changes	2,790,524	33,048
Initial Expected Current Valuation	$ 52,634,651	$ 1,049,935

Other increases or decreases in Actuarial Accrued Liability (key changes noted below) will increase or decrease the amount of Unfunded Liability in the Plan. To the extent that Unfunded Liability increases or decreases unexpectedly, the contribution towards Unfunded Liability will also change unexpectedly.

	Actuarial Liability	Recommended Contribution
Salary Increases Greater than Expected	$ 9,579	$ 7,879
Actuarial Experience	(94,810)	(78,872)
Plan Changes	-	-
Investment Return Greater than Expected*	-	(2,766)
Contributions Less than Expected	-	27,047
Total Increase/(Decrease)	$ (85,231)	$ (46,712)
Current Valuation	$ 52,549,420	$ 1,003,223

*Impact on the Recommended Contribution due to investment return is on an Actuarial Value of Assets basis.

The Actuarial Experience can be attributable to several factors including, but not limited to, demographic changes and benefit payment experience compared to expectation. Key demographic changes were discussed in the *Demographic Data* section of this report.

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VALUATION OF FUND ASSETS

Fair Value of Assets
Fair Value of Assets (Gain)/Loss
Development of the Actuarial Value of Assets
Actuarial Value of Assets (Gain)/Loss
Historical Asset Performance

VALUATION OF FUND ASSETS

FAIR VALUE OF ASSETS

Statement of Assets

	Prior Valuation	Current Valuation
Cash and Cash Equivalents	$ 39,660	$ 47,612
Illinois Funds	2,623,126	655,164
Pooled Investment Accounts	41,274,127	48,367,393
Receivables (Net of Payables)	(5,268)	(11,350)
Total Fair Value of Assets	$ 43,931,645	$ 49,058,819

The Total Fair Value of Assets has Increased by Approximately $5,127,200 from the Prior Valuation.

Statement of Changes in Assets

Total Fair Value of Assets - Prior Valuation	$ 43,931,645
Plus - Employer Contributions	732,300
Plus - Member Contributions	407,499
Plus - Return on Investments	5,735,658
Less - Benefit Payments and Refunds	(1,670,812)
Less - Other Expenses	(77,471)
Total Fair Value of Assets - Current Valuation	$ 49,058,819

The Rate of Return on Investments on a Fair Value of Assets Basis for the Fund was Approximately 12.96% Net of Administrative Expense.

The Rate of Return on Investments shown above has been determined as a percent of the average of the prior and current Fair Value of Assets on the Statement of Changes in Assets. The Return on Investments is net of Other Expenses, and has been excluded from the Total Fair Value of Assets at the end of the Fiscal Year for this calculation.

VALUATION OF FUND ASSETS

FAIR VALUE OF ASSETS (GAIN)/LOSS

Current Year (Gain)/Loss on Fair Value of Assets

Total Fair Value of Assets - Prior Valuation	$ 43,931,645
Employer and Member Contributions	1,139,799
Benefit Payments and Refunds	(1,670,812)
Expected Return on Investments	2,947,464
Expected Total Fair Value of Assets - Current Valuation	$ 46,348,096
Actual Total Fair Value of Assets - Current Valuation	49,058,819
Current Fair Value of Assets (Gain)/Loss	$ (2,710,723)
Expected Return on Investments	$ 2,947,464
Actual Return on Investments (Net of Expenses)	5,658,187
Current Fair Value of Assets (Gain)/Loss	$ (2,710,723)

The Actual Return on Investments on a Fair Value of Assets Basis was Greater than Expected for the Current Year.

The (Gain)/Loss on the current Fair Value of Assets has been determined based on the Expected Rate of Return on Investments as shown in the *Actuarial Assumptions* section of this report.

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VALUATION OF FUND ASSETS

DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS

		Full Amount	Deferral
Total Fair Value of Assets - Current Valuation			$ 49,058,819
Adjustment for Prior (Gains)/Losses			
	FYE 12/31/2023	$ (2,710,723)	(2,168,578)
	FYE 12/31/2022	9,715,436	5,568,614
	FYE 12/31/2021	(2,478,552)	(991,421)
	FYE 12/31/2020	(2,040,622)	(408,125)
	Total Deferred (Gain)/Loss		2,000,490
Initial Actuarial Value of Assets - Current Valuation			$ 51,059,309
Less Contributions for the Current Year and Interest			-
Adjustment for the Corridor			-
Total Actuarial Value of Assets - Current Valuation			$ 51,059,309

The Actuarial Value of Assets is Equal to the Fair Value of Assets with Unanticipated (Gains)/Losses Recognized Over 5 Years. The Actuarial Value of Assets is 104.08% of the Fair Value of Assets.

ACTUARIAL VALUE OF ASSETS (GAIN)/LOSS

Total Actuarial Value of Assets - Prior Valuation	$ 48,324,810
Plus - Employer Contributions	732,300
Plus - Member Contributions	407,499
Plus - Return on Investments	3,342,983
Less - Benefit Payments and Refund	(1,670,812)
Less - Other Expenses	(77,471)
Total Actuarial Value of Assets - Current Valuation	$ 51,059,309

The Rate of Return on Investments on an Actuarial Value of Assets Basis for the Fund was Approximately 6.79% Net of Administrative Expense.

The Actuarial Value of Assets incorporates portions of gains and losses over multiple years.

VALUATION OF FUND ASSETS

HISTORICAL ASSET PERFORMANCE

The chart below shows the historical Rates of Return on Investments for both Fair Value of Assets and Actuarial Value of Assets.

	Fair Value of Assets	Actuarial Value of Assets
FYE 12/31/2023	12.96%	6.79%
FYE 12/31/2022	(13.53%)	4.32%
FYE 12/31/2021	12.98%	10.49%
FYE 12/31/2020	12.65%	9.02%
FYE 12/31/2019	19.61%	5.99%
FYE 12/31/2018	(4.92%)	3.75%
FYE 12/31/2017	11.72%	6.13%
FYE 12/31/2016	5.80%	5.07%
FYE 12/31/2015	(0.48%)	5.29%
9-Year Arithmetic Average	6.31%	6.32%
9-Year Geometric Average	5.81%	6.30%

The historical Rates of Return on Investments shown above were calculated based on the annual Return on Investments, as a percentage of the average value of the assets for the year. The historical Rates of Return on Investments shown above may not reflect the current investment allocation of the Pension Fund.

For purposes of determining the average value of assets for the year, the ending Fair Value of Assets has been adjusted to net out to the portion related to the Return on Investments themselves. All other cash flows are included.

For purposes of determining the annual Return on Investments we have adjusted the figures shown on the preceding pages. The figures shown on the preceding pages are net of Investment Expenses. We have made an additional adjustment to net out Administrative Expenses. Netting out Administrative Expenses allows us to capture returns for the year that can be used to make benefit payments as part of the ongoing actuarial process.

The adjustments we made are for actuarial reporting purposes only. By netting out Administrative Expenses and capturing Return on Investments that are available to pay benefits, it provides us a comparison to the Expected Rate of Return on Investments, but does not provide a figure that would be consistent with the rates of return that are determined by other parties. Therefore, this calculated Return on Investments should not be used to analyze investment performance of the Fund or the performance of the investment professionals.

VALUATION OF FUND ASSETS

Expected Rate of Return on Investments Assumption

The Expected Rate of Return on Investments for this valuation is 6.75%. Lauterbach & Amen, LLP does not provide investment advice. We look at a variety of factors when reviewing the Expected Rate of Return on Investments assumption selected by the client. These factors include: historical Rates of Return on Investments, capital market projections performed by the Consolidated Board's investment advisors, the Consolidated Board's investment policy, capital market forward-looking benchmark expected returns by independent investment companies, rates used by comparable pension systems, and other factors identified in the Actuarial Standards of Practice.

Generally speaking, the ideal assumption for Expected Rate of Return on Investments is one that has a 50% chance of being met over the long-term. Recently, we have observed the following factors that impact Expected Rate of Return on Investments:

- Volatility in the market has been high which drags down long-term geometric returns.

- Similar pension systems are looking to reduce future expectations. We generally see about 95% of similar pension systems using an Expected Rate of Return on Investments that is between 6.00% and 7.25%.

- We have reviewed studies conducted by Firms who gather information from multiple investment advisors who provide models and opinions on capital market returns. Those studies help guide us to see if the assumption is expected to have a 50% chance of being met over the long-term. Plans are generally aiming towards 40th to 60th percentile returns, which can help define a range of reasonableness.

- We have reviewed an index of high-quality fixed income rates that takes into consideration the pattern of your benefit payments. The purpose of the review is to provide additional disclosure in Funding Actuarial Valuations for the Low-Default-Risk Obligation Measure. The rates in this measure are low-risk and are being used as an approximate for risk-free rates. Investment funds that incorporate diversified investments which build in more risk would be expected to earn a positive risk premium, over and above the risk-free rates.

VALUATION OF FUND ASSETS

If actual returns going forward come in less than expected, the pension system risks deferring contributions to the future that should be made today and creating additional contribution volatility. Below is a chart detailing the impact on the Recommended Contribution by decreasing or increasing the Expected Rate of Return on Investments by 25 basis points:

	0.25% Decrease (6.50%)	Current Expected Rate of Return on Investments (6.75%)	0.25% Increase (7.00%)
Recommended Contribution	$1,241,758	$1,003,223	$588,834

Currently, the client has selected an Expected Rate of Return assumption that falls within a reasonable range. We recommend the client review the Expected Rate of Return on Investments annually to ensure the selected rate remains within a reasonable range as market conditions change year-to-year.

"Investment Risk" is the potential that the actual Return on Investments will be different from what is expected. The selected Expected Rate of Return on Investments assumption is chosen to be a long-term assumption, producing a return that, on average, would produce a stable rate of return over a long-term horizon. Actual investment returns in the short-term may deviate from this long-term assumption due to current market conditions. Furthermore, establishing the Expected Rate of Return on Investments assumption may be dependent on the Illinois State Statutes pertaining to the limitations on types of investments Plan Sponsors may use. If the actual annual rates of return are less than the Expected Rate of Return on Investments, actuarial losses will be produced, thus increasing the Plan's Unfunded Liability and, subsequently, future Recommended Contributions.

"Asset/Liability Mismatch" risk is a similar concept as Investment Risk, as it relates to setting the Expected Rate of Return on Investments assumption compared to the actual Return on Investments achieved. The Interest Rate used to discount future Plan liabilities is set equal to the Expected Rate of Return on Investments. It is expected that the selected Interest Rate be a rate that is reasonably expected to be achieved over the long-term. To the extent that the selected Interest Rate to value Plan liabilities is unreasonable, or significantly different than the actual Return on Investments earned over an extended period of time, additional Interest Rate risk is created. For example, determining Plan liabilities at an Interest Rate higher than what is expected to be achieved through investment returns results in Unfunded Liability that is not a true representation of the Plan's condition and Percent Funded. As a result, the Actuarial Accrued Liability determined is an amount smaller than the liability that would be produced with an Interest Rate more indicative of future Expected Rate of Return on Investments. Therefore, the Recommended Contributions under the established Funding Policy may not be sufficient to appropriately meet the true pension obligations.

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RECOMMENDED CONTRIBUTION DETAIL

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RECOMMENDED CONTRIBUTION DETAIL

ACTUARIAL ACCRUED LIABILITY

	Prior Valuation	Current Valuation
Active Members	$ 20,192,318	$ 19,076,810
Inactive Members		
Terminated Members	1,387,965	1,979,394
Retired Members	21,643,970	24,801,654
Disabled Members	6,619,874	6,691,562
Other Beneficiaries	-	-
Total Inactive Members	29,651,809	33,472,610
Total Actuarial Accrued Liability	$ 49,844,127	$ 52,549,420

The Total Actuarial Accrued Liability has Increased by Approximately $2,705,300 from the Prior Valuation.

FUNDED STATUS

	Prior Valuation	Current Valuation
Total Actuarial Accrued Liability	$ 49,844,127	$ 52,549,420
Total Actuarial Value of Assets	48,324,810	51,059,309
Unfunded Actuarial Accrued Liability	$ 1,519,317	$ 1,490,111
Total Fair Value of Assets	$ 43,931,645	$ 49,058,819
Percent Funded		
Actuarial Value of Assets	96.95%	97.16%
Fair Value of Assets	88.14%	93.36%

The Percent Funded as of the Actuarial Valuation Date is Subject to Volatility on Assets and Liability in the Short-Term.

RECOMMENDED CONTRIBUTION DETAIL

DEVELOPMENT OF THE EMPLOYER NORMAL COST

	Prior Valuation	Current Valuation
Total Normal Cost	$ 1,078,674	$ 1,033,334
Estimated Member Contributions	(426,993)	(420,019)
Employer Normal Cost	$ 651,681	$ 613,315

At a 100% Funding Level, the Normal Cost Contribution is Still Required.

NORMAL COST AS A PERCENTAGE OF EXPECTED PAYROLL

	Prior Valuation	Current Valuation
Expected Payroll	$ 4,378,717	$ 4,307,207
Member Normal Cost Rate	9.910%	9.910%
Employer Normal Cost Rate	14.72%	14.08%
Total Normal Cost Rate	24.63%	23.99%

Ideally, the Employer Normal Cost Rate will Remain Stable.

RECOMMENDED CONTRIBUTION BREAKDOWN

	Prior Valuation	Current Valuation
Employer Normal Cost*	$ 695,669	$ 654,714
Amortization of Unfunded Accrued Liability/(Surplus)	321,218	348,509
Recommended Contribution	$ 1,016,887	$ 1,003,223

The Recommended Contribution has Decreased by 1.34% from the Prior Valuation.

*Employer Normal Cost Contribution includes interest through the end of the Fiscal Year.

RECOMMENDED CONTRIBUTION DETAIL

SCHEDULE OF AMORTIZATION – NEW UNFUNDED ACTUARIAL ACCRUED LIABILITY

Below is the schedule of remaining amortization balances for the new Unfunded Liability incurred in the current year.

Unfunded Liability Base	Initial Balance	Date Established	Current Balance	Years Remaining	Payment
Investment (Gain)/Loss	$ (31,097)	12/31/2023	$ (31,097)	15	$ (2,766)
Actuarial (Gain)/Loss	(303,936)	12/31/2023	(303,936)	15	(27,033)
Contribution Experience	$ 524,491	12/31/2023	$ 524,491	15	$ 46,651
Total	**$ 189,458**		**$ 189,458**		**$ 16,852**

The Actuarial (Gain)/Loss can be attributable to several factors including, but not limited to, demographic changes, Employer Contribution timing, Member Contribution experience, benefit payment experience, and salary increase experience compared to expectation.

RECOMMENDED CONTRIBUTION DETAIL

SCHEDULE OF AMORTIZATION – TOTAL UNFUNDED ACTUARIAL ACCRUED LIABILITY

Below is the schedule of remaining amortization balances for the Unfunded Liability incurred in the current and prior years.

Unfunded Liability Base	Initial Balance	Date Established	Current Balance	Years Remaining	Payment
FYE 12/31/2023	$ 189,458	12/31/2023	$ 189,458	15	$ 16,852
FYE 12/31/2022	(2,828,375)	12/31/2022	(2,767,718)	14	(259,748)
FYE 12/31/2021	(2,189,247)	12/31/2021	(2,085,848)	13	(207,587)
FYE 12/31/2020	(2,764,184)	12/31/2020	(2,549,296)	12	(270,622)
FYE 12/31/2019	384,048	12/31/2019	340,502	11	38,821
FYE 12/31/2018	834,225	12/31/2018	705,233	10	87,068
FYE 12/31/2017	(185,193)	12/31/2017	(147,798)	9	(19,958)
FYE 12/31/2016	$ 9,522,215	12/31/2016	$ 7,805,578	10	$ 963,683
Total	**$ 2,962,947**		**$ 1,490,111**		**$ 348,509**

The equivalent single amortization period based on the layered amortization of Unfunded Liability is 4.86 years for the current valuation.

RECOMMENDED CONTRIBUTION DETAIL

ACTUARIAL METHODS – RECOMMENDED CONTRIBUTION

Actuarial Valuation Date	January 1, 2024
Data Collection Date	December 31, 2023
Actuarial Cost Method	Entry Age Normal (Level % Pay)
Amortization Method	Level % Pay (Closed)
Amortization Target	Layered Targeting 100% Funded - See Previous Page
Asset Valuation Method	5-Year Smoothed Fair Value

The above methods constitute a sound Actuarially Determined Contribution under the parameters of Actuarial Standards of Practice.

The contributions and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and demographic data furnished, using the Actuarial Cost Method described. The Actuarial Cost and Amortization Methods allocate the projected obligations of the Plan over the working lifetimes of the Plan Members.

The Recommended Contribution amount shown in this report is based on the methods summarized above. The *Actuarial Funding Policies* section of this report includes a more detailed description of the Actuarial Funding Methods being used.

The Actuarial Funding Methods are meant to provide a systematic process for determining contributions on an annual basis. The methods do not impact the expectation of future benefit payments. The methods only impact the way contributions are made towards future benefit payments.

Different Actuarial Funding Methods may achieve funding goals with differing levels of success. Certain methods are more efficient and more stable on an annual basis.

In the current valuation, the Plan Sponsor has elected to use a 10% corridor in the determination of the Actuarial Value of Assets for both the Recommended and Alternative Contributions. In the event that the Actuarial Value of Assets exceeds 110% of the Fair Value of Assets or falls below 90% of the Fair Value of Assets, the excess gains or losses will be recognized immediately.

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ALTERNATIVE CONTRIBUTION

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ALTERNATIVE CONTRIBUTION

	Prior Valuation	Current Valuation
Alternative Contribution	$647,724	$571,760
Expected Payroll	$4,378,717	$4,307,207
Alternative Contribution as a Percent of Expected Payroll	14.79%	13.27%

FUNDED STATUS – ALTERNATIVE CONTRIBUTION

	Prior Valuation	Current Valuation
Normal Cost	$1,033,760	$955,626
Fair Value of Assets	$43,931,645	$49,058,819
Actuarial Value of Assets	$48,324,810	$51,059,309
Actuarial Accrued Liability	$51,074,102	$53,804,439
Unfunded Actuarial Accrued Liability/(Surplus)	$2,749,292	$2,745,130
Percent Funded		
Actuarial Value of Assets	94.62%	94.90%
Fair Value of Assets	86.02%	91.18%

ALTERNATIVE CONTRIBUTION

The Alternative Contribution is based on Actuarial Funding Methods and funding parameters outlined in the Illinois State Statutes for pension funding. The resulting contribution is lower than the Recommended Contribution for the current year. The Alternative Contribution amount is not recommended because it represents only a deferral of contributions when compared to the Recommended Contribution method.

Actuarial Funding Methods for pensions are best applied to provide a balance between the long-term goals of a variety of stakeholders:

1. Members – the Members are interested in benefit security and having the funds available to pay benefits when retired

2. Employers – cost control and cost stability over the long-term

3. Taxpayers – paying for the services they are receiving from active Members

The Alternative Contribution methods are not intended to provide a better system in any of the above categories long-term. The parameters are not recommended for a long-term funding strategy.

The funding methods and parameters put into place in the Illinois State Statutes in 2011 were intended to provide short-term budget relief for Employer Contributions. An Employer using the parameters outlined in the Illinois State Statutes for current funding should view the contributions as short-term relief. Our recommendation in this situation is for a Pension Fund and an Employer to work towards a long-term funding strategy that better achieves the long-term funding goals, over a period that does not exceed 3-5 years.

The Securities and Exchange Commission in 2013 used the phrase “Statutory Underfunding” to describe situations where contributions appear to be more manageable in the short-term, but set up future Recommended Contributions that are less likely to be manageable.

ACTUARIAL METHODS – ALTERNATIVE CONTRIBUTION

Actuarial Valuation Date	January 1, 2024
Data Collection Date	December 31, 2023
Actuarial Cost Method	Projected Unit Credit
Amortization Method	Level % Pay (Closed)
Amortization Target	90% Funded Over 17 Years
Asset Valuation Method	5-Year Smoothed Fair Value

The contribution and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and demographic data furnished, using the Actuarial Cost Method described. The Actuarial Cost and Amortization methods allocate the projected obligations of the Plan over the working lifetimes of the Plan Members.

The Actuarial Funding Methods are meant to provide a systematic process for determining contributions on an annual basis. The methods do not impact the expectation of future benefit payments. The methods only impact the way contributions are made towards future benefit payments.

Different Actuarial Funding Methods may achieve funding goals with differing levels of success. Certain methods are more efficient and more stable on an annual basis.

The guidelines in the Illinois State Statutes for pension funding are silent on the use of a corridor on the Fair Value of Assets in determination of the Actuarial Value of Assets. In the current valuation, the Plan Sponsor has elected to use a 10% corridor in the determination of the Actuarial Value of Assets for both the Alternative Contribution and the Recommended Contribution. In the event that the Actuarial Value of Assets exceeds 110% of the Fair Value of Assets or falls below 90% of the Fair Value of Assets, the excess gains or losses will be recognized immediately.

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ACTUARIAL VALUATION DATA

Active Members
Inactive Members
Summary of Monthly Benefit Payments
Age and Service Distribution

ACTUARIAL VALUATION DATA

Active Members

	Prior Valuation	Current Valuation
Tier I	24	21
Tier II	18	19
Total Active Members	42	40
Total Payroll	$ 4,308,701	$ 4,238,334

Inactive Members

	Prior Valuation	Current Valuation
Terminated Members	5	11
Retired Members	16	18
Disabled Members	8	8
Other Beneficiaries	0	0
Total Inactive Members	29	37

Summary Of Monthly Benefit Payments

	Prior Valuation	Current Valuation
Retired Members	$ 99,695	$ 115,917
Disabled Members	31,411	31,635
Other Beneficiaries	-	-
Total Inactive Members	$ 131,106	$ 147,551

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AGE AND SERVICE DISTRIBUTION

1/1/2024 Age and Service Distribution - Tier 1|Tier 2 Active Members											
	Service	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Age												
Under 25		0|1										0|1
25 to 29			0|5									0|5
30 to 34		0|3	0|4									0|7
35 to 39			0|1	0|2	0|2	1|0						1|5
40 to 44				0|1	2|0	3|0	1|0					6|1
45 to 49						3|0	3|0					6|0
50 to 54				1|0		1|0	4|0	1|0				7|0
55 to 59								1|0				1|0
60 to 64												
65 to 69												
70 & up												
Total		0|4	0|10	1|3	2|2	8|0	8|0	2|0				21|19

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ACTUARIAL FUNDING POLICIES

Actuarial Cost Method
Financing Unfunded Actuarial Accrued Liability
Actuarial Value of Assets

ACTUARIAL FUNDING POLICIES

ACTUARIAL COST METHOD

The Actuarial Cost Method allocates the projected obligations of the Plan over the working lifetimes of the Plan Members.

In accordance with the Pension Fund's Funding Policy, the Actuarial Cost Method for the Recommended Contribution basis is Entry Age Normal (Level Percent of Pay). The Entry Age Normal Cost Method is a method under which the Actuarial Present Value of the projected benefits of each individual included in an Actuarial Valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age. The portion of this Actuarial Present Value allocated to a valuation year is called Normal Cost. The portion of the Actuarial Present Value not provided at an Actuarial Valuation Date by the Actuarial Present Value of future Normal Costs is called the Actuarial Accrued Liability.

The Entry Age Normal method attempts to create a level cost pattern. In contrast to other Actuarial Cost Methods which inherently lead to uneven or less predictable cost patterns, the Entry Age Normal method is generally understood to be less risky in terms of contribution stability from year to year.

The Conference of Consulting Actuaries Public Plans Community produced a "white paper" detailing Funding Policy model practices for public sector pension plans. Under the Level Cost Actuarial Methodology ("LCAM"), one of the principal elements to a Funding Policy is the Actuarial Cost Method. When deciding which Actuarial Cost Method to use, several objectives may be considered, such as the following:

- Each Member's benefit should be funded under a reasonable allocation method by the expected retirement date
- Pay-related benefit costs should reflect anticipated pay at retirement
- The expected cost of each year of service (i.e. Normal Cost) for each active Member should be reasonably related to the expected cost of that Member's benefit
- The Member's Normal Cost should emerge as a level percent of Member compensation
- No gains or losses should occur if all assumptions are met.

Following these criteria, the use of the Entry Age Normal Cost Method (Level Percent of Pay) is a model practice.

FINANCING UNFUNDED ACTUARIAL ACCRUED LIABILITY

The Unfunded Actuarial Accrued Liability may be amortized over a period either in level dollar amounts or as a level percentage of payroll.

When amortizing the Unfunded Actuarial Accrued Liability as a level percentage of payroll, additional risk is incurred since the amortization payments in the early years of the payment period may not be large enough to cover the interest accrued on the existing Unfunded Liability. As a result, the Unfunded Liability may increase initially, before the amortization payments grow large enough to cover all interest accruals. Generally speaking, the Plan Sponsor will be required to contribute a larger total contribution amount over the course of the funding period under a level percentage of payroll basis as compared to a level dollar payroll schedule.

The Government Finance Officers Association notes that best practices in public pension finance include utilizing amortization periods that do not exceed 20 years. Longer amortization periods elevate the risk of failing to reduce any Unfunded Liability. For example, when the amortization payment in full only covers interest on the Unfunded Liability, but does not reduce the existing Unfunded Liability, the required contribution will increase in future years.

A second principal element under the Level Cost Actuarial Methodology described above is to establish an Amortization Policy that determines the length of time and the structure of the increase or decrease in contributions required to systematically fund the Unfunded Actuarial Accrued Liability. When deciding on the Amortization Policy, several objectives may be considered, such as the following:

- Variations in the source of liability changes (i.e. gains or losses, Plan changes, assumption changes) should be funded over periods consistent with an appropriate balance between the policy objectives of demographic matching and volatility management
- The cost changes in Unfunded Actuarial Accrued Liability should emerge as a level percentage of Member compensation

The LCAM model practices for the Amortization Policy include the following:

- Layered fixed period amortization by source
- Level percent of pay amortization
- An amortization period ranging from 15-20 years for experience gains or losses
- An amortization period of 15-25 years for assumption changes

In accordance with the Pension Fund's Funding Policy for the Recommended Contribution, the Unfunded Actuarial Accrued Liability is amortized by level percent of payroll contributions to a 100% funding target over a layered amortization period of 15 years. See the *Actuarial Methods – Recommended Contribution* section of this report for more detail.

The equivalent single amortization period based on the layered amortization of Unfunded Liability is 4.86 years for the current valuation.

We believe that the amortization period is appropriate for the purpose of this valuation.

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ACTUARIAL FUNDING POLICIES

ACTUARIAL VALUE OF ASSETS

The Pension Fund is an ongoing plan. The Employer wishes to smooth the effect of volatility in the Fair Value of Assets on the annual contribution. Therefore, the Actuarial Value of Assets is equal to the Fair Value of Assets with unanticipated gains/losses recognized over a five-year period.

The Asset Valuation Method is intended to create an Actuarial Value of Assets that remains reasonable in relation to the Fair Value of Assets over time. The method produces results that can fall either above or below the Fair Value of Assets. The period of recognition is short.

It is intended that the period of recognition is short enough to keep the Actuarial Value of Assets within a decent range of the Fair Value of Assets. In the event that the Actuarial Value of Assets exceeds or falls below a 10% corridor of the Fair Value of Assets, the additional gain or loss will be recognized immediately.

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ACTUARIAL ASSUMPTIONS

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ACTUARIAL ASSUMPTIONS

NATURE OF ACTUARIAL CALCULATIONS

The results documented in this report are estimates based on data that may be imperfect and on assumptions about future events. Certain Plan Provisions may be approximated or deemed immaterial, and, therefore, are not valued. Assumptions may be made about demographic data or other factors. Reasonable efforts were made in this valuation to ensure that significant items in the context of the Actuarial Accrued Liability or costs are treated appropriately, and not excluded or included inappropriately.

Actual future experience will differ from the assumptions used in the calculations. As these differences arise, the expense for accounting purposes will be adjusted in future valuations to reflect such actual experience.

A range of results different from those presented in this report could be considered reasonable. The numbers are not rounded, but this is for convenience only and should not imply precision which is not inherent in actuarial calculations.

SELECTION OF ACTUARIAL ASSUMPTIONS

Actuaries and other service providers provide guidance to their clients in the selection of assumptions used in the Actuarial Valuation based on their industry-specific training and experience. The Actuaries' expertise is used in the determination of demographic assumptions as it relates to future expectations of Plan demographic activity, such as mortality, termination, and retirement rates. The selection of economic assumptions, such as Expected Rate of Return on Investments or the assumed inflation rate, is more subjective. Investment advisors and other services providers utilize their expertise and knowledge of capital markets to model future expectations. Some assumptions may have an influence on other assumptions. The role of the Actuary in the selection of the economic assumptions is to review available market information including historical economic information and forward-looking capital market projections from investment professionals and to assess whether or not sufficient backup exists to deem the assumption reasonable. The selection of economic assumptions is the responsibility of the client. For example, the inflation rate (an economic assumption) may directly correlate to the active member salary increase assumption (a demographic assumption). Once all demographic and economic assumptions have been determined, the Actuary will create various sets of assumptions which take into account the proposed assumptions individually and in the aggregate. The client will then make the final decision of which assumption set to use.

ACTUARIAL ASSUMPTIONS

ACTUARIAL ASSUMPTIONS IN THE VALUATION PROCESS

The contributions and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and demographic data furnished, using the Actuarial Cost Method described in the *Actuarial Funding Policies* section of this report.

The principal areas of financial risk which require assumptions about future experience are:

- Expected Rate of Return on Investments
- Patterns of Pay Increases for Members
- Rates of Mortality Among Active and Inactive Members
- Rates of Termination Among Active Members
- Rates of Disability Among Active Members
- Age Patterns of Actual Retirements

Actual experience of the Pension Fund will not coincide exactly with assumed experience. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments to the computed Recommended Contribution.

Details behind the selection of the actuarial assumptions can be found in the Actuarial Assumption Summary document provided to the client upon request. The client has reviewed and approved the assumptions as a reasonable expectation of the future anticipated experience under the Plan.

ACTUARIAL ASSUMPTIONS

ASSESSMENT OF RISK EXPOSURES

From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations). In addition, Actuarial Standards of Practice require that the Actuary minimally perform a qualitative assessment of key financial and demographic risks as part of the risk assessment process with each annual Actuarial Valuation. The risk assessments we perform include, but are not limited to, the following:

- Periodic demographic experience studies every 3 to 5 years to confirm the ongoing appropriateness of actuarial assumptions
- Highlight the impact of demographic experience over the past year, as well as other sources of change and volatility in the *Actuarial Recommended Contribution – Reconciliation* section of this report
- Detail year-over-year changes in contribution levels, assets, liabilities, and Funded Status in the *Recommended Contribution* and *Funded Status* sections in the *Management Summary* section of this report
- Review any material changes in the demographic data as summarized in the *Actuarial Valuation Data* section of this report
- Provide and discuss the Actuarial Assumption Summary document highlighting the rationale for each key assumption chosen by the client
- Identify potential Cash Flow Risk by highlighting expected benefit payments over the next 5-year and 10-year periods in the *Asset Growth* section in the *Management Summary* section of this report
- Describe the impact of any assumption, method, or policy change in the *Management Summary* section of this report
- Utilize supplemental information, such as the GASB Discount Rate sensitivity disclosures to understand, for example, what impact an alternative Expected Rate of Return on Investments assumption might have on the estimation of Actuarial Accrued Liability and Funded Status
- Utilize supplemental information, such as the GASB solvency test, to better understand the Cash Flow Risk and long-term sustainability of the Plan

LIMITATIONS OF RISK ANALYSIS

Since future experience may never be precisely as assumed, the process of selecting funding methods and actuarial assumptions may inherently create risk and volatility of results. A more detailed evaluation of the above risk exposures is beyond the scope and nature of the annual Actuarial Valuation process. For example, scenario tests, sensitivity tests, stress tests, and/or stochastic modeling for multi-year projections to assess the impact of alternative assumptions and methods, or modeling future experience different from the assumptions in these results, are not included in this Actuarial Valuation.

The Lake in the Hills Police Pension Fund and/or the Village of Lake in the Hills, Illinois should contact the Actuary if they desire a more detailed assessment of any of these forward-looking risk exposures.

ACTUARIAL ASSUMPTIONS

ASSESSMENT AND USE OF ACTUARIAL MODELS

Actuarial Valuations rely upon the use of actuarial modeling software to predict the occurrence of future events, which include specific demographic and financial potential outcomes. Actuarial assumptions are established to provide a guideline to use for such modeling.

- The model used in this Actuarial Valuation is intended to determine the Recommended Contribution, under the selected Funding Policy. The actuarial assumptions used were developed with this goal in mind.
- There are no known material limitations or inconsistencies among the actuarial assumptions or methods.
- The output from the model is reasonable based on the individual actuarial assumptions and based on the actuarial assumptions in the aggregate.
- The actuarial software used to calculate plan liabilities has been purchased from an outside vendor. We have performed thorough testing of the software, including review of sample participants, to ensure the intended purpose of the model, the operation of the model, sensitivities and dependencies, and strengths and limitations of the model are sufficient for this purpose.
- Demographic data and financial information have been provided by client professionals, financial advisors, and/or auditors, who are known to be experts in their respective fields. We rely on the fact that the information provided by these experts has been given for the intended purpose of this Actuarial Valuation.
- Where applicable, certain actuarial assumptions and Funding Policy may be required as prescribed by law. In such instances, we have followed legal guidance to ensure conformity.
- The Expected Rate of Return on Investments assumption has been chosen using input from several sources; including, but not limited to: client professionals, financial advisors, auditors, and other capital market outlooks. We have relied on the information provided, in the aggregate, to settle on the selected Expected Rate of Return on Investments assumption.

As stated in the *Limitations of Risk Analysis* section, future experience may never be precisely as assumed. As a result, the funding methods and actuarial assumptions used in the model may create volatility in the results when compared year after year. A more detailed evaluation of this volatility is beyond the scope and nature of the annual Actuarial Valuation process. In such cases, additional scenario tests, sensitivity tests, stress tests, and/or stochastic modeling for multi-year projections to assess the impact of alternative assumptions and methods, or modeling future experience different from the assumptions in these results, may be performed to determine a range of reasonable results.

ACTUARIAL ASSUMPTIONS

ACTUARIAL ASSUMPTIONS UTILIZED

Expected Rate of Return on Investments	6.75% Net of Administrative Expense
CPI-U	2.25%
Total Payroll Increases	3.25%
Individual Pay Increases*	3.75% - 10.77%

Individual pay increases include a long-term average increase for inflation, average annual increases for promotions, and any additional increases for a step program. Sample rates are as follows:

Service	Rate	Service	Rate
0	10.77%	8	3.75%
1	10.10%	9	3.75%
2	9.53%	10	3.75%
3	9.04%	15	3.75%
4	8.61%	20	3.75%
5	8.23%	25	3.75%
6	7.89%	30	3.75%
7	7.59%	35	3.75%

*Individual pay increases for active Members hired at age 40 or older are assumed annual increases at the ultimate rate reduced by 50 basis points, without adjustments in early service years.

ACTUARIAL ASSUMPTIONS

Retirement Rates

100% of the L&A Assumption Study for Police 2020 Cap Age 65. Sample rates are as follows:

Age	Rate	Age	Rate
50	11.00%	58	16.25%
51	11.55%	59	16.25%
52	12.13%	60	16.25%
53	12.73%	61	16.25%
54	13.37%	62	18.00%
55	14.04%	63	20.00%
56	14.74%	64	20.00%
57	15.48%	65	100.00%

Termination Rates

100% of the L&A Assumption Study for Police 2020. Sample rates are as follows:

Age	Rate	Age	Rate
25	8.00%	40	2.17%
30	3.40%	45	1.56%
35	2.79%	50	0.46%

Disability Rates

100% of the L&A Assumption Study for Police 2020. Sample rates are as follows:

Age	Rate	Age	Rate
25	0.00%	40	0.38%
30	0.06%	45	0.53%
35	0.18%	50	0.48%

65% of active Members who become disabled are assumed to be in the Line of Duty.

ACTUARIAL ASSUMPTIONS

Mortality Rates

Active Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

50% of active Member deaths are assumed to be in the Line of Duty.

Retiree Mortality follows the L&A Assumption Study for Police 2020. These rates are experience weighted with the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study improved to 2017 using MP-2019 Improvement Rates. These rates are then improved fully generationally using MP-2019 Improvement Rates.

Disabled Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010 Study for disabled participants. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

Spouse Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study for contingent survivors. For all rates not provided there (ages 45 and younger) the PubG-2010 Study for general employees was used. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

Marital Assumptions

Active Members: 80% of active Members are assumed to be married. Female spouses are assumed to be 3 years younger than male spouses.

Retiree and Disabled Members: Actual spousal data was utilized for retiree and disabled Members.

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LOW-DEFAULT-RISK OBLIGATION MEASURE

Low-Default-Risk Obligation Measure – Purpose
Low-Default-Risk Obligation Measure
Low-Default-Risk Obligation Measure vs Actuarial Liability

LOW-DEFAULT-RISK OBLIGATION MEASURE

LOW-DEFAULT-RISK OBLIGATION MEASURE - PURPOSE

The Pension Committee of the Actuarial Standards Board adopted changes to Actuarial Standards of Practice No. 4 ("ASOP 4"). ASOP 4 is titled "Measuring Pension Obligations and Determining Pension Plan Costs or Contributions". The changes were adopted by the Actuarial Standards Board in December 2021 and are effective for reporting and Measurement Dates on or after February 15, 2023.

One change is the requirement for all Funding Actuarial Valuations to include a Low-Default-Risk Obligation Measure ("LDROM"). In its simplest form, the LDROM is a measure of Actuarial Liability determined using a low-risk Expected Rate of Return on Investments. The LDROM is not intended to replace the Actuarial Liability used to determine the Recommended Contribution amount calculated in this report. The intention is to provide additional information on the Funded Status of the Plan and benefit security.

The Low-Default-Risk Obligation Measure is shown below as of the Measurement Date. The discussion that follows provides more information on the assumptions and methods used to determine the LDROM and some interpretation of the results.

LOW-DEFAULT-RISK OBLIGATION MEASURE

	Current Valuation
Low-Default-Risk Obligation Measure	$ 70,579,411
Fair Value of Assets	49,058,819
Obligation not Covered by Current Assets	$ 21,520,592

The Low-Default-Risk Obligation Measure is Not Intended to Replace the Actuarial Liability Used to Determine the Recommended Contribution.

The Obligation not Covered by Current Assets shown above is for illustration of the Low-Default-Risk Obligation Measure only and is not intended for any other purposes. The amount of Obligation not Covered by Current Assets should not be used for pension funding or financial statement reporting purposes. In addition, the Obligation not Covered by Current Assets amount should not be used for any other assessments related to pension funding, such as assessing Unfunded Liability for the purpose of issuing Pension Obligation Bonds. Discussion of any of these items should be handled separately.

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LOW-DEFAULT-RISK OBLIGATION MEASURE

Selection of the Discount Rate
Under Actuarial Standards, a Discount Rate should be selected from a source that develops the rate using low-default-risk fixed income securities. In addition, the fixed income securities should be reasonably consistent with the pattern of expected benefit payments from the Fund.

The Low-Default-Risk Obligation Measure has been valued using the FTSE Pension Discount Curve. The FTSE Pension Discount Curve is determined using rates from corporate bonds that are rated AA (from the FTSE U.S. Broad Investment Grade Bond Index) and yields from the FTSE Russell's Treasury model curve. The result is a set of investment grade zero coupon bond rates with maturities from 6 months to 30 years.

The equivalent single discount rate that would produce the same liability as the FTSE Pension Discount Curve is 4.84%.

There are other indices constructed that are appropriate for this disclosure as well. They could produce Discount Rates that are higher or lower than the LDROM shown here. An increase/decrease in the discount rate of 50 basis points (0.50%) would decrease/increase the LDROM by (7.80%)/8.79%, respectively. In our opinion, the FTSE Pension Discount Curve meets the requirements of the disclosure of the LDROM. The curve is constructed using investment grade corporate bonds. In addition, the rates are updated monthly and the current rates used (as of the Measurement Date of this report) are reflective of current market conditions. Finally, the use of a yield curve as opposed to a single rate allows the flexibility for the LDROM to be determined in a manner consistent with the pattern of expected benefit payments.

The Discount Rate is intended for the current Measurement Date only. In order to stay consistent with the prevailing market conditions, the Discount Rate will be assessed and updated each year at each new Measurement Date.

Selection of the Actuarial Cost Method
The Standard requires the use of an immediate-gain Actuarial Cost Method. We have elected to use the Entry Age Normal cost method for measurement of the LDROM. Entry Age Normal is being applied on a percent of pay basis. The Cost Method is the same method used for the determination of the Recommended Contribution in this report.

Other immediate-gain Actuarial Cost Methods are available and acceptable for use in the determination of the LDROM. Other acceptable methods include benefits-based methods and accrued benefit methods. We selected the Entry Age Normal method due to the fact that benefit liability in this Fund is not typically settled with one-time payments. For example, the Plan does not pay lump sums (except refunds of Member Contributions) and is not anticipated to settle liability through the purchase of annuity contracts. Therefore, the usefulness of a benefits-based method is much more limited in interpretation of this measure as it relates to benefit security.

LOW-DEFAULT-RISK OBLIGATION MEASURE

Interpretation of the LDROM

The Low-Default-Risk Obligation Measure is higher than the liability used for the Recommended Contribution determination by $18,029,991.

Actuarial Liability is determined in different ways based on the purpose of the measurement. The Actuarial Liability for Recommended Contribution purposes is used to develop a contribution amount that, when combined with other sources of funding (including Member Contributions and expected investment returns), would pay all future expected benefits. The expected investment returns under this scenario are based on the current asset allocation and capital market expectations of the Fund. Assets are invested in a way that involves risk. Actual returns can vary significantly year-to-year above and below expectations. The trade-off is a risk-premium over the long-term and above low-risk market rates.

The LDROM, by contrast, is developed using low-risk returns available in the market. These returns could be obtained theoretically with low-risk of deviation from expectation, and lower expectation (i.e. there is no risk-premium). The LDROM, then, can be thought of as the amount of money that should be set aside today to appropriately fund and prepare for all future benefit payments, if the assets were invested in relatively low volatility assets available in the market today.

The expected decrease in the liability for funding purposes as compared to the LDROM can be thought of as cost savings from investing in riskier assets, with higher long-term return expectations. At the same time, this difference also represents a risk factor for the Pension Fund as the Fund is reliant on receiving the expected return on investments, including a risk premium. Contributions, combined with these investment returns, are required in order to fund future benefit payments.

LOW DEFAULT RISK OBLIGATION MEASURE VS ACTUARIAL LIABILITY

	Current Valuation
Low-Default-Risk Obligation Measure	$ 70,579,411
Actuarial Accrued Liability (Entry Age Normal)	52,549,420
Difference	$ 18,029,991

The Low-Default-Risk Obligation Measure is Not Intended to Replace the Actuarial Liability Used to Determine the Recommended Contribution.

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SUMMARY OF PRINCIPAL PLAN PROVISIONS

Establishment of the Fund
Administration
Member Contributions
Regular Retirement Pension Benefit
Early Retirement Pension Benefit
Surviving Spouse Benefit
Termination Benefit – Vested
Disability Benefit

SUMMARY OF PRINCIPAL PLAN PROVISIONS

ESTABLISHMENT OF THE FUND

The Police Pension Fund is established and administered as prescribed by "Article 3 – Police Pension Fund – Municipalities 500,000 and Under" of the Illinois Pension Code.

ADMINISTRATION

The Police Pension Fund is administered by a Board of Trustees whose duties are to manage the Pension Fund, determine applications for pensions, authorize payment of pensions, establish rules, pay expenses, and keep records.

MEMBER CONTRIBUTIONS

Members contribute 9.910% of their pensionable salary.

REGULAR RETIREMENT PENSION BENEFIT

Tier I

Eligibility: Age 50 with at least 20 years of creditable service.

Benefit: 50% of final salary for the first 20 years of service, plus an additional 2.5% of final salary for each year of service beyond 20 years of service, and not to exceed 75% of final salary. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service, unless the pensionable salary was greater at some point within the year prior to the last day of service. If so, the pensionable salary is averaged over the last 12 months.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 1/12 of 3% of the original monthly benefit for each full month that has passed since the pension began. The initial increase date will be the later of the first day of the month after the pensioner turns age 55 or the first day of the month after the benefit date anniversary. Subsequent increases of 3% of the current monthly benefit will be granted every January 1st thereafter.

REGULAR RETIREMENT PENSION BENEFIT - CONTINUED

Tier II

Eligibility: Age 55 with at least 10 years of creditable service.

Benefit: 2.5% of final average salary for each year of service, and not to exceed 75% of final average salary. “Final average salary” is determined by dividing the total pensionable salary during 48 consecutive months of service within the last 60 months of service in which total pensionable salary was the highest, by the number of months of service in that period (or by dividing the total pensionable salary during 96 consecutive months of service within the last 120 months of service in which total pensionable salary was the highest, by the number of months of service in that period, if greater). Annual salary for this purpose will not exceed the salary cap, indexed by the lesser of 3% or the CPI-U for the 12 months ending with the September preceding each November 1st. The salary cap will not decrease.

Annual Increase in Benefit: The initial increase date will be the later of the January 1st after the pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

EARLY RETIREMENT PENSION BENEFIT

Tier I

None.

Tier II

Eligibility: Age 50 with at least 10 years of creditable service.

Benefit: The regular retirement pension benefit reduced by ½ of 1% for each month that the police officer’s age is between 50 and 55.

Annual Increase in Benefit: The initial increase date will be the later of the January 1st after the pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

SUMMARY OF PRINCIPAL PLAN PROVISIONS

SURVIVING SPOUSE BENEFIT

Tier I

Eligibility: Married to an active police officer with at least 8 years of creditable service, a disabled pensioner at the time of death, or a retired pensioner on the last day of service.

Active Line of Duty Death Benefit: An eligible surviving spouse is entitled to receive 100% of the police officer's final pensionable salary attached to rank held on the last day of service.

Non-Duty Death Benefit:

Disabled or Retired Pensioner: An eligible surviving spouse is entitled to receive the pensioner's benefit at the time of death.

Active Member with 20+ Years of Service: An eligible surviving spouse is entitled to the police officer's eligible benefit at the time of death.

Active Member with 10-20 Years of Service: An eligible surviving spouse is entitled to receive 50% of the police officer's pensionable salary attached to rank held on the last day of service, unless the pensionable salary was greater at some point within the year prior to the last day of service. If so, the pensionable salary is averaged over the last 12 months.

Annual Increase in Benefit: None.

Tier II

Eligibility: Married to an active police officer with at least 8 years of creditable service, a disabled pensioner at the time of death, or a retired pensioner on the last day of service.

Active Line of Duty Death Benefit: An eligible surviving spouse is entitled to receive 100% of the police officer's final pensionable salary attached to rank held on the last day of service.

Non-Duty Death Benefit:

Disabled or Retired Pensioner, Active Member with 20+ Years of Service, and Active Member with 10-20 Years of service: An eligible surviving spouse is entitled to receive the greater of 66⅔% of the police officer's earned pension benefit at the time of death or 54% of the police officer's monthly salary at the time of death.

Annual Increase in Benefit: The initial increase date will be the January 1st after the surviving spouse turns age 60. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

SURVIVING SPOUSE BENEFIT - CONTINUED

Public Act 102-0811 passed on May 13, 2022 and is effective as of January 1, 2023 for Article 3 Pension Funds. The Act establishes that a surviving spouse of a deceased police retiree may be eligible for a survivor's pension of up to 15 years of benefit payments if (a) the surviving spouse has attained age 62 and (b) if the police officer was married to the surviving spouse after retirement, and for at least 5 years prior to the officer's death. Previously, there was no survivor's pension for spouses married after retirement. In our opinion, under a prudent interpretation of the provisions, we believe the impact to be de minimis. The legal community has suggested some uncertainty about multiple provisions contained in the Act, and the IDOI Public Pension Division has not provided an interpretation. The client has not made an administrative interpretation as to how the provisions of the Act will impact future surviving spouses. Due to the uncertainty around the interpretation and the expected *de minimis* impact, we have not valued this contingency separately for active Members. However, for any current retirees who were married after retirement and have been married for at least 5 years, as well as any surviving spouses currently in receipt of benefits under this provision, we have valued the liability of the benefit granted.

TERMINATION BENEFIT – VESTED

Tier I

Eligibility: Age 60 with at least 8 but less than 20 years of creditable service.

Benefit: 2.5% of final salary for each year of service. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service, unless the pensionable salary was greater at some point within the year prior to the last day of service. If so, the pensionable salary is averaged over the last 12 months.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 1/12 of 3% of the original monthly benefit for each full month that has passed since the pension began. The initial increase date will be the first day of the month after the benefit date anniversary. Subsequent increases of 3% of the current monthly benefit will be granted every January 1st thereafter.

Tier II

None.

DISABILITY BENEFIT

Tier I

Eligibility: Duty or Non-Duty Disability or Occupational Disease Disability with at least 1 day of creditable service.

Benefit: For a duty disability or an occupational disease disability with at least 5 years of creditable service, a police officer is entitled to receive the greater of 65% of final salary or the regular retirement pension benefit at the time of disability. For a non-duty disability, a police officer is entitled to receive 50% of their final salary. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 3% of the original monthly benefit for each full year that has passed since the pension began. The initial increase date will be the later of the January 1st after following pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases of 3% of the original monthly benefit will be granted every January 1st thereafter.

Tier II

Eligibility: Duty or Non-Duty Disability or Occupational Disease Disability with at least 1 day of creditable service.

Benefit: For a duty disability or an occupational disease disability with at least 5 years of creditable service, a police officer is entitled to receive the greater of 65% of final salary or the regular retirement pension benefit at the time of disability. For a non-duty disability, a police officer is entitled to receive 50% of their final salary. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service.

Annual Increase in Benefit: The initial increase date will be the later of the January 1st after the pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

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GLOSSARY OF TERMS

Glossary of Terms

GLOSSARY OF TERMS

Actuarial Accrued Liability – The Actuarial Present Value of future benefits based on Members' service rendered to the Measurement Date using the selected Actuarial Cost Method. It is that portion of the Actuarial Present Value of Plan benefits and expenses allocated to prior years of employment. It is not provided for by future Normal Costs.

Actuarial Cost Method – The method used to allocate the projected obligations of the Plan over the working lifetimes of the Plan Members.

Actuarial Value of Assets – The value of the assets used in the determination of the Unfunded Actuarial Accrued Liability. The Actuarial Value of Assets is related to the Fair Value of Assets, with adjustments made to spread unanticipated gains and losses for a given year over a period of several years. Actuarial Value of Assets is generally equally likely to fall above or below the Fair Value of Assets, and generally does not experience as much volatility over time as the Fair Value of Assets.

Asset Valuation Method **–** A valuation method designed to smooth random fluctuations in asset values. The objective underlying the use of an Asset Valuation Method is to provide for the long-term stability of Employer Contributions.

Funding Policy – A set of procedures for a Pension Fund that outlines the "best practices" for funding the pension benefits based on the goals of the Plan Sponsor. A Funding Policy discusses items such as assumptions, Actuarial Cost Method, assets, and other parameters that will best help the Plan Sponsor meet their goal of working in the best interest of the Plan Members.

Fair Value of Assets – The value of the cash, bonds, securities, and other assets held in the pension trust as of the Measurement Date.

Normal Cost – The present value of future benefits earned by Members during the current Fiscal Year. It is that portion of the Actuarial Present Value of benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

Unfunded Actuarial Accrued Liability **–** The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The Unfunded Actuarial Accrued Liability is amortized over a period either in level dollar amounts or as a level percentage of projected payroll.

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CERTIFIED PUBLIC ACCOUNTANTS

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LAKE IN THE HILLS POLICE PENSION FUND

GASB 67/68 ACTUARIAL VALUATION AS OF JANUARY 1, 2023

FOR THE DECEMBER 31, 2023 FINANCIAL STATEMENT REPORTING

668 N. River Road
Naperville, IL 60563
Phone: 630.393.1483
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GASB Statements 67 and 68 Actuarial Disclosures

Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

GASB 67: LAKE IN THE HILLS POLICE PENSION FUND

Fiscal Year Ending: December 31, 2023
Actuarial Valuation Date: January 1, 2023
Data Date: December 31, 2022
Measurement Date: December 31, 2023

GASB 68: VILLAGE OF LAKE IN THE HILLS, ILLINOIS

Fiscal Year Ending: December 31, 2023
Actuarial Valuation Date: January 1, 2023
Data Date: December 31, 2022
Measurement Date: December 31, 2023

Contact:

Todd A. Schroeder
Partner
June 17, 2024

LAUTERBACH & AMEN, LLP

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ACTUARIAL CERTIFICATION

This certification provides supplemental information as required by the Governmental Accounting Standards Board. The enclosed schedules were prepared by the undersigned to assist in the preparation of the Annual Financial Report. The assumptions and methods used in the preparation of this report meet the parameters set for the disclosures presented in the financial section as required by the Governmental Accounting Standards Board. Additional information is provided solely to assist the auditors in the preparation of the required footnote disclosures.

The results in this report are based on the demographic data and financial information submitted by the Village of Lake in the Hills, Illinois, and may include results from the prior Actuary. We did not prepare the Actuarial Valuations for the years prior to January 1, 2016. If applicable, those valuations were prepared by the prior Actuary whose reports have been furnished to us, and our disclosures are based on those reports. An audit of the prior Actuary's results was not performed, but high-level reviews were completed for general reasonableness, as appropriate, based on the purpose of this valuation. The accuracy of the results is dependent on the precision and completeness of the underlying information.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The Village of Lake in the Hills, Illinois selected certain assumptions, while others were the result of guidance and/or judgment from the Plan's Actuary or Advisors. We believe that the assumptions used in this valuation are reasonable and appropriate for the purposes for which they have been used.

In preparing the results, our Actuaries used commercially available software (ProVal) developed by Winklevoss Technologies, LLC. This software is widely used for the purpose of performing Actuarial Valuations. Our Actuaries coded the plan provisions, assumptions, methods, and demographic data summarized in this report, and reviewed the liability and cost outputs for reasonableness. We are not aware of any material weaknesses or limitations in the software, and have determined it is appropriate for performing this valuation.

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To the best of our knowledge, all calculations are in accordance with the applicable accounting requirements, while the procedures followed and presentation of results conform to generally accepted actuarial principles and practices. The undersigned consultants of Lauterbach & Amen, LLP, with actuarial credentials, meet the Qualification Standards of the American Academy of Actuaries to render this Actuarial Certification. There is no relationship between the Lake in the Hills Police Pension Fund or the Village of Lake in the Hills, Illinois and Lauterbach & Amen, LLP that impairs our objectivity.

Respectfully Submitted,

LAUTERBACH & AMEN, LLP

Todd A. Schroeder

Todd A. Schroeder, ASA, FCA, EA, MAAA

Robert L. Rietz, Jr., FCA, EA, MAAA

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PLAN FIDUCIARY NET POSITION

Statement of Plan Fiduciary Net Position
Statement of Changes in Plan Fiduciary Net Position

STATEMENT OF PLAN FIDUCIARY NET POSITION

	12/31/2022	12/31/2023
Assets		
Cash and Cash Equivalents	$ 2,662,786	$ 702,776
Total Cash	2,662,786	702,776
Receivables:		
Other	1,526	2,318
Total Receivables	1,526	2,318
Investments:		
Pooled Investment Accounts	41,274,127	48,367,393
Total Investments	41,274,127	48,367,393
Total Assets	43,938,439	49,072,487
Liabilities		
Payables:		
Expenses Due/Unpaid	6,794	13,668
Total Liabilities	6,794	13,668
Plan Fiduciary Net Position	$ 43,931,645	$ 49,058,819

The Plan Fiduciary Net Position shown above is intended to be in accordance with GAAP and the Governmental Accounting Standards Board. The Fair Value of Investments has been provided by the reporting entity, and the results are being audited by an independent auditor. The level of the assets has been reviewed for reasonableness, but we make no representation as to the accuracy of the measurement of the Fair Value of Investments. The Statement of Plan Fiduciary Net Position for 2023 is based on audited financials.

STATEMENT OF CHANGES IN PLAN FIDUCIARY NET POSITION

		12/31/2023
Additions		
Contributions		
Employer	$	732,300
Members		407,499
Total Contributions		1,139,799
Investment Income		
Net Appreciation in Fair Value of Investments		5,456,001
Interest and Dividends		345,300
Less Investment Expense		(65,643)
Net Investment Income		5,735,658
Total Additions		6,875,457
Deductions		
Benefit Payments and Refunds of Member Contributions		1,670,812
Administrative Expense		77,471
Total Deductions		1,748,283
Net Increase in Net Position		5,127,174
Plan Fiduciary Net Position		
Beginning of Year		43,931,645
End of Year	$	49,058,819

The changes in Plan Fiduciary Net Position shown above are intended to be in accordance with GAAP and the Governmental Accounting Standards Board. The Plan activity has been provided by the reporting entity, and the results are being audited by an independent auditor. The cash flows have been reviewed for reasonableness, but we make no representation as to the accuracy of the measurement of the Fair Value of Investments. The Statement of Changes in Plan Fiduciary Net Position for 2023 is based on audited financials.

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ACTUARIAL PENSION LIABILITY INFORMATION

Statement of Total Pension Liability
Statement of Changes in Total Pension Liability
Statement of Changes in Net Pension Liability
Deferred Outflows and Inflows of Resources
Deferred Outflows and Inflows of Resources – Detail
Pension Expense Development

STATEMENT OF TOTAL PENSION LIABILITY

	12/31/2022	12/31/2023
Active Members	$ 23,453,306	$ 22,609,683
Inactive Members		
Terminated Members	1,381,829	1,475,475
Retired Members	17,307,515	21,871,556
Disabled Members	6,608,252	6,678,111
Other Beneficiaries	-	-
Total Inactive Members	25,297,596	30,025,142
Total Pension Liability	$ 48,750,902	$ 52,634,825

The Total Pension Liability ("TPL") shown above is dependent on several factors such as Plan Provisions and Actuarial Assumptions used in this report. In addition, the calculation of the TPL may be dependent on the Plan Fiduciary Net Position shown in the prior section of this report. Changes in the Plan Fiduciary Net Position due to any factor, including adjustments on final audit, could change the TPL. The dependence of the TPL on the Plan Fiduciary Net Position is due to the role of the Plan Fiduciary Net Position (and the Plan's Projected Fiduciary Net Position) on the determination of the Discount Rate used for the TPL.

The TPL has been determined for GASB 67/68 reporting purposes only. The resulting TPL is intended to be used in the financial statement reporting of the Plan and/or Employer. The resulting liability is not intended to be a representation of the Plan liability for other purposes, including but not limited to, determination of cash funding requirements and recommendations. The TPL is based on data as of the *Actuarial Valuation - Data Date* shown in this report. The TPL has been determined as of the Actuarial Valuation Date and based on the assumptions used in this report, and adjusted to the Measurement Date as needed.

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STATEMENT OF CHANGES IN TOTAL PENSION LIABILITY

		12/31/2023
Changes in Total Pension Liability		
Service Cost	$	1,151,525
Interest		3,308,154
Changes of Benefit Terms*		-
Differences Between Expected and Actual Experience		1,095,056
Change in Assumptions		-
Benefit Payments and Refunds		(1,670,812)
Net Change in Total Pension Liability		3,883,923
Total Pension Liability - Beginning		48,750,902
Total Pension Liability - Ending (a)	$	52,634,825
Plan Fiduciary Net Position - Ending (b)	$	49,058,819
Employer's Net Pension Liability - Ending (a) - (b)	$	3,576,006
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability		93.21%
Covered-Employee Payroll	$	4,111,986
Employer's Net Pension Liability as a Percentage of Covered-Employee Payroll		86.97%

The Plan Fiduciary Net Position was detailed in the prior section of this report. The Employer's Net Pension Liability is the excess of the Total Pension Liability over the Plan Fiduciary Net Position.

Total Pension Liability may be dependent on the Plan Fiduciary Net Position. Changes in the Plan Fiduciary Net Position could change the determination of the Total Pension Liability. Any changes in the Plan Fiduciary Net Position, including adjustments on final audit, can have an impact on the Employer's Net Pension Liability that extends beyond the dollar-for-dollar change in the Plan Fiduciary Net Position.

Covered-Employee Payroll is based on the Covered-Employee Payroll for the Plan Members during the Fiscal Year.

A key demographic risk is mortality improvement differing from expected. While the actuarial assumptions reflect small, continuous improvements in mortality experience and these assumptions are refined upon the completion of each actuarial experience study, the risk arises because there is a possibility of a sudden shift in mortality experience. This report reflects the impact of COVID-19 experience that has been accounted for in the underlying demographic data. This report does not reflect the ongoing impact of COVID-19, which is likely to influence demographic and economic experience, at least in the short-term. We will continue to monitor these developments and their impact on the Plan. Actual future experience will be reflected in each subsequent Actuarial Valuation, as experience emerges.

*Public Act 102-0811 passed on May 13, 2022 and is effective as of January 1, 2023 for Article 3 Pension Funds. The Act establishes that a surviving spouse of a deceased police retiree may be eligible for a survivor's pension of up to 15 years of benefit payments if (a) the surviving spouse has attained age 62 and (b) if the police officer was married to the surviving spouse after retirement, and for at least 5 years prior to the officer's death. Previously, there was no survivor's pension for spouses married after retirement. In our opinion, under a prudent interpretation of the provisions, we believe the impact to be de minimis. The legal community has suggested some uncertainty about multiple provisions contained in the Act, and the IDOI Public Pension Division has not provided an interpretation. The client has not made an administrative interpretation as to how the provisions of the Act will impact future surviving spouses. Due to the uncertainty around the interpretation and the expected *de minimis* impact, we have not valued this contingency separately. If a spouse is granted a pension by the Board under this provision, we will value the liability of the benefit granted, and revisit valuing the contingency of the benefit being granted in the future.

STATEMENT OF CHANGES IN NET PENSION LIABILITY

The table below illustrates the changes in Net Pension Liability ("NPL") from the prior Measurement Date to the current Measurement Date. Under Statement 68, the difference between the NPL from the prior Measurement Date to the current Measurement Date should be recognized as a component of Pension Expense, unless permitted to be recognized as a Deferred Outflow or Inflow of Resources.

	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances Beginning at 1/1/2023	$ 48,750,902	$ 43,931,645	$ 4,819,257
Changes for the Year:			
Service Cost	1,151,525	-	1,151,525
Interest	3,308,154	-	3,308,154
Actuarial Experience	1,095,056	-	1,095,056
Change in Assumptions	-	-	-
Changes of Benefit Terms	-	-	-
Contributions - Employer	-	732,300	(732,300)
Contributions - Members	-	407,499	(407,499)
Contributions - Other	-	-	-
Net Investment Income	-	5,735,658	(5,735,658)
Benefit Payments and Refunds	(1,670,812)	(1,670,812)	-
Administrative Expense	-	(77,471)	77,471
Net Changes	$ 3,883,923	$ 5,127,174	$ (1,243,251)
Balances Ending at 12/31/2023	$ 52,634,825	$ 49,058,819	$ 3,576,006

The changes in Total Pension Liability shown above are described in the *Statement of Changes in Total Pension Liability* section of this report. The Plan Fiduciary Net Position was detailed in the prior section of this report. The Employer's Net Pension Liability is the excess of the Total Pension Liability over the Plan Fiduciary Net Position.

DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES

The table below shows the cumulative amounts to be shown as Deferred Outflows and Inflows of Resources. Changes in Total Pension Liability related to the differences between expected and actual experience, or changes in assumptions regarding future events, are recognized in Pension Expense over the average future working career of all Members (active and inactive) in the Pension Plan. The net difference in projected and actual earnings on Pension Plan investments over the measurement period are recognized over a 5-year period. Amounts not yet recognized are summarized below:

	Deferred Outflows of Resources	Deferred Inflows of Resources	Total Deferred Amounts
Differences Between Expected and Actual Experience	$ 1,707,997	$ (2,023,420)	$ (315,423)
Change in Assumptions	195,723	(191,880)	3,843
Net Difference Between Projected and Actual Earnings on Pension Plan Investments	5,792,088	(3,670,148)	2,121,940
Contributions Subsequent to the Measurement Date*	-	-	-
Total	$ 7,695,808	$ (5,885,448)	$ 1,810,360

*Contributions Subsequent to the Measurement Date may be recognized as a reduction to the Net Pension Liability. The amount is not known as of the date of this report. Subsequent to the Measurement Date, the following amounts will be recognized in Pension Expense in the upcoming years:

Year Ended December 31:	
2024	$ 184,347
2025	636,609
2026	1,181,295
2027	(648,359)
2028	237,773
Thereafter	$ 218,695

DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES – DETAIL

The table below shows the annual detail amounts that have been summarized on the prior page. Under Statement 68, the level of detail shown on the prior page is sufficient for financial statement reporting. The detail shown below is primarily for tracking purposes.

Pension Expense Source	Date Established	Initial Period	Initial Balance	Remaining Period	12/31/2023 Expense Recognized	12/31/2023 Deferred Balance
Asset Gain	12/31/2023	5.00	$ (2,790,808)	5.00	$ (558,162)	$ (2,232,646)
Actuarial Loss	12/31/2023	7.33	1,095,056	7.33	149,394	945,662
Asset Loss	12/31/2022	5.00	9,653,480	4.00	1,930,696	5,792,088
Actuarial Loss	12/31/2022	7.15	953,572	6.15	133,367	686,838
Asset Gain	12/31/2021	5.00	(2,547,339)	3.00	(509,468)	(1,018,935)
Actuarial Gain	12/31/2021	7.22	(1,476,642)	5.22	(204,522)	(863,076)
Asset Gain	12/31/2020	5.00	(2,092,851)	2.00	(418,571)	(418,567)
Change in Assumptions Gain	12/31/2020	7.69	(308,204)	4.69	(40,079)	(147,888)
Actuarial Gain	12/31/2020	7.69	(2,070,960)	4.69	(269,306)	(993,736)
Asset Gain	12/31/2019	5.00	(3,688,221)	1.00	(737,641)	-
Change in Assumptions Loss	12/31/2019	8.66	463,113	4.66	53,478	195,723
Actuarial Loss	12/31/2019	8.66	127,910	4.66	14,771	54,055
Actuarial Gain	12/31/2018	8.41	(581,406)	3.41	(69,133)	(166,608)
Actuarial Loss	12/31/2017	8.43	109,340	2.43	12,971	18,543
Change in Assumptions Gain	12/31/2016	8.43	(862,520)	1.43	(102,316)	(43,992)
Actuarial Loss	12/31/2016	8.43	56,947	1.43	6,756	2,899
Change in Assumptions Loss	12/31/2015	8.70	709,325	0.70	57,069	-
Actuarial Gain	12/31/2015	8.70	(965,189)	0.70	(77,653)	-
Total			$ (4,215,397)		$ (628,349)	$ 1,810,360

Each detail amount shown above was established as of the Fiscal Year End shown and the full amount deferred has been determined as of that time. Any events that occur in subsequent Fiscal Years do not have an impact on the prior Fiscal Year. The bases are established independently each year.

Pension Expense Development

The table below displays the Pension Expense development for the current year. The Pension Expense includes items that change the Net Pension Liability from one year to the next, netted out for amounts that are deferred under GASB pronouncement, plus any amounts that are being recognized that were deferred previously.

See below for the Pension Expense development:

		12/31/2023
Pension Expense/(Income) Under GASB 68		
Service Cost	$	1,151,525
Interest		3,308,154
Changes of Benefit Terms		-
Contributions - Members		(407,499)
Contributions - Other		-
Expected Investment Income		(2,944,850)
Administrative Expense		77,471
Other Changes		-
Initial Pension Expense/(Income)	$	1,184,801
Recognition of Outflow/(Inflow) of Resources Due to Liabilities		(335,203)
Recognition of Outflow/(Inflow) of Resources Due to Assets		(293,146)
Total Pension Expense/(Income)	**$**	**556,452**

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ACTUARIAL ASSUMPTIONS INFORMATION

Statement of Significant Actuarial Assumptions

Actuarial Assumptions (Economic)

Discount Rate Used for the Total Pension Liability	6.75%
Expected Rate of Return on Investments	6.75%
High-Quality 20 Year Tax-Exempt G.O. Bond Rate	3.26%
Projected Individual Pay Increases	3.75% - 10.77%
Projected Total Payroll Increases	3.25%
Consumer Price Index (Urban)	2.25%
Inflation Rate	2.25%

See the *Actuarial Assumptions (Demographic)* section of this report for further details on Demographic Assumptions.

The Actuarial Assumptions (Economic) rates shown above are assumed to be annual rates, compounded on an annual basis. For more information on the selection of the actuarial assumptions, please see the Actuarial Assumption Summary document prepared for the Plan, available upon request.

Assumption Changes

The assumptions were changed from the prior year.

The High-Quality 20 Year Tax-Exempt General Obligation ("G.O.") Bond Rate assumption was changed from 3.72% to 3.26% for the current year. The underlying index used is The Bond Buyer 20-Bond G.O. Index as discussed in more detail later in this section. The choice of Index is unchanged from the prior year. The rate has been updated to the current Fiscal Year End based on changes in market conditions as reflected in the Index. The change was made to reflect our understanding of the requirements of GASB under Statement 67 and Statement 68.

The Discount Rate used in the determination of the Total Pension Liability remained constant at 6.75%. The Discount Rate is impacted by a couple of metrics. Any change in the underlying High-Quality 20 Year Tax Exempt G.O. Bond Rate will impact the blended Discount Rate.

The assumption changes stated above were made to better reflect the future anticipated experience of the Plan.

In addition, there are changes that can be made that impact the projection of the Plan Fiduciary Net Position. For example, changes in the Formal or Informal Funding Policy can impact the Discount Rate. Actual changes in the Plan Fiduciary Net Position from one year to the next can impact the projections as well.

ACTUARIAL ASSUMPTIONS (DEMOGRAPHIC)

Projected Individual Pay Increases*

Projected individual pay increases include a long-term average increase for inflation, average annual increases for promotions, and any additional increases for a step program. Sample rates are as follows:

Service	Rate	Service	Rate
0	10.77%	8	3.75%
1	10.10%	9	3.75%
2	9.53%	10	3.75%
3	9.04%	15	3.75%
4	8.61%	20	3.75%
5	8.23%	25	3.75%
6	7.89%	30	3.75%
7	7.59%	35	3.75%

* Projected individual pay increases for active Members hired at age 40 or older are assumed annual increases at the ultimate rate reduced by 50 basis points, without adjustments in early service years.

Retirement Rates

100% of the L&A Assumption Study for Police 2020 Cap Age 65. Sample rates are as follows:

Age	Rate	Age	Rate
50	11.00%	58	16.25%
51	11.55%	59	16.25%
52	12.13%	60	16.25%
53	12.73%	61	16.25%
54	13.37%	62	18.00%
55	14.04%	63	20.00%
56	14.74%	64	20.00%
57	15.48%	65	100.00%

Termination Rates

100% of the L&A Assumption Study for Police 2020. Sample rates are as follows:

Age	Rate	Age	Rate
25	8.00%	40	2.17%
30	3.40%	45	1.56%
35	2.79%	50	0.46%

Disability Rates

100% of the L&A Assumption Study for Police 2020. Sample rates are as follows:

Age	Rate	Age	Rate
25	0.00%	40	0.38%
30	0.06%	45	0.53%
35	0.18%	50	0.48%

65% of active Members who become disabled are assumed to be in the Line of Duty.

Mortality Rates

Active Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

50% of active Member deaths are assumed to be in the Line of Duty.

Retiree Mortality follows the L&A Assumption Study for Police 2020. These rates are experience weighted with the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study improved to 2017 using MP-2019 Improvement Rates. These rates are then improved fully generationally using MP-2019 Improvement Rates.

Disabled Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010 Study for disabled participants. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

Mortality Rates (Continued)

Spouse Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study for contingent survivors. For all rates not provided there (ages 45 and younger) the PubG-2010 Study for general employees was used. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

Marital Assumptions

Active Members: 80% of active Members are assumed to be married. Female spouses are assumed to be 3 years younger than male spouses.

Retiree and Disabled Members: Actual spousal data was utilized for retiree and disabled Members.

POSTEMPLOYMENT BENEFIT CHANGES

Eligibility for postemployment benefit increases is determined based on the Illinois Pension Code. Tier I Police retirees are provided with an annual increase of 3.00% of the current retirement benefits by statute when eligible. Tier II Police retirees are provided postemployment benefit increases based on the lesser of 3.00% of the original retirement benefits or one-half of the Consumer Price Index (Urban) for the prior September.

The CPI-U for September 1993 was 145.10. The CPI-U for September 2023 was 307.79. The average increase in the CPI-U for September 1993 through September 2023 was 2.54% (on a compounded basis).

EXPECTED RETURN ON PENSION PLAN INVESTMENTS

The Long-Term Expected Rate of Return is intended to represent the best estimate of future real rates of return and is shown for each of the major asset classes in the investment policy.

The target asset allocations shown below are representative expectations as disclosed in the Illinois Police Officers' Pension Investment Fund Actuarial Experience Study, dated March 4, 2022, for plan funding purposes. The table below illustrates the best estimate of Long-Term Expected Rates of Return developed for each of the major asset classes, adjusted for expected inflation, as disclosed in the Horizon Actuarial Services Survey of Capital Market Assumptions 2021 Edition, dated August 2021.

There are multiple approaches seen to providing these rates. Typically, the information is either based on capital market projections, or historical rates seen for the asset classes. We do not provide an opinion on the reasonableness of the returns provided nor the reasonableness of the approach used in the determination of the rates provided. The information provided is shown below for convenience.

The rates provided in the table below are based on a geometric average. The Investment Policy Statement will provide more detail regarding the Fund's policies on asset allocation targets and acceptable ranges.

Asset Class	Long-Term Expected Rate of Return	Long-Term Inflation Expectation	Long-Term Expected Real Rate of Return	Target Allocation
US Large	6.65%	2.50%	4.15%	23.00%
US Small	7.04%	2.50%	4.54%	5.00%
International Developed	7.14%	2.50%	4.64%	18.00%
International Developed Small	2.25%	2.50%	-0.25%	5.00%
Emerging Markets	7.81%	2.50%	5.31%	7.00%
Private Equity (Direct)	9.65%	2.50%	7.15%	7.00%
Bank Loans	4.98%	2.50%	2.48%	3.00%
High Yield Corp. Credit	4.98%	2.50%	2.48%	3.00%
Emerging Market Debt	5.32%	2.50%	2.82%	3.00%
Private Credit	6.87%	2.50%	4.37%	5.00%
US TIPS	2.38%	2.50%	-0.12%	3.00%
Real Estate/Infrastructure	6.50%	2.50%	4.00%	8.00%
Cash	2.23%	2.50%	-0.27%	1.00%
Short-Term Gov't/Credit	3.23%	2.50%	0.73%	3.00%
US Treasury	1.90%	2.50%	-0.60%	3.00%
Core Plus Fixed Income	3.23%	2.50%	0.73%	3.00%

Long-Term Expected Real Rates of Return under GASB are expected to reflect the period of time that begins when a Plan Member begins to provide service to the employer and ends at the point when all benefits to the Plan Member have been paid. The rates provided above are intended to estimate those figures.

The Long-Term Inflation Expectation is 2.50% and is included in the Long-Term Expected Rates of Return. The Long-Term Inflation Expectation is from the same source as the Long-Term Expected Real Rates of Return, and is not necessarily reflective of the inflation measures used for other purposes in the report.

Geometric rates of return are equal to arithmetic rates of return when the annual returns exhibit no volatility over time. When arithmetic returns are volatile on a year-to-year basis, the actual realized geometric returns over time will be lower. Higher volatility results in a greater difference.

For additional discussion regarding the Expected Return on Pension Plan Investments, please reference the Actuarial Funding Report. There are additional disclosures regarding reasonableness and market observations included in that report.

MUNICIPAL BOND RATE

The Municipal Bond Rate assumption is based on the Bond Buyer 20-Bond G.O. Index. The rate shown earlier in this section of the report is the December 28, 2023 rate. The 20-Bond G.O. Index is based on an average of certain general obligation municipal bonds maturing in 20 years and having an average rating equivalent of Moody's Aa2 and Standard & Poor's AA.

The indices represent theoretical yields rather than actual price or yield quotations. Municipal bond traders are asked to estimate what a current-coupon bond for each issuer in the indices would yield if the bond was sold at par value. The indices are simple averages of the average estimated yields of the bonds.

DISCOUNT RATE

The Discount Rate used in the determination of the Total Pension Liability is based on a combination of the Expected Rate of Return on Plan Investments and the Municipal Bond Rate.

Cash flow projections were used to determine the extent to which the Plan’s Projected Fiduciary Net Position will be able to cover Projected Benefit Payments. To the extent that Projected Benefit Payments are covered by the Plan’s Projected Fiduciary Net Position, the Expected Rate of Return on Plan Investments is used to determine the portion of the Net Pension Liability associated with those payments. To the extent that Projected Benefit Payments are not covered by the Plan’s Projected Fiduciary Net Position, the Municipal Bond Rate is used to determine the portion of the Net Pension Liability associated with those payments.

Projected benefit payments are determined during the actuarial process based on the assumptions. More details on the assumptions are earlier in this section of the report. The expected contributions are based on the Funding Policy of the Plan. The Funding Policy is discussed in more detail in the *Funding Policy* section of this report.

DISCOUNT RATE SENSITIVITY

The Employer's Net Pension Liability has been determined using the Discount Rate listed earlier in this section of the report. Below is a table illustrating the sensitivity of the Employer's Net Pension Liability to the Discount Rate assumption.

	1% Decrease (5.75%)	Current Discount Rate (6.75%)	1% Increase (7.75%)
Employer's Net Pension Liability	$12,044,760	$3,576,006	($3,250,687)

The sensitivity of the Employer's Net Pension Liability to the Discount Rate is based primarily on two factors:

1. The duration of the Plan's Projected Benefit Payments. Younger Plans with benefit payments further in the future will be more sensitive to changes in the Discount Rate.

2. The Percent Funded of the Plan (ratio of the Plan Fiduciary Net Position to the Total Pension Liability). The higher the Percent Funded, the higher the sensitivity to the Discount Rate.

ASSESSMENT AND USE OF ACTUARIAL MODELS

Actuarial Valuations rely upon the use of actuarial modeling software to predict the occurrence of future events, which include specific demographic and financial potential outcomes. Actuarial assumptions are established to provide a guideline to use for such modeling.

- The model used in this Actuarial Valuation is intended to determine the Recommended Contribution, under the selected Funding Policy, to assist in the preparation of the Annual Financial Report. The actuarial assumptions used were developed with this goal in mind.
- There are no known material limitations or inconsistencies among the actuarial assumptions or methods.
- The output from the model is reasonable based on the individual actuarial assumptions and based on the actuarial assumptions in the aggregate.
- The actuarial software used to calculate plan liabilities has been purchased from an outside vendor. We have performed thorough testing of the software, including review of sample participants, to ensure the intended purpose of the model, the operation of the model, sensitivities and dependencies, and strengths and limitations of the model are sufficient for this purpose.
- Demographic data and financial information have been provided by client professionals, financial advisors, and/or auditors, who are known to be experts in their respective fields. We rely on the fact that the information provided by these experts has been given for the intended purpose of this Actuarial Valuation.
- Where applicable, certain actuarial assumptions and Funding Policy may be required as prescribed by law. In such instances, we have followed legal guidance to ensure conformity.
- The Expected Rate of Return on Investments assumption has been chosen using input from several sources; including, but not limited to: client professionals, financial advisors, auditors, and other capital market outlooks. We have relied on the information provided, in the aggregate, to settle on the selected Expected Rate of Return on Investments assumption.

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PARTICIPANT DATA

Participant Demographic Data & Average Future Working Career

PARTICIPANT DEMOGRAPHIC DATA & AVERAGE FUTURE WORKING CAREER

The chart below summarizes the Member count, payroll, and average future working career as of:

Actuarial Valuation - Data Date	**12/31/2021**	**12/31/2022**
Fiscal Year End for Reporting	**(FYE 12/31/2022)**	**(FYE 12/31/2023)**
Inactive Plan Members or Beneficiaries Currently Receiving Benefits	21	24
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	4	5
Active Plan Members	40	42
Total	65	71
Payroll of Active Plan Members	$ 4,075,492	$ 4,308,701
Average Future Working Career (In Years)		
Active Plan Members	11.62	12.39
Inactive Plan Members	0.00	0.00
Total	7.15	7.33

Member counts shown above are as of the Actuarial Valuation Date for the two most recent Fiscal Years. Payroll of Active Plan Members is the pensionable salary for active Plan Members as of the Actuarial Valuation – Data Date. For the Fiscal Year Ending December 31, 2023, a beginning of year Actuarial Valuation Date was used along with a rollforward of liabilities to the end of the Fiscal Year based on assumptions and standard rollforward techniques.

The average future working career is measured as of the Actuarial Valuation Date and is based on the demographic assumptions used in the preparation of this report.

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FUNDING POLICY

Components of the Actuarially Determined Contribution
Formal Funding Policy
Informal Funding Policy
Funding Policy – Other Considerations

COMPONENTS OF THE ACTUARIALLY DETERMINED CONTRIBUTION

The Actuarially Determined Contribution (“ADC”) includes the determination of the Normal Cost Contribution for active Plan Members, as well as a provision for the payment towards Unfunded Liability.

The actuarial funding method used in the determination of the Normal Cost and the Actuarial Accrued Liability is the Entry Age Normal Cost Method (level percent of pay). The method allocates Normal Cost Contributions by Members over the working career of the Member as a level percent of pay.

Unfunded Liability is the excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The Actuarially Determined Contribution includes a payment towards Unfunded Liability existing at the Actuarial Valuation Date. The payment towards Unfunded Liability is set up as a level percent of payroll payment that is expected to increase during the payment period. The current Employer Contributions are being compared to the Actuarially Determined Contribution as developed in the January 1, 2022 Actuarial Valuation. The equivalent single amortization period as of that valuation is 10.26 years. The period of repayment as of that valuation is based on a layered amortization with new sources of Unfunded Liability paid off over 15 years.

The Actuarial Value of Assets smooths gains and losses on the Fair Value of Assets over a 5-year period.

Under no circumstances will the Actuarially Determined Contribution be less than the amount determined as the Statutory Minimum Contribution under Illinois State Statutes.

FORMAL FUNDING POLICY

There is no Formal Funding Policy that exists between the Pension Board and the Village at this time.

INFORMAL FUNDING POLICY

In determining the most appropriate Informal Funding Policy, GASB provides the following guidance in the Statement:

> *Application of professional judgment should consider the most recent five-year contribution history of the employers and nonemployer contributing entities as a key indicator of future contributions from those sources and should reflect all other known events and conditions.… the amount of projected cash flows for contributions from employers and nonemployer contributing entities should be limited to an average of contributions from those sources over the most recent five-year period and may be modified based on consideration of subsequent events. For this purpose, the basis for the average (for example, percentage of covered payroll contributed or percentage of Actuarially Determined Contributions made) should be a matter of professional judgment.*

In our review of the Informal Funding Policy, the following factors are considered and described herein:

1. Five-Year Contribution History of the Employer (with a focus on the average contributions from those sources)

2. Other Known Events and Conditions

3. Consideration of Subsequent Events

Five-Year Contribution History of the Employer

Employer Contributions (under the Informal Funding Policy) should be limited to the average over the most recent five years. In determining the basis for the average, we reviewed three possibilities: (a) the average dollar contribution; (b) the average percent of pensionable pay; and (c) the average percent of the Actuarially Determined Contribution. Please see the table below for a summary of these values:

Fiscal Year End	Employer Contributions	Most Applicable ADC	% of ADC	Covered-Employee Payroll	% of Payroll
12/31/2023	$732,300	$1,256,791	58.27%	$4,111,986	17.81%
12/31/2022	$1,435,332	$1,435,317	100.00%	$4,001,969	35.87%
12/31/2021	$1,645,039	$1,634,382	100.65%	$3,914,759	42.02%
12/31/2020	$1,484,407	$1,498,027	99.09%	$3,945,289	37.62%
12/31/2019	$1,370,263	$1,372,114	99.87%	$3,276,121	41.83%

When compared to the other policies reviewed, history suggests that a contribution as a percent of the Actuarially Determined Contribution is the least volatile, and as a result, the most stable contribution method under an Informal Funding Policy.

Other Known Events and Conditions

GASB has a provision for consideration of any other known events or conditions in the most recent five-year history in applying judgement for the Informal Funding Policy. For the Fiscal Year End December 31, 2022, there was an additional $4,613,070 in Employer Contributions, which were treated as one-time contributions, and therefore, are not included in the determination of the Informal Funding Policy.

Consideration of Subsequent Events

GASB has a provision for modification based on consideration of subsequent events in the development of the Informal Funding Policy. There are no subsequent events that have been considered in the development of the Informal Funding Policy.

Informal Funding Policy – Selected
The Informal Funding Policy that has been determined for future contributions is 91.58% of the Actuarially Determined Contribution. This represents the full future contributions expected to be made.

FUNDING POLICY – OTHER CONSIDERATIONS

Under GASB, the future contribution amount is not intended to include dollars contributed on behalf of future employees. Contributions are only intended to cover contributions towards the Normal Cost of current employees as of the Actuarial Valuation Date as well as payment of Unfunded Liability on behalf of the current employees. Contributions under the Funding Policy have been adjusted as necessary to exclude dollars that would be anticipated to be contributed on behalf of future employees hired after the Actuarial Valuation Date.

The contribution level may not pay off the Unfunded Liability during the active working career of current employees. In that case, contributions will persist beyond the working career of current employees. To the extent that a portion of the above total contribution is anticipated to pay contributions for the Normal Cost of future employees, the amount has been netted out. The remaining amount is anticipated to be paid towards the Unfunded Liability existing for current employees.

The Actuarially Determined Contribution is determined annually based on the parameters previously discussed. The funding methods and procedures are assumed to continue into the future. If applicable, the tax levy in the next December is assumed to be the Actuarially Determined Contribution. Funding is assumed to go into the Plan during the next full Fiscal Year.

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION

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SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY

	12/31/2023	12/31/2022	12/31/2021	12/31/2020	12/31/2019	12/31/2018	12/31/2017	12/31/2016	12/31/2015	12/31/2014
Total Pension Liability										
Service Cost	$ 1,151,525	$ 1,134,941	$ 1,126,128	$ 1,089,035	$ 1,017,162	$ 973,114	$ 989,863	$ 927,272	$ 819,172	$ 914,462
Interest	3,308,154	3,057,382	2,820,349	2,743,686	2,677,085	2,551,157	2,385,137	2,290,894	2,166,890	1,972,342
Changes of Benefit Terms	-	(21,581)	-	-	171,924	-	-	-	-	-
Differences Between Expected and Actual Experience	1,095,056	953,572	(1,476,642)	(2,070,960)	127,910	(581,406)	109,340	56,947	(965,189)	723,430
Change in Assumptions	-	-	-	(308,204)	463,113	-	-	(862,520)	709,325	1,077,358
Benefit Payments and Refunds	(1,670,812)	(1,489,933)	(1,245,771)	(1,111,062)	(1,135,494)	(1,019,055)	(1,030,489)	(1,002,314)	(783,911)	(739,738)
Net Change in Total Pension Liability	$ 3,883,923	$ 3,634,381	$ 1,224,064	$ 342,495	$ 3,321,700	$ 1,923,810	$ 2,453,851	$ 1,410,279	$ 1,946,288	$ 3,947,854
Total Pension Liability - Beginning	48,750,902	45,116,521	43,892,457	43,549,962	40,228,262	38,304,452	35,850,601	34,440,322	32,494,034	28,546,180
Total Pension Liability - Ending (a)	$ 52,634,825	$ 48,750,902	$ 45,116,521	$ 43,892,457	$ 43,549,962	$ 40,228,262	$ 38,304,452	$ 35,850,601	$ 34,440,322	$ 32,494,034
Plan Fiduciary Net Position										
Contributions - Employer	$ 732,300	$ 6,048,402	$ 1,645,039	$ 1,484,407	$ 1,370,263	$ 1,369,010	$ 1,292,435	$ 1,248,941	$ 1,066,419	$ 1,020,259
Contributions - Members	407,499	396,608	387,952	380,787	389,144	352,025	351,856	356,020	347,585	328,681
Contributions - Other	-	72,633	57,108	58,661	-	-	27,856	54,297	-	-
Net Investment Income	5,735,658	(6,422,254)	5,231,524	4,426,285	5,598,502	(1,388,420)	3,005,954	1,386,254	(83,047)	1,101,370
Benefit Payments and Refunds	(1,670,812)	(1,489,933)	(1,245,771)	(1,111,062)	(1,135,494)	(1,019,055)	(1,030,489)	(1,002,314)	(783,911)	(739,738)
Administrative Expense	(77,471)	(59,934)	(66,541)	(50,524)	(45,326)	(44,211)	(25,050)	(27,378)	(27,935)	(43,872)
Other	-	-	-	-	-	-	-	-	-	55,831
Net Change in Plan Fiduciary Net Position	$ 5,127,174	$ (1,454,478)	$ 6,009,311	$ 5,188,554	$ 6,177,089	$ (730,651)	$ 3,622,562	$ 2,015,821	$ 519,112	$ 1,722,531
Plan Fiduciary Net Position - Beginning	43,931,645	45,386,123	39,376,812	34,188,258	28,011,169	28,741,820	25,119,258	23,103,437	22,584,325	20,861,794
Plan Fiduciary Net Position - Ending (b)	$ 49,058,819	$ 43,931,645	$ 45,386,123	$ 39,376,812	$ 34,188,258	$ 28,011,169	$ 28,741,820	$ 25,119,258	$ 23,103,437	$ 22,584,325
Employer's Net Pension Liability - Ending (a) - (b)	$ 3,576,006	$ 4,819,257	$ (269,602)	$ 4,515,645	$ 9,361,704	$ 12,217,093	$ 9,562,632	$ 10,731,343	$ 11,336,885	$ 9,909,709

The current year information was developed in the completion of this report.

SCHEDULE OF TOTAL PENSION LIABILITY AND RELATED RATIOS

	12/31/2023	12/31/2022	12/31/2021	12/31/2020	12/31/2019	12/31/2018	12/31/2017	12/31/2016	12/31/2015	12/31/2014
Total Pension Liability - Ending (a)	$ 52,634,825	$ 48,750,902	$ 45,116,521	$ 43,892,457	$ 43,549,962	$ 40,228,262	$ 38,304,452	$ 35,850,601	$ 34,440,322	$ 32,494,034
Plan Fiduciary Net Position - Ending (b)	$ 49,058,819	$ 43,931,645	$ 45,386,123	$ 39,376,812	$ 34,188,258	$ 28,011,169	$ 28,741,820	$ 25,119,258	$ 23,103,437	$ 22,584,325
Employer's Net Pension Liability - Ending (a) - (b)	$ 3,576,006	$ 4,819,257	$ (269,602)	$ 4,515,645	$ 9,361,704	$ 12,217,093	$ 9,562,632	$ 10,731,343	$ 11,336,885	$ 9,909,709
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	93.21%	90.11%	100.60%	89.71%	78.50%	69.63%	75.04%	70.07%	67.08%	69.50%
Covered-Employee Payroll	$ 4,111,986	$ 4,001,969	$ 3,914,759	$ 3,945,289	$ 3,276,121	$ 3,172,999	$ 3,746,089	$ 3,628,173	$ 3,833,606	$ 3,507,517
Employer's Net Pension Liability as a Percentage of Covered-Employee Payroll	86.97%	120.42%	(6.89%)	114.46%	285.76%	385.03%	255.27%	295.78%	295.72%	282.53%

Covered-Employee Payroll shown above for the current year is based on the Covered-Employee Payroll for the Plan Members during the Fiscal Year.

SCHEDULE OF CONTRIBUTIONS

	12/31/2023	12/31/2022	12/31/2021	12/31/2020	12/31/2019	12/31/2018	12/31/2017	12/31/2016	12/31/2015	12/31/2014
Actuarially Determined Contribution	$ 1,256,791	$ 1,435,317	$ 1,634,382	$ 1,498,027	$ 1,372,114	$ 1,370,179	$ 1,293,479	$ 1,250,911	$ 1,067,861	$ 1,018,934
Contributions in Relation to the Actuarially Determined Contribution	732,300	6,048,402	1,645,039	1,484,407	1,370,263	1,369,010	1,292,435	1,248,941	1,066,419	1,020,259
Contribution Deficiency/(Excess)	$ 524,491	$ (4,613,085)	$ (10,657)	$ 13,620	$ 1,851	$ 1,169	$ 1,044	$ 1,970	$ 1,442	$ (1,325)
Covered-Employee Payroll	$ 4,111,986	$ 4,001,969	$ 3,914,759	$ 3,945,289	$ 3,276,121	$ 3,172,999	$ 3,746,089	$ 3,628,173	$ 3,833,606	$ 3,507,517
Contributions as a Percentage of Covered-Employee Payroll	17.81%	151.14%	42.02%	37.62%	41.83%	43.15%	34.50%	34.42%	27.82%	29.09%

NOTES TO SCHEDULE OF CONTRIBUTIONS

The Contributions in Relation to the Actuarially Determined Contribution shown above for the Fiscal Year Ending 12/31/2022 includes an additional $4,613,070 in Employer Contributions. The Actuarially Determined Contribution shown above for the current year is the Recommended Contribution from the January 1, 2022 Actuarial Valuation completed by Lauterbach & Amen, LLP for the December 2022 tax levy, if applicable. The methods and assumptions shown below are based on the same Actuarial Valuation. For more detail on the age-based and service-based rates disclosed below, please see the Actuarial Valuation.

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level % Pay (Closed)
Equivalent Single Amortization Period	100% Funded Over 10.26 Years (Layered)
Asset Valuation Method	5-Year Smoothed Fair Value
Inflation (CPI-U)	2.25%
Total Payroll Increases	3.25%
Individual Pay Increases	3.75% - 10.77%
Expected Rate of Return on Investments	6.75%
Mortality Rates	Pub-2010 Adjusted for Plan Status, Demographics, and Illinois Public Pension Data, as Described
Retirement Rates	100% of L&A 2020 Illinois Police Retirement Rates Capped at Age 65
Termination Rates	100% of L&A 2020 Illinois Police Termination Rates
Disability Rates	100% of L&A 2020 Illinois Police Disability Rates

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GASB METHODS AND PROCEDURES

GASB Methods and Procedures

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GASB Methods and Procedures

	Statement 67 Pension Plan Financials	Statement 68 Employer Financials
Fiscal Year End for Reporting	**December 31, 2023**	**December 31, 2023**
Measurement Date	December 31, 2023	December 31, 2023
Actuarial Valuation Date	January 1, 2023	January 1, 2023
Actuarial Valuation - Data Date	December 31, 2022	December 31, 2022
Asset Valuation Method	Fair Value	Fair Value
Actuarial Cost Method	Entry Age Normal (Level %)	Entry Age Normal (Level %)

Methodology Used in the Determination of Deferred Outflows and Inflows of Resources

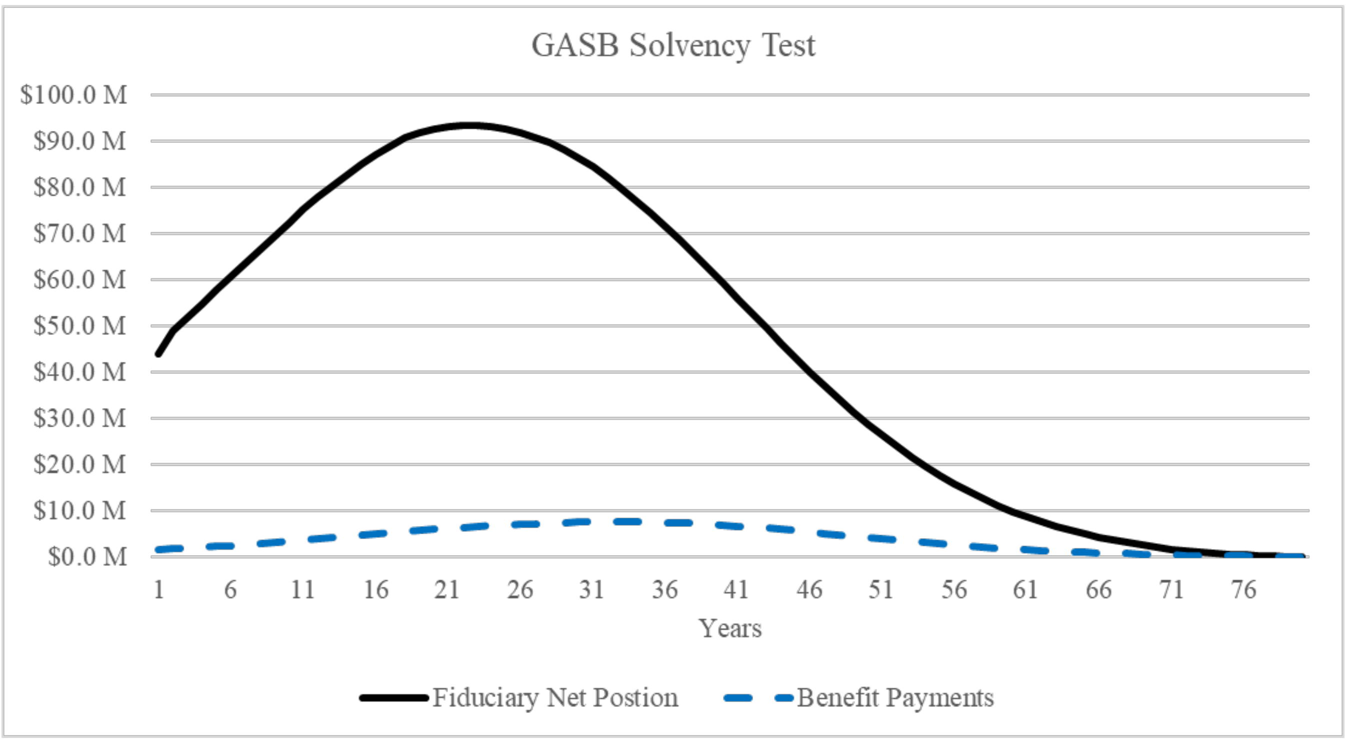
Amortization Method	Straight Line	Straight Line
Amortization Period		
Actuarial Experience	7.33 Years	7.33 Years
Change in Assumptions	7.33 Years	7.33 Years
Asset Experience	5.00 Years	5.00 Years

SUPPLEMENTARY TABLES

GASB Projections – Summary and Procedure

GASB requires a solvency test to use in the determination of the Discount Rate each year. The Plan Fiduciary Net Position is projected forward. To the extent that the Plan Fiduciary Net Position is anticipated to be greater than $0, Projected Benefit Payments are discounted based on the Expected Rate of Return on Plan Investments.

If the Plan Fiduciary Net Position is anticipated to reach $0 prior to the payment of Projected Benefit Payments for employees who are in the Plan as of the Actuarial Valuation Date, then the remaining Projected Benefit Payments are discounted using the High-Quality Municipal Bond Rate, as described in the *Actuarial Assumptions Information s*ection of this report. The chart below is a high-level summary of the projections:



The Plan's Projected Fiduciary Net Position is anticipated to cover Projected Benefit Payments in full for the current employees.

GASB PROJECTIONS – LIMITATIONS

Projections of any type require assumptions about future events. The projections required for GASB reporting are deterministic in nature. That means that values are projected forward under one set of assumptions which can be thought of as the average result. Actual results could vary, and projections of one deterministic assumption set do not necessarily provide a framework for making risk management or Funding Policy decisions. Projections that deal with risk management are outside the scope of this report.

In addition, GASB requirements create results that are specific only to financial statement reporting, and should not be used or interpreted for other purposes. For example, GASB cash flow projections do not entail the total expected cash flows of the Plan, but rather a subset of cash flows specific to employees who are in the Plan as of the Actuarial Valuation Date. While the likely expectation may be that future employees are hired to replace the current employees, cash flows attributable to their benefits are not considered. Under GASB, when the Plan Fiduciary Net Position reaches $0, that represents the Plan Fiduciary Net Position for the assets attributable to the current employees.

Also, GASB mandates certain assumptions that are made in the projection process. Most notably, Projected Contributions under an Informal Funding Policy. In proposing an Informal Funding Policy, GASB suggests a focus be placed on the average contributions over the past 5 years. Projected Contributions in this section may be based on the five-year average, unless a Formal Funding Policy is in place.

Contributions reflecting an Informal Funding Policy are applied under GASB, whether or not the projected results dictate a need for more or less contributions. This would not be the case with other uses for projections. Any events that are taken into account (past or future) in the Informal Funding Policy are discussed in the *Funding Policy* section of this report.

Projections further into the future are more sensitive to assumption changes. For projections that run out close to 80 years, a small change in an assumption may have a dramatic impact on the projections. If the solvency of the Plan as determined by GASB remains constant, then dramatic changes in the projection results may not necessarily lead to big changes in the determination of the Total Pension Liability.

We recommend the projections are not used for any other purposes, other than providing information for purposes of the financial statement report.

The following pages provide the detail behind the chart shown on the prior page.

PROJECTION OF CONTRIBUTIONS – YEARS 1 TO 30

	Projected Pensionable Payroll			Projected Contributions			
Year	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Contributions from Current Employees (d) - Notes	Employer Contributions for Current Employees (e) - Notes	Contributions Related to Payroll of Future Employees (f) - Notes	Total Contributions (g) = (d) + (e) + (f)
1	$ 4,308,701	$ -	$ 4,308,701	$ 407,499	$ 732,300	$ -	$ 1,139,799
2	4,329,046	119,687	4,448,733	429,008	931,217	-	1,360,225
3	4,335,413	257,905	4,593,317	429,639	1,056,686	-	1,486,325
4	4,326,774	415,826	4,742,600	428,783	1,063,871	-	1,492,654
5	4,314,224	582,511	4,896,734	427,540	1,068,432	-	1,495,972
6	4,264,564	791,314	5,055,878	422,618	1,072,487	-	1,495,105
7	4,176,826	1,043,369	5,220,194	413,923	1,070,249	-	1,484,172
8	4,062,330	1,327,521	5,389,851	402,577	1,067,591	-	1,470,168
9	3,964,581	1,600,439	5,565,021	392,890	1,050,981	-	1,443,871
10	3,845,997	1,899,887	5,745,884	381,138	1,043,681	-	1,424,819
11	3,710,559	2,222,066	5,932,625	367,716	1,034,035	-	1,401,751
12	3,516,711	2,608,725	6,125,436	348,506	1,046,093	-	1,394,599
13	3,336,276	2,988,236	6,324,512	330,625	1,024,698	-	1,355,323
14	3,183,268	3,346,791	6,530,059	315,462	1,005,981	-	1,321,443
15	3,027,252	3,715,034	6,742,286	300,001	993,831	-	1,293,832
16	2,880,758	4,080,652	6,961,410	285,483	982,749	-	1,268,232
17	2,668,924	4,518,732	7,187,656	264,490	975,924	-	1,240,414
18	2,460,487	4,960,767	7,421,255	243,834	546,702	-	790,536
19	2,291,852	5,370,593	7,662,445	227,123	310,304	-	537,427
20	2,124,961	5,786,514	7,911,475	210,584	286,776	-	497,360
21	1,960,621	6,207,977	8,168,598	194,297	261,036	-	455,333
22	1,797,545	6,636,533	8,434,077	178,137	234,829	-	412,966
23	1,647,250	7,060,934	8,708,185	163,243	210,946	-	374,189
24	1,424,386	7,566,815	8,991,201	141,157	199,637	-	340,794
25	1,273,539	8,009,876	9,283,415	126,208	160,297	-	286,505
26	1,096,392	8,488,734	9,585,126	108,652	146,326	-	254,978
27	954,053	8,942,589	9,896,642	94,547	123,040	-	217,587
28	814,391	9,403,893	10,218,283	80,706	107,256	-	187,962
29	681,972	9,868,406	10,550,378	67,583	91,238	-	158,821
30	581,939	10,311,326	10,893,265	57,670	72,681	-	130,351

Column d – Contributions from current employees to the Plan (employees in the Plan as of the Actuarial Valuation Date).
Column e – Employer Contributions to the Plan excluding contributions for employees hired after the Actuarial Valuation Date.
Column f – Contributions from future employees to the extent that contributions are assumed to be greater than their Normal Cost.

PROJECTION OF CONTRIBUTIONS – YEARS 31 TO 60

	Projected Pensionable Payroll			Projected Contributions			
Year	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Contributions from Current Employees (d) - Notes	Employer Contributions for Current Employees (e) - Notes	Contributions Related to Payroll of Future Employees (f) - Notes	Total Contributions (g) = (d) + (e) + (f)
31	$ 481,642	$ 10,765,654	$ 11,247,296	$ 47,731	$ 63,660	$ -	$ 111,391
32	349,537	11,263,296	11,612,833	34,639	58,944	-	93,583
33	285,379	11,704,871	11,990,250	28,281	38,709	-	66,990
34	240,364	12,139,570	12,379,933	23,820	30,414	-	54,234
35	188,911	12,593,370	12,782,281	18,721	27,219	-	45,940
36	144,909	13,052,796	13,197,705	14,360	21,699	-	36,059
37	96,811	13,529,820	13,626,631	9,594	18,390	-	27,984
38	79,555	13,989,941	14,069,496	7,884	10,318	-	18,202
39	33,471	14,493,283	14,526,755	3,317	12,629	-	15,946
40	27,404	14,971,471	14,998,874	2,716	3,567	-	6,283
41	12,771	15,473,566	15,486,338	1,266	4,145	-	5,411
42	10,259	15,979,384	15,989,644	1,017	1,361	-	2,378
43	-	16,509,307	16,509,307	-	2,179	-	2,179
44	-	17,045,860	17,045,860	-	-	-	-
45	-	17,599,850	17,599,850	-	-	-	-
46	-	18,171,845	18,171,845	-	-	-	-
47	-	18,762,430	18,762,430	-	-	-	-
48	-	19,372,209	19,372,209	-	-	-	-
49	-	20,001,806	20,001,806	-	-	-	-
50	-	20,651,865	20,651,865	-	-	-	-
51	-	21,323,050	21,323,050	-	-	-	-
52	-	22,016,049	22,016,049	-	-	-	-
53	-	22,731,571	22,731,571	-	-	-	-
54	-	23,470,347	23,470,347	-	-	-	-
55	-	24,233,133	24,233,133	-	-	-	-
56	-	25,020,710	25,020,710	-	-	-	-
57	-	25,833,883	25,833,883	-	-	-	-
58	-	26,673,484	26,673,484	-	-	-	-
59	-	27,540,373	27,540,373	-	-	-	-
60	-	28,435,435	28,435,435	-	-	-	-

Column d – Contributions from current employees to the Plan (employees in the Plan as of the Actuarial Valuation Date).
Column e – Employer Contributions to the Plan excluding contributions for employees hired after the Actuarial Valuation Date.
Column f – Contributions from future employees to the extent that contributions are assumed to be greater than their Normal Cost.

PROJECTION OF CONTRIBUTIONS – YEARS 61 TO 80

	Projected Pensionable Payroll			Projected Contributions			
Year	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll (c) = (a) + (b)	Contributions from Current Employees (d) - Notes	Employer Contributions for Current Employees (e) - Notes	Contributions Related to Payroll of Future Employees (f) - Notes	Total Contributions (g) = (d) + (e) + (f)
61	$ -	$ 29,359,586	$ 29,359,586	$ -	$ -	$ -	$ -
62	-	30,313,773	30,313,773	-	-	-	-
63	-	31,298,970	31,298,970	-	-	-	-
64	-	32,316,187	32,316,187	-	-	-	-
65	-	33,366,463	33,366,463	-	-	-	-
66	-	34,450,873	34,450,873	-	-	-	-
67	-	35,570,527	35,570,527	-	-	-	-
68	-	36,726,569	36,726,569	-	-	-	-
69	-	37,920,182	37,920,182	-	-	-	-
70	-	39,152,588	39,152,588	-	-	-	-
71	-	40,425,047	40,425,047	-	-	-	-
72	-	41,738,861	41,738,861	-	-	-	-
73	-	43,095,374	43,095,374	-	-	-	-
74	-	44,495,974	44,495,974	-	-	-	-
75	-	45,942,093	45,942,093	-	-	-	-
76	-	47,435,211	47,435,211	-	-	-	-
77	-	48,976,855	48,976,855	-	-	-	-
78	-	50,568,603	50,568,603	-	-	-	-
79	-	52,212,083	52,212,083	-	-	-	-
80	-	53,908,975	53,908,975	-	-	-	-

NOTES TO PROJECTION OF CONTRIBUTIONS

Total Employee Payroll is projected to increase annually at the Projected Total Payroll Increases rate shown in the *Actuarial Assumptions Information* section of this report. Payroll for current employees (employees in the Plan as of the Actuarial Valuation Date) are projected on an employee-by-employee basis, using the Projected Individual Pay Increases and probability of remaining an employee in the future.

Employer Contributions are related to current employees in the Plan as of the Actuarial Valuation Date. To the extent that Projected Contributions under the Funding Policy are made to cover the Normal Cost of benefit payments for future employees, those contributions are excluded for purposes of these projections and this report.

Contributions are based on the Funding Policy as described in the *Funding Polic*y section of this report. The contributions do not factor in changes in the Funding Policy based on an assumed Employer decision; if, the projections were to play out in this fashion. The only future events that are considered were outlined in the *Funding Policy* section of this report. Contributions from future employees have not been included. It is assumed that contributions made by future employees will not exceed the Normal Cost of their participation in the Plan. In addition, Employer Contributions on behalf of future employees have not been included per the GASB parameters.

PROJECTION OF THE PENSION PLAN'S FIDUCIARY NET POSITION – YEARS 1 TO 30

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expense (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a)+(b)-(c)-(d)+(e)
1	$ 43,931,645	$ 1,139,799	$ 1,670,812	$ 77,471	$ 5,735,658	$ 49,058,819
2	49,058,819	1,360,226	1,787,427	76,931	3,294,456	51,849,143
3	51,849,143	1,486,325	1,934,601	78,662	3,482,033	54,804,239
4	54,804,239	1,492,654	2,084,744	80,432	3,676,589	57,808,306
5	57,808,306	1,495,972	2,319,980	82,241	3,871,475	60,773,531
6	60,773,531	1,495,105	2,507,332	84,092	4,065,213	63,742,425
7	63,742,425	1,484,173	2,718,224	85,984	4,258,062	66,680,452
8	66,680,452	1,470,168	2,904,651	87,918	4,449,549	69,607,601
9	69,607,601	1,443,871	3,167,169	89,897	4,637,318	72,431,723
10	72,431,723	1,424,819	3,386,621	91,919	4,819,828	75,197,830
11	75,197,830	1,401,752	3,662,725	93,987	4,996,374	77,839,243
12	77,839,243	1,394,599	3,972,351	96,102	5,163,906	80,329,295
13	80,329,295	1,355,323	4,212,850	98,264	5,322,469	82,695,974
14	82,695,974	1,321,443	4,454,048	100,475	5,472,862	84,935,754
15	84,935,754	1,293,832	4,696,923	102,736	5,614,842	87,044,769
16	87,044,769	1,268,232	4,994,144	105,048	5,746,227	88,960,037
17	88,960,037	1,240,414	5,243,869	107,411	5,866,061	90,715,231
18	90,715,231	796,636	5,491,127	109,828	5,961,132	91,872,045
19	91,872,045	537,426	5,715,228	112,299	6,022,822	92,604,766
20	92,604,766	497,360	5,942,775	114,826	6,063,164	93,107,689
21	93,107,689	455,333	6,147,956	117,409	6,088,680	93,386,337
22	93,386,337	412,966	6,344,062	120,051	6,099,352	93,434,541
23	93,434,541	374,189	6,588,710	122,752	6,092,949	93,190,216
24	93,190,216	340,794	6,757,917	125,514	6,069,526	92,717,104
25	92,717,104	286,505	6,943,473	128,338	6,029,400	91,961,199
26	91,961,199	254,979	7,103,398	131,226	5,971,818	90,953,371
27	90,953,371	217,587	7,247,983	134,178	5,897,548	89,686,345
28	89,686,345	187,962	7,369,740	137,197	5,806,813	88,174,181
29	88,174,181	158,821	7,459,336	140,284	5,700,630	86,434,012
30	86,434,012	130,351	7,534,486	143,441	5,579,565	84,466,001

Column b – Contributions on behalf of current employees in the Plan as of the Actuarial Valuation Date.
Column d – Based on the average Administrative Expense in recent years, and projected to increase in the future.
Column e – Based on the Expected Rate of Return on Plan Investments, and does not factor in allocation changes.

PROJECTION OF THE PENSION PLAN'S FIDUCIARY NET POSITION – YEARS 31 TO 60

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expense (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a)+(b)-(c)-(d)+(e)
31	$ 84,466,001	$ 111,390	$ 7,623,619	$ 146,668	$ 5,442,967	$ 82,250,072
32	82,250,072	93,583	7,635,795	143,190	5,292,498	79,857,168
33	79,857,168	66,990	7,641,663	139,231	5,130,015	77,273,279
34	77,273,279	54,234	7,607,903	134,957	4,956,455	74,541,109
35	74,541,109	45,941	7,559,508	130,391	4,773,541	71,670,692
36	71,670,692	36,060	7,483,659	125,579	4,582,177	68,679,690
37	68,679,690	27,984	7,374,275	120,545	4,383,873	65,596,728
38	65,596,728	18,202	7,255,804	115,328	4,179,618	62,423,415
39	62,423,415	15,946	7,088,938	109,954	3,971,156	59,211,624
40	59,211,624	6,283	6,908,065	104,470	3,760,324	55,965,695
41	55,965,695	5,410	6,699,703	98,924	3,548,413	52,720,892
42	52,720,892	2,378	6,479,083	93,349	3,336,921	49,487,758
43	49,487,758	2,179	6,235,210	87,785	3,127,096	46,294,037
44	46,294,037	-	5,977,230	82,265	2,920,340	43,154,881
45	43,154,881	-	5,707,250	76,826	2,717,742	40,088,547
46	40,088,547	-	5,427,506	71,496	2,520,386	37,109,930
47	37,109,930	-	5,140,335	66,305	2,329,196	34,232,487
48	34,232,487	-	4,848,123	61,275	2,145,001	31,468,089
49	31,468,089	-	4,553,474	56,429	1,968,512	28,826,698
50	28,826,698	-	4,258,997	51,786	1,800,313	26,316,228
51	26,316,228	-	3,967,118	47,361	1,640,857	23,942,605
52	23,942,605	-	3,680,167	43,166	1,490,463	21,709,735
53	21,709,735	-	3,400,559	39,210	1,349,315	19,619,280
54	19,619,280	-	3,130,007	35,497	1,217,466	17,671,242
55	17,671,242	-	2,870,060	32,028	1,094,863	15,864,017
56	15,864,017	-	2,622,166	28,803	981,351	14,194,399
57	14,194,399	-	2,387,353	25,817	876,677	12,657,906
58	12,657,906	-	2,166,540	23,063	780,510	11,248,813
59	11,248,813	-	1,960,031	20,533	692,451	9,960,700
60	9,960,700	-	1,767,803	18,217	612,069	8,786,750

Column b – Contributions on behalf of current employees in the Plan as of the Actuarial Valuation Date.
Column d – Based on the average Administrative Expense in recent years, and projected to increase in the future.
Column e – Based on the Expected Rate of Return on Plan Investments, and does not factor in allocation changes.

PROJECTION OF THE PENSION PLAN'S FIDUCIARY NET POSITION – YEARS 61 TO 80

Year	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (c)	Projected Administrative Expense (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = (a)+(b)-(c)-(d)+(e)
61	$ 8,786,750	$ -	$ 1,589,698	$ 16,102	$ 538,910	$ 7,719,860
62	7,719,860	-	1,425,193	14,177	472,512	6,753,001
63	6,753,001	-	1,273,523	12,431	412,427	5,879,474
64	5,879,474	-	1,133,911	10,850	358,229	5,092,941
65	5,092,941	-	1,005,483	9,424	309,520	4,387,555
66	4,387,555	-	887,535	8,143	265,931	3,757,808
67	3,757,808	-	779,297	6,996	227,115	3,198,630
68	3,198,630	-	680,143	5,975	192,751	2,705,262
69	2,705,262	-	589,538	5,071	162,537	2,273,191
70	2,273,191	-	507,079	4,276	136,182	1,898,019
71	1,898,019	-	432,452	3,583	113,400	1,575,384
72	1,575,384	-	365,314	2,983	93,908	1,300,995
73	1,300,995	-	305,437	2,470	77,425	1,070,513
74	1,070,513	-	252,539	2,037	63,668	879,604
75	879,604	-	206,291	1,675	52,354	723,993
76	723,993	-	166,332	1,377	43,209	599,493
77	599,493	-	132,295	1,137	35,962	502,024
78	502,024	-	103,696	946	30,355	427,737
79	427,737	-	80,001	799	26,145	373,082
80	373,082	-	60,690	688	23,112	334,816

NOTES TO PROJECTION OF THE PENSION PLAN'S FIDUCIARY NET POSITION

Projected Total Contributions are Employee and Employer Contributions projected to be made under the Funding Policy on behalf of current employees in the Plan as of the Actuarial Valuation Date. The amounts shown are detailed earlier in this section.

Projected Benefit Payments shown represents current employees as of the Actuarial Valuation Date. The Plan will pay benefits in the future on behalf of employees hired after the Actuarial Valuation Date, but those benefit payments are not projected for this purpose.

Projected Investment Earnings are based on the Expected Rate of Return on Plan Investments. Administrative Expense are typically not charged on a per employee basis. Administrative Expenses shown are not projected to distinguish between current and future employees.

The Projected Fiduciary Net Position represents assets held or projected to be held on behalf of current employees in the Plan as of the Actuarial Valuation Date. The Plan will hold assets in the future on behalf of employees hired after the Actuarial Valuation Date, but those assets are not projected for this purpose.

ACTUARIAL PRESENT VALUE OF PROJECTED BENEFIT PAYMENTS – YEARS 1 TO 30

			Projected Benefit Payments		Actuarial Present Values of Projected Benefit Payments		
Year	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	Present Value of "Funded" Benefit Payments (6.75%)	Present Value of "Unfunded" Benefit Payments (3.26%)	Present Value of Benefit Payments Using the Single Discount Rate (6.75%)
1	$ 43,931,645	$ 1,670,812	$ 1,670,812	$ -	$ 1,617,125	$ -	$ 1,617,125
2	49,058,819	1,787,427	1,787,427	-	1,620,603	-	1,620,603
3	51,849,143	1,934,601	1,934,601	-	1,643,129	-	1,643,129
4	54,804,239	2,084,744	2,084,744	-	1,658,690	-	1,658,690
5	57,808,306	2,319,980	2,319,980	-	1,729,135	-	1,729,135
6	60,773,531	2,507,332	2,507,332	-	1,750,606	-	1,750,606
7	63,742,425	2,718,224	2,718,224	-	1,777,846	-	1,777,846
8	66,680,452	2,904,651	2,904,651	-	1,779,651	-	1,779,651
9	69,607,601	3,167,169	3,167,169	-	1,817,792	-	1,817,792
10	72,431,723	3,386,621	3,386,621	-	1,820,840	-	1,820,840
11	75,197,830	3,662,725	3,662,725	-	1,844,767	-	1,844,767
12	77,839,243	3,972,351	3,972,351	-	1,874,204	-	1,874,204
13	80,329,295	4,212,850	4,212,850	-	1,861,990	-	1,861,990
14	82,695,974	4,454,048	4,454,048	-	1,844,117	-	1,844,117
15	84,935,754	4,696,923	4,696,923	-	1,821,709	-	1,821,709
16	87,044,769	4,994,144	4,994,144	-	1,814,508	-	1,814,508
17	88,960,037	5,243,869	5,243,869	-	1,784,768	-	1,784,768
18	90,715,231	5,491,127	5,491,127	-	1,750,747	-	1,750,747
19	91,872,045	5,715,228	5,715,228	-	1,706,977	-	1,706,977
20	92,604,766	5,942,775	5,942,775	-	1,662,706	-	1,662,706
21	93,107,689	6,147,956	6,147,956	-	1,611,347	-	1,611,347
22	93,386,337	6,344,062	6,344,062	-	1,557,607	-	1,557,607
23	93,434,541	6,588,710	6,588,710	-	1,515,385	-	1,515,385
24	93,190,216	6,757,917	6,757,917	-	1,456,021	-	1,456,021
25	92,717,104	6,943,473	6,943,473	-	1,401,405	-	1,401,405
26	91,961,199	7,103,398	7,103,398	-	1,343,028	-	1,343,028
27	90,953,371	7,247,983	7,247,983	-	1,283,714	-	1,283,714
28	89,686,345	7,369,740	7,369,740	-	1,222,744	-	1,222,744
29	88,174,181	7,459,336	7,459,336	-	1,159,353	-	1,159,353
30	86,434,012	7,534,486	7,534,486	-	1,096,986	-	1,096,986

The Projected Fiduciary Net Position and Benefit Payments are based on current employees in the Plan as of the Actuarial Valuation Date. The development of the Projected Fiduciary Net Position is shown in more detail earlier in this section.

ACTUARIAL PRESENT VALUE OF PROJECTED BENEFIT PAYMENTS – YEARS 31 TO 60

			Projected Benefit Payments		Actuarial Present Values of Projected Benefit Payments		
Year	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	Present Value of "Funded" Benefit Payments (6.75%)	Present Value of "Unfunded" Benefit Payments (3.26%)	Present Value of Benefit Payments Using the Single Discount Rate (6.75%)
31	$ 84,466,001	$ 7,623,619	$ 7,623,619	$ -	$ 1,039,778	$ -	$ 1,039,778
32	82,250,072	7,635,795	7,635,795	-	975,587	-	975,587
33	79,857,168	7,641,663	7,641,663	-	914,601	-	914,601
34	77,273,279	7,607,903	7,607,903	-	852,984	-	852,984
35	74,541,109	7,559,508	7,559,508	-	793,965	-	793,965
36	71,670,692	7,483,659	7,483,659	-	736,299	-	736,299
37	68,679,690	7,374,275	7,374,275	-	679,660	-	679,660
38	65,596,728	7,255,804	7,255,804	-	626,455	-	626,455
39	62,423,415	7,088,938	7,088,938	-	573,347	-	573,347
40	59,211,624	6,908,065	6,908,065	-	523,390	-	523,390
41	55,965,695	6,699,703	6,699,703	-	475,506	-	475,506
42	52,720,892	6,479,083	6,479,083	-	430,771	-	430,771
43	49,487,758	6,235,210	6,235,210	-	388,344	-	388,344
44	46,294,037	5,977,230	5,977,230	-	348,736	-	348,736
45	43,154,881	5,707,250	5,707,250	-	311,929	-	311,929
46	40,088,547	5,427,506	5,427,506	-	277,883	-	277,883
47	37,109,930	5,140,335	5,140,335	-	246,539	-	246,539
48	34,232,487	4,848,123	4,848,123	-	217,821	-	217,821
49	31,468,089	4,553,474	4,553,474	-	191,646	-	191,646
50	28,826,698	4,258,997	4,258,997	-	167,918	-	167,918
51	26,316,228	3,967,118	3,967,118	-	146,520	-	146,520
52	23,942,605	3,680,167	3,680,167	-	127,327	-	127,327
53	21,709,735	3,400,559	3,400,559	-	110,214	-	110,214
54	19,619,280	3,130,007	3,130,007	-	95,031	-	95,031
55	17,671,242	2,870,060	2,870,060	-	81,628	-	81,628
56	15,864,017	2,622,166	2,622,166	-	69,862	-	69,862
57	14,194,399	2,387,353	2,387,353	-	59,584	-	59,584
58	12,657,906	2,166,540	2,166,540	-	50,654	-	50,654
59	11,248,813	1,960,031	1,960,031	-	42,928	-	42,928
60	9,960,700	1,767,803	1,767,803	-	36,270	-	36,270

The Projected Fiduciary Net Position and Benefit Payments are based on current employees in the Plan as of the Actuarial Valuation Date. The development of the Projected Fiduciary Net Position is shown in more detail earlier in this section.

ACTUARIAL PRESENT VALUE OF PROJECTED BENEFIT PAYMENTS – YEARS 61 TO 80

			Projected Benefit Payments		Actuarial Present Values of Projected Benefit Payments		
Year	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	Present Value of "Funded" Benefit Payments (6.75%)	Present Value of "Unfunded" Benefit Payments (3.26%)	Present Value of Benefit Payments Using the Single Discount Rate (6.75%)
61	$ 8,786,750	$ 1,589,698	$ 1,589,698	$ -	$ 30,553	$ -	$ 30,553
62	7,719,860	1,425,193	1,425,193	-	25,660	-	25,660
63	6,753,001	1,273,523	1,273,523	-	21,479	-	21,479
64	5,879,474	1,133,911	1,133,911	-	17,915	-	17,915
65	5,092,941	1,005,483	1,005,483	-	14,881	-	14,881
66	4,387,555	887,535	887,535	-	12,305	-	12,305
67	3,757,808	779,297	779,297	-	10,121	-	10,121
68	3,198,630	680,143	680,143	-	8,275	-	8,275
69	2,705,262	589,538	589,538	-	6,719	-	6,719
70	2,273,191	507,079	507,079	-	5,414	-	5,414
71	1,898,019	432,452	432,452	-	4,325	-	4,325
72	1,575,384	365,314	365,314	-	3,423	-	3,423
73	1,300,995	305,437	305,437	-	2,681	-	2,681
74	1,070,513	252,539	252,539	-	2,076	-	2,076
75	879,604	206,291	206,291	-	1,589	-	1,589
76	723,993	166,332	166,332	-	1,200	-	1,200
77	599,493	132,295	132,295	-	894	-	894
78	502,024	103,696	103,696	-	657	-	657
79	427,737	80,001	80,001	-	474	-	474
80	373,082	60,690	60,690	-	337	-	337

NOTES TO THE ACTUARIAL PRESENT VALUE OF PROJECTED BENEFIT PAYMENTS

The Projected Fiduciary Net Position and Benefit Payments are based on current employees in the Plan as of the Actuarial Valuation Date. The development of the Projected Fiduciary Net Position is shown in more detail earlier in this section.

The Funded and Unfunded Portion of Benefit Payments are split based on the time that the Projected Fiduciary Net Position is to reach $0 (based on assets for current employees).

The Present Value ("PV") of the Funded and Unfunded Portion of Benefit Payments are determined separately. The PV of the Funded Portion of Benefit Payments uses the Expected Rate of Return on Plan Investments. The PV of the Unfunded Portion of Benefit Payments are determined using the High-Quality Municipal Bond Rate as of the Measurement Date, as described in the *Actuarial Assumptions Information* section of this report.

The Discount Rate used for GASB purposes is the rate such that when applied to the Total Projected Benefit Payments results in a Present Value that equals the sum of the Present Value of the Funded and Unfunded Portion of Benefit Payments. The Discount Rate is rounded to four decimal places; therefore, the resulting Present Value comparisons may show a slight difference due to rounding.

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SUMMARY OF PRINCIPAL PLAN PROVISIONS

ESTABLISHMENT OF THE FUND

The Police Pension Fund is established and administered as prescribed by "Article 3 – Police Pension Fund – Municipalities 500,000 and Under" of the Illinois Pension Code.

ADMINISTRATION

The Police Pension Fund is administered by a Board of Trustees whose duties are to manage the Pension Fund, determine applications for pensions, authorize payment of pensions, establish rules, pay expenses, and keep records.

MEMBER CONTRIBUTIONS

Members contribute 9.910% of their pensionable salary.

REGULAR RETIREMENT PENSION BENEFIT

<u>Tier I</u>

Eligibility: Age 50 with at least 20 years of creditable service.

Benefit: 50% of final salary for the first 20 years of service, plus an additional 2.5% of final salary for each year of service beyond 20 years of service, and not to exceed 75% of final salary. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service, unless the pensionable salary was greater at some point within the year prior to the last day of service. If so, the pensionable salary is averaged over the last 12 months.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 1/12 of 3% of the original monthly benefit for each full month that has passed since the pension began. The initial increase date will be the later of the first day of the month after the pensioner turns age 55 or the first day of the month after the benefit date anniversary. Subsequent increases of 3% of the current monthly benefit will be granted every January 1st thereafter.

REGULAR RETIREMENT PENSION BENEFIT - CONTINUED

Tier II

Eligibility: Age 55 with at least 10 years of creditable service.

Benefit: 2.5% of final average salary for each year of service, and not to exceed 75% of final average salary. “Final average salary” is determined by dividing the total pensionable salary during 48 consecutive months of service within the last 60 months of service in which total pensionable salary was the highest, by the number of months of service in that period (or by dividing the total pensionable salary during 96 consecutive months of service within the last 120 months of service in which total pensionable salary was the highest, by the number of months of service in that period, if greater). Annual salary for this purpose will not exceed the salary cap, indexed by the lesser of 3% or the CPI-U for the 12 months ending with the September preceding each November 1st. The salary cap will not decrease.

Annual Increase in Benefit: The initial increase date will be the later of the January 1st after the pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

EARLY RETIREMENT PENSION BENEFIT

Tier I

None.

Tier II

Eligibility: Age 50 with at least 10 years of creditable service.

Benefit: The regular retirement pension benefit reduced by ½ of 1% for each month that the police officer’s age is between 50 and 55.

Annual Increase in Benefit: The initial increase date will be the later of the January 1st after the pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

SURVIVING SPOUSE BENEFIT

Tier I

Eligibility: Married to an active police officer with at least 8 years of creditable service, a disabled pensioner at the time of death, or a retired pensioner on the last day of service.

Active Line of Duty Death Benefit: An eligible surviving spouse is entitled to receive 100% of the police officer's final pensionable salary attached to rank held on the last day of service.

Non-Duty Death Benefit:

Disabled or Retired Pensioner: An eligible surviving spouse is entitled to receive the pensioner's benefit at the time of death.

Active Member with 20+ Years of Service: An eligible surviving spouse is entitled to the police officer's eligible benefit at the time of death.

Active Member with 10-20 Years of Service: An eligible surviving spouse is entitled to receive 50% of the police officer's pensionable salary attached to rank held on the last day of service, unless the pensionable salary was greater at some point within the year prior to the last day of service. If so, the pensionable salary is averaged over the last 12 months.

Annual Increase in Benefit: None.

Tier II

Eligibility: Married to an active police officer with at least 8 years of creditable service, a disabled pensioner at the time of death, or a retired pensioner on the last day of service.

Active Line of Duty Death Benefit: An eligible surviving spouse is entitled to receive 100% of the police officer's final pensionable salary attached to rank held on the last day of service.

Non-Duty Death Benefit:

Disabled or Retired Pensioner, Active Member with 20+ Years of Service, and Active Member with 10-20 Years of service: An eligible surviving spouse is entitled to receive the greater of 66⅔% of the police officer's earned pension benefit at the time of death or 54% of the police officer's monthly salary at the time of death.

Annual Increase in Benefit: The initial increase date will be the January 1st after the surviving spouse turns age 60. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

BENEFITS NOT VALUED

Public Act 102-0811 passed on May 13, 2022 and is effective as of January 1, 2023 for Article 3 Pension Funds. The Act establishes that a surviving spouse of a deceased police retiree may be eligible for a survivor's pension of up to 15 years of benefit payments if (a) the surviving spouse has attained age 62 and (b) if the police officer was married to the surviving spouse after retirement, and for at least 5 years prior to the officer's death. Previously, there was no survivor's pension for spouses married after retirement. In our opinion, under a prudent interpretation of the provisions, we believe the impact to be de minimis. The legal community has suggested some uncertainty about multiple provisions contained in the Act, and the IDOI Public Pension Division has not provided an interpretation. The client has not made an administrative interpretation as to how the provisions of the Act will impact future surviving spouses. Due to the uncertainty around the interpretation and the expected *de minimis* impact, we have not valued this contingency separately. If a spouse is granted a pension by the Board under this provision, we will value the liability of the benefit granted, and revisit valuing the contingency of the benefit being granted in the future.

TERMINATION BENEFIT – VESTED

Tier I

Eligibility: Age 60 with at least 8 but less than 20 years of creditable service.

Benefit: 2.5% of final salary for each year of service. "Final salary" is based on the police officer's pensionable salary attached to rank held on the last day of service, unless the pensionable salary was greater at some point within the year prior to the last day of service. If so, the pensionable salary is averaged over the last 12 months.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 1/12 of 3% of the original monthly benefit for each full month that has passed since the pension began. The initial increase date will be the first day of the month after the benefit date anniversary. Subsequent increases of 3% of the current monthly benefit will be granted every January 1st thereafter.

Tier II

None.

Disability Benefit

Tier I

Eligibility: Duty or Non-Duty Disability or Occupational Disease Disability with at least 1 day of creditable service.

Benefit: For a duty disability or an occupational disease disability with at least 5 years of creditable service, a police officer is entitled to receive the greater of 65% of final salary or the regular retirement pension benefit at the time of disability. For a non-duty disability, a police officer is entitled to receive 50% of their final salary. “Final salary” is based on the police officer’s pensionable salary attached to rank held on the last day of service.

Annual Increase in Benefit: A police officer is entitled to receive an initial increase equal to 3% of the original monthly benefit for each full year that has passed since the pension began. The initial increase date will be the later of the January 1st after the pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases of 3% of the original monthly benefit will be granted every January 1st thereafter.

Tier II

Eligibility: Duty or Non-Duty Disability or Occupational Disease Disability with at least 1 day of creditable service.

Benefit: For a duty disability or an occupational disease disability with at least 5 years of creditable service, a police officer is entitled to receive the greater of 65% of final salary or the regular retirement pension benefit at the time of disability. For a non-duty disability, a police officer is entitled to receive 50% of their final salary. “Final salary” is based on the police officer’s pensionable salary attached to rank held on the last day of service.

Annual Increase in Benefit: The initial increase date will be the later of the January 1st after the pensioner turns age 60 or the January 1st after the benefit date anniversary. Subsequent increases will be granted every January 1st thereafter. The initial increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1st.

Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

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VILLAGE OF LAKE IN THE HILLS POSTRETIREMENT HEALTH PLAN

GASB 74/75 ACTUARIAL VALUATION AS OF JANUARY 1, 2023

LIMITED-YEAR REPORTING

FOR THE DECEMBER 31, 2023 FINANCIAL STATEMENT REPORTING

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Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

VILLAGE OF LAKE IN THE HILLS POSTRETIREMENT HEALTH PLAN

Fiscal Year Ending: December 31, 2023
Actuarial Valuation Date: January 1, 2023
Measurement Date: December 31, 2023
Utilizing Data as of January 1, 2023

Submitted by:

Lauterbach & Amen, LLP
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Contact:

Todd A. Schroeder

April 4, 2024

LAUTERBACH & AMEN, LLP

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ACTUARIAL CERTIFICATION

This certification provides supplemental information as required by the Governmental Accounting Standards Board. The enclosed schedules were prepared by the undersigned to provide general information to assist in the preparation of the Annual Financial Report. The assumptions and methods used in the preparation of this disclosure meet the parameters set for the disclosures presented in the financial section as required by the Governmental Accounting Standards Board. Additional information is also provided solely to assist the auditors in preparation of the required footnote disclosures.

The results in this report are based on information and data submitted by the Village of Lake in the Hills. We did not prepare the Actuarial Valuations for the years prior to January 1, 2014. Those valuations were prepared by other Actuaries whose reports have been furnished to us, and our disclosures are based upon those reports. An audit of the information was not performed, but high-level reviews were performed for general reasonableness as appropriate based on the purpose of the valuation. The accuracy of the results is dependent upon the precision and completeness of the underlying information. The results of the Actuarial Valuation and these supplemental disclosures rely on the information provided.

The valuation results summarized involve actuarial calculations that require assumptions about future events. The Village of Lake in the Hills selected certain assumptions, while others were the result of guidance and/or judgment. We believe that the assumptions used in the valuation are reasonable and appropriate for the purposes for which they have been used.

In preparing the results, our Actuaries used commercially available software (ProVal) developed by Winklevoss Technologies, LLC. This software is widely used for the purpose of performing Actuarial Valuations. Our Actuaries coded the plan provisions, assumptions, methods, and participant data summarized in this report, and reviewed the liability and cost outputs for reasonableness. We are not aware of any material weaknesses or limitations in the software, and have determined it is appropriate for performing this valuation.

To the best of our knowledge, all calculations are in accordance with the applicable funding requirements, and the procedures followed and presentation of results conform to generally accepted actuarial principles and practices. The undersigned consultant of Lauterbach & Amen, LLP, with actuarial credentials, meets the Qualification Standards of the American Academy of Actuaries to render this Actuarial Certification. There is no relationship between the Village of Lake in the Hills and Lauterbach & Amen, LLP that impairs our objectivity.

Respectfully Submitted,

LAUTERBACH & AMEN, LLP

Todd A. Schroeder

Todd A. Schroeder, ASA, FCA, EA, MAAA

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MANAGEMENT SUMMARY

Comments and Analysis
Limited-Year Reporting

Comments and Analysis

This report details the data, assumptions, and underlying methodology used in the GASB 74/75 valuation as of January 1, 2023. The results assumed that no significant changes have been made to the retiree medical program and a full valuation is not required. Please confirm with your auditors that limited-year reporting is acceptable for the Fiscal Year ended December 31, 2023, before relying on these results. If you made significant changes to the retiree medical plan, a full valuation may be required.

Limited-Year Reporting
GASB Statement 75 allows for reporting for the current fiscal year-end based on the Actuarial Valuation for the prior year in many circumstances, as long as there have been no significant changes. The Employer has confirmed that there have been no significant changes to the medical premiums, the group covered, or the Eligibility and Coverage provisions. Therefore, they have elected a limited valuation for the current fiscal year reporting. The limited-year valuation relies on census, medical information – including claims and premiums, and eligibility and coverage information utilized in the prior GASB 74/75 valuation. This information is not updated in the limited-year report. The limited-year report does reflect updates to the Measurement Date, discount rate, and Covered-Employee Payroll to stay consistent with the requirements of GASB 74/75.

Expected Increase in Total OPEB Liability
Each year the Total OPEB Liability is expected to increase with interest and the accrual of additional service by active plan Members. The increases are offset by decreases in liability due to benefit payments. The expected Total OPEB Liability increase for the current year was approximately $82,000.

In addition to the expected increase in Total OPEB Liability, additional changes in Total OPEB Liability occurred between the prior valuation and the current year. Below are the key components of those changes.

Demographic Experience
Limited-year reporting does not update census information, claims, or premiums from the prior year's full valuation.

Plan Changes
Limited-year reporting does not update plan provisions from the prior year's full valuation.

Comments and Analysis – Continued

Assumption Changes

The Discount Rate was decreased from 3.72% for the Fiscal Year-Ended December 31, 2022 to 3.26% to better reflect the current high-quality fixed income environment. The underlying index used is the Bond Buyer 20-Bond G.O. Index. The rate has been updated to the current Fiscal Year-End based on changes in market conditions as reflected in the index. The rate selected is as of December 28, 2023, and is the most recent rate available prior to the Measurement Date. The change was made to reflect our understanding of the requirements for reporting under GASB Statement 75. See the *Actuarial Assumption Information* section of this report for further details. The changes in assumptions resulted in an increase in the Total OPEB Liability in the current year of approximately $35,000.

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POSTRETIREMENT PLAN NET POSITION

Statement of OPEB Plan Net Position
Statement of Changes in OPEB Trust and OPEB Plan Net Position
Statement of OPEB Plan Benefit Payments and Contributions

STATEMENT OF OPEB PLAN NET POSITION

	12/31/2022	12/31/2023
Assets		
Cash and Cash Equivalents	$ -	$ -
Total Cash	-	-
Receivables:		
Due from Village	-	-
Investment Income - Accrued Interest	-	-
Other	-	-
Total Receivables	-	-
Investments:		
Common Stock	-	-
Total Investments	-	-
Total Assets	-	-
Liabilities		
Payables:		
Expenses Due/Unpaid	-	-
Other	-	-
Total Liabilities	-	-
Net Position Restricted for Postretirement Plan	$ -	$ -

The Total OPEB Liability is an unfunded obligation. The Employer does not have a trust dedicated exclusively to the payment of OPEB benefits.

STATEMENT OF CHANGES IN OPEB TRUST AND OPEB PLAN NET POSITION

	12/31/2023 OPEB Trust	12/31/2023 OPEB Plan
Additions		
Contributions		
Employer	$ -	$ 10,478
Member	-	-
Other	-	-
Total Contributions	-	10,478
Investment Income		
Net Appreciation in Fair Value of Investments	-	-
Interest and Dividends	-	-
Less Investment Expense	-	-
Net Investment Income	-	-
Total Additions	-	10,478
Deductions		
Benefit Payments	-	10,478
Administrative Expense	-	-
Other	-	-
Total Deductions	-	10,478
Net Increase in Net Position	-	-
Net Position Restricted for Postretirement Plan		
Beginning of Year	-	-
End of Year	$ -	$ -

The Total OPEB Liability is an unfunded obligation. The Employer does not have a trust dedicated exclusively to the payment of OPEB benefits.

Statement of OPEB Plan Benefit Payments and Contributions

		12/31/2023
Employer Contributions		
OPEB Trust Contributions	$	-
Contributions from Other Village Resources*		10,478
Total OPEB Plan Contributions	$	10,478
Employer Benefit Payments		
Benefit Payments from Trust	$	-
Payments from Other Village Resources*		10,478
Total OPEB Plan Benefit Payments	$	10,478

A portion of the Employer Contributions and Benefit Payments is based on the cost sharing provisions. In addition, a portion is related to the increase in active premiums due to the presence of retirees in the determination of blended retiree/active premiums.

*Contributions from Other Village Resources and Benefit Payments from Other Village Resources refers to contributions made to and benefit payments made from the OPEB Plan that were not directly made to or from the OPEB Trust.

Of the benefit payments from Other Village Resources, $7,202 are explicit benefit payments due to select Retirees and $3,276 are implicit benefit payments due to the presence of retirees in the determination of the blended retiree/active premiums.

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ACTUARIAL OPEB LIABILITY INFORMATION

STATEMENT OF TOTAL OPEB LIABILITY

	12/31/2022	12/31/2023
Total Active Employees	$ 515,854	$ 624,827
Inactive Employees Currently Receiving Benefit Payments	171,716	179,902
Inactive Employees Entitled To But Not Yet Receiving Benefit Payments	-	-
Total Inactive Employees	171,716	179,902
Total OPEB Liability	$ 687,570	$ 804,729

The Total OPEB Liability shown is dependent on several factors such as Plan Provisions and assumptions used in the report. In addition, the calculation of the Total OPEB Liability may be dependent on the OPEB Plan Net Position shown in the *Statement of OPEB Trust and OPEB Plan Net Position* section of this report. Changes in the OPEB Plan Net Position due to any factor, including adjustment on final audit, could change the Total OPEB Liability. The dependence of the Total OPEB Liability on the Net Position is due to the role of the Net Position (and projected Net Position) on the determination of the discount rate used for the Total OPEB Liability.

The Total OPEB Liability has been determined for GASB 74/75 reporting purposes only. The resulting Total OPEB Liability is intended to be used in the financial statement reporting of the postretirement plan and/or the Employer. The resulting liability is not intended to be a representation of the postretirement plan liability for other purposes, including but not limited to determination of cash funding requirements and recommendations, if applicable.

EXPECTED BENEFIT PAYMENTS

Subsequent to the Measurement Date, the following amounts are expected to be paid out in benefits in upcoming years:

Year Ended December 31:		
2024	$	15,539
2025		19,976
2026		24,627
2027		31,309
2028		35,648

The table above represents the expected benefit payments for the next 5 years under the OPEB Plan. Benefit payments in an OPEB plan do not necessarily imply the existence of an OPEB trust. The payments include obligations that come from other employer resources. Benefit payments may include direct payments made by the employer for health coverage for the retiree group. Benefit payments may also reflect implicit payments made by the employer that are based on the existence of retirees on employer medical coverage, that are not directly linked to retiree premiums or stipends.

STATEMENT OF CHANGES IN TOTAL OPEB LIABILITY

Total OPEB Liability	**12/31/2023**
Service Cost	$ 67,346
Interest	25,383
Changes of Benefit Terms	-
Differences Between Expected and Actual Experience	-
Changes in Assumptions	34,908
Benefit Payments*	(10,478)
Net Change in Total OPEB Liability	117,159
Total OPEB Liability - Beginning	687,570
Total OPEB Liability - Ending (a)	$ 804,729
OPEB Plan Net Position - Ending (b)	$ -
Employer's Net OPEB Liability/(Asset) - Ending (a) - (b)	$ 804,729
OPEB Plan Net Position as a Percentage of the Total OPEB Liability	0.00%
Covered-Employee Payroll	$ 10,068,946
Employer's Net OPEB Liability as a Percentage of Employee Payroll	7.99%

*See the benefit breakdown in the *Statement of OPEB Plan Benefit Payments and Contributions* section of this report.

The OPEB Plan Net Position was detailed in the prior section of this report. The Employer's Net OPEB Liability is the excess of the Total OPEB Liability over the OPEB Plan Net Position. The changes in the Net OPEB Liability related to changes in assumptions are due to changes detailed in the *Management Summary* section of this report.

Total OPEB Liability may be dependent on the Net Position of the postretirement plan. Any changes in Net Position, including adjustments on final audit, can have an impact on Net OPEB Liability that extends beyond the dollar-for-dollar change in Net Position.

Covered-Employee Payroll is based on Total Covered Payroll for the postretirement plan Members during the Fiscal Year.

STATEMENT OF CHANGES IN NET OPEB LIABILITY

The table below illustrates the change in the Net OPEB Liability from the prior Measurement Date to the current Measurement Date. Under Statement 75, the difference between the Net OPEB Liability from the prior Measurement Date to the current Measurement Date should be recognized as an expense, unless permitted to be recognized as a Deferred Outflow or Inflow of Resources.

	Increase (Decrease)		
	Total OPEB Liability (a)	OPEB Plan Net Position (b)	Net OPEB Liability (a) - (b)
Balances Beginning at 1/1/2023	$ 687,570	$ -	$ 687,570
Changes for the year:			
Service Cost	67,346	-	67,346
Interest	25,383	-	25,383
Actuarial Experience	-	-	-
Assumptions Changes	34,908	-	34,908
Plan Changes	-	-	-
Contributions - Employer	-	10,478	(10,478)
Contributions - Employee	-	-	-
Contributions - Other	-	-	-
Net Investment Income	-	-	-
Benefit Payments from the Plan	(10,478)	(10,478)	-
Administrative Expense	-	-	-
Net Changes	117,159	-	117,159
Balances Ending at 12/31/2023	$ 804,729	$ -	$ 804,729

The changes in Total OPEB Liability above are described on the prior page. The OPEB Plan Net Position was detailed in the prior section of this report. The Employer's Net OPEB Liability is the excess of the Total OPEB Liability over the OPEB Plan Net Position.

DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES

The table below shows the cumulative amounts to be shown as Deferred Outflows and Inflows of Resources. Changes in Total OPEB Liability related to the difference in actual and expected experience, or changes in assumptions regarding future events, are recognized in OPEB Expense over the expected remaining service life of all employees (active and retired) in the postretirement plan. Differences in projected and actual earnings over the measurement period are recognized over a 5-year period. Amounts not yet recognized are summarized below:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences Between Expected and Actual Experience	$ -	$ 382,144
Changes of Assumptions	163,137	121,797
Net Difference Between Projected and Actual Earnings on Postretirement Plan Investments	-	-
Total Deferred to Be Recognized in Future Expense	$ 163,137	$ 503,941
Contributions Subsequent to the Measurement Date*	$ -	$ -
Total	$ 163,137	$ 503,941

*Contributions subsequent to the Measurement Date may be recognized as a reduction to the Net OPEB Liability. The amount is not known as of the date of this report. Subsequent to the Measurement Date, the following amounts will be recognized in OPEB Expense in the upcoming years:

Year Ended December 31:	
2024	$ (23,566)
2025	(23,566)
2026	(23,566)
2027	(23,566)
2028	(23,566)
Thereafter	(222,974)

DEFERRED OUTFLOWS AND INFLOWS OF RESOURCES - DETAILS

The table below shows the annual detail amounts that have been summarized on the prior page. Under Statement 75, the level of detail shown on the prior page is sufficient for financial statement reporting. The detail shown below is primarily for tracking purposes.

OPEB Expense Source	Date Established	Initial Period	Initial Balance	Remaining Period	12/31/2023 Expense Recognized	12/31/2023 Deferred Balance
Change in Assumptions Loss	12/31/2023	14.20	$ 34,908	14.20	$ 2,459	$ 32,449
Change in Assumptions Gain	12/31/2022	14.20	(88,231)	13.20	(6,214)	(75,803)
Actuarial Gain	12/31/2022	14.20	(404,072)	13.20	(28,456)	(347,160)
Change in Assumptions Gain	12/31/2021	12.02	(29,268)	10.02	(2,435)	(21,963)
Change in Assumptions Loss	12/31/2020	12.09	41,808	9.09	3,459	27,972
Actuarial Gain	12/31/2020	12.09	(52,284)	9.09	(4,325)	(34,984)
Change in Assumptions Loss	12/31/2019	11.20	185,556	7.20	16,568	102,716
Change in Assumptions Gain	12/31/2018	11.20	$ (51,763)	6.20	$ (4,622)	$ (24,031)
Total			$ (363,346)		$ (23,566)	$ (340,804)

Each detail item in the chart above was established as of the Fiscal Year-End shown and the full amount deferred has been determined as of that time. Any events that occur in subsequent Fiscal Years do not have an impact on the prior Fiscal Year. The bases are established independently each year.

OPEB EXPENSE DEVELOPMENT

The table below displays the OPEB Expense development for the current year. The OPEB Expense includes items that change the Net OPEB Liability from one year to the next, netted out for amounts that are deferred under GASB pronouncement, plus any amounts that are being recognized that were deferred previously.

See below for development of the OPEB Expense:

		12/31/2023
OPEB Expense/(Income) Under GASB 75		
Service Cost	$	67,346
Interest		25,383
Plan Changes		-
Contributions - Employee		-
Contributions - Other		-
Expected Investment Income		-
Administrative Expense		-
Other Changes		-
Initial OPEB Expense/(Income)		92,729
Recognition of Outflow/(Inflow) of Resources due to Liabilities		(23,566)
Recognition of Outflow/(Inflow) of Resources due to Assets		-
Total OPEB Expense/(Income)	**$**	**69,163**

BREAKDOWN OF RESULTS BY GROUP

Division	IMRF	POL	Total
Total OPEB Liability - Beginning	$ 132,839	$ 554,731	$ 687,570
Service Cost	12,728	54,618	67,346
Interest Cost	4,797	20,586	25,383
Change of Benefit Terms	-	-	-
Changes in Proportions from Prior to Current	(2,888)	2,888	
Differences Between Expected and Actual Experience	-	-	-
Changes of Assumptions	6,598	28,310	34,908
Benefit Payments	(1,980)	(8,498)	(10,478)
Total OPEB Liability - Ending	$ 152,094	$ 652,635	$ 804,729
Market Value of Assets - Beginning	$ -	$ -	$ -
Market Value of Assets - Ending	$ -	$ -	$ -
Net OPEB Liability - Beginning	$ 132,839	$ 554,731	$ 687,570
Net OPEB Liability - Ending	$ 152,094	$ 652,635	$ 804,729
Service Cost - Ending	$ 12,290	$ 61,948	$ 74,238
Current Year Proportion	18.90%	81.10%	
Participant Counts			
Active Employees	71	40	111
Inactive Employees Currently Receiving Benefit	0	1	1
Inactive Employees Entitled to But Not Yet Receiving Benefits	0	0	0
Total Plan Members	71	41	112

BREAKDOWN OF RESULTS BY GROUP - CONTINUED

Division	IMRF	POL	Total
Deferred Outflows			
Differences Between Expected and Actual Experience	$ -	$ -	$ -
Changes of Assumptions	30,833	132,304	163,137
Net Difference Between Projected and Actual Earnings on Postretirement Plan Investments	-	-	-
Contributions Subsequent to the Measurement Date	-	-	-
Total Deferred Outflows	$ 30,833	$ 132,304	$ 163,137
Deferred Inflows			
Differences Between Expected and Actual Experience	$ 72,225	$ 309,919	$ 382,144
Changes of Assumptions	23,020	98,777	121,797
Net Difference Between Projected and Actual Earnings on Postretirement Plan Investments	-	-	-
Contributions Subsequent to the Measurement Date	-	-	-
Total Deferred Inflows	$ 95,245	$ 408,696	$ 503,941
Service Cost	$ 12,728	$ 54,618	$ 67,346
Interest	4,797	20,586	25,383
Plan Changes	-	-	-
Contributions (Employee & Other)	-	-	-
Expected Investment Income	-	-	-
Administrative Expense	-	-	-
Other Changes	-	-	-
Recognition of Outflow/(Inflow) of Resources - Liabilities	(4,454)	(19,112)	(23,566)
Recognition of Outflow/(Inflow) of Resources - Assets	-	-	-
Total OPEB Expense/(Income)	$ 13,071	$ 56,092	$ 69,163

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NOTES ON BREAKDOWN OF RESULTS BY GROUP

Estimated Actuarially Determined Contribution (ADC)

The plan is currently an unfunded obligation. An Actuarially Determined Contribution (ADC) has been estimated here for purposes of allocating costs to various divisions for internal reporting purposes.

Purpose

The allocations provided are intended to be used internally by the Village for financial statement reporting by the Village to the extent the Village wishes to allocate these costs in general. The allocation is not required by GASB 75. The allocated amounts are not intended to provide disclosure for any component unit that requires its own individual audit.

Scope

Service Cost as of the beginning of the year, Total OPEB Liability, Deferred Inflows and Outflows of Resources related to the difference in actual and expected experience, changes in assumptions, difference between projected and actual earnings and contributions subsequent to the Measurement Date are allocated proportionally to each group based on the ADC.

Method

Service Cost and Net OPEB Liability as of the end of the year are calculated directly for each group in the calculation of the ADC. Net OPEB Liability is amortized over a 20-year time frame on a level percent of payroll basis.

Limitations

The ADC shown is not based on the Village's funding policy and is not intended as a recommendation at this time. It is only intended to provide a metric for allocating financial statement costs to various divisions at the Village.

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ACTUARIAL ASSUMPTION INFORMATION

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STATEMENT OF SIGNIFICANT ACTUARIAL ASSUMPTIONS

The assumptions detailed below are based on the baseline calculations for the Fiscal Year ended December 31, 2022, except for the assumed end of year discount rate.

Assumptions (Economic)

Discount Rate Used for the Total OPEB Liability		
	Beginning of Year	3.72%
	End of Year	3.26%
Long-Term Expected Rate of Return on Plan Assets		N/A
High Quality 20 Year Tax-Exempt G.O. Bond Rate		
	Beginning of Year	3.72%
	End of Year	3.26%
Total Payroll Increases		2.75%
Claims and Premiums		See Accompanying Tables
Healthcare Cost Trend Rates		See Accompanying Tables
Retiree Contribution Rates		Same as Healthcare Cost Trend Rates

Blended Premium Rates See accompanying table for premiums charged for coverage.

Annual Blended Premiums				
	Under Age 65		Age 65 & Over	
	Retiree	Spouse	Retiree	Spouse
BluePrint PPO	$10,074	$11,239	$10,074	$11,239
BlueEdge HDHP	$8,468	$9,426	$8,468	$9,426
Basic HMO	$7,202	$8,111	$7,202	$8,111
Enhanced HMO	$7,680	$8,650	$7,680	$8,650

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STATEMENT OF SIGNIFICANT ACTUARIAL ASSUMPTIONS – CONTINUED

Healthcare Cost Trend Rates

Health Care Trend (FY = Fiscal Year)	Period	PPO / HDHP Plans	HMO Plans
	FY 22 to FY 23	8.50%	10.50%
	FY 23 to FY 24	6.00%	5.25%
	FY 24 to FY 25	5.50%	5.00%
	FY 25 to FY 26	5.50%	5.00%
	FY 26 to FY 27	5.00%	4.75%
	Ultimate	5.00%	4.75%

Claims See accompanying tables for the age 64 projected claims costs and the age-grading factors used to calculate claims for all ages:

Projected Claims Costs (Age 64)				
	Retiree		Spouse	
	Male	Female	Male	Female
BluePrint PPO	$20,526	$21,447	$21,522	$21,960
BlueEdge HDHP	$17,294	$18,070	$18,133	$18,502
Basic HMO	$14,343	$14,986	$15,039	$15,345
Enhanced HMO	$15,589	$16,289	$16,346	$16,679

Claims Age-Adjustment Factors (Adjusted From Age 64)				
	Retiree		**Spouse**	
Age	Male	Female	Male	Female
50	0.5320	0.6092	0.8730	0.8649
55	0.6753	0.6945	0.8717	0.8214
60	0.8451	0.8358	0.9248	0.8668
64	1.0000	1.0000	1.0000	1.0000
65	0.3787	0.3787	0.3787	0.3787
70	0.4527	0.4527	0.4527	0.4527
75	0.4915	0.4915	0.4838	0.4915
80	0.5269	0.5269	0.5175	0.5269
85	0.5510	0.5510	0.5405	0.5510
90	0.5621	0.5621	0.5511	0.5622

Statement of Significant Actuarial Assumptions – Continued

Assumptions (Demographic)

Election at Retirement

Coverage election at retirement is assumed at the following rates:

All Groups	30%

If an employee has waived active medical coverage, it is assumed they will elect coverage in the retiree medical plan at 1/3 the rate of active employees currently with coverage.

Spousal Election

Of those employees assumed to elect coverage in retirement, 0% are assumed to elect spousal coverage. Female spouses are assumed to be 3 years younger than male spouses.

Plan Participation

It is assumed that the employees will participate in plans according to the distribution shown below:

BluePrint PPO	15%
BlueEdge HDHP	60%
Basic HMO	10%
Enhanced HMO	15%

Retiree Lapse Rates

Retirees receiving medical coverage are expected to lapse all coverages at age 65 at the following rates:

IMRF & Police	100%
PSEBA	0%

STATEMENT OF SIGNIFICANT ACTUARIAL ASSUMPTIONS – CONTINUED

Retirement Rates

IMRF — Based on Rates from IMRF Experience Study Report dated December 14, 2020

Police — 100% of L&A Assumption Study Cap Age 65 for Police 2020. Sample rates are as follows:

Age	Rate	Age	Rate
50	0.110	53	0.127
51	0.116	54	0.134
52	0.121	55	0.140

Termination Rates

IMRF — Based on Rates from IMRF Experience Study Report dated December 14, 2020

Police — 100% of L&A Assumption Study for Police 2020. Sample rates are as follows:

Age	Rate	Age	Rate
25	0.080	40	0.022
30	0.034	45	0.016
35	0.028	50	0.005

Disability Rates

IMRF — Based on Rates from IMRF Experience Study Report dated December 14, 2020

Police — 100% of L&A Assumption Study for Police 2020. Sample rates are as follows:

Age	Rate	Age	Rate
25	0.0000	40	0.0038
30	0.0006	45	0.0053
35	0.0018	50	0.0048

STATEMENT OF SIGNIFICANT ACTUARIAL ASSUMPTIONS – CONTINUED

Mortality Rates

IMRF	PubG-2010(B) Improved Generationally using MP-2020 Improvement Rates, weighted per IMRF Experience Study Report dated December 14, 2020
Police	Active Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study improved to 2017 using MP-2019 Improvement Rates. These rates are then improved generationally using MP-2019 Improvement Rates.
	Retiree Mortality follows the L&A Assumption Study for Police 2020. These rates are experience weighted with the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study improved to 2017 using MP-2019 Improvement Rates. These rates are then improved generationally using MP-2019 Improvement Rates.
	Disabled Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010 Study for disabled participants improved to 2017 using MP-2019 Improvement Rates. These rates are then improved generationally using MP-2019 Improvement Rates.
	Spouse Mortality follows the Sex Distinct Raw Rates as developed in the PubS-2010(A) Study for contingent survivors. For all rates not provided there (ages 45 and younger) the PubG-2010 Study for general employees was used. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

All mortality rates are adjusted for retirement status. IMRF spouses use the same mortality tables as retirees.

55% of active Police Participants who become disabled are assumed to be eligible for PSEBA benefits.

Assumption Changes

The assumed rate on High Quality 20-year Tax-Exempt G.O. Bonds was changed from 3.72% to 3.26% for the current year. The underlying index used is the Bond Buyer 20-Bond GO Index as discussed in more detail later in this section. The choice of index is unchanged from the prior year. The rate has been updated to the current Fiscal Year end based on changes in market conditions as reflected in the Index. The change was made to reflect our understanding of the requirements of GASB under Statement 74 and Statement 75.

Since the Employer does not have a trust dedicated exclusively to the payment of OPEB benefits, the discount rate used in the determination of the Total OPEB Liability was also changed from 3.72% to 3.26%. See the *Assumptions (Economic)* section for more details.

Expected Return on OPEB Plan Investments

There is currently no expectation for future returns on OPEB plan assets since the OPEB obligation is an unfunded obligation. The Employer does not have a trust dedicated exclusively to the payment of OPEB benefits.

MUNICIPAL BOND RATE

The Municipal Bond Rate assumption is based on The Bond Buyer 20-Bond GO Index. The beginning of year rate shown earlier in the *Statement of Significant Assumptions* section of this report is the 3.72% rate, and the end of year rate shown is the 3.26% rate. The 20-Bond GO Index is based on an average of certain general obligation municipal bonds maturing in 20 years and having an average rating equivalent of Moody's Aa2 and Standard & Poor's AA.

The indexes represent theoretical yields rather than actual price or yield quotations. Municipal bond traders are asked to estimate what a current-coupon bond for each issuer in the indexes would yield if the bond was sold at par value. The indexes are simple averages of the average estimated yields of the bonds.

DISCOUNT RATE

The discount rate used in the determination of the Total OPEB Liability is based on a combination of the Expected Long-Term Rate of Return on Plan Assets and the Municipal Bond Rate. If the Employer does not have a trust dedicated exclusively to the payment of OPEB benefits, as is the case with the Village, then only the Municipal Bond Rate is used in determining the Total OPEB Liability.

If the postretirement plan is funded, cash flow projections are used to determine the extent which the plan’s future Net Position will be able to cover future benefit payments. To the extent future benefit payments are covered by the plan’s projected Net Position, the expected rate of return on plan investments is used to determine the portion of the Net OPEB Liability associated with those payments. To the extent future benefit payments are not covered by the plan’s projected Net Position, the Municipal Bond Rate is used to determine the portion of the Net OPEB Liability associated with those payments.

Projected benefit payments are determined during the valuation process based on the assumptions. More details on the assumptions are in the *Statement of Significant Assumptions* section of this report. The expected contributions are based on the Funding Policy of the plan. The Funding Policy is discussed in more detail in a later section.

INFLATION RATE

The Long-Term Inflation Expectation used is 2.25%, which is an underlying component of the discount rate and assumed health care trend rates.

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Development of Starting Claims Costs

Starting costs for the Village's Plan were developed based on the blended premiums charged for coverage. The insurance carrier charges actives and retirees the same premium rates. According to GASB, when an Employer provides benefits to both active employees and retirees through the same plan, the benefits to retirees should be segregated and measured independently for actuarial measurement purposes. The projection of future retiree benefits should be based on claims costs, or age-adjusted premiums approximating claims costs, for retirees. As such, premiums were estimated for under-65 retirees and their spouses as if they were rated on a stand-alone basis. The results were then disaggregated into age-specific starting costs based on average ages and assumptions on the relationship between costs and increasing age.

The medical cost increase represents the combination of the inflation in the price of health care services, changes in utilization (other than age-related changes), technological advances in medical care, and changes in the health status of plan participants. No adjustment has been made to the expected medical trend for the impact of COVID-19. An analysis of this matter is beyond the scope of this valuation. The future impact may result in material changes in claims beyond the date of this valuation. Information about the future cost impact of this disease is thin. Some of the variables include projected inflation rates due to localized experience, the amount of postponed and avoided medical care services, the amount and timing of the catch-up of deferred care, the impact of COVID-19 on other conditions such as stress and depression, impacts on general economic conditions, and other factors.

Assessment and Use of Actuarial Models

Actuarial Valuations rely upon the use of actuarial modeling software to predict the occurrence of future events, which include specific demographic and financial potential outcomes. Actuarial assumptions are established to provide a guideline to use for such modeling.

- The model used in this Actuarial Valuation is intended to determine the Total OPEB Liability to assist in the preparation of the Annual Comprehensive Financial Report. The actuarial assumptions used were developed with this goal in mind.
- There are no known material limitations or inconsistencies among the actuarial assumptions or methods.
- The output from the model is reasonable based on the individual actuarial assumptions and based on the actuarial assumptions in the aggregate.
- The actuarial software used to calculate plan liabilities has been purchased from an outside vendor. We have performed thorough testing of the software, including review of sample participants, to ensure the intended purpose of the model, the operation of the model, sensitivities and dependencies, and strengths and limitations of the model are sufficient for this purpose.
- Census data and financial information have been provided by client professionals, financial advisors, and/or auditors, who are known to be experts in their respective fields. We rely on the fact that the information provided by these experts has been given for the intended purpose of this Actuarial Valuation.

SENSITIVITY OF THE DISCOUNT RATE

The Net OPEB Liability has been determined using the end of year discount rate listed in the *Statement of Significant Assumptions* section. Below is a table illustrating the sensitivity of the Net OPEB Liability to the discount rate assumption.

	1% Decrease (2.26%)	Current Discount Rate (3.26%)	1% Increase (4.26%)
Employer's Net OPEB Liability/(Asset)	$886,208	$804,729	$730,919

The sensitivity of the Net OPEB Liability to the discount rate is based primarily on two factors:

1. The duration of the plan's expected benefit payments. Younger plans with benefit payments further in the future will be more sensitive to changes in the discount rate.

2. The funded percentage of the plan (ratio of the Net Position to the Total OPEB Liability). The higher the funded percentage, the higher the sensitivity to the discount rate.

SENSITIVITY OF THE HEALTHCARE COST TREND RATES

Below is a table illustrating the sensitivity of the Net OPEB Liability to the Healthcare Cost Trend Rates assumption.

	1% Decrease (Varies)	Healthcare Cost Trend Rates (Varies)	1% Increase (Varies)
Employer's Net OPEB Liability/(Asset)	$681,423	$804,729	$960,658

Please refer to the *Assumptions (Economic)* section for full list of assumed trend rates.

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PARTICIPANT DATA

Participant Demographic Data
Expected Future Working Lifetime

PARTICIPANT DEMOGRAPHIC DATA

The chart below summarizes the employee count of plan Members:

Measurement Date	12/31/2022	12/31/2023
Total Active Employees	111	111
Inactive Employees Currently Receiving Benefit Payments	1	1
Inactive Employees Entitled To But Not Yet Receiving Benefit Payments	0	0
Total	112	112

Because this is a limited-year report, we did not collect new census data, but instead relied on the census data used in the baseline calculations for the Fiscal Year ended December 31, 2022. The data is assumed to be a reasonable representation of data as of the Measurement Date and may have been collected on or before the Fiscal Year-End date.

The above total active employee counts include 8 participants who have waived medical coverage. If an employee has waived active medical coverage, it is assumed they will elect coverage in the retiree medical plan at 1/3 the rate of active employees currently with coverage.

EXPECTED FUTURE WORKING LIFETIME

The chart below summarizes the expected future working lifetime of plan Members:

Measurement Date	12/31/2022	12/31/2023
Average Future Working Career (In Years)		
Active Plan Members	14.33	14.33
Inactive Plan Members	0.00	0.00
Total	14.20	14.20

The expected future working lifetime is measured as of the Actuarial Valuation Date and is based on the demographic assumptions used in the preparation of this report.

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FUNDING POLICY

Components of the Actuarially Determined Contribution
Formal Funding Policy
Informal Funding Policy

COMPONENTS OF THE ACTUARIALLY DETERMINED CONTRIBUTION

The Actuarially Determined Contribution (“ADC”) includes the determination of the Normal Cost contribution for active plan Members, as well as a provision for the payment of Unfunded Liability.

Unfunded Liability is the excess of the Total OPEB Liability over the postretirement plan’s Net Position.

For the Village of Lake in the Hills, there is no determination of an ADC and Normal Cost, as the Total OPEB Liability is currently an unfunded obligation. The Employer does not have a trust dedicated exclusively to the payment of OPEB benefits.

FORMAL FUNDING POLICY

There is no Formal Funding Policy that exists for the postretirement plan at this time, as the Total OPEB Liability is currently an unfunded obligation.

INFORMAL FUNDING POLICY

There is no Informal Funding Policy determined for GASB reporting purposes, as the Total OPEB Liability is currently an unfunded obligation.

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SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in the Net OPEB Liability

	12/31/2023	12/31/2022	12/31/2021	12/31/2020	12/31/2019	12/31/2018	12/31/2017	12/31/2016	12/31/2015	12/31/2014
Total OPEB Liability										
Service Cost	$ 67,346	$ 96,230	$ 93,483	$ 39,217	$ 33,157	$ 35,948				
Interest	25,383	22,154	21,509	27,197	32,141	27,761				
Changes of Benefit Terms	-	-	-	-	-	-				
Differences Between Expected and Actual Experience	-	(404,072)	-	(52,284)	-	-				
Change in Assumptions	34,908	(88,231)	(29,268)	41,808	185,556	(51,763)				
Benefit Payments	(10,478)	(27,845)	(21,962)	(45,969)	(37,984)	(31,432)				
Net Change in Total OPEB Liability	$ 117,159	$ (401,764)	$ 63,762	$ 9,969	$ 212,870	$ (19,486)				
Total OPEB Liability - Beginning	687,570	1,089,334	1,025,572	1,015,603	802,733	822,219				
Total OPEB Liability - Ending (a)	$ 804,729	$ 687,570	$ 1,089,334	$ 1,025,572	$ 1,015,603	$ 802,733				
OPEB Plan Net Position										
Contributions - Employer	$ 10,478	$ 27,845	$ 21,962	$ 45,969	$ 37,984	$ 31,432				
Contributions - Members	-	-	-	-	-	-				
Contributions - Other	-	-	-	-	-	-				
Net Investment Income	-	-	-	-	-	-				
Benefit Payments	(10,478)	(27,845)	(21,962)	(45,969)	(37,984)	(31,432)				
Administrative Expense	-	-	-	-	-	-				
Net Change in OPEB Plan Net Position	$ -	$ -	$ -	$ -	$ -	$ -				
OPEB Plan Net Position - Beginning	-	-	-	-	-	-				
OPEB Plan Net Position - Ending (b)	$ -	$ -	$ -	$ -	$ -	$ -				
Employer's Net OPEB Liability/(Asset) - Ending (a) - (b)	$ 804,729	$ 687,570	$ 1,089,334	$ 1,025,572	$ 1,015,603	$ 802,733				

The current year information was developed in the completion of this report.

SCHEDULE OF TOTAL OPEB LIABILITY AND RELATED RATIOS

	12/31/2023	12/31/2022	12/31/2021	12/31/2020	12/31/2019	12/31/2018	12/31/2017	12/31/2016	12/31/2015	12/31/2014
Total OPEB Liability - Ending (a)	$ 804,729	$ 687,570	$ 1,089,334	$ 1,025,572	$ 1,015,603	$ 802,733				
OPEB Plan Net Position - Ending (b)	$ -	$ -	$ -	$ -	$ -	$ -				
Employer's Net OPEB Liability/(Asset) - Ending (a) - (b)	$ 804,729	$ 687,570	$ 1,089,334	$ 1,025,572	$ 1,015,603	$ 802,733				
OPEB Plan Net Position as a Percentage of the Total OPEB Liability	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%				
Covered-Employee Payroll	$10,068,946	$ 10,012,478	$ 9,371,028	$ 9,120,222	$ 5,995,529	$ 5,671,095				
Employer's Net OPEB Liability as a Percentage of Covered-Employee Payroll	7.99%	6.87%	11.62%	11.25%	16.94%	14.15%				

Covered-Employee Payroll is based on Total Covered Payroll for the postretirement plan Members during the Fiscal Year.

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Schedule of Contributions

	12/31/2023	12/31/2022	12/31/2021	12/31/2020	12/31/2019	12/31/2018	12/31/2017	12/31/2016	12/31/2015	12/31/2014
Actuarially Determined Contribution	N/A	N/A	N/A	N/A	N/A	N/A				
Contributions in Relation to the Actuarially Determined Contribution	-	-	-	-	-	-				
Contribution Deficiency (excess)	N/A	N/A	N/A	N/A	N/A	N/A				
Covered-Employee Payroll	$ 10,068,946	$ 10,012,478	$ 9,371,028	$ 9,120,222	$ 5,995,529	$ 5,671,095				
Contributions as a Percentage of Covered-Employee Payroll	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%				

Notes to Schedule of Contributions

There is no ADC or Employer Contribution in relation to the ADC, as there is no Trust that exists for funding the OPEB Liability. However, the Village did make contributions from other Village resources in the current year in the amount of $10,478.

GASB METHODS AND PROCEDURES

GASB Methods and Procedures

GASB METHODS AND PROCEDURES

	Statement 74 OPEB Plan Financials	Statement 75 Employer Financials
Fiscal Year End for Reporting	**December 31, 2023**	**December 31, 2023**
Measurement Date	December 31, 2023	December 31, 2023
Actuarial Valuation Date	January 1, 2023	January 1, 2023
Data Date	January 1, 2023	January 1, 2023
Asset Valuation Method	Market Value of Assets	Market Value of Assets
Actuarial Cost Method	Entry Age Normal	Entry Age Normal

Methodology Used in the Determination of Deferred Inflows and Outflows of Resources

Amortization Method	Straight Line	Straight Line
Amortization Period		
Actuarial Experience	14.20 Years	14.20 Years
Changes in Assumptions	14.20 Years	14.20 Years
Asset Experience	5.00 Years	5.00 Years

As noted in the table above, the Actuarial Funding Method used in the determination of the Total OPEB Liability is the Entry Age Normal Cost method (level percent of pay). The method allocates Normal Cost contributions by employee over the working career of the employee as a level percent of their pay.

The Total OPEB Liability for the current Fiscal Year has been developed based on the Actuarial Valuation Date shown above, and adjusted to the Measurement Date shown above, based on procedures that conform to generally accepted actuarial principles and practices.

GASB Methods and Procedures – Continued

We calculated the Total OPEB Liability and Service Cost under the Entry Age Normal funding method as required under GASB 75. We calculated the Present Value of Benefits for each participant at each potential retirement age, factoring in probabilities of survival thereafter. We used the appropriate group tables to determine a probability that active members retire at each age to determine the Present Value of Benefits. We adjusted this using the Present Value of Future Salaries at Entry Age, factoring in interest, salary, and probability of remaining active from entry age to current age, to obtain Normal Cost. We then calculated the Present Value of Future Normal Costs and subtracted this from the Present Value of Benefits to obtain Total OPEB Liability. This methodology is in accordance with GASB Statement 74/75.

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PLAN PROVISIONS

Summary of Eligibility and Coverage

Summary of Eligibility and Coverage

The plan sponsor has reviewed and agreed to the below eligibility and coverage provisions.

Eligibility Provisions

Tier I IMRF Full-Time Village Employees age 55 with at least 8 years of service are covered

Tier II IMRF Full-Time Village Employees age 62 with at least 10 years of service are covered

Tier I Full-Time Police Officers, at least 50 years old with at least 20 years of service are covered

Tier II Full-Time Police Officers, at least 55 years old with at least 10 years of service are covered

Medical Coverage Provisions

Plans Offered

Basic HMO

Enhanced HMO

BluePrint PPO

BlueEdge HDHP

Coverage Provisions:

Retiree pays the full cost of coverage.

Dependent coverage ends at the same time as that for the retiree.

Coverage is secondary to Medicare once eligible.

PSEBA Coverage:

The Village pays the full cost of the Basic HMO premium for Duty-Disabled or PSEBA members. If a different plan is elected, the retiree is responsible for the difference in the cost of coverage.

Dependent coverage ends at the same time as that for the retiree.

Coverage is secondary to Medicare once eligible.

SUMMARY OF ELIGIBILITY AND COVERAGE – CONTINUED

Dental and Vision Coverage Provisions

Plans Offered

Dental

Vision

Coverage Provisions (includes PSEBA):

Retiree pays the full cost of coverage.

Coverage ends when Retiree stops paying for it.

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GLOSSARY OF TERMS

GASB 74/75 Terminology

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GASB 74/75 TERMINOLOGY

Covered-Employee Payroll – The payroll of employees that are provided with OPEB through the OPEB plan.

Healthcare Cost Trend Rates – The rates of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

Implicit Subsidy – The difference between a premium rate charged to retirees for a particular benefit and the estimated rate that would have been applicable to those retirees if that benefit was acquired for them as a separate group.

Net OPEB Liability ("NOL") – The excess of the Total OPEB Liability over the Market Value of Assets.

OPEB Expense **–** OPEB Expense arising from certain changes in the collective Net OPEB Liability or collective Total OPEB Liability.

OPEB Fiduciary Net Position ("Net Position") – The value of cash, investments, other assets and property belonging to an OPEB Trust dedicated to paying OPEB benefits.

OPEB Trust – A system other than a pension or retirement system which manages OPEB assets. Contributions to an OPEB Trust should be irrevocable in order to obtain the most favorable accounting treatment.

Other Postemployment Benefits ("OPEB") – Benefits (such as death benefits, life insurance, disability, and long-term care) that are paid in the period after employment and that are provided separately from a pension plan, as well as healthcare benefits paid in the period after employment, regardless of the manner in which they are provided.

Service Cost – The present value of future benefits earned by employees during the current Fiscal Year. It is that portion of the actuarial present value of benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

Total OPEB Liability ("TOL") – The actuarial present value of future benefits based on employees' service rendered to the Measurement Date using the selected Actuarial Cost Method. It is that portion of the actuarial present value of plan benefits and expenses allocated to prior years of employment.

Retirees & Dependents – Former employees who have satisfied the age and service requirement and are currently receiving postretirement healthcare benefits.

Actives Fully Eligible – Active employees who have satisfied the age and service requirement for postretirement healthcare benefits.

Actives Not Fully Eligible – Active employees who have not yet satisfied the age and service requirement for postretirement healthcare benefits.

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Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

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AGENDA ITEM NO: 4.B.2

REQUEST FOR BOARD ACTION

MEETING DATE: July 9, 2024

DEPARTMENT: Finance

SUBJECT: Police Pension Plan Annual Financial Report for the Fiscal Year Ended December 31, 2023

EXECUTIVE SUMMARY

The results of the Lake in the Hills Police Pension Fund GASB 67/68 Report Actuarial Valuation are needed by the Village's auditing firm to complete their audit of the financial statements for the year ended December 31, 2023. A copy of that audit report is attached and noteworthy items include:

- The Plan's membership consisted of 71 members – 42 active members and 29 inactive members.
- The Plan's annual money-weighted rate of return net of investment expense for 2023 was 13.27%.
- The Plan's net position increased by $5,127,174 during the year.
- The Plan's total net position as of December 31, 2023 was $49,058,819.
- The Plan's total pension liability as of December 31, 2023 was $52,634,825.
- The net pension liability as of December 31, 2023 was $3,576,006.
- The Plan's funded percentage as of December 31, 2023 on a fair value of assets basis was 93.21%.

The Annual Financial Report for the Police Pension Plan will be incorporated into the Annual Comprehensive Financial Report of the Village and, as such, the cost of the Police Pension Plan audit is split evenly between the Village and the Police Pension Fund.

The Police Pension Plan Annual Financial Report for the Fiscal Year Ended December 31, 2023 will be presented to the Police Pension Board at their July 15th meeting after which a funding request will be made and a Municipal Compliance Report will be prepared and presented to the Village Board for consideration in the development of the FY25 Village budget.

FINANCIAL IMPACT

None.

ATTACHMENTS

1. Police Pension Plan Annual Financial Report for the Fiscal Year Ended December 31, 2023

RECOMMENDED MOTION

Motion to accept and place on file the Police Pension Plan Annual Financial Report for the Fiscal Year Ended December 31, 2023.

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VILLAGE OF LAKE IN THE HILLS, ILLINOIS
POLICE PENSION PLAN
ANNUAL FINANCIAL REPORT
FOR THE FISCAL YEAR ENDED
DECEMBER 31, 2023

VILLAGE OF LAKE IN THE HILLS, ILLINOIS
POLICE PENSION PLAN
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GW & ASSOCIATES, PC
CERTIFIED PUBLIC ACCOUNTANTS

INDEPENDENT AUDITOR'S REPORT

To the Honorable President and Board of Trustees
Police Pension Plan
Village of Lake in the Hills, Illinois

Opinions

We have audited the accompanying financial statements of the Police Pension Fund, a fiduciary component unit of the Village of Lake in the Hills, Illinois as of and for the year ended December 31, 2023, and the related notes to the financial statements, which collectively comprise the Police Pension Fund's basic financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the Police Pension Fund of the Village of Lake in the Hills, Illinois, as of December 31, 2023, and the respective changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinions

We conducted our audit in accordance with auditing standards generally accepted in the United States of America Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Police Pension Fund, and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Police Pension Fund's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

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In performing an audit in accordance with generally accepted auditing standards, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Police Pension Fund's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Police Pension Fund's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Required Supplementary Information

The Police Pension Fund has not presented management's discussion and analysis as required supplementary information that accounting principles generally accepted in the United States of America require to be presented to supplement the basic financial statements. Such missing information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. Our opinion on the basic financial statements is not affected by this missing information.

In addition, accounting principles generally accepted in the United States of America require that the schedule of changes in the employer's net pension liability and related ratios, schedule of employer contributions and schedule of investment returns be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

GW & Associates, P.C.

Hillside, Illinois
June 28, 2024

VILLAGE OF LAKE IN THE HILLS, ILLINOIS
POLICE PENSION PLAN
STATEMENT OF FIDUCIARY NET POSITION
DECEMBER 31, 2023

Assets		
Cash	$	47,612
Investments		
Illinois Funds		655,164
IPOPIF Consolidated Pool		48,367,393
Prepaid Items		2,318
Total Assets		49,072,487
Liabilities		
Accounts Payable		13,668
Net Position Restricted for Pension Benefits	$	49,058,819

See notes to financial statements

VILLAGE OF LAKE IN THE HILLS, ILLINOIS
POLICE PENSION PLAN
STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED DECEMBER 31, 2023

Additions	
Contributions	
Employer	$ 732,300
Employee	407,499
Total Contributions	1,139,799
Investment Income	
Net Appreciation in Fair Value of Investments	5,456,000
Interest	345,301
Total Investment Income	5,801,301
Less Investment Expense	65,643
Net Investment Earnings	5,735,658
Total Additions	6,875,457
Deductions	
Pension Benefits	1,670,812
Administrative Expenses	77,471
Total Deductions	1,748,283
Change in Net Position	5,127,174
Net Position Restricted for Pension Benefits	
Beginning of Year	43,931,645
End of Year	$ 49,058,819

See notes to financial statements

VILLAGE OF LAKE IN THE HILLS, ILLINOIS
POLICE PENSION PLAN

NOTES TO FINANCIAL STATEMENTS

December 31, 2023

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The financial statements of the Police Pension Plan of the Village of Lake in the Hills, Illinois (the Plan), have been prepared in conformity with accounting principles generally accepted in the United States of America, as applied to government units (hereinafter referred to as generally accepted accounting principles (GAAP)). The Governmental Accounting Standards Board (GASB) is the accepted standard-setting body for establishing governmental accounting and financial reporting principles. The more significant of the Plan's accounting policies are described below.

A. Reporting Entity

The Plan is a blended fiduciary component unit reported as a pension trust fund of the Village of Lake in the Hills, Illinois (the Village) pursuant to GASB Statement Nos. 61 and 84.

B. Fund Accounting

The Plan uses funds to report on its financial position and the changes in its financial position. Fund accounting is designed to demonstrate legal compliance and to aid financial management by segregating transactions related to certain governmental functions or activities. A fund is a separate accounting entity with a self-balancing set of accounts. Funds are classified in this report into the fiduciary category.

Fiduciary funds are used to account for fiduciary activities (e.g., assets held on behalf of outside parties, including other governments). When pension plan assets are held under the terms of a formal trust agreement, a pension trust fund is used.

C. Basis of Accounting

The pension trust fund is accounted for on a flow of economic resources measurement focus. With this measurement focus, all assets and liabilities associated with the operation of this fund are included on the statement of fiduciary net position. Pension trust fund operating statements present increases (e.g., additions) and decreases (e.g., deductions) in net total position.

The accrual basis of accounting is utilized by the pension trust fund. Under this method, additions are recorded when earned and deductions are recognized when due.

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

D. Investments

Investments with a maturity of less than one year when purchased, non-negotiable certificates of deposit and other nonparticipating investments are stated at cost or amortized cost. Money market mutual funds are stated at amortized cost, which approximates fair value. Investments with a maturity greater than one year when purchased are stated at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

E. Accounting Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, deferred outflows of resources, liabilities and deferred inflows of resources and disclosure of contingent assets and liabilities at the date of the financial statement and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

2. PLAN DESCRIPTION

<u>Police Pension Plan</u>

Plan Administration

Police sworn personnel are covered by the Plan. Although this is a single-employer pension plan, the defined benefits and employee and employer contribution levels are governed by Illinois Compiled Statutes (40 ILCS 5/3-1) and may be amended only by the Illinois legislature. The Village accounts for the Plan as a pension trust fund.

The Plan is governed by a five-member Board of Trustees. Two members of the Board of Trustees are appointed by the Village’s Mayor, one member is elected by pension beneficiaries and two members are elected by active police employees.

The Plan is accounted for on the economic resources measurement focus and the accrual basis of accounting. Employer and employee contributions are recognized when earned in the year that the contributions are required, benefits and refunds are recognized as an expense and liability when due and payable.

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2. PLAN DESCRIPTION (Continued)

Police Pension Plan (Continued)

Plan Membership

At December 31, 2022 (actuarial valuation date), the Plan membership consisted of:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	24
Inactive Plan Members Entitled to but not yet Receiving Benefits	5
Active Plan Members	42
TOTAL	71

Benefits Provided

The Plan provides retirement benefits as well as death and disability benefits. Tier 1 employees (those hired as a police officer prior to January 1, 2011) attaining the age of 50 or older with 20 or more years of creditable service are entitled to receive an annual retirement benefit equal to one-half of the salary attached to the rank held on the last day of service, or for one year prior to the last day, whichever is greater. The annual benefit shall be increased by 2.50% of such salary for each additional year of service over 20 years up to 30 years to a maximum of 75% of such salary. Employees with at least eight years but less than 20 years of credited service may retire at or after age 60 and receive a reduced benefit. The monthly benefit of a police officer who retired with 20 or more years of service after January 1, 1977, shall be increased annually, following the first anniversary date of retirement and be paid upon reaching the age of at least 55 years, by 3% of the original pension and 3% compounded annually thereafter.

Tier 2 employees (those hired on or after January 1, 2011) attaining the age of 55 or older with ten or more years of creditable service are entitled to receive an annual retirement benefit equal to the greater of the average monthly salary obtained by dividing the total salary during the 48 consecutive months of service within the last of 60 months in which the total salary was the highest by the number of months in that period; or the average monthly salary obtained by dividing the total salary of the police officer during the 96 consecutive months of service within the last 120 months of service in which the total salary was the highest by the number of months of service in that period. Police officers' salary for pension purposes is capped at $106,800, plus the lesser of ½ of the annual change in the Consumer Price Index or 3% compounded. The annual benefit shall be increased by 2.50% of such salary for each additional year of service over 20 years up to 30 years to a maximum of 75% of such salary. Employees with at least ten years may retire at or after age 50 and receive a reduced benefit (i.e., ½% for each month under 55).

2. PLAN DESCRIPTION (Continued)

Police Pension Plan (Continued)

Benefits Provided (Continued)

The monthly benefit of a Tier 2 police officer shall be increased annually at age 60 on the January 1st after the police officer retires, or the first anniversary of the pension starting date, whichever is later. Noncompounding increases occur annually, each January thereafter. The increase is the lesser of 3% or ½ of the change in the Consumer Price Index for the preceding calendar year.

Contributions

Employees are required by Illinois Compiled Statutes (ILCS) to contribute 9.91% of their base salary to the Plan. If an employee leaves covered employment with less than 20 years of service, accumulated employee contributions may be refunded without accumulated interest. The Village is required to contribute the remaining amounts necessary to finance the Plan, including the costs of administering the plan, as actuarially determined by an enrolled actuary. Effective January 1, 2011, the Village has until the year 2040 to fund 90% of the past service cost for the Plan. However, the Village has elected to fund 100% of the past service cost for the Plan by 2033. For the year ended December 31, 2023, the Village's contribution was 17.81% of covered payroll.

3. INVESTMENTS

The deposits and investments of the Plan are held separately from those of the Village.

As of June 1, 2022, investments were turned over to the Illinois Police Officers Pension Investment Fund (IPOPIF). The Illinois Police Officers Pension Investment Fund (IPOPIF) is an investment trust fund responsible for the consolidation and fiduciary management of the pension assets of Illinois suburban and downstate police pension funds. IPOPIF was created by Public Act 101-0610, and codified within the Illinois Pension Code, becoming effective January 1, 2020, to streamline investments and eliminate unnecessary and redundant administrative costs, thereby ensuring assets are available to fund pension benefits for the beneficiaries of the participating pension funds. Participation in IPOPIF by Illinois suburban and downstate police pension funds is mandatory. Investments of the Fund are combined in a commingled external investment pool and held by IPOPIF. A schedule of investment expenses is included in IPOPIF's annual report. For additional information on IPOPIF's investments, please refer to their annual report as of June 30, 2023. A copy of that report can be obtained from IPOPIF at 456 Fulton Street, Suite 402 Peoria, Illinois 61602 or at www.ipopif.org.

At year-end the Fund has $48,367,393 invested in IPOPIF measured at the Net Asset Value (NAV) per share as determined by the pool. The pooled investments consist of the investments as noted in the target allocation table available at www.ipopif.org .

3. INVESTMENTS (Continued)

The Fund retains all its available cash with two financial institutions and with the Illinois Funds. Available cash is determined to be that amount which is required for the current expenditures of the Fund. The excess of available cash is required to be transferred to IPOPIF for purposes of the long term investment for the Fund.

Custodial credit risk for deposits with financial institutions is the risk that in the event of bank failure, the Fund's deposits may not be returned to it. The Fund requires pledging of collateral for all bank balances in excess of federal depository insurance, at an amount not less than 110% of the fair value of the funds secured. All deposits with financial institutions are secured by federal depository insurance.

Investment Policy – IPOPIF's current investment policy was adopted by the Board of Trustees on December 17, 2021. IPOPIF is authorized to invest in all investments allowed by Illinois Compiled Statutes (ILCS). The IPOPIF shall not be subject to any of the limitations applicable to investments of pension fund assets currently held by the transferor pension funds under Article 3 of the Illinois Pension Code.

Rate of Return - The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. For the year ended December 31, 2023, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 13.27%.

4. PENSION LIABILITY OF THE VILLAGE

A. Net Pension Liability

Total Pension Liability	$ 52,634,825
Plan Fiduciary Net Position	49,058,819
Village's Net Pension Liability	3,576,006
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	93.21%

See the schedule of changes in the employer's net pension liability (asset) and related ratios on page 12 of the required supplementary information for additional information related to the funded status of the Plan.

4. PENSION LIABILITY OF THE VILLAGE (Continued)

B. Actuarial Assumptions

The total pension liability above was determined by an actuarial valuation as of December 31, 2022, using the following actuarial methods and assumptions. The total pension liability was rolled forward by the actuary using updating procedures to December 31, 2023.

Actuarial Valuation Date	December 31, 2022
Measurement Date	December 31, 2023
Actuarial Cost Method	Entry-Age Normal
Assumptions	
Inflation	2.25%
Salary Increases	3.75% to 10.77%
Interest Rate	6.75%
Cost of Living Adjustments	3.00% - Tier 1 One Half of CPI-U - Tier 2
Asset Valuation Method	Five Year Smoothed Fair Value

Active mortality rates are based on Sex Distinct Raw Rates as developed in the PubS-2010(A) Study. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

Retiree mortality rates follow the L&A Assumption Study for police 2020. These rates are experience weighted with the Sex Distinct Raw rates as developed in the PubS-2010(A) Study improved to 2017 using MP-2019 Improvement Rates. These rates are then improved fully generationally using MP-2019 Improvement Rates.

Disabled Mortality follows the Sex Distinct Raw Rates as developed in the PubS- 2010 Study for Disabled Participants. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

4. PENSION LIABILITY OF THE VILLAGE (Continued)

B. Actuarial Assumptions (Continued)

Spouse Mortality follows the Sex Distinct Raw rates as developed in the PubS- 2010(A) Study for Contingent Survivors. For all rates not provided there (ages 45 and younger) the PubG-2010 Study for general employees was used. Mortality improvement uses MP-2019 Improvement Rates applied on a fully generational basis.

Other demographic assumption rates are based on a review of assumptions in the L&A 2020 study for Illinois Police Officers.

C. Discount Rate

The discount rate used to measure the total pension liability was 6.75%. The projection of cash flows used to determine the discount rate assumed that member contributions will be made at the current contribution rate and that the Village contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on those assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

D. Discount Rate Sensitivity

The following is a sensitivity analysis of the net pension liability (asset) to changes in the discount rate. The table below presents the net pension liability (asset) of the Village calculated using the discount rate of 6.75% as well as what the Village's net pension liability (asset) would be if it were calculated using a discount rate that is 1 percentage point lower (5.75%) or 1 percentage point higher (7.75%) than the current rate:

	1% Decrease (5.75%)	Current Discount Rate (6.75%)	1% Increase (7.75%)
Net Pension Liability (Asset)	$ 12,044,760	$ 3,576,006	$ (3,250,687)

5. CONTINGENT LIABILITIES

The Plan is subject to a program compliance audit by the Illinois Department of Insurance. The compliance audit for the year ended December 31, 2023 has not yet been conducted. Accordingly, the Plan's compliance with applicable requirements will be established at some future date. The amount of adjustments, if any, to be made by the Illinois Department of Insurance cannot be determined at this time although the Plan expects such amount, if any, to be immaterial.

VILLAGE OF LAKE IN THE HILLS, ILLINOIS
POLICE PENSION FUND
SCHEDULE OF CHANGES IN THE EMPLOYER'S
NET PENSION LIABILITY AND RELATED RATIOS

Last Ten Fiscal Years

FISCAL YEAR ENDED DECEMBER 31	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service Cost	$ 914,462	$ 819,172	$ 927,272	$ 989,863	$ 973,114	$ 1,017,162	$ 1,089,035	$ 1,126,128	$ 1,134,941	$ 1,151,525
Interest	1,972,342	2,166,890	2,290,894	2,385,137	2,551,157	2,677,085	2,743,686	2,820,349	3,057,382	3,308,154
Changes of Benefit Terms	-	-	-	-	-	171,924	-	-	(21,581)	-
Differences Between Expected and Actual Experience	723,430	(965,189)	56,947	109,340	(581,406)	127,910	(2,070,960)	(1,476,642)	953,572	1,095,056
Changes of Assumptions	1,077,358	709,326	(862,520)	-	-	463,113	(308,204)	-	-	-
Benefit Payments, Including Refunds of Member Contributions	(739,738)	(783,911)	(1,002,314)	(1,030,489)	(1,019,055)	(1,135,494)	(1,111,062)	(1,245,771)	(1,489,933)	(1,670,812)
Net Change in Total Pension Liability	3,947,854	1,946,288	1,410,279	2,453,851	1,923,810	3,321,700	342,495	1,224,064	3,634,381	3,883,923
Total Pension Liability - Beginning	28,546,180	32,494,034	34,440,322	35,850,601	38,304,452	40,228,262	43,549,962	43,892,457	45,116,521	48,750,902
Total Pension Liability - Ending (a)	$ 32,494,034	$ 34,440,322	$ 35,850,601	$ 38,304,452	$ 40,228,262	$ 43,549,962	$ 43,892,457	$ 45,116,521	$ 48,750,902	$ 52,634,825
Plan Fiduciary Net Position										
Contributions - Employer	$ 1,020,259	$ 1,066,419	$ 1,248,941	$ 1,292,435	$ 1,369,010	$ 1,370,263	$ 1,484,407	$ 1,645,039	$ 6,048,402	$ 732,300
Contributions - Member	328,681	347,585	410,317	379,776	352,025	389,244	439,448	445,060	396,608	407,499
Contributions - Other	-	105	-	-	-	-	-	-	72,633	-
Net Investment Income	1,101,370	(83,151)	1,386,255	3,005,889	(1,388,420)	5,598,402	4,426,285	5,231,524	(6,422,254)	5,735,658
Benefit Payments, Including Refunds of Member Contributions	(739,738)	(783,911)	(1,002,314)	(1,030,489)	(1,019,055)	(1,135,494)	(1,111,062)	(1,245,771)	(1,489,933)	(1,670,812)
Administrative Expense	11,959	(27,935)	(27,378)	(25,049)	(44,211)	(45,326)	(50,524)	(66,541)	(59,934)	(77,471)
Net Change in Fiduciary Net Position	$ 1,722,531	$ 519,112	$ 2,015,821	$ 3,622,562	$ (730,651)	$ 6,177,089	$ 5,188,554	$ 6,009,311	$ (1,454,478)	$ 5,127,174
Plan Fiduciary Net Position - Beginning	20,861,794	22,584,325	23,103,437	25,119,258	28,741,820	28,011,169	34,188,258	39,376,812	45,386,123	43,931,645
Plan Fiduciary Net Position - Ending (b)	$ 22,584,325	$ 23,103,437	$ 25,119,258	$ 28,741,820	$ 28,011,169	$ 34,188,258	$ 39,376,812	$ 45,386,123	$ 43,931,645	$ 49,058,819
Net Pension Liability - Ending (a)-(b)	$ 9,909,709	$ 11,336,885	$ 10,731,343	$ 9,562,632	$ 12,217,093	$ 9,361,704	$ 4,515,645	$ (269,602)	$ 4,819,257	$ 3,576,006
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	69.5%	67.1%	70.1%	75.0%	69.6%	78.5%	89.7%	100.6%	90.1%	93.2%
Covered Payroll	$ 3,507,517	$ 3,833,606	$ 3,628,173	$ 3,746,089	$ 3,172,999	$ 3,276,121	$ 3,945,289	$ 3,914,759	$ 4,001,969	$ 4,111,986
Net Pension Liability as a Percentage of Covered Payroll	282.5%	295.7%	295.8%	255.3%	385.0%	285.8%	114.5%	-6.9%	120.4%	87.0%

Notes to Required Supplementary Information

Year Ended December 31, 2020 - There was a change with respect to actuarial assumptions to reflect revised expectations with respect to the marital assumption for retiree and disabled members to the actual spousal data.

Year Ended December 31, 2019 - There was a change with respect to actuarial assumptions to reflect revised expectations with respect to inflation rate, individual pay increases, mortality rates, mortality improvement rates, retirement rates, termination rates, disability rates and marital assumptions. In addition, there were changes in plan benefits required under PA-101-0610 (SB 1300).

Year Ended December 31, 2016 - The mortality assumption was updated to include mortality improvements as stated in the most recently released MP-2016 table and rates are now being applied on a fully-generational basis.

Year Ended December 31, 2015 - There was a change with respect to actuarial assumptions related to the assumed rate on High Quality 20-Year Tax-Exempt G.O. Bonds. The rate was changed to 3.57%. Additionally, the discount rate used in the determination of the total pension liability was changed from 7.00% to 6.75%. Certain demographic assumptions were also changed, which impacted mortality rates, mortality improvement rates, retirement rates, disability rates and termination rates.

Year Ended December 31, 2014 - There was a change with respect to actuarial assumptions to reflect revised expectations with respect to mortality rates, disability rates, turnover rates and retirement rates.

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VILLAGE OF LAKE IN THE HILLS, ILLINOIS
POLICE PENSION PLAN
SCHEDULE OF EMPLOYER CONTRIBUTIONS

Last Ten Fiscal Years

FISCAL YEAR ENDED DECEMBER 31	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially Determined Contribution	$ 1,018,934	$ 1,067,861	$ 1,250,911	$ 1,293,479	$ 1,370,179	$ 1,372,114	$ 1,498,027	$ 1,634,382	$ 1,435,317	$ 1,256,791
Contributions in Relation to the Actuarially Determined Contribution	1,020,259	1,066,419	1,248,941	1,292,435	1,369,010	1,370,263	1,484,407	1,645,039	6,048,402	723,300
Contribution Deficiency (Excess)	(1,325)	1,442	1,970	1,044	1,169	1,851	13,620	(10,657)	(4,613,085)	524,491
Covered Payroll	3,507,517	3,833,606	3,628,173	3,746,089	3,172,999	3,276,121	3,945,289	3,914,759	4,001,969	4,111,986
Contributions as a Percentage of Covered Payroll	29.09%	27.82%	34.42%	34.50%	43.15%	41.83%	37.62%	42.02%	151.14%	17.81%

Notes to the Required Supplementary Information

Valuation Date	Actuarially Determined Contribution Rates are Calculated as of January 1 of the Prior Fiscal Year.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry-Age Normal
Amortization Method	Level Percent of Pay, Closed; 100% through 2033
Remaining Amortization Period	10 Years
Asset Valuation Method	Five-Year Smoothed Fair Value
Return on Investments	6.75%
Inflation	2.25%
Salary Increases	3.75% to 10.77%
Payroll Growth	3.25%
Mortality	Pub-2010 Adjusted for Plan Status, Demographics, and Illinois Public Pension Data, as Appropriate

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VILLAGE OF LAKE IN THE HILLS, ILLINOIS
POLICE PENSION PLAN
SCHEDULE OF INVESTMENT RETURNS

Last Ten Fiscal Years

FISCAL YEAR ENDED DECEMBER 31	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Annual Money-Weighted Rate of Return, Net of Investment Expense	5.49%	-41.00%	6.07%	12.09%	-4.88%	20.20%	13.75%	13.50%	2.01%	13.27%

Notes to Required Supplementary Information

Ultimately, this schedule should present information for the last ten years. Hoever, until ten years of information can be compiled, information will be presented for as many years as is available

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AGENDA ITEM NO: 4.C.1

REQUEST FOR BOARD ACTION

MEETING DATE: July 9, 2024

DEPARTMENT: Public Works - Airport

SUBJECT: 3CK-4814 Airport - Amendment to Engineering Services Agreement

EXECUTIVE SUMMARY

Staff is seeking Board approval for an amendment to the Agreement for Engineering Services between the Village of Lake in the Hills and Crawford, Murphy, and Tilly, Inc. (CMT). This amendment is necessitated by unforeseen additional engineering efforts required during the construction phase of the "Rehabilitate and Reprofile Runway 8/26" project.

On April 14, 2022, the Village of Lake in the Hills entered into an agreement with Crawford, Murphy, and Tilly, Inc. for construction phase services related to the rehabilitation and reprofiling of Runway 8/26. The initial contract, as specified in Section II.C., provided for a not-to-exceed payment of $163,600.00.

Several unforeseen circumstances necessitated additional engineering efforts, which include the coordination with Illinois Department of Natural Resources "IDNR" for EcoCAT and National Pollutant Discharge Elimination System "NPDES" permit approvals. This task required an extensive review of historical data and the resolution of multiple comments regarding groundwater contamination and stormwater management.

Furthermore, the evaluation of the Rusty Patch Bumble Bee habitat led to the remapping of the entire Airport property. Environmental scientists were engaged to perform field surveys and prepare determination letters regarding habitat potential.

The review of multiple aggregate submittals was also necessary due to limited aggregate availability, exacerbated by an aggregate strike and delays caused by IDNR permitting. Lastly, additional work was required to assist the FAA, IDA, and the Airport in reestablishing Instrument Flight Rules (IFR) procedures for the new runway endpoints.

FINANCIAL IMPACT

The additional costs for these required engineering services are eligible for federal and state participation. Per Section II.C. of the executed agreement, an amendment is warranted when an extension in time or a major change in the scope of work is necessary. IDOT-IDA has reviewed and approved this amendment (Attachment B). As a result of these unforeseen circumstances, both an increase in the time of performance and an expansion in the scope of work have occurred. These circumstances were not reasonably foreseeable within the contemplation of the original contract. Therefore, we request that Section II.C. of the agreement be revised to provide a not-to-exceed payment of $314,400.00. This would result in an increase of $7,540 in the Airport Fund.

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ATTACHMENTS

1. 3CK-4814 Rehabilitate & Reprofile Runway 8-26 Engineering Services Agreement Amendment

RECOMMENDED MOTION

Motion to approve Amendment to Construction Phase Services Agreement request with Crawford, Murphy, and Tilly, Inc. (CMT), for an amendment to the Agreement for Engineering Services revised to provide a not-to-exceed payment of $314,400.00.

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May 30, 2024

Mr. Derek Rowbotham
Airport Manager
Lake in the Hills Airport
8397 Pyott Road
Lake in the Hills, IL 60156

Re: 20025502.06 *Lake in the Hills Airport*
Lake in the Hills, Illinois
Illinois Project No.: 3CK-4814
SBG Project No.: 3-17-SBGP-144/156/162/171
Rehabilitate and Reprofile Runway 8/26
Amendment to Construction Phase Engineering Services

Dear Derek:

As IDOT has provided their approval, enclosed are two copies of the amendment to the agreement for construction phase engineering on the above referenced project for review and execution. Upon execution of the agreement, please retain one (1) copy for your records and return the remaining copy to our office.

Should you have questions or require additional information, please contact our office.

Respectfully Submitted,

CRAWFORD, MURPHY & TILLY, INC.

Douglas J. Klonowski, PE

Douglas J. Klonowski, PE
Vice President/Aurora Office Co-Manager

Encls. (CPS Amendment)
c: CMT – Contract File 20025502.06

550 N Commons Drive Suite 116 Aurora, Illinois 60504 PHONE 630.820.1022 FAX 630.820.0350 cmtengr.com Engineers and Consultants

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<u>AMENDMENT TO AGREEMENT FOR ENGINEERING SERVICES</u>
(Construction Phase Services)

Lake in the Hills Airport
Village of Lake in the Hills
Lake in the Hills, Illinois
IL Project: 3CK-4814
AIP Project: 3-17-SBGP-144/152/166

WHEREAS, on April 14, 2022 the **Village of Lake in the Hills** (hereinafter referred to as the “Owner”), and **Crawford, Murphy and Tilly, Inc.** (hereinafter referred to as the “Engineer”) entered into an Agreement for Engineering Services for construction phase services for the **Rehabilitate and Reprofile Runway 8/26**, and

WHEREAS, Section II.C. of the executed contract provided for a not-to-exceed payment of $163,600.00, and

WHEREAS, additional engineering effort was required to coordinate with IDNR for the EcoCAT and NPDES permit approvals with additional review of the necessary historical data and multiple comment and response resolution on groundwater contamination and stormwater management, and

WHEREAS, additional engineering effort was required to evaluate the remapping of the Rusty Patch Bumble Bee habitat zone which now encompasses all of the Airport property, and required engagement of environmental scientists to perform field surveys and prepare determination letters regarding habitat potential, and

WHEREAS, additional engineering effort was required to review multiple aggregate submittals due to the limited availability of aggregate due to the aggregate strike that was ongoing at the start of the project and further impacted by the delay caused by the IDNR permitting, and

WHEREAS, additional engineering effort was required to assist FAA, IDA and the Airport in the reestablishment of the Instrument Flight Rules (IFR) procedures for the new runway end points, and

WHEREAS, the additional costs for required additional engineering services are to be provided are eligible for federal and state participation, and

WHEREAS, per Section II.C. of the executed agreement an amendment will be negotiated when an extension in time of completion is required for the completion of the project or when a major change or an addition to the scope of work is required, and IDOT-IDA has reviewed and approved (Attachment B), and

WHEREAS, as a result of the before mentioned circumstances both an increase in time of performance and increase in the scope of work has occurred, and

WHEREAS, the circumstances, which necessitated this amendment, were not reasonably foreseeable nor were they within the contemplation of the contract as executed.

NOW THEREFORE BE IT RESOLVED, that Section II.C. agreement be revised to provide a not-to-exceed payment of $314,400.00.

IN WITNESS WHEREOF, the parties hereto have affixed their hands and seals at **Lake in the Hills, Illinois**, this **May 23**, 2024.

ATTEST:

(SEAL)

Village of Lake in the Hills
(Sponsor Name)

36-6009195
(Federal Employee's Identification Number)

BY ______________________

Shannon DuBeau, Village Clerk
Printed Name & Title

BY ______________________

Ray Bogdanowski, Village President
Printed Name & Title

ATTEST:

(SEAL)

CRAWFORD, MURPHY & TILLY, INC. CORPORATE SEAL 1963 DELAWARE

CRAWFORD, MURPHY & TILLY, INC.
(Consultant Name)

37-0844662
(Federal Employee's Identification Number)

BY [signature]

Daniel L. Pape, PE, Aviation Group Mgr.
Printed Name & Title

BY [signature], PE

Douglas J. Klonowski, PE, Vice President
Printed Name & Title

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General Conditions

A. CERTIFICATION OF ENGINEER

I hereby certify that I am the Vice President and duly authorized representative of the firm Crawford, Murphy & Tilly, Inc. , who address is 2750 West Washington Street, Springfield, Illinois 62702 , and that neither I nor the above firm I here represent has:

(a) employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me or the above consultant) to solicit or secure this agreement.

(b) agreed, as an express or implied condition for obtaining this contract, to employ or retain the services of any firm or person in connection with carrying out the agreement, or

(c) paid or agreed to pay to any firm, organization, or person (other than a bona fide employee working solely for me or the above consultant) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the contract; except as here expressly stated (if any):

The firm certifies by execution this amendment that:

(a) It has not been convicted of bribery or attempting to bribe an officer or employee of the State of Illinois, nor has the firm made an admission of guilt of such conduct which is a matter of record, nor has an official, agent, or employee of the firm committed bribery or attempted bribery on behalf of the firm and pursuant to the direction or authorization of a responsible official of the firm, nor has the firm been barred from being awarded a contract or subcontract under Section 10.1 of the Illinois Purchasing Act.

(b) it has not been barred from contracting with a unit of state or local government as a result of a violation of Section 33E-3 or 33E-4 of the Criminal Code of 1961.

I acknowledge that this certificate is to be furnished to the Federal Aviation Administration of the United States' Department of Transportation in connection with this contract involving participation of Airport Improvement Program (AIP) funds and is subject to applicable state and Federal laws, both criminal and civil.

May 23, 2024	Doug J Klonowski, PE
Date	Douglas J. Klonowski, PE, Vice President Crawford, Murphy and Tilly, Inc.

B. CERTIFICATION OF CAPACITY TO CONTRACT

Section II.I of the Illinois Purchasing Act (Illinois Revised Statutes, Chapter I27, Paragraph I32.II-I), a copy of which is attached, prohibits certain persons and entities from having or acquiring any contract with the State of Illinois and from having or acquiring any direct pecuniary interests in any contract with the State of Illinois, whether for materials, services, supplies, printing or stationery. This prohibition does not extend to certain contracts for personal services of a ministerial nature as provided for in Section II.I or to subcontracts. (I976 Op. Atty. Gen. No. S-I28I).

(Corporation)

The undersigned, being the duly authorized Regional Managers of Crawford, Murphy and Tilly, Inc., a corporation, hereby certify that they have read Section II.I of the Illinois Purchasing Act and that they have checked the records of the corporation and that no person who is entitled to receive individually more than 7 1/2% of the total distributable income of the corporation, or together with their spouse or minor child more than 15% of the total distributable income of the corporation, is (i) an elected State official, a member of the General Assembly, an appointed State officer, a State employee; (ii) an officer or employee of the Illinois Toll Highway Authority or of the Illinois Building Authority; or (iii) a spouse or a minor child of any such enumerated person.

May 23, 2024
Date

Crawford, Murphy and Tilly, Inc.
Corporation

(Corporate Seal)

CRAWFORD, MURPHY & TILLY, INC.
CORPORATE
SEAL
1963
DELAWARE

By: ______________________
Douglas J. Klonowski, PE
Vice President

By: ______________________
Daniel L. Pape, PE
NI Aviation Group Manager

C. NON-APPROPRIATION CLAUSE Obligations of the State will cease immediately without penalty or further payment being required in any fiscal year the Illinois General Assembly fails to appropriate or otherwise make available sufficient funds for payment of this Agreement.

Company Name: **Crawford, Murphy and Tilly, Inc**

By: ______________________
(Douglas J. Klonowski, PE, Vice President)

Attachment A

Section VI. Personnel and Task Analysis

Lake in the Hills Airport (3CK) - Rehabilitate and Reprofile Runway 8/26

Construction Phase Services - Estimate of Cost | Estimate of Salary Expense

	Work Task Description	Project to Date - Task Hours Used	Remaining Hours Estimated to Complete Project	Total Hours Per Amendment	Final Net Hours By Task (Per Proposed Amend.)	Hours Per Original Agreement	Principal	Project Engineer II	Project Environmental Scientist II	Project Manager II	Project Engineer I	Project Manager I	Senior EngineerI	GIS Specialist	Environmental Scientist II	Engineer I	Planner I	Environmental Scientist I	Land Surveyor	Senior Technician II	Senior Technician I	Technician I	Project Administative Assistant	Per Contract	As Amended
	Hourly Rate Per Agreement =					Total	$78.00	$72.91	$69.25	$69.46	$57.69	$56.76	$42.66	$41.39	$37.94	$32.69	$32.80	$29.69	$43.10	$51.09	$40.40	$28.87	$27.53	Average (contract)	
Rehabiliate and Reprofile Runway 8/26 | Construction Phase Services																									
	Actual Hours By Task (To Date-01/31/24) =	1,573.00					0.5	66.5	3.0	24.0	274.0	73.5	593.25	34.0	13.25	261.5	5.0	3.5	14.0	0.0	42.0	156.0	9.0		$73,306.50
																							average per hour (Actual)		$46.60
	Estimate contained in executed Contract					990.00	0	72	0	0	0	0	584	0	0	248	0	0	50	36	0	0	0	$42,264.32	
																							average per hour Per Contract	$42.69	
	Construction Cost: $2,087,655.34																								
6000	Office Engineering	159.5	4.0	163.5	71.5	92	0	52	0	0	0	0	28	0	0	10	0	0	0	2	0	0	0		
6020	PreConstruction Preparation Conference	87.75	0.0	87.75	57.75	30	0	12	0	0	0	0	12	0	0	6	0	0	0	0	0	0	0		
6030	Permitting/Agency/Code Related Coordination	36.5	0.0	36.5	28.5	8	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0		
6040	Surveying/Layout/Project Control	97.0	0.0	97.0	47.0	50	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0		
6050	Resident Project Engineer and Assistants	746.75	0.0	746.75	22.75	724	0	0	0	0	0	0	498	0	0	194	0	0	0	32	0	0	0		
6060	Quality Assurance Engineer and Effort	15.0	0.0	15.0	(1.0)	16	0	0	0	0	0	0	10	0	0	6	0	0	0	0	0	0	0		
6070	Utility Coordination/Relocation/Protection	0.0	0.0	0.0	(20.0)	20	0	4	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0		
6080	Final Inspection and Follow-up Action	12.0	0.0	12.0	0.0	12	0	4	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0		
6090	Punchlist Completion/Project Closeout	14.0	4.0	18.0	2.0	16	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0		
6100	Record Drawings	4.0	1.0	5.0	(3.0)	8	0	0	0	0	0	0	4	0	0	2	0	0	0	2	0	0	0		
6110	Construction Documentation/Material Closeout	12.5	6.0	18.5	4.5	14	0	0	0	0	0	0	8	0	0	6	0	0	0	0	0	0	0		
9000	Flight Procedures Re-Establishment	388.0	40.0	428.0	428.0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	Hours to date plus anticipated to completion =	1573.0	55.0	1628.0	638.0	990.0																			
	Allowance for Labor to Complete Project																							n/a	2,563.16
	Total Labor																							$ 42,264.32	$ 75,869.66
	Overhead on Labor	54.69%																						$ 23,114.36	$ 41,493.12
	General And Administrative Overhead	112.14%																						$ 47,395.21	$ 85,080.24
	Overtime Premium to Date																							$ -	$ 3,800.01
	Direct Expenses																							$ 3,922.00	$ 6,348.14
	Fixed Payment (Profit)																							$ 16,900.00	$ 30,825.72
	Subconsultants:																							$ 30,000.00	$ 68,457.00
	GeoServices Testing (Billed to date) =	$ 29,995.00	$ 2,820.00		$ 32,815.00	30,000.00																			
	NV5 Spatial (Billed To Date) =	$ 10,672.00	$ 24,970.00		$ 35,642.00	0.00																			
	Estimate of Total Costs																							$163,595.89	$314,437.06
	USE TOTAL COST PLUS FIXED FEE																							$163,600.00	$314,400.00

Attachment B – IDOT Amendment Approval

Illinois Department of Transportation

Office of Intermodal Project Implementation / Division of Aeronautics
1 Langhorne Bond Drive / Springfield, Illinois 62707-8415

April 17, 2024

Robert Heinz
Crawford Murphy & Tilly, Inc.
550 N. Commons Drive
Suite 116
Aurora, IL 60504-8172

RE: Lake In The Hills Airport
Illinois Project: 3CK-4814
A.I.P. Project: 3-17-SBGP-144/156/162
Engineering Amendment

Dear Doug Klonowski:

We are responding to your letter and Construction Phase Engineering Amendment Application (form AER 2020) dated 02/09/2024, concerning the above referenced Amendment to the Agreement for Engineering Services.

After a thorough review and based on the outcome of the meeting we had with FAA, CMT on 3/22/2024, we have determined that the amendment is warranted on the merits claimed in the form AER 2020. The revised Not-To-Exceed may be increased by an amount of $150,800.00 to bring the final Not-To-Exceed to an amount of $314,400.00. In accordance with the submitted amendment request, the Fixed Fee has been increased from $16,900.00 to $ 30,825.00. Federal and State participation are subject to availability of funds.

The executed amendment and final construction engineering invoice must be sent to this office as soon as possible. Any delay in returning the executed amendment and final invoice may result in non-participation with state and federal funds.

Should you have any questions or comments regarding this, please contact me at (217) 558-4317.

Sincerely,

Ahlonko Agbofin Kokou, P.E.
Acting Engineer of Construction & Materials

AAK/aak

Attachment C – NV5 Spatial Subconsultant Proposal

NV5 GEOSPATIAL

September 21, 2023

Michael Truskoski
Crawford, Murphy & Tilly
125 South Wacker Drive, Suite 2880
Chicago, Illinois 60606

Project: 037249 | Aeronautical Obstruction Survey – Lake in the Hills Airport (3CK) – Runway 8/26 As-built

Dear Mr. Truskoski,

This summary of work describes our understanding of the scope of work and services required for an As-Built Survey at Lake in the Hills Airport (3CK) located in Lake in the Hills, IL. The project will be done in compliance with AGIS policies. The Advisory Circulars identified below detail the data collection requirements and accuracies for the project and the verification process by the Federal Aviation Administration (FAA) and the National Geodetic Survey (NGS).

- AC 150/5300-16B "General Guidance and Specifications for Aeronautical Surveys: Establishment of Geodetic Control and Submission to the National Geodetic Survey"
- AC 150/5300-17C, Change 1 "Standards for Using Remote Sensing Technologies in Airport Surveys"
- AC 150/5300-18B, Change 1 "General Guidance and Specifications for Submission of Aeronautical Surveys to NGS: Airport Survey Data Collection and Geographic Information System (GIS) Standards"

Summary of Work

The purpose of this project is to complete a FAA As-built survey and to verify the previously identified obstacles for the runway project.

In addition, and per FAA Policy Guidance issued 9/22/22, we will be reviewing the existing Obstacle Authoritative Source (OAS) obstacle data (137 existing objects in OAS within 18B surfaces) as a part of this project. Any obstacle removals will be completed by CMT using the FAA's Runway Airspace Management tool.

For this project, we will acquire new vertical stereo digital imagery at a physical image scale of 1"=4,274' of the obstruction surface areas and 1"=1,923' of the runway centerline. The aerial imagery will cover all of the VG Airspace Analysis surfaces using a Digital Mapping Camera III (DMC-III) during leaf-on conditions.

From the 1"=4,274' imagery, we will produce the following:

- 12" Color Digital Orthophoto

The online SOW will be prepared during project initiation with input from the airport, CMT, and NV5 Geospatial. NV5 Geospatial will be responsible for preparation and submittal of the Survey and Quality Control Plan, Imagery Acquisition Plan, Imagery Acquisition Report, Final Project Report and all associated data files as required for submission to the FAA ADIP online database.

Quality Standards

The project has been designed to conform to the National Map Accuracy Standards for 12 inch orthophoto production. In addition, we insure that the photogrammetric mapping will meet all FAA and NGS standards. We will exercise reasonable care and will conform to the standards of practice ordinarily used by the photogrammetric profession.

NV5 GEOSPATIAL

Project Area

The project area encompasses all of the Runway 8/26 area of Lake in the Hills Airport (3CK).

Control Surveying

The aerial photography will be completed with ABGPS control which will be used for the base control for the geo-referencing of the aerial imagery.

ABGPS data will be processed using COR stations and will be referenced to the project control datums:

Horizontal: North American Datum of 1983/2011 (NAD 83(2011)), in the IL State Plane Coordinate System, East Zone in US survey feet.
Vertical: North American Vertical Datum of 1988 (NAVD 88)

CMT will complete all of the on-site ground survey required for validating the Design data previously submitted.

- Geodetic control validation of the existing airport PACS and SACS stations or establish temporary airport control according to the guidelines established in AC 150/5300-16B
- Establishing all necessary photo-identifiable ground control and FAA mandated check-points required to validate the ABGPS and IMU control.
- Survey runway end(s)/threshold(s)
- Monument runway end(s)/threshold(s)
- Document runway end(s)/threshold locations
- Identify and survey any displaced threshold(s)
- Document displaced threshold(s) location
- Determine or validate runway length
- Determine or validate runway width
- Determine runway profile using [50 foot stations] – Runway 8/26
- Determine the touchdown zone elevation (TDZE)
- Provide a Final Report

Orthophoto Mapping

We will use the control solution and imagery to generate a Digital Elevation Model (DEM) of the airport runway. The imagery will be processed into color digital orthophotos using the aforementioned DEM to rectify the images. Orthophotos for the airport property area will be developed with a 1.0' pixel resolution. Orthos will be delivered in a GeoTIFF file format.

Production Schedule

We will work with you to finalize a mutually agreeable schedule for the project after FAA Control Plan approvals. We will make a reasonable effort to maintain the agreed-upon schedule. However, should the project be interrupted by technical problems beyond our control, including control deficiencies or map file re-deliveries rescheduling may become necessary.

N6216 Resource Drive, Sheboygan Falls, WI 53085

NV5 GEOSPATIAL

Deliverables

CMT will submit all data collected and associated required deliverable in the formats specified in the appropriate advisory circulars to the FAA Airport Data and Information Portal. All data submissions to the FAA will be through the program's web site at https://adip.faa.gov/agis/portal.

The AC 150/5300-17C project data deliveries that will not be submitted through the web site will be delivered on external hard drives or DVDs.

The 18B deliverables that will be uploaded to the ADIP website include:

- Statement of Work, Imagery Plan and Survey and Quality Control Plan
- Image Delivery
- Color digital orthophotos
- FGDC compliant metadata
- Final Report

We will deliver the following items to CMT:

- Results from the review of the 2019 obstruction Survey data in XLS/CVS
- OAS obstacle data spreadsheet containing changes (XLS format)
- Color digital orthophotos with a 1.0' pixel resolution in GeoTIFF
- 2 color enlargements (30"x40") covering the airport and surrounding area (mounted/laminated/framed)

All digital files will be delivered on external hard drive or CD/DVD.

Cost and Payment Terms

Compensation for the above services will be provided as a lump sum cost of U.S. $35,642.00.

Client Responsibilities

The successful and timely completion of this project is dependent upon a number of elements and work tasks, some of which involve participation by CMT. You will be responsible for designating a representative for the project who will have the authority to transmit instructions, receive information, and make timely decisions with respect to the services provided by NV5 Geospatial.

NV5 Geospatial Representative

Jill Mahoney, Project Manager and Marlin Zook, Technical Manager, will represent us during the performance of the services to be provided under this agreement. Each has the authority to transmit and receive instructions and make decisions with respect to the services. Each is authorized to commit the necessary resources towards completing the services described herein.

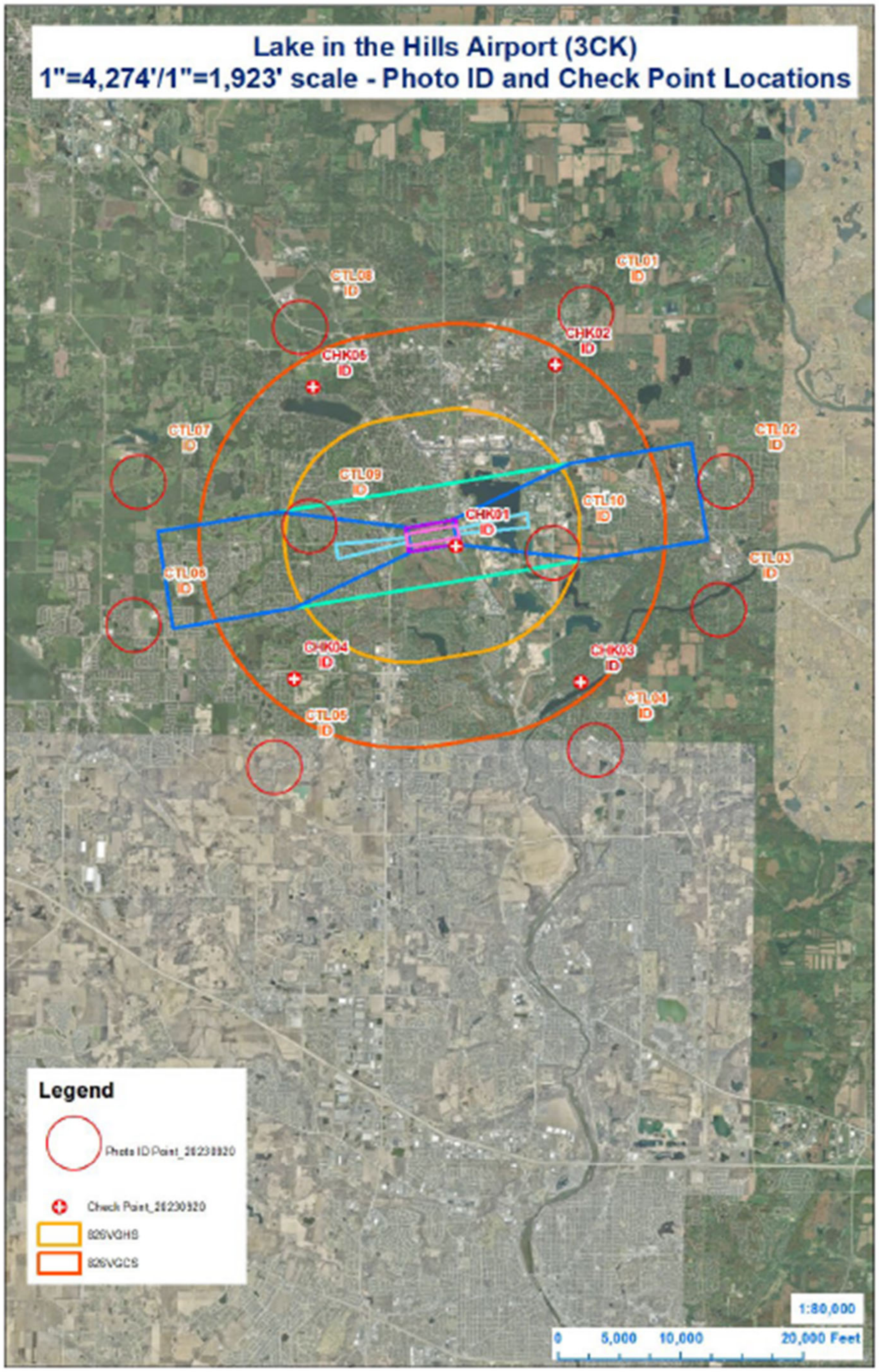
We look forward to working with you and your staff to complete this project in a timely and cost effective manner. Should you have any questions, please call our office at (803) 351-3136 or email me at the address shown below.

Sincerely,
NV5 Geospatial, Inc.,

David Grigg
Aviation Program Director
David.Grigg@NV5.com

N6216 Resource Drive, Sheboygan Falls, WI 53085

NV5 GEOSPATIAL



N6216 Resource Drive, Sheboygan Falls, WI 53085

Return to Agenda

Attachment D – GeoServices Inc. Subconsultant Amendment

AMENDMENT TO AGREEMENT FOR SUBCONTRACTOR SERVICES
(Construction Phase Services)

Lake in the Hills Airport
Rehabilitate and Reprofile Runway 8-26
Lake in the Hills, Illinois

WHEREAS, on April 1, 2022, **Crawford Murphy and Tilly. Inc** (hereinafter referred to as the "Consultant"), and **Geo Services, Inc.** (hereinafter referred to as the "Subcontractor") entered into an Agreement for Subcontractor Services for Design phase services for the **Rehabilitate and Reprofile Runway 8-26** project, and

WHEREAS, the number of tests required during the construction phase engineering agreement development stage were estimated to complete the material testing required to complete the Quality Assurance effort and field work required additional testing above what was estimated, and

WHEREAS, the circumstances, which necessitated this amendment, were not reasonably foreseeable nor were they within the contemplation of the contract as executed.

NOW THEREFORE BE IT RESOLVED, that Item #5 of the agreement be revised to provide a Total Payment of $32,815.00.

IN WITNESS WHEREOF, the parties hereto have affixed their hands and seals this 14th day of October, 2022.

Crawford, Murphy & Tilly, Inc.
(Consultant)

By: Douglas J Klonowski, PE

Name: Douglas J. Klonowski, PE

Title: Vice President

Geo Services, Inc.
(Subcontractor)

By: [signature]

Name: Julian Rueda, PE

Title: President