## MEMO

Date:	9/17/15
То:	Barrington Hills Board of Trustees
From:	Trustee Croll
RE:	William Blair Engagement/Pension Benefit Obligation Bond (PBOB)

Your Finance Committee held on September 16th a teleconference with John Peterson, Mike McIntyre, and David Able of William Blair & Co. Notice of the meeting was published with an agenda to discuss their possible engagement by the Village for a proposed 25-year PBOB. William Blair agreed to prepare a market-based estimate of the repayment schedule and an analysis of the potential savings in pension contributions that would accrue to the Village. This analysis is expected to be available to the Trustees for its September meeting.

William Blair proposed a financial advisory services agreement not to exceed \$23,500 to provide services that include: strategies, structuring, schedules, documentation, bid solicitations, a bid recommendation including True Interest Cost calculation, and a sales report. In short, William Blair will issue the PBOB for the Village and deposit the proceeds into our account. William Blair rejected the partial payment of \$7,000 approved by the Board at its August meeting. They requested approval for the entire amount of the contract, and in turn I requested from them a not to exceed number that the Board can vote on at the upcoming September meeting.

The Finance Committee unanimously (2-0) approved to recommend that the Village hire William Blair to act as advisor in issuing the PBOB for an amount not to exceed \$23,500.

#### Discussion to follow.

The current estimate for the par amount of the PBOB to be issued is \$6,860,000, though this number is likely to change somewhat after the new market-based estimate. The amount of the bond is tied to the goal of achieving 100% funding of the PPF in 2040, which depends on the interest rates the Village will pay, and the actuarially assumed investment earnings, according to Lauterbach and Amen is estimated at 6.5% CAGR. Underwriter fees amount to approximately 1% of the value of par value of bonds issued.

As Committee Chairman I have asked William Blair to prepare before the September meeting of the Board a sensitivity analysis of the projected savings to the Village. They agreed to provide this at no additional charge.

Sensitivity analysis changes model assumptions to gauge their effect. In this case, I want to lower the assumed investment earnings using extreme but historically justified return assumptions to see what happens to the projected savings. These results are important to me in determining whether or not I support issuing a PBOB, which in practice will be set in motion by voting if the Board votes to hire William Blair as financial advisor.

It should also be noted that if the Board votes to engage William Blair, it is committing to spending up to \$23,500, not to issuing the bond itself. The Village has the right to reject all of the bids to purchase the bond. However, that decision likely would have negative ramifications in any future efforts to issue bonds. The Village Board is required to vote to accept a bid or reject all bids on the day the bids are made. That day could be coordinated to occur on the November 19, 2015 meeting of the Board of Trustees.

William Blair advised the Finance Committee that they can recommend legal counsel for the bond issuance. They estimated the cost of counsel would be approximately \$15,000.

From: "McIntyre, Mike" < MMcIntyre@williamblair.com>

Date: Sep 25, 2015 4:47 PM

Subject: RE: PBOB materials

To: "Rosemary Ryba" <treasurer@barringtonhills-il.gov>, "Bryan Croll" <bcroll@barringtonhills-il.gov>

Cc: "Peterson, John" <jpeterson@williamblair.com>

Rosemary,

As we discussed on the phone the attached is the financial advisor agreement. The outlined fee will not exceed \$23,500.00 so long as the Village's bond issue is \$10 million or below.

Also attached is the summary of the different scenarios with exhibits behind it.

Mike

Michael McIntyre | DCM Investment Banking

William Blair & Company | 222 West Adams Street, Chicago, Illinois 60606

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#### IMPORTANT DISCLOSURES AND DISCLAIMERS

Per MSRB Rule G-17 and the SEC Municipal Advisor Rule, William Blair & Company, L.L.C. ("the Firm"), in its capacity as an underwriter of municipal securities, is not recommending an action to you as the municipal entity or obligated person. The information provided is not intended to be and should not be construed as "advice" within the meaning of Section 15B of the Securities Exchange Act of 1934. This information is being provided for discussion purposes, and you should discuss any information and material contained in this communication with any and all internal or external advisors and experts that you deem appropriate before acting on this information or material. Unless otherwise agreed, the Firm is not acting as a municipal advisor to you and does not owe a fiduciary duty pursuant to Section 15B of the Exchange Act to you with respect to the information and material contained in this communication. In our capacity as underwriter, our primary role will be to purchase the securities as a principal in a commercial, arms' length transaction, and we will have financial and other interests that differ from yours.

#### A RESOLUTION AUTHORIZING THE ACCEPTANCE OF A FINANCIAL ADVISORY AGREEMENT WITH WILLIAM BLAIR & COMPANY, L.L.C

**WHEREAS**, the Village of Barrington Hills ("Village") is considering the financing of a bond offering for its Police Pension Obligations as established by the authority of the Illinois Pension Code, 40 ILCS 5/3-101 et al; and

**WHEREAS**, the Finance Committee of the Board of Trustees at its meeting of September 16, 2015 recommended the consideration of William Blair & Company to provide financial advice in the financing of a bond offering; and

**WHEREAS**, the Village is in receipt of a Financial Advisory Agreement ("Agreement") from William Blair & Company which among other terms presents a cost not to exceed \$23,500.00 which Agreement is attached hereto and incorporated herein by reference as Exhibit "A".

**NOW, THEREFORE, BE IT RESOLVED** by the President and Board of Trustees of the Village of Barrington Hills, located in the Counties of Cook, Kane, Lake and McHenry, Illinois, as a Home Rule Municipality the following:

**SECTION ONE:** The recitals set forth above are found to be true and incorporated herein and made a part hereof.

**SECTION TWO:** The Village President is hereby authorized and directed to execute on behalf of the Village of Barrington Hills, the Financial Advisory Agreement ("Agreement") from William Blair & Company attached hereto and incorporated herein by reference as Exhibit "A" with such modifications as may be deemed necessary by the Village President and the Village Attorney.

**SECTION THREE:** This Resolution shall take effect immediately upon its passage and approval as provided by law.

Ayes: Nays: Absent:

PASSED AND APPROVED by the President and Board of Trustees of the Village of Barrington Hills, Illinois, this 28<sup>th</sup> day of September, 2015.

APPROVED:

ATTEST:

Village President

Village Clerk



September 25, 2015

Mr. Martin McLaughlin Village President Village of Barrington Hills 112 Algonquin Road Barrington Hills, IL 60010 847.551.3002 direct www.barringtonhills-il.gov

Dear President McLaughlin:

Regulations of the Municipal Securities Rulemaking Board require that we have a written financial advisory agreement in order to provide financial advisory services to the Village for a financing or bond offering. An agreement is also good to have in order to have a record of the work we will perform for the Village. I have adapted what follows from the text of agreements I have used for financial advisory assignments with other Illinois communities over the past several years.

We propose to offer the Village for its forthcoming financing, services that include: the development of capital-raising strategies whether by bonds or loans; mathematical structuring of principal and interest payments; the various schedules related to arbitrage, yield and other comparative and regulatory calculations; the documentation of the securities offering (preliminary and final Official Statements, notices of sale, advertisements and bid solicitations, sale result reports, CUSIP numbers and other industry requirements, among others); the reinvestment portfolio structures for investment of proceeds or other Village investment needs; reports, in person and documented, on issues and ideas related to the Village's contemplated transactions; suggestions and assistance with the rating services and on issues related to the credit of the Village; coordination with the Village's Bond Counsel and other consultants and staff; and other advice and counsel as needed from time to time by the Village during or between bond sales or financings.

We will prepare such analyses as are requested or required by the Village to provide the Village Board with the financial alternatives and recommendations representing the most efficient and cost effective means of financing its projects; and we will prepare the Village's bonds or other obligations for market or placement, solicit and open bids on behalf of the Village, and recommend the highest price qualified bid to the Village Board for acceptance. Mr. Martin McLaughlin September 25, 2015 Page 2

We propose, in other words, to provide all the services required to raise the capital you require, and to do so on your behalf, for a fee payable at the closing of the transaction. This fee structure will provide for consultations, meetings, reports and other advisory work as the Village may need without regard to particular transactions and between bond issues, and it will not be based on an hourly fee rate or retainer. Usually we do not expect to be compensated for transactions that begin and do not close, buy w respectfully request the right to discuss unusual circumstances regarding our work effort and the Village's policy decisions when that happens.

Our standard fee is \$1.85 per bond, with a minimum of \$18,500 per transaction. This covers our time and disbursements, but not the documented costs and expenses of other advisors or professionals, advertisements, industry fees or assessments, travel out of the Chicago region, or printing costs. One of those other costs is the cost of assembling county tax and related data which we usually retain a research firm to obtain. The cost per transaction ranges from \$750 to approximately \$3,500 depending on the extent and complexity of the research required, but it will not in any case exceed \$5,000.

We will assume, if you accept this proposal that it will remain in effect until notice otherwise by the Village, at its discretion and subject to its satisfaction at all times with the services provided.

It is a pleasure to work with and be associated with the Village. I assure you of a high quality of attention and service to the Village's requirements. That promise begins with an invitation to discuss this letter, or the proposal generally in order to define accurately the job that you want done. If this proposal meets with your approval, we would be pleased to accept the assignment upon your countersigning a copy of this letter and returning it to us.

Sincerely,

John H Peterson Managing Director 312 364-8639

Accepted:

Village President Village of Barrington Hills Mr. Martin McLaughlin September 25, 2015 Page 3

Dated:\_\_\_\_\_

### Summary of Pension Funding Bonds Scenarios with Alternative Investment Return Projections

Current Allocation and \$7.2 mill	ion Bond Issuance		
True Interest Cost (Bonds)	4.63%	4.63%	4.63%
Projected Return	6.50%	5.00%	Varies*
Normal Cost (Statutory)	\$10,183,405	\$10,183,405	\$10,183,405
Unfunded Payment	1,765,284	13,756,647	12,174,037
Debt Service on Pension Bonds	12,873,943	12,873,943	12,873,943
Total Contribution	\$24,822,632	\$36,813,995	\$35,231,385
Savings	\$4,062,894	\$768,707	(\$785,571)
Proposed Allocation and \$6.7 mi	llion Bond Issuance		
True Interest Cost (Bonds)	4.63%	4.63%	4.63%
Projected Return	6.75%	5.00%	Varies*
Normal Cost (Statutory)	\$9,445,259	\$9,445,259	\$9,445,259
Unfunded Payment	1,760,619	15,443,907	13,757,155
Debt Service on Pension Bonds	12,039,833	12,039,833	12,039,833
Total Contribution	\$23,245,711	\$36,928,999	\$35,242,247
Savings	\$4,424,795	\$740,090	(\$938,044)

Current A	llocation	- No Bond	l Issuance

Projected Return	6.50%	5.00%	Varies*
Normal Cost (Statutory)	\$10,183,405	\$10,183,405	\$10,183,405
Unfunded Payment	18,702,121	27,399,297	24,262,409
Debt Service on Pension Bonds	-	-	-
Total Contribution	\$28,885,526	\$37,582,702	\$34,445,814
Savings	-	-	-
Proposed Allocation - No Bond I	6 75%	5 0.0%	Varies*
Normal Cost (Statutory)	\$9.445.259	\$9.445.259	\$9.445.259
Unfunded Payment	18,225,247	28,223,830	24,858,944
Debt Service on Pension Bonds	-	-	-
Total Contribution	\$27,670,506	\$37,669,089	\$34,304,203

All amounts shown are based on the Village's actuarial projections to achieve 100% funding by the year 2040. All returns are net of the 0.30% administration feesthat Lauterbach & Amen assumed in their projections.

#### Pension Fund Allocation Breakdown

	Current	Proposed
Equities	45.00%	55.00%
Bonds	52.00%	42.00%
Cash	3.00%	3.00%
Actuarial Projection ROI	6.50%	6.75%

\*The Projected Retun "Varies" assumes the following:

Asset Class			Return
	Equities		
		2016-2025	0.00%
		2026-2040	10.00%
	Bonds		
		2016-2025	4.50%
		2026-2040	6.25%
	Cash		
		2016-2020	0.00%
		2021-2040	2.50%

"Varies" represents approximately 3.98% and 4.02% geometric returns for the Current and Proposed Allocations, respectively.

Current Asset Allocation	
Projected Par Amount	\$7,295,000
Projections Assume Dated Date	10/1/2015
Estimated Market Value of Assets (12/31/2014)	\$7,995,421
Estimated Actuarial Accrued Liability (12/31/2014)	\$14,659,175
Estimated Unfunded Actuarial Accrued Liability (12/31/2014)	\$6,663,754
Estimated Actuarial Value of Assets Percent Funded (12/31/2014)	54.5%
True Interest Cost	4.62%
Assumed Investment Farnings	6 50%

					Assumed investment Lannings 0.50 %				1		
		No I	Bond Proceeds		E	Bond Proceeds So	cenario (\$7.2 MN	A in Proceeds)			
	А	В	A + B = C		D	A + D = E	F	E + F = G		C - G = H	
Plan Year	Normal Cost (Statutory Requirement)	Unfunded Payment	Normal Cost + Unfunded Payment = Contribution to Pension Fund	Funded %	Unfunded Payment	Normal Cost + Unfunded Payment = Contribution to Pension Fund	Principal & Interest Due on Bonds (Debt Service)	Contribution to Pension Fund + Debt Service	Funded %	Savings Generated from Issuance of Funding Bonds	Present Value Savings based 6.50% Investment Earnings
2013	\$315,954	\$446,217	\$762,171	51.7%	\$446,217	\$762,171	\$-	\$762,171	51.7%	\$-	\$ -
2014	330,172	307,424	637,596	54.5%	307,424	637,596	-	637,596	54.5%	-	-
2015	345,029	400,097	745,126	54.1%	\$7,596,930	301,930	-	301,930	100.0%	-	-
2016	298,129	401,741	699,870	56.2%	401,741	699,870	237,753	937,623	102.1%	(237,753)	(234,039)
2017	305,582	444,799	750,381	58.3%	-	305,582	349,748	655,330	101.8%	95,051	87,856
2018	313,221	463,958	777,179	60.2%	(22,410)	290,811	359,252	650,063	101.5%	127,116	110,322
2019	321,052	482,377	803,429	62.1%	(21,295)	299,757	368,402	668,159	101.1%	135,270	110,234
2020	329,078	501,519	830,597	63.8%	(18,427)	310,651	382,202	692,853	100.8%	137,744	105,399
2021	337,305	521,524	858,829	65.6%	(15,149)	322,156	405,312	727,468	100.5%	131,361	94,380
2022	345,738	542,458	888,196	67.2%	(11,517)	334,221	427,692	761,913	100.2%	126,283	85,194
2023	354,381	564,384	918,765	68.7%	(7,499)	346,882	449,067	795,949	99.9%	122,816	77,798
2024	363,241	587,376	950,617	70.1%	(3,050)	360,191	469,267	829,458	99.7%	121,159	72,065
2025	372,322	611,518	983,840	71.6%	1,882	374,204	468,125	842,329	99.4%	141,512	79,033
2026	381,630	636,907	1,018,537	73.0%	7,359	388,989	486,627	875,616	99.2%	142,922	74,949
2027	391,170	663,655	1,054,825	74.3%	13,453	404,623	494,021	898,644	99.0%	156,181	76,903
2028	400,950	691,897	1,092,847	75.7%	20,253	421,203	515,529	936,732	98.8%	156,115	72,179
2029	410,973	721,791	1,132,764	77.0%	27,869	438,842	530,629	969,471	98.7%	163,293	70,890
2030	421,248	753,535	1,174,783	78.3%	36,435	457,683	544,464	1,002,147	98.5%	172,636	70,372
2031	431,779	787,374	1,219,153	79.7%	46,123	477,902	546,984	1,024,886	98.4%	194,267	74,356
2032	442,573	823,624	1,266,197	81.1%	57,159	499,732	563,408	1,063,140	98.2%	203,058	72,977
2033	453,638	862,699	1,316,337	82.7%	69,844	523,482	592,193	1,115,675	98.1%	200,663	67,715
2034	464,979	905,172	1,370,151	84.4%	84,593	549,572	598,863	1,148,435	98.1%	221,717	70,253
2035	476,603	951,861	1,428,464	86.2%	102,012	578,615	624,358	1,202,973	98.1%	225,492	67,089
2036	488,518	1,004,010	1,492,528	88.2%	123,027	611,545	642,738	1,254,283	98.1%	238,246	66,557
2037	500,731	1,063,660	1,564,391	90.5%	149,165	649,896	648,988	1,298,884	98.2%	265,508	69,646
2038	513,250	1,134,528	1,647,778	93.0%	183,224	696,474	693,813	1,390,287	98.4%	257,492	63,421
2039	526,081	1,224,509	1,750,590	95.8%	231,160	757,241	720,313	1,477,554	98.7%	273,037	63,145
2040	539,233	1,355,245	1,894,478	99.0%	309,332	848,565	754,200	1,602,765	99.3%	291,713	63,347
Totals	10,528,434	19,102,218	\$29,630,652		\$9,362,214	\$12,250,619	\$12,873,943	25,124,562		\$ 4,062,894	1,632,043

Current Asset Allocation	
Projected Par Amount	\$7,295,000
Projections Assume Dated Date	10/1/2015
Estimated Market Value of Assets (12/31/2014)	\$7,995,421
Estimated Actuarial Accrued Liability (12/31/2014)	\$14,659,175
Estimated Unfunded Actuarial Accrued Liability (12/31/2014)	\$6,663,754
Estimated Actuarial Value of Assets Percent Funded (12/31/2014)	54.5%
True Interest Cost	4.62%
Assumed Investment Earnings	VARIES

		No Bond Proceeds			Bond Proceeds Scenario (\$7.2 MM in Proceeds)						
Plan Year	<b>A</b> Normal Cost (Statutory Requirement)	<b>B</b> Unfunded Payment	A + B = C Normal Cost + Unfunded Payment = Contribution to Pension Fund	Funded %	<b>D</b> Unfunded Payment	A + D = E Normal Cost + Unfunded Payment = Contribution to Pension Fund	F Principal & Interest Due on Bonds (Debt Service)	<b>E + F = G</b> Contribution to Pension Fund + Debt Service	Funded %	C - G = H Savings Generated from Issuance of Funding Bonds	Present Value Savings based 6.50% Investment Earnings
2013	\$315,954	\$446,217	\$762,171	51.7%	\$446,217	\$762,171	\$-	\$762,171	51.7%	\$-	\$-
2014	330,172	307,424	637,596	54.5%	307,424	637,596	-	637,596	54.5%	-	-
2015	345,029	400,097	745,126	54.1%	\$7,596,930	301,930	-	301,930	100.0%	-	-
2016	298,129	401,741	699,870	54.0%	401,741	699,870	237,753	937,623	98.0%	(237,753)	(234,039)
2017	305,582	444,799	750,381	53.8%	-	305,582	349,748	655,330	93.7%	95,051	87,856
2018	313,221	487,276	800,497	53.7%	21,276	334,497	359,252	693,749	89.6%	106,748	92,645
2019	321,052	533,356	854,408	53.6%	73,367	394,419	368,402	762,821	85.9%	91,587	74,636
2020	329,078	583,588	912,666	53.5%	131,339	460,417	382,202	842,619	82.6%	70,047	53,599
2021	337,305	638,360	975,665	53.5%	193,903	531,208	405,312	936,520	79.7%	39,145	28,125
2022	345,738	698,142	1,043,880	53.4%	261,419	607,157	427,692	1,034,849	77.0%	9,031	6,093
2023	354,381	762,833	1,117,214	53.3%	333,421	687,802	449,067	1,136,869	74.6%	(19,655)	(12,451)
2024	363,241	833,525	1,196,766	53.3%	411,354	774,595	469,267	1,243,862	72.5%	(47,096)	(28,012)
2025	372,322	910,836	1,283,158	53.4%	495,871	868,193	468,125	1,336,318	70.6%	(53,160)	(29,689)
2026	381,630	995,501	1,377,131	56.2%	587,717	969,347	486,627	1,455,974	72.4%	(78,843)	(41,345)
2027	391,170	1,088,457	1,479,627	59.1%	687,839	1,079,009	494,021	1,573,030	74.5%	(93,403)	(45,992)
2028	400,950	1,122,676	1,523,626	61.9%	706,358	1,107,308	515,529	1,622,837	76.6%	(99,211)	(45,870)
2029	410,973	1,151,070	1,562,043	64.8%	716,156	1,127,129	530,629	1,657,758	78.7%	(95,715)	(41,553)
2030	421,248	1,178,109	1,599,357	67.7%	723,399	1,144,647	544,464	1,689,111	80.8%	(89,754)	(36,587)
2031	431,779	1,203,924	1,635,703	70.6%	728,290	1,160,069	546,984	1,707,053	82.8%	(71,350)	(27,309)
2032	442,573	1,228,122	1,670,695	73.5%	730,336	1,172,909	563,408	1,736,317	84.9%	(65,622)	(23,584)
2033	453,638	1,250,116	1,703,754	76.6%	728,804	1,182,442	592,193	1,774,635	87.1%	(70,881)	(23,919)
2034	464,979	1,269,081	1,734,060	79.9%	722,674	1,187,653	598,863	1,786,516	89.3%	(52,456)	(16,621)
2035	476,603	1,283,750	1,760,353	83.2%	710,410	1,187,013	624,358	1,811,371	91.5%	(51,018)	(15,179)
2036	488,518	1,292,118	1,780,636	86.8%	689,609	1,178,127	642,738	1,820,865	93.7%	(40,229)	(11,238)
2037	500,731	1,290,816	1,791,547	90.5%	656,270	1,157,001	648,988	1,805,989	96.0%	(14,442)	(3,788)
2038	513,250	1,273,567	1,786,817	94.2%	602,984	1,116,234	693,813	1,810,047	98.2%	(23,230)	(5,722)
2039	526,081	1,226,907	1,752,988	98.0%	513,924	1,040,005	720,313	1,760,318	100.3%	(7,330)	(1,695)
2040	539,233	1,113,739	1,652,972	101.7%	345,576	884,809	754,200	1,639,009	102.0%	13,963	3,032
Totals	10,183,405	24,262,409	\$34,445,814		\$12,174,037	\$22,357,442	\$12,873,943	35,231,385		\$ (785,571)	(298,608)

Proposed Allocation	
Projected Par Amount	\$6,785,000
Projections Assume Dated Date	10/1/2015
Estimated Market Value of Assets (12/31/2014)	\$7,995,421
Estimated Actuarial Accrued Liability (12/31/2014)	\$14,659,175
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Estimated Actuarial Value of Assets Percent Funded (12/31/2014)	54.5%
True Interest Cost	4.63%
Assumed Investment Earnings	6.75%

		No Bond Proceeds			Bond Proceeds Scenario (\$6.7 MM in Proceeds)						
	А	В	A + B = C		D	A + D = E	F	E + F = G		C - G = H	
Plan Year	Normal Cost (Statutory Requirement)	Unfunded Payment	Normal Cost + Unfunded Payment = Contribution to Pension Fund	Funded %	Unfunded Payment	Normal Cost + Unfunded Payment = Contribution to Pension Fund	Principal & Interest Due on Bonds (Debt Service)	Contribution to Pension Fund + Debt Service	Funded %	Savings Generated from Issuance of Funding Bonds	Present Value Savings based 6.50% Investment Earnings
2013	\$288,645	\$473,526	\$762,171	53.5%	\$473,526	\$762,171	\$-	\$762,171	53.5%	\$-	\$-
2014	301,634	335,926	637,560	56.2%	335,962	637,596	-	637,596	56.2%	-	-
2015	315,208	429,918	745,126	55.7%	\$7,171,292	386,292	-	386,292	100.0%	-	-
2016	276,519	375,228	651,747	57.6%	375,228	651,747	222,633	874,380	102.0%	(222,633)	(219,027)
2017	283,432	416,649	700,081	59.6%	-	283,432	324,348	607,780	101.7%	92,301	85,064
2018	290,517	435,860	726,377	61.4%	(20,797)	269,720	328,914	598,634	101.4%	127,743	110,283
2019	297,780	454,487	752,267	63.1%	(19,655)	278,125	338,234	616,359	101.0%	135,908	109,913
2020	305,225	473,900	779,125	64.8%	(16,863)	288,362	352,234	640,596	100.7%	138,529	104,949
2021	312,855	494,237	807,092	66.4%	(13,669)	299,186	370,596	669,782	100.4%	137,310	97,448
2022	320,677	515,566	836,243	67.9%	(10,121)	310,556	393,369	703,925	100.1%	132,318	87,967
2023	328,694	537,960	866,654	69.3%	(6,186)	322,508	405,179	727,687	99.8%	138,967	86,546
2024	336,911	561,496	898,407	70.7%	(1,818)	335,093	421,179	756,272	99.6%	142,135	82,921
2025	345,334	586,264	931,598	72.0%	3,035	348,369	436,090	784,459	99.4%	147,140	80,413
2026	353,967	612,370	966,337	73.3%	8,434	362,401	460,133	822,534	99.2%	143,803	73,620
2027	362,816	639,933	1,002,749	74.6%	14,454	377,270	457,899	835,169	99.0%	167,581	80,368
2028	371,887	669,095	1,040,982	75.9%	21,185	393,072	485,179	878,251	98.8%	162,732	73,108
2029	381,184	700,029	1,081,213	77.1%	28,735	409,919	490,873	900,792	98.6%	180,422	75,930
2030	390,714	732,941	1,123,655	78.4%	37,241	427,955	505,723	933,678	98.4%	189,978	74,896
2031	400,481	768,091	1,168,572	79.7%	46,875	447,356	519,283	966,639	98.3%	201,934	74,576
2032	410,493	805,812	1,216,305	81.1%	57,864	468,357	531,353	999,710	98.2%	216,596	74,933
2033	420,756	846,542	1,267,298	82.6%	70,507	491,263	541,078	1,032,341	98.1%	234,958	76,145
2034	431,275	890,878	1,322,153	84.3%	85,225	516,500	569,628	1,086,128	98.0%	236,026	71,655
2035	442,057	939,676	1,381,733	86.1%	102,616	544,673	581,063	1,125,736	98.0%	255,998	72,804
2036	453,108	994,234	1,447,342	88.1%	123,609	576,717	601,088	1,177,805	98.1%	269,538	71,807
2037	464,436	1,056,676	1,521,112	90.3%	149,728	614,164	614,000	1,228,164	98.2%	292,948	73,109
2038	476,047	1,130,862	1,606,909	92.8%	183,756	659,803	615,250	1,275,053	98.4%	331,856	77,583
2039	487,948	1,224,985	1,712,933	95.7%	231,626	719,574	720,313	1,439,887	98.7%	273,047	59,798
2040	500,146	1,361,476	1,861,622	99.0%	309,610	809,756	754,200	1,563,956	99.3%	297,666	61,067
Totals	9,445,259	18,225,247	\$27,670,506		\$1,760,619	\$11,205,878	\$12,039,833	\$23,245,711		\$4,424,795	1,717,876

Proposed Allocation	
Projected Par Amount	\$6,785,000
Projections Assume Dated Date	10/1/2015
Estimated Market Value of Assets (12/31/2014)	\$7,995,421
Estimated Actuarial Accrued Liability (12/31/2014)	\$14,659,175
Estimated Unfunded Actuarial Accrued Liability (12/31/2014)	\$6,663,754
Estimated Actuarial Value of Assets Percent Funded (12/31/2014)	54.5%
True Interest Cost	4.63%
Accumed Investment Fornings	Varias

					Assumed investment Earnings Varies						
		No Bond Proceeds Bond Proceeds Scenario (\$6.7 MM in Proceeds)									
Plan Year	<b>A</b> Normal Cost (Statutory Requirement)	<b>B</b> Unfunded Payment	<b>A + B = C</b> Normal Cost + Unfunded Payment = Contribution to	Funded %	<b>D</b> Unfunded Payment	<b>A + D = E</b> Normal Cost + Unfunded Payment = Contribution to	F Principal & Interest Due on Bonds (Debt	<b>E + F = G</b> Contribution to Pension Fund + Debt Service	Funded %	<b>C - G = H</b> Savings Generated from Issuance of	Present Value Savings based 6.50% Investment
			Pension Fund			Pension Fund	ServiceJ			Funding Bonds	Earnings
2013	\$288,645	\$473,526	\$762,171	53.5%	\$473,526	\$762,171	\$-	\$762,171	53.4%	\$-	\$-
2014	301,634	335,926	637,560	56.2%	335,962	637,596	-	637,596	56.2%	-	-
2015	315,208	429,918	745,126	55.7%	\$7,171,292	386,292	-	386,292	100.0%	-	-
2016	276,519	375,228	651,747	55.0%	375,228	651,747	222,633	874,380	97.3%	(222,633)	(220,197)
2017	283,432	416,649	700,081	554.3%	-	283,432	324,348	607,780	92.3%	92,301	87,360
2018	290,517	462,838	753,355	53.7%	28,255	318,772	328,914	647,686	87.7%	105,669	95,705
2019	297,780	513,250	811,030	53.1%	86,403	384,183	338,234	722,417	83.6%	88,613	76,801
2020	305,225	568,151	873,376	52.6%	150,611	455,836	352,234	808,070	79.9%	65,306	54,164
2021	312,855	627,941	940,796	52.2%	219,685	532,540	370,596	903,136	76.7%	37,660	29,890
2022	320,677	693,133	1,013,810	51.9%	294,033	614,710	393,369	1,008,079	73.7%	5,731	4,353
2023	328,694	763,704	1,092,398	51.5%	373,304	701,998	405,179	1,107,177	71.1%	(14,779)	(10,741)
2024	336,911	840,777	1,177,688	51.3%	458,947	795,858	421,179	1,217,037	68.7%	(39,349)	(27,367)
2025	345,334	925,020	1,270,354	51.1%	551,661	896,995	436,090	1,333,085	66.7%	(62,731)	(41,750)
2026	353,967	1,017,233	1,371,200	53.9%	652,261	1,006,228	460,133	1,466,361	68.7%	(95,161)	(60,606)
2027	362,816	1,118,442	1,481,258	56.9%	761,784	1,124,600	457,899	1,582,499	71.0%	(101,241)	(61,702)
2028	371,887	1,156,603	1,528,490	59.8%	784,756	1,156,643	485,179	1,641,822	73.3%	(113,332)	(66,096)
2029	381,184	1,188,628	1,569,812	62.8%	798,596	1,179,780	490,873	1,670,653	75.6%	(100,841)	(56,279)
2030	390,714	1,219,301	1,610,015	65.8%	809,817	1,200,531	505,723	1,706,254	77.9%	(96,239)	(51,397)
2031	400,481	1,248,747	1,649,228	68.8%	818,608	1,219,089	519,283	1,738,372	80.2%	(89,144)	(45,558)
2032	410,493	1,276,524	1,687,017	71.9%	824,415	1,234,908	531,353	1,766,261	82.5%	(79,244)	(38,755)
2033	420,756	1,301,975	1,722,731	75.2%	826,421	1,247,177	541,078	1,788,255	84.9%	(65,524)	(30,665)
2034	431,275	1,324,173	1,755,448	78.6%	823,482	1,254,757	569,628	1,824,385	87.4%	(68,937)	(30,873)
2035	442,057	1,341,693	1,783,750	82.2%	813,879	1,255,936	581,063	1,836,999	90.0%	(53,249)	(22,820)
2036	453,108	1,352,274	1,805,382	85.9%	794,918	1,248,026	601,088	1,849,114	92.6%	(43,732)	(17,935)
2037	464,436	1,352,116	1,816,552	89.9%	/62,106	1,226,542	614,000	1,840,542	95.2%	(23,990)	(9,415)
2038	476,047	1,334,138	1,810,185	93.9%	/0/,134	1,183,181	615,250	1,798,431	97.7%	11,754	4,414
2039	487,948	1,283,142	1,//1,090	98.0%	612,240	1,100,188	754 200	1,820,501	100.2%	(49,411)	(1/, /5/)
Z040	500,146	1,157,264	1,057,410	101.9%	428,011	920,757	/ 54,200	1,002,957	102.2%	(25,54/)	(8,786)
Totals	9,445,259	24,858,944	<b>\$34,304,203</b>		\$13,/5/,155	\$23,202,414	\$12,039,833	\$35,242,247		(\$938,044)	(400,010)

## **Exhibit B-1 Current Allocation**

Bond Debt Service								
The Village of Barrington Hills, Illinois								
Proposed 2015 Taxable Pension Funding Bonds								
<u>Maturity Date</u>	<u>Principal</u>	<u>Rate</u>	<u>Interest</u>	<u>Debt Service</u>				
1/1/2016	\$160,000	0.79%	\$77,753	\$237,753				
1/1/2017	40,000	1.24%	309,748	349,748				
1/1/2018	50,000	1.70%	309,252	359,252				
1/1/2019	60,000	2.00%	308,402	368,402				
1/1/2020	75,000	2.52%	307,202	382,202				
1/1/2021	100,000	2.62%	305,312	405,312				
1/1/2022	125,000	2.90%	302,692	427,692				
1/1/2023	150,000	3.20%	299,067	449,067				
1/1/2024	175,000	3.51%	294,267	469,267				
1/1/2025	180,000	3.61%	288,125	468,125				
1/1/2026	205,000	3.71%	281,627	486,627				
1/1/2027	220,000	3.86%	274,021	494,021				
1/1/2028	250,000	3.96%	265,529	515,529				
1/1/2029	275,000	4.06%	255,629	530,629				
1/1/2030	300,000	4.16%	244,464	544,464				
1/1/2031	315,000	4.31%	231,984	546,984				
1/1/2032	345,000	4.70%	218,408	563,408				
1/1/2033	390,000	4.70%	202,193	592,193				
1/1/2034	415,000	4.70%	183,863	598,863				
1/1/2035	460,000	4.70%	164,358	624,358				
1/1/2036	500,000	4.75%	142,738	642,738				
1/1/2037	530,000	4.75%	118,988	648,988				
1/1/2038	600,000	4.75%	93,813	693,813				
1/1/2039	655,000	4.75%	65,313	720,313				
1/1/2040	720,000	4.75%	34,200	754,200				
	7.295.000		5.578.943	12.873.943				

September 25, 2015

# Exhibit B-2 Proposed Allocation

Bond Debt Service								
The Village of Barrington Hills Illinois								
Proposed 2015 Taxable Pension Funding Bonds								
F								
Maturity Date	<u>Principal</u>	<u>Rate</u>	<u>Interest</u>	<u>Debt Service</u>				
1/1/2016	\$150,000	0.79%	\$72,633	\$222,633				
1/1/2017	35,000	1.24%	289,348	324,348				
1/1/2018	40,000	1.70%	288,914	328,914				
1/1/2019	50,000	2.00%	288,234	338,234				
1/1/2020	65,000	2.52%	287,234	352,234				
1/1/2021	85,000	2.62%	285,596	370,596				
1/1/2022	110,000	2.90%	283,369	393,369				
1/1/2023	125,000	3.20%	280,179	405,179				
1/1/2024	145,000	3.51%	276,179	421,179				
1/1/2025	165,000	3.61%	271,090	436,090				
1/1/2026	195,000	3.71%	265,133	460,133				
1/1/2027	200,000	3.86%	257,899	457,899				
1/1/2028	235,000	3.96%	250,179	485,179				
1/1/2029	250,000	4.06%	240,873	490,873				
1/1/2030	275,000	4.16%	230,723	505,723				
1/1/2031	300,000	4.31%	219,283	519,283				
1/1/2032	325,000	4.70%	206,353	531,353				
1/1/2033	350,000	4.70%	191,078	541,078				
1/1/2034	395,000	4.70%	174,628	569,628				
1/1/2035	425,000	4.70%	156,063	581,063				
1/1/2036	465,000	4.75%	136,088	601,088				
1/1/2037	500,000	4.75%	114,000	614,000				
1/1/2038	525,000	4.75%	90,250	615,250				
1/1/2039	655,000	4.75%	65,313	720,313				
1/1/2040	720,000	4.75%	34,200	754,200				
	6,785,000		5,254,833	12,039,833				

September 25, 2015