TOWN OF PALM BEACH

Town Manager's Office

TENTATIVE - SUBJECT TO REVISION

TOWN COUNCIL RETIREMENT WORKSHOP MEETING
WITH THE
RETIREMENT SYSTEM BOARD OF TRUSTEES

TOWN HALL
COUNCIL CHAMBERS-SECOND FLOOR
360 SOUTH COUNTY ROAD

AGENDA

MONDAY, DECEMBER 11, 2017
9:30 AM

For information regarding procedures for monitoring or participating in Town Council Meetings, please refer to the end of this agenda.

I. CALL TO ORDER AND ROLL CALL

Mayor and Town Council

Mayor Gail L. Coniglio
Richard M. Kleid, President
Danielle H. Moore, President Pro Tem
Julie Araskog
Bobbie Lindsay
Margaret A. Zeidman

Retirement System Board of Trustees

Daniel W. Stanton, Chairman
C. Gerald Goldsmith, Vice Chairman
Jeffrey Amling
C. Edward Carter
Bradford D. Kaufman
Brett Madison, Emp. Rep. (General)
Michael Marx, Emp. Rep. (Fire Rescue)
Daniel Wilkinson, Emp. Rep. (Police)
Thomas G. Bradford, Voting Ex-Officio Member

II. PLEDGE OF ALLEGIANCE

III. APPROVAL OF AGENDA

IV. COMMUNICATIONS FROM CITIZENS – 3 MINUTE LIMIT PLEASE

V. OVERVIEW OF THE STATUS OF THE TOWN'S RETIREMENT SYSTEM

A. Overview of Retirement System
   1. Description of the Retirement System Plans Pre and Post Pension Reform for Police, Firefighters, General Employees and Ocean Rescue
   2. Unfunded Actuarial Accrued Liability (UAAL) and Analysis of the Causes of Existing UAAL

   Jane Struder, Finance Director

B. Presentation on Behalf of the Retirement System Board of Trustees
   1. Past and Present Activities of the Retirement System Board of Trustees
   2. Identification of Matters Impacting Funding Status of the Retirement Fund
   3. Retirement System FY 2017 Investment Performance and Updated Unfunded Actuarial Accrued Liability (UAAL)

   Daniel W. Stanton, Chairman, Retirement System Board of Trustees

C. Retirement Board of Trustees Questions and Comments

D. Mayor and Town Council Questions and Comments

VI. ANY OTHER MATTERS

VII. ADJOURNMENT

PLEASE TAKE NOTE:

Note 1: No written materials received after 5:00 p.m. on the Thursday immediately prior to a monthly Town Council meeting will be included in the back-up binders distributed to the Mayor and Town Council in preparation for that meeting. Written materials received after 5:00 p.m. on Thursday will be separately distributed to the Mayor and Town Council; however, depending upon the length of the materials, the time of submittal, and other circumstances, the Mayor and Town Council may not be able to read and consider such late submittals prior to acting upon the policy matter(s) which they address.

Note 2: The progress of this meeting may be monitored by visiting the Town's website (townofpalmbeach.com) and clicking on "Meeting Audio" in the left column. If you have questions regarding that feature, please contact the Office of Information Systems (561) 227-6315. The audio recording of the meeting will appear within 24 hours after the conclusion of the meeting.

Note 3: If a person decides to appeal any decision made by this Council with respect to any matter considered at this meeting or hearing, he/she will need a record of the proceedings. For such purpose, he/she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

Note 4: Disabled persons who need an accommodation in order to participate in the Town Council Meeting are requested to contact the Town Manager's Office at 838-5410 or through the Florida Relay Service by dialing 1-800-955-8770 for voice callers or 1-800-955-8771 for TDD callers, at least two (2) working days before this meeting.

Note 5: Items listed on the Consent Agenda will be approved by one motion of the Town Council, unless the Mayor or an individual Council Member requests that any item(s) be moved to the Regular Agenda and individually considered.

Note 6: All back-up material for the items listed on the agenda are posted to the Town's website and emailed to all Stay Informed subscribers on the Friday before the Town Council meeting. To access the back-up materials and/or subscribe to the Stay Informed list, please visit the Town's website (townofpalmbeach.com).

PROCEDURES FOR PUBLIC PARTICIPATION

Citizens desiring to address the Town Council should proceed toward the public microphones when the applicable agenda item is being considered to enable the Town Council President to acknowledge you.

PUBLIC HEARINGS: Any citizen is entitled to be heard on an official agenda item under the section entitled "Public Hearings," subject to the three minute limitation.

COMMUNICATIONS FROM CITIZENS: Any citizen is entitled to be heard concerning any matter under the section entitled "Communications from Citizens," subject to the three minute limitation. The public also has the opportunity to speak to any item listed on the agenda, including the consent agenda, at the time the agenda item comes up for discussion.

OTHER AGENDA ITEMS: Any citizen is entitled to be heard on any official agenda item when the Town Council calls for public comments, subject to the three minute limitation.

Town Council Meetings are public business meetings and, as such, the Town Council retains the right to limit discussion on any issue.

TOWN OF PALM BEACH

Information for Town Council Workshop Meeting on: December 11, 2017

To: Mayor and Town Council

From: Thomas G. Bradford, Town Manager

Re: Town Council Workshop Meeting with the Board of Trustees of the Retirement System on Matters Pertaining to the Town's Pension Program

Date: December 5, 2017

STAFF RECOMMENDATION

Staff recommends the Town Council hear the presentations on the retirement related matters from staff and Retirement Board of Trustees Chairman Daniel Stanton.

GENERAL INFORMATION

One of the purposes of this workshop meeting is to enable the public to learn more about the status of the Town's retirement program now that the Season is in full swing and many Town residents are here. An array of resource materials is being provided herewith in addition to Exhibits A and B, which will be reviewed by the respective presenters at the meeting. Although the Mayor and Town Council have seen these materials previously they are provided herewith as reference to enable interested people to access the same and learn more about the subject matter. The resource documents are as follows:

1) Exhibit A – Jane Struder's presentation to the Town Council and Retirement Board at December 11 workshop.
2) Exhibit B - Chairman Dan Stanton's presentation to the Town Council and Retirement Board at December 11 workshop.
3) Exhibit C - The Role of the Board of Trustee's
4) Exhibit D - Board of Trustees Member C. Ed Carter Report to the Finance and Taxation Committee
5) Exhibit E - Chairman Daniel Stanton's 2017 Annual Report to Town Council
6) Exhibit F - Retirement Fund FY 2018 Budget
7) Exhibit G - Town of Palm Beach Employee's Retirement Fund Statement of Net Assets
8) Exhibit H- Adopted Town Council Financial Policy Providing for Annual Extraordinary Retirement System Contributions of $5.42 Million

Cc: Retirement System Board of Trustees
Department Directors

Joann O’Conner, Esq., Jones-Foster

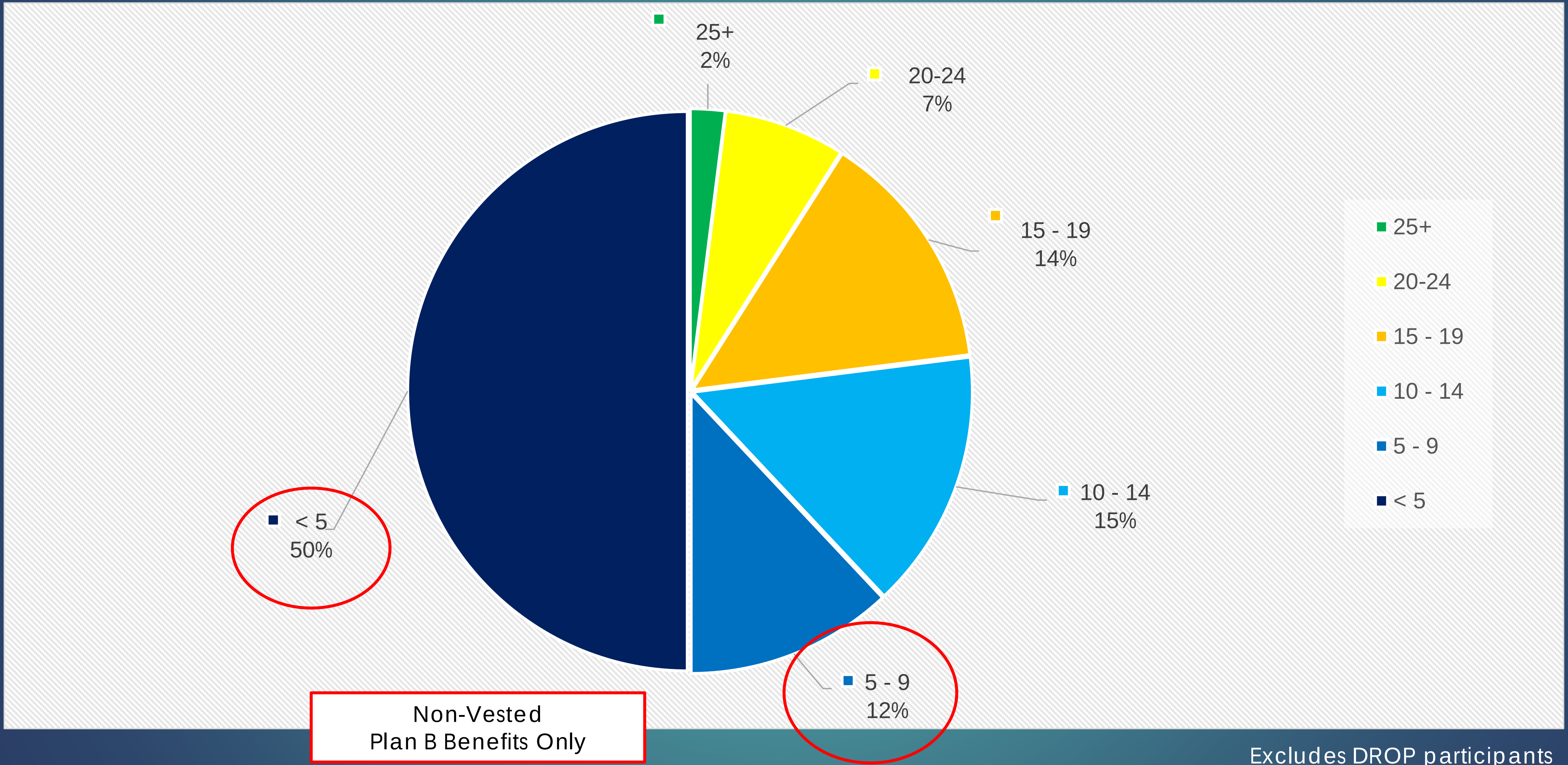
Town Council Workshop with Board of Trustees of the Retirement System

Retirement Plan and UAAL History

DECEMBER 11, 2017

EXHIBIT A

Employee Demographics
Years of Service



Excludes DROP participants

Retirement Benefit History

EXHIBIT A

	General/Ocean Rescue Plan A Legacy Prior to 5/1/12	Police and Firefighters Plan A Legacy Prior to 5/1/12	Plan B Hybrid After 5/1/12 until changes in 2016 and 2017 - All Employees
Multiplier	General 2.75% Ocean Rescue 2.85%	Police 3.5% Firefighters 3.5%	All Employees 1.25%
Retirement Age	General 55 Ocean Rescue 50	Police and Firefighters 20 years and out or age 50 with 10 years	65
Employee Contribution	6.47%	Police 6.98% Firefighters 6.82%	2.47%
COLA	2% after 36 months	None	None
Average Final Compensation	Salary, OT, Longevity/Bonus on highest 2 years	Salary, OT, Longevity/Bonus on highest 2 years	Base Salary Only – Average of last 5 years
DC Contribution Employee	0%	0%	4%
DC Contribution – Town	0%	0%	4%-8%
Surviving Spouse	75% of retirees benefit	Available to purchase	Available to purchase

Current Retirement Benefits

	General/Ocean Rescue	Police	Firefighters
Multiplier	1.7%	2.75%	2.75%
Retirement Age	62	56	56
Employee Contribution (Police/Fire – Sliding scale from 8% – 12%)	3.5%	10.09%	10.07%
COLA	None	None	None
Average Final Compensation	Base Salary only Average of last 5 years	Base Salary only Average of last 5 years	Base Salary only Average of last 5 years
DC Employee Contribution	3%	None	None
DC Employer Contribution	3%	None	None
Optional DC Contribution	2% Employee with 2% Employer match	None	None

UAAL Components

EXHIBIT A

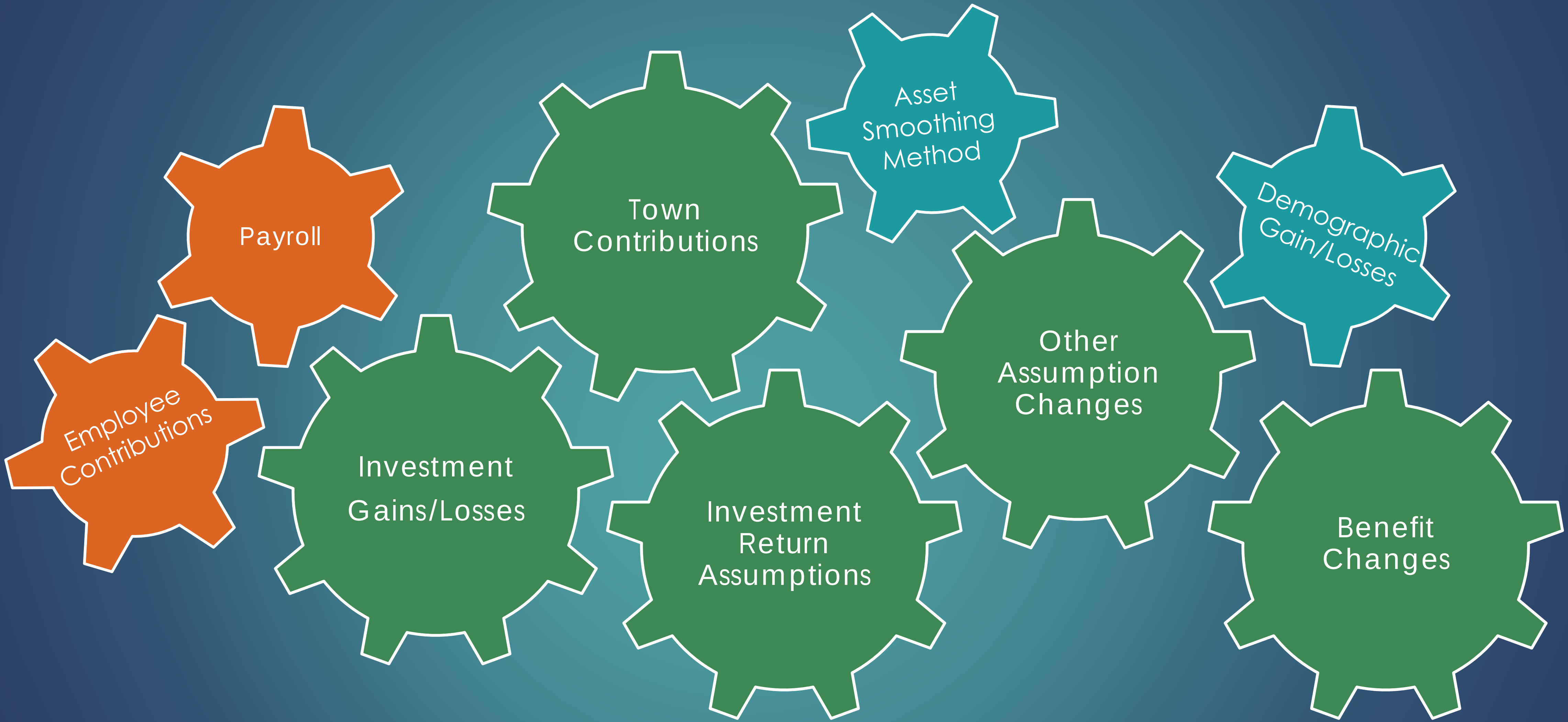
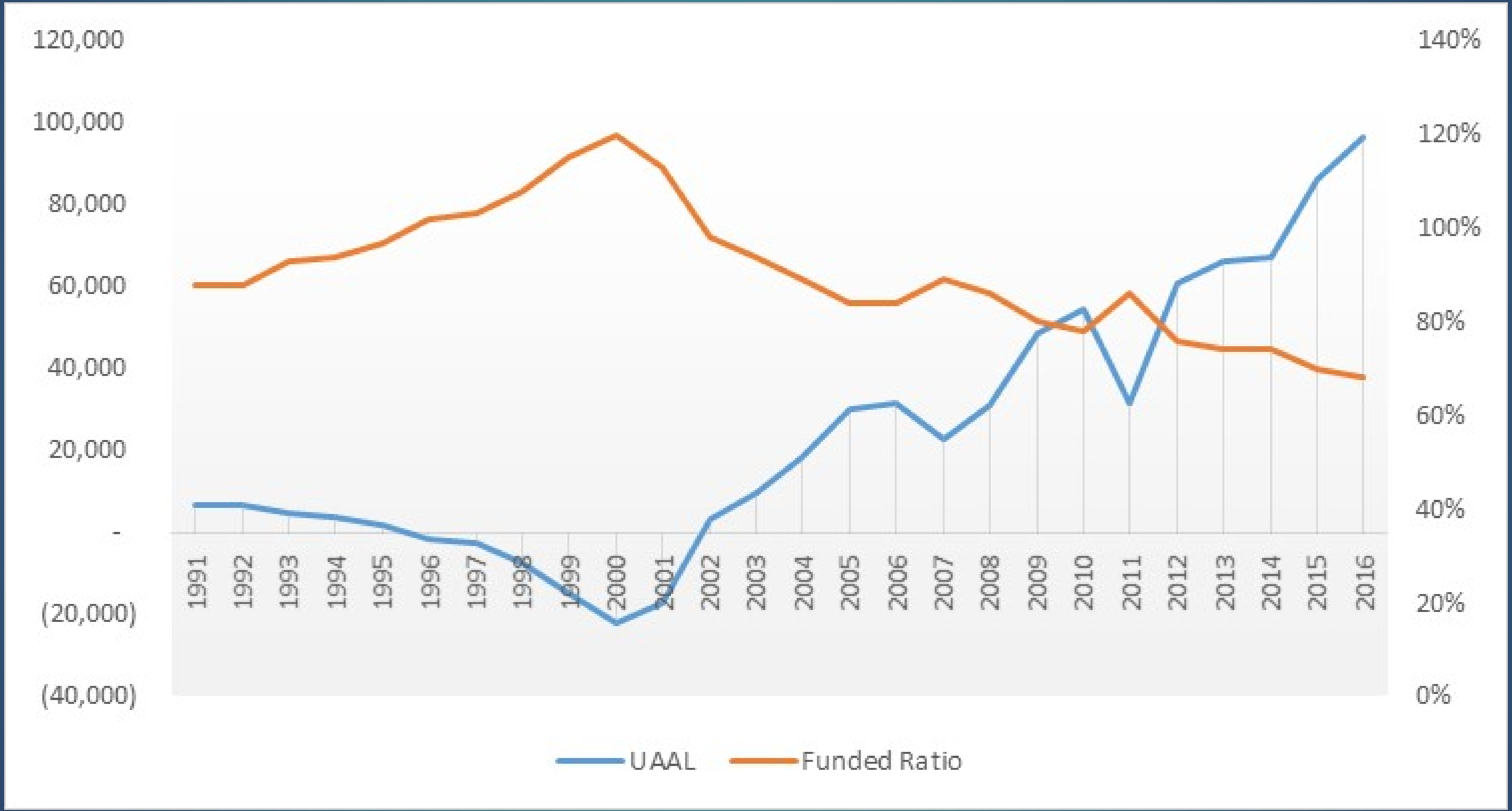


EXHIBIT A

UAAL and Funded Ratio History



Changes in UAAL Since 2009

EXHIBIT A

Date		General	Lifeguard	Police	Firefighter	Total
2009	**Initial Unfunded**	**16,888,850**	**1,162,284**	**10,701,871**	**20,989,335**	**49,742,340**
	Experience (Gain)/Loss					
2010	Experience (Gain)/Loss	1,360,656	79,454	959,168	1,516,310	3,915,588
2011	Experience (Gain)/Loss	(4,139,783)	135,236	451,965	(1,220,398)	(4,772,980)
2012	Experience (Gain)/Loss	4,542,559	308,408	6,452,749	5,528,479	16,832,195
2013	Experience (Gain)/Loss	(937,437)	26,558	2,464,964	2,115,420	3,669,505
2014	Experience (Gain)/Loss	(80,605)	(20,205)	1,036,949	195,121	1,131,260
2015	Experience (Gain)/Loss	2,746,266	107,112	2,644,311	2,422,842	7,920,531
2016	Experience (Gain)/Loss	36,561	(14,661)	(648,599)	3,276,066	2,649,367
	Total Experience (Gain)/Loss	**3,528,217**	**621,902**	**13,361,507**	**13,833,840**	**31,345,466**
	Benefit Changes					
2012	Benefit Changes	(4,975,882)	(246,314)	(4,445,975)	(7,686,662)	(17,354,833)
2013	Benefit Changes	79,116	-	-	-	79,116
2014	Benefit Changes	41,043	1,702	89,516	36,863	169,124
2016	Benefit Changes	-	-	909,824	425,324	1,335,148
2017	Benefit Changes	1,546,937	22,856	-	864,098	2,433,891
	Total Benefit Changes	**(3,308,786)**	**(221,756)**	**(3,446,635)**	**(6,360,377)**	**(13,337,554)**
	Assumption Method Changes					
2010	Assumption Method Changes	(1,845,489)	(52,097)	(669,674)	(810,210)	(3,377,470)
2011	Assumption Method Changes	(116,110)	67,791	409,759	203,991	565,431
2012	Assumption Method Changes	4,609,690	262,759	4,608,114	4,683,934	14,164,497
2015	Assumption Method Changes	6,396,535	184,006	1,842,474	2,372,518	10,795,533
2016	Assumption Method Changes	2,507,487	169,649	3,121,743	3,173,987	8,972,866
	Total Assumption Method Changes	**11,552,113**	**632,108**	**9,312,416**	**9,624,220**	**31,120,857**
	Updated UAAL	**28,660,394**	**2,194,538**	**29,929,159**	**38,087,018**	**98,871,109**

Experience (Gains)/Losses

- Experience gains/losses include demographic experience gains/losses and gains/losses in investments. Demographic experience includes the impact of individual salary increases, retirements, employment terminations, disabilities, mortality experience, and other census changes that differ from the actuarial assumptions.

Net Effect due to Experience (Gains/Losses) = $31,345,466 Increase to UAAL

Benefit Changes

- Benefit Changes reflect pension reform in 2012
- Benefit changes include a change to remove DROP benefit reductions to members in 2013 (effective May 1, 2012)
- Benefit changes include member contribution rate changes in 2014 (effective October 1, 2013)
- Benefit Changes reflect pension changes for police, firefighters and general employees in 2016 and 2017

Net Effect of Benefit Changes to UAAL =

$13,337,554 Decrease to UAAL

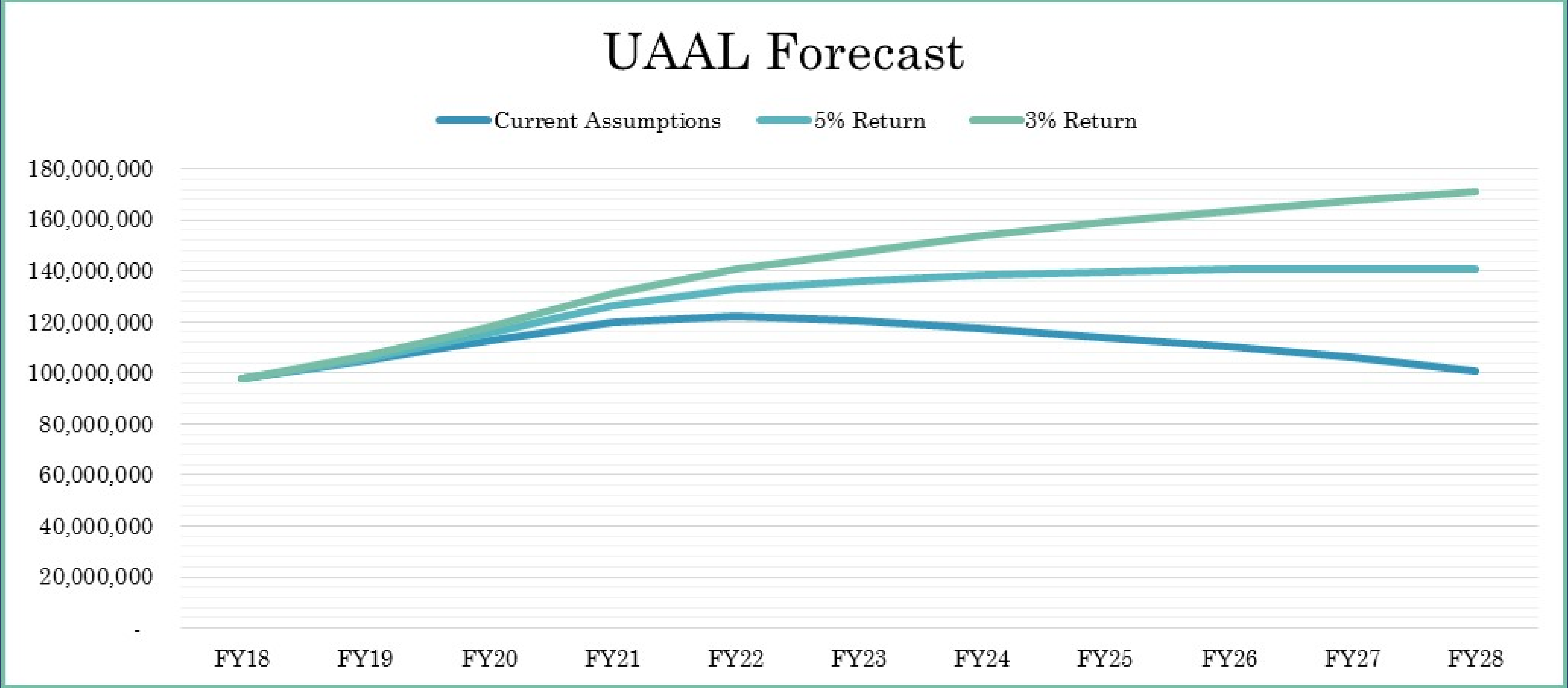
Assumption Changes

- Assumption changes include demographic changes associated with pension reform measures as of 2011 and 2010
- Assumption changes include reduction in investment assumption from 8% to 7.5% in 2012
- Assumption changes include several demographic assumption changes in 2015 (after a 2009-2014 experience study)
- Assumption changes include reduction in investment assumption from 7.5% to 7.4% in 2016
- Assumption change due to Mortality table changes in 2016

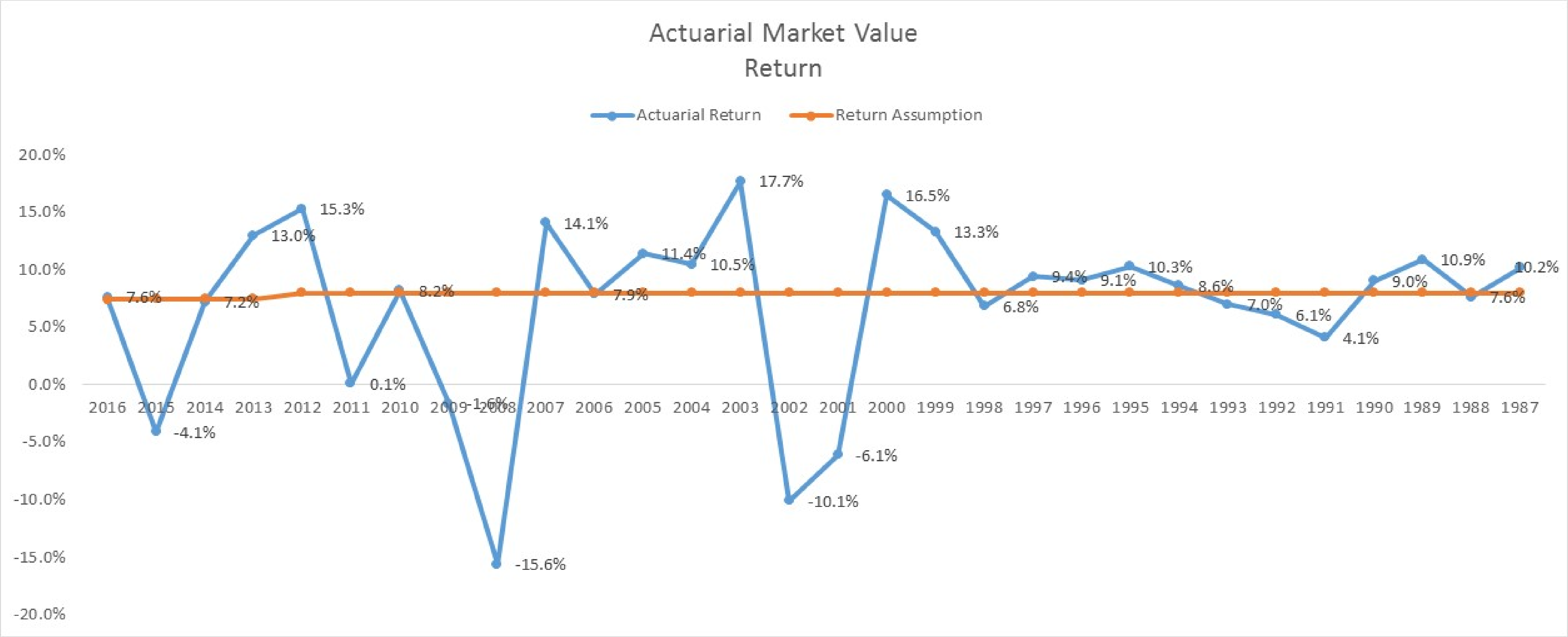
Net Effect of Assumption Changes to UAAL =

$31,120,857 Increase to UAAL

UAAL Forecast



30-year Pension Return History



30 year market value return average 6.5%

Extraordinary Transfers for UAAL

- FY17 – Transfer of $2,500,000
- FY18 – A total of $5,420,000 has been transferred as part of the FY18 budget and FY17 year end balances.
  - Part of the transfer includes cuts totaling $1.2 million that create a baseline transfer to build upon in future years.
- Financial Policy adopted to allocate $5,420,000 annually
- Comprehensive Review of Town Operations (CROTO) will be conducted in January/February to determine sources of funding for annual extraordinary contribution of $5,420,000

TOWN OF PALM BEACH

Information for Town Council Meeting on: December 11, 2017

To: Mayor and Town Council

Via: Thomas Bradford, Town Manager

From: William P. Hanes, Retirement Administrator

Re: Pension Workshop

Date: December 11, 2017

GENERAL INFORMATION

Town Council requested that the Town retirement board meet annually with Town Council at a special called workshop to discuss the status of the retirement plan. Town Council scheduled this workshop for December 11, 2017.

Chairman Daniel W. Stanton will be presenting the report on behalf of the Town of Palm Beach Retirement System Board of Trustees, and will discuss past and current activities of the retirement board. The attached backup specifically identifies matters that have impacted funding status of the retirement plan. Other retirement trustees have been invited to participate with the workshop.

Putting clients first.

AndCo Consulting *Formerly* The Bogdahn Group

FROM:	Dave West, CFA, Senior Consultant
TO:	Board of Trustees
DATE:	November 22, 2017
RE:	Town of Palm Beach Retirement System: Investment Summary Fiscal 2017

AndCo, as the Investment Consultant to the Board of Trustees of the Town of Palm Beach Retirement System ('the Plan') is pleased to provide the following summary of investment results and activity for fiscal year 2017.

Investment Results (Preliminary)

Plan investment results exceeded the actuarial required rate of return for fiscal year 2017, generating 10.92% (net of fees). Results are preliminary, based on 85% of the investment portfolio reporting. It is expected that the collective results from the various Private Equity structure investments yet to be reported will be accretive to the final calculation. While the preliminary investment returns handily exceeded the Actuarial Required Rate of Return (7.4%), this years' gains will be applied to offset the actuarily smoothed performance deficiencies from prior years thereby negating any positive impact from investments on the aggregate Plan funded position.

Summary of Activity

The following actions were completed as recommended to, and approved by the Board of Trustees to address the strategic challenges identified within the legacy investment objectives and program structure, and the impact of investments on the aggregate Plan funded position.

Reduction in the Actuarial ROR:
The return assumption was reduced to 7.4% with the intention of improving overall Plan funding and sponsor contribution stability over time, and to reflect reduced Capital Market return expectations tempering prospective contributions from plan investments.

Tactical Objectives Adopted:

1. Restructure the investment portfolio to better maximize capital allocations
    a. Reduce exogenous market factor concentrations through the elimination of overlapping, and common factor driven investment mandates;
    b. Increase domestic equity target allocation.
2. Improve the liquidity structure of the Plan investments to better address cash flow reality.
    a. Elimination of less liquid investments
    b. Recognition of previous Private Equity Commitments yet to be called

Completed Changes to the Investment Program:
The following changes were completed opportunistically, and as constrained by investment liquidity schedules during the fiscal year. These changes now complete the primary repositioning objectives.

1. Increased Domestic Equity allocation to new policy targets completed via SSgA Index Fund
    a. Consolidation of manager assignments with fee concession (TSW)
2. Reduction in Foreign equity allocation to new policy targets completed
    a. Under performing managers terminated
3. Addition of Core Real Estate (JP Morgan SPF), funded by the elimination of REIT equity and a reduction in domestic fixed income.
4. Reduction in less liquid, alternative investment strategies with termination/redemptions completed for:

   a. Mesirow
   b. Wellington
   c. T. Roe
   d. Neuberger
   e. IR & M
   f. TAP
5. Review of the Plan's investments in Hedge Funds and Alternatives for:
   a. Allocation and Purpose: Net reduction in capital committed to this area of investment
   b. Manager Suitability Reviews: Consolidation and termination of underperforming managers
6. Review of Liquid Alternative investment focused on improving prospective fixed income returns.
   a. GTAA strategy implemented through the Black Rock Multi Asset Fund

EXHIBIT B

Town of Palm Beach Retirement System

Target Allocation vs. Current Asset Allocation as of September 30, 2015

TARGET ALLOCATION			INVESTMENT MANAGERS AND ALLOCATION						DIFF.	RANGE
EQUITIES										
			SSgA S&P 500 Index				8.56%	$16,394,262		
			T Rowe Price New Era Fund				1.05%	$2,013,161		
Large Cap Equity			**Large Cap Equity**				**9.61%**	**$18,407,423**		
			Geneva Mid Cap Growth				3.36%	$6,442,862		
			TSW Mid Cap Value				2.87%	$5,502,400		
			TSW Small Cap Value				4.44%	$8,503,177		
Small/Mid Cap Equity			**Small/Mid Cap Equity**				**10.68%**	**$20,448,439**		
Domestic Equities Total	**15.00%**	**$28,729,119**	***Domestic Equities Total***				**20.29%**	**$38,855,862**	**5.29%**	**10 - 20%**
			Artisan (Int'l Growth)				8.32%	$15,929,529		
			Harris (Int'l Value)				7.92%	$15,171,187		
International Equity	**15.00%**	**$28,729,119**	**International Equity**				**16.24%**	**$31,100,716**	**1.24%**	**10 - 20%**
			Acadian				4.61%	$8,834,537		
			Wells				4.29%	$8,208,291		
Emerging Markets Equity	**10.00%**	**$19,152,746**	**Emerging Markets Equity**				**8.90%**	**$17,042,828**	**-1.10%**	**5 - 15%**
Non US Equities Total	**25.00%**	**$47,881,864**	***Non US Equities Total***				**25.14%**	**$48,143,544**	**0.14%**	**15 - 35%**
FIXED INCOME										
			Goldman Sachs Core Plus Fixed				10.05%	$19,248,367		
			Vanguard Total Bond Market Index				8.10%	$15,523,122		
Core Fixed Income	**17.50%**	**$33,517,305**	**Core Fixed Income**				**18.15%**	**$34,771,489**	**0.65%**	**12 - 22%**
			Neuberger Berman				2.67%	$5,113,714		
High Yield Fixed Income	**2.50%**	**$4,788,186**	**High Yield Fixed Income**				**2.67%**	**$5,113,714**	**0.17%**	**0 - 6%**
			Vanguard TIPS Fund				2.48%	$4,742,478		
TIPS	**2.50%**	**$4,788,186**	**TIPS**				**2.48%**	**$4,742,478**	**-0.02%**	**0 - 6%**
Fixed Income Total	**22.50%**	**$43,093,678**	***Fixed Income Total***				**23.30%**	**$44,627,680**	**0.80%**	**12 - 34%**
ALTERNATIVES/HEDGE FUND OF FUNDS										
			Wellington Diversified Inflation Hedges				1.52%	$2,912,286		
			Mesirow Absolute Return				4.25%	$8,140,237		
			Weatherlow Offshore Fund I				3.51%	$6,724,821		
			Standard Life				3.56%	$6,826,481		
Alternatives/Hedge Fund of Funds Total	**15.00%**	**$28,729,119**	***Alternatives/Hedge Fund of Funds Total***				**12.85%**	**$24,603,824**	**-2.15%**	**10 - 20%**
COMMODITIES										
			TAP Fund				2.66%	$5,085,223		
Commodities Total	**2.50%**	**$4,788,186**	***Commodities Total***				**2.66%**	**$5,085,223**	**0.16%**	**0 - 6%**
REAL ESTATE				*Commitments*	*Contributions*	*Distributions*				
			Gerding Edlen Green Cities II	$5,000,000	$5,240,037	$1,354,447	2.64%	$5,064,224		
			Westport Real Estate Fund IV	$5,000,000	$3,831,500	$1,504,394	1.33%	$2,540,632		
			Long Wharf Real Estate Partners V	$5,000,000	-	-				
			Gerding Edlen Green Cities III	$5,000,000	-	-				
			Vanguard REIT Index	N/A	N/A	N/A	3.61%	$6,917,311		
Real Estate Total	**10.00%**	**$19,152,746**	***Real Estate Total***				**7.58%**	**$14,522,167**	**-2.42%**	**5 - 15%**
PRIVATE EQUITY				*Commitments*	*Contributions*	*Distributions*				
			Landmark Partners Fund XIV	$1,250,000	$1,171,020	$893,883	0.36%	$696,263		
			PEI Fund V	$1,250,000	$1,240,516	$500,000	0.62%	$1,178,705		
			HarbourVest IX	$10,000,000	$5,163,815	$1,030,045	2.86%	$5,472,870		
			Pomona Capital Fund VIII	$10,000,000	$5,689,651	$2,185,457	2.54%	$4,862,657		
			JPMorgan Venture Capital Fund V	$5,000,000	$1,685,146	-	0.88%	$1,685,146		
Private Equity Total	**10.00%**	**$19,152,746**	***Private Equity Total***				**7.26%**	**$13,895,641**	**-2.74%**	**5 - 15%**
Liquid Capital[2]										
			State Street STIF Account				0.35%	$679,832		
			IR&M				0.58%	$1,113,684		
Liquid Capital Total	**0.00%**	**$0**	***Liquid Capital Total***				**0.94%**	**$1,793,516**	**0.94%**	**-**
TOTAL	**100.00%**	**$191,527,457**	**TOTAL**				**100.00%**	**$191,527,457**		

NOTE: Private Equity and Private Real Estate Market Values reflect most recent Market Values available plus/minus contributions/distributions in Q3 2015.

[2]Includes cash account and IR&M

EXHIBIT B

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Town of Palm Beach Retirement System

Comparative Performance

As of September 30, 2015

	Allocation		Performance (%)							
	Market Value ($000)	%	1 Quarter	Year To Date	1 Year	2 Years	3 Years	Oct-2014 To Sep-2015	Since Inception	Inception Date
Town of Palm Beach Retirement Composite	**191,527**	**100.00**	**-6.53**	**-4.76**	**-4.22**	**1.28**	**5.23**	**-4.22**	**5.23**	**10/01/2012**
Total Fund Composite Policy Index			-4.74	-2.04	-1.13	3.74	6.22	-1.13	6.22	
Total Fund Composite Policy Index v2			-5.55	-3.75	-3.07	1.79	4.86	-3.07	4.86	
Total Domestic Equity Composite	**38,856**	**20.29**	**-7.74**	**-5.30**	**-1.62**	**5.97**	**10.96**	**-1.62**	**10.96**	**10/01/2012**
S&P 500			-6.44	-5.29	-0.61	9.09	12.40	-0.61	12.40	
Total International Equity Composite	**31,101**	**16.24**	**-13.31**	**-9.61**	**-9.28**	**-3.51**	**6.95**	**-9.28**	**6.95**	**10/01/2012**
MSCI EAFE (Net)			-10.23	-5.28	-8.66	-2.42	5.63	-8.66	5.63	
Total Emerging Markets Equity Composite	**17,043**	**8.90**	**-17.54**	**-16.32**	**-19.90**	**-9.18**	**N/A**	**-19.90**	**-5.74**	**09/01/2013**
MSCI EM (net)			-17.90	-15.48	-19.28	-8.24	-5.27	-19.28	-5.10	
Total Fixed Income Composite	**44,628**	**23.30**	**0.29**	**0.25**	**0.79**	**2.62**	**1.35**	**0.79**	**1.35**	**10/01/2012**
Fixed Income Index*			-0.90	-0.23	0.40	2.27	1.28	0.40	1.28	
Total Alternatives/Hedge Fund Composite	**24,604**	**12.85**	**-5.17**	**-2.78**	**-3.93**	**1.52**	**4.47**	**-3.93**	**4.47**	**10/01/2012**
90 Day T-Bills + 5%			1.25	3.76	5.04	5.04	5.05	5.04	5.05	
Total Commodities Composite	**5,085**	**2.66**	**-14.93**	**-16.74**	**-27.81**	**-17.69**	**-15.65**	**-27.81**	**-15.65**	**10/01/2012**
Bloomberg Commodity Index Total Return			-14.47	-15.80	-25.99	-16.85	-16.02	-25.99	-16.02	
Total Private Equity Composite	**13,896**	**7.26**	**0.00**	**8.87**	**14.91**	**24.23**	**22.11**	**14.91**	**22.11**	**10/01/2012**
S&P 500 + 5%			-5.29	-1.76	4.35	14.54	18.02	4.35	18.02	
Total Real Estate Composite	**14,522**	**7.58**	**1.48**	**-2.05**	**8.24**	**10.52**	**N/A**	**8.24**	**8.50**	**08/01/2013**
Real Estate Index**			2.58	2.36	5.48	8.33	9.21	5.48	8.60	
Total Liquid Capital Composite	**1,794**	**0.94**	**0.31**	**0.81**	**0.98**	**0.57**	**0.42**	**0.98**	**0.42**	**10/01/2012**
90 Day U.S. Treasury Bill			0.02	0.03	0.03	0.04	0.05	0.03	0.05	

Net of Fees.
* Fixed Income Index consists of 50% Barclays Capital US Aggregate, 25% Barclays Capital US Corp. High Yield, 25% Barclays Capital US Treasury: US TIPS.
** Real Estate Index: As of 4/15 50% MSCI US REIT Index, 50% NCREIF Property Index. Prior to 4/15 100% NCREIF Property Index.

Segal Rogerscasey

Net of Fees Comparative Performance

As of September 30, 2015

	Allocation		Performance (%)					
	Market Value ($000)	%	1 Quarter	Year To Date	1 Year	2 Years	3 Years	Oct-2014 To Sep-2015
Domestic Equity								
SSgA S&P 500 Flagship Fund	16,394	8.56	-6.52	-5.33	-0.65	9.04	12.36	-0.65
S&P 500			-6.44	-5.29	-0.61	9.09	12.40	-0.61
IM U.S. Large Cap Core Equity (SA+CF) Median			-6.67	-4.68	-0.02	9.44	12.98	-0.02
SSgA S&P 500 Flagship Fund Rank			47	64	63	58	66	63
T. Rowe Price New Era Fund	2,013	1.05	-17.29	-20.03	-30.37	-11.85	-5.17	-30.37
S&P Global Natural Resources Sector Index			-22.51	-24.44	-30.76	-15.52	-11.08	-30.76
IM Global Natural Resources (MF) Median			-20.45	-22.76	-33.40	-16.90	-10.09	-33.40
T. Rowe Price New Era Fund Rank			25	31	29	16	21	29
TSW Mid Cap Value	5,502	2.87	-3.15	-1.22	N/A	N/A	N/A	N/A
Russell Midcap Value Index			-8.04	-7.66	-2.07	7.25	13.69	-2.07
IM U.S. Mid Cap Value Equity (SA+CF) Median			-8.33	-6.03	-1.53	6.99	14.07	-1.53
TSW Mid Cap Value Rank			1	5	N/A	N/A	N/A	N/A
Geneva Mid Cap Growth	6,443	3.36	-4.91	1.90	9.26	7.12	11.85	9.26
Russell Midcap Growth Index			-7.99	-4.15	1.45	7.75	13.97	1.45
IM U.S. Mid Cap Growth Equity (SA+CF) Median			-8.19	-2.72	2.99	7.05	13.44	2.99
Geneva Mid Cap Growth Rank			5	7	8	50	75	8
TSW Small Cap Value*	8,503	4.44	-12.53	-9.97	-4.81	3.21	13.60	-4.81
Russell 2500 Value/Russell 2000 Value**			-10.73	-10.06	-1.60	3.98	11.32	-1.60
IM U.S. SMID Cap Value Equity (SA+CF) Median			-9.78	-6.34	-0.37	5.00	13.10	-0.37
TSW Small Cap Value* Rank			85	83	76	74	40	76
IM U.S. Small Cap Value Equity (SA+CF) Median			-9.83	-6.67	0.59	4.01	12.41	0.59
TSW Small Cap Value* Rank			83	79	79	59	37	79
International Developed Equity								
Harris Associates International Value	15,171	7.92	-13.46	-9.39	-9.22	-5.06	8.63	-9.22
MSCI EAFE Value Index (Net)			-11.77	-8.15	-12.60	-3.91	4.69	-12.60
IM International Large Cap Value Equity (SA+CF) Median			-10.76	-5.59	-8.76	-1.90	5.68	-8.76
Harris Associates International Value Rank			90	89	54	87	17	54

*** Inception to October 2014 represents SMID Value performance; October 2014 forward represents Small Cap Value.**
**** Performance history prior to October 2014 is Russell 2500 Value; October 2014 forward is Russell 2000 Value.**
Net of Fees.

Segal Rogerscasey

EXHIBIT B

Net of Fees Comparative Performance

As of September 30, 2015

	Allocation		Performance (%)					
	Market Value ($000)	%	1 Quarter	Year To Date	1 Year	2 Years	3 Years	Oct-2014 To Sep-2015
Artisan International Growth	15,930	8.32	-13.16	-9.82	-9.34	-1.98	5.76	-9.34
MSCI EAFE Growth Index (Net)			-8.73	-2.41	-4.65	-0.97	6.53	-4.65
IM International Large Cap Growth Equity (MF) Median			-9.99	-4.14	-6.03	-1.41	4.86	-6.03
Artisan International Growth Rank			96	96	81	62	24	81
Emerging Market Equity								
Acadian Emerging Markets Equity II Fund LLC	8,835	4.61	-17.93	-17.52	-19.82	-8.45	N/A	-19.82
MSCI EM (net)			-17.90	-15.48	-19.28	-8.24	-5.27	-19.28
IM Emerging Markets Equity (SA+CF) Median			-16.16	-14.18	-17.74	-6.70	-3.25	-17.74
Acadian Emerging Markets Equity II Fund LLC Rank			84	88	76	75	N/A	76
Wells Capital Emerging Markets	8,208	4.29	-17.11	-14.98	-19.98	-9.97	N/A	-19.98
MSCI EM (net)			-17.90	-15.48	-19.28	-8.24	-5.27	-19.28
IM Emerging Markets Equity (SA+CF) Median			-16.16	-14.18	-17.74	-6.70	-3.25	-17.74
Wells Capital Emerging Markets Rank			69	60	78	89	N/A	78
Fixed Income								
Goldman Sachs Asset Management	19,248	10.05	1.27	0.88	1.66	3.15	1.96	1.66
Barclays U.S. Aggregate			1.23	1.13	2.94	3.45	1.71	2.94
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			0.41	0.73	2.14	3.71	2.37	2.14
Goldman Sachs Asset Management Rank			4	45	64	80	88	64
Vanguard Total Bond Market Index	15,523	8.10	1.18	N/A	N/A	N/A	N/A	N/A
Barclays U.S. Aggregate			1.23	1.13	2.94	3.45	1.71	2.94
IM U.S. Broad Market Core Fixed Income (MF) Median			0.71	0.61	1.92	3.06	1.49	1.92
Vanguard Total Bond Market Index Rank			12	N/A	N/A	N/A	N/A	N/A
Neuberger Berman High Yield	5,114	2.67	-4.97	-3.05	-3.86	1.01	N/A	-3.86
BofA Merrill Lynch High Yield Master II			-4.90	-2.53	-3.56	1.69	3.46	-3.56
IM U.S. High Yield Bonds (MF) Median			-4.53	-2.26	-3.48	1.30	2.92	-3.48
Neuberger Berman High Yield Rank			67	71	59	58	N/A	59

EXHIBIT B

22

Net of Fees.

Segal Rogerscasey

	Allocation		Performance (%)					
	Market Value ($000)	%	1 Quarter	Year To Date	1 Year	2 Years	3 Years	Oct-2014 To Sep-2015
Vanguard Inflation-Protected Securities	4,742	2.48	-0.89	-0.90	-0.73	0.38	-1.88	-0.73
Barclays U.S. Treasury: U.S. TIPS			-1.15	-0.80	-0.83	0.37	-1.83	-0.83
IM U.S. TIPS (MF) Median			-1.48	-1.28	-1.87	-0.58	-2.40	-1.87
Vanguard Inflation-Protected Securities Rank			13	32	7	7	23	7
Alternatives/Hedge Funds								
Wellington Diversified Inflation Hedges CTF	2,912	1.52	-15.45	-17.31	-27.68	-13.95	-12.17	-27.68
DIH Composite Index			-14.61	-16.62	-25.21	-13.20	-10.25	-25.21
Mesirow Absolute Return Fund	8,140	4.25	-4.83	-2.22	-1.02	3.43	5.14	-1.02
90 Day T-Bill + 3.75%			0.94	2.83	3.79	3.79	3.80	3.79
Weatherlow Offshore Fund I Ltd.	6,725	3.51	-4.45	0.26	1.31	4.38	6.78	1.31
HFRI FOF: Diversified Index			-2.84	-0.48	0.54	3.43	4.39	0.54
Standard Life Global Absolute Return	6,826	3.56	-1.20	1.08	1.57	N/A	N/A	1.57
Balanced Index			-4.42	-4.43	-4.42	1.23	3.99	-4.42
Commodities								
TAP Fund, LTD	5,085	2.66	-14.93	-16.74	-27.81	-17.69	-15.65	-27.81
Bloomberg Commodity Index Total Return			-14.47	-15.80	-25.99	-16.85	-16.02	-25.99
REIT's								
Vanguard REIT Index	6,917	3.61	1.97	N/A	N/A	N/A	N/A	N/A
MSCI U.S. REIT Index			2.06	-4.26	9.47	11.35	9.45	9.47
Liquid Capital								
IR&M Short Term Fixed Income	1,114	0.58	0.32	1.10	1.33	N/A	N/A	1.33
BofA Merrill Lynch 1-3 Year Treasury			0.31	0.98	1.16	0.83	0.67	1.16
Cash Account	680	0.35	0.32	0.41	0.42	0.28	N/A	0.42
90 Day U.S. Treasury Bill			0.02	0.03	0.03	0.04	0.05	0.03

EXHIBIT B

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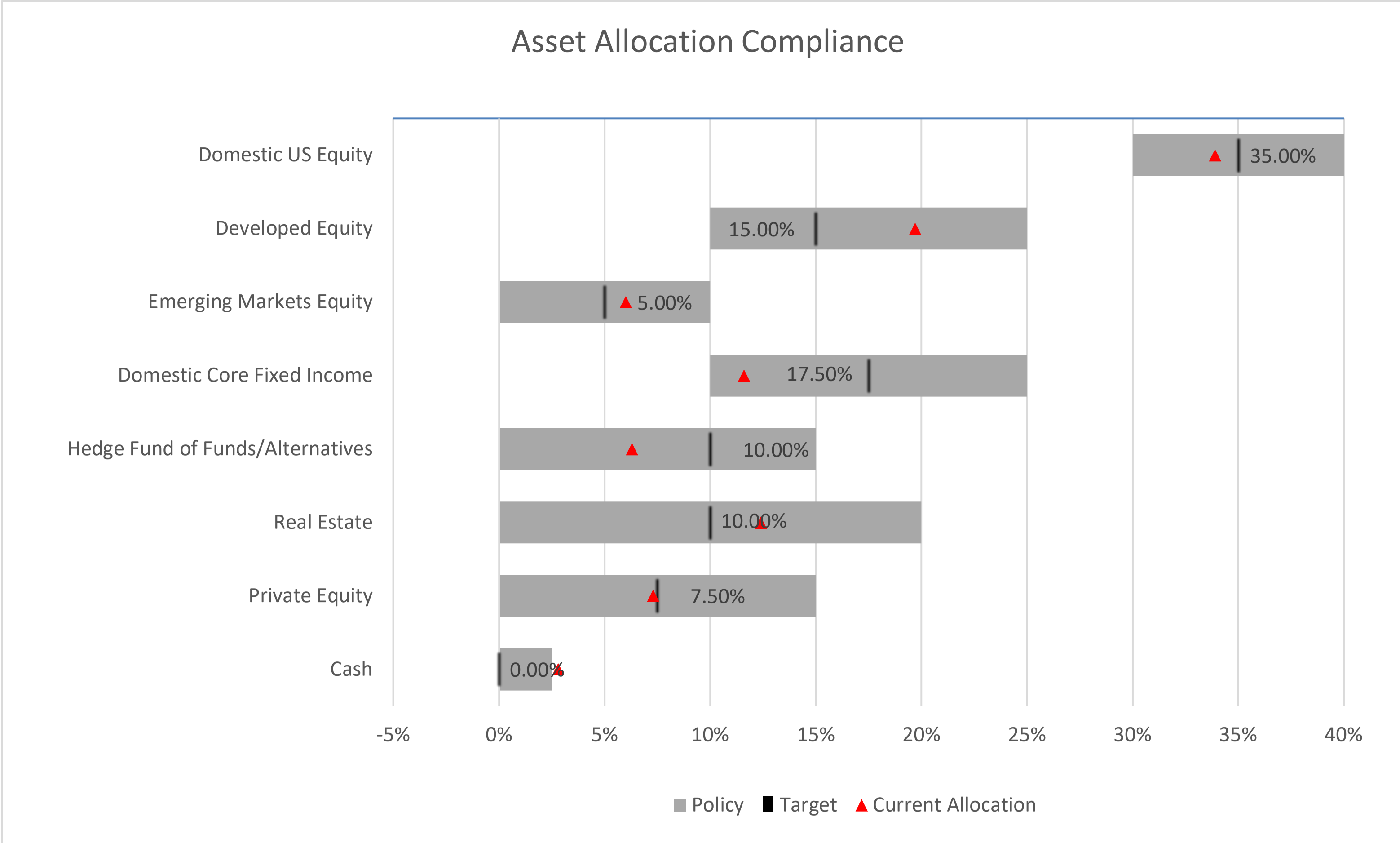
Net of Fees.

As of September 30, 2015

	1 Year	3 Years	5 Years	Since Inception	Inception Date
PRIVATE EQUITY					
Landmark Equity Partners XIV LP	4.54	11.92	15.32	15.19	11/12/2009
Private Equity Investment Fund	2.99	8.51	10.24	11.29	01/21/2010
HarbourVest Partners IX	17.34	N/A	N/A	20.80	07/29/2013
Pomona Capital VIII	16.80	N/A	N/A	39.92	03/25/2014
JPMorgan Venture Capital Fund V	N/A	N/A	N/A	0.00	07/31/2015
REAL ESTATE					
Gerding Edlen Green Cities II	20.59	N/A	N/A	16.18	08/28/2013
Westport Real Estate Fund IV	11.63	N/A	N/A	8.75	03/24/2014

All performance shown is as of 6/30/15 with the exception of Westport where updated values through 9/30/15 were available.

Asset Allocation Current Target vs. Policy Targets
Total Fund
as of September 30, 2017



Asset Allocation	Minimum	Target	Maximum	Current Allocation
Domestic US Equity	30.0%	35.0%	40.0%	33.9%
Developed Equity	10.0%	15.0%	20.0%	19.7%
Emerging Markets Equity	0.0%	5.0%	10.0%	6.0%
Domestic Core Fixed Income	10.0%	17.5%	25.0%	11.6%
Hedge Fund of Funds/GTAA/Risk Parity	0.0%	10.0%	15.0%	6.3%
Real Estate	0.0%	10.0%	20.0%	12.4%
Private Equity	0.0%	7.5%	15.0%	7.3%
Cash	0.0%	0.0%	2.5%	2.8%

Asset Allocation & Performance [Net of Fees] - Trailing Returns Quarter Ended

	Allocation		Performance(%)							
	Market Value $	%	QTD	FYTD	YTD	1 YR	2 YR	3 YR	Inception	Inception Date
Total Fund	**209,479,763**	**100.0**	**3.21**	**10.92**	**11.04**	**10.92**	**9.40**	**4.65**	**6.88**	**10/01/2012**
Total Fund Policy			3.90	12.72	12.28	12.72	11.38	7.04	8.25	
Total Fund	209,479,763	100.0	3.21	10.92	11.04	10.92	9.40	4.65	6.88	10/01/2012
Total Fund Policy Index ex Alts			3.23	10.69	10.26	10.69	10.37	6.40	7.86	
Total Domestic Equity	**71,091,201**	**33.9**	**2.97**	**15.62**	**11.70**	**15.62**	**13.52**	**8.23**	**11.97**	**10/01/2012**
S&P 500 Index			4.48	18.61	14.24	18.61	17.01	10.81	14.22	
Total International Equity	**41,246,430**	**19.7**	**7.67**	**25.33**	**26.70**	**25.33**	**15.23**	**6.40**	**10.18**	**10/01/2012**
MSCI EAFE (Net) Index			5.40	19.10	19.96	19.10	12.63	5.04	8.38	
Total Emerging Markets Equity	**12,610,239**	**6.0**	**8.66**	**24.55**	**30.96**	**24.55**	**22.23**	**6.17**	**7.05**	**09/01/2013**
MSCI Emerging Markets (Net) Index			7.89	22.46	27.78	22.46	19.59	4.90	6.28	
Total Fixed Income	**24,211,962**	**11.6**	**0.57**	**-0.04**	**2.93**	**-0.04**	**3.00**	**2.25**	**2.00**	**10/01/2012**
Total Fixed Income Policy			1.14	2.02	3.74	2.02	4.69	3.24	2.63	
Total Alternatives/Hedge Fund	**13,260,847**	**6.3**	**1.61**	**3.95**	**2.59**	**3.95**	**2.21**	**0.12**	**3.56**	**10/01/2012**
Total Alternative Policy			5.26	22.76	16.80	22.76	21.98	15.79	17.27	
Total Private Equity	**15,246,376**	**7.3**								
Total Alternative Policy			5.26	22.76	16.80	22.76	21.98	15.79	N/A	
Total Real Estate	**25,922,104**	**12.4**								
NCREIF Property Index			1.70	6.89	5.07	6.89	8.05	9.83	10.22	
Total Liquid Capital	**5,890,604**	**2.8**	**0.13**	**0.24**	**0.16**	**0.24**	**0.64**	**0.75**	**0.51**	**10/01/2012**
90 Day U.S. Treasury Bill			0.27	0.64	0.57	0.64	0.41	0.28	0.20	

EXHIBIT B

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Returns for periods greater than one year are annualized.
Returns are expressed as percentages.

Asset Allocation & Performance
Total Fund
As of September 30, 2017

	Allocation		Performance(%)							
	Market Value $	%	QTD	FYTD	YTD	1 YR	2 YR	3 YR	Inception	Inception Date
Domestic Equity										
SSgA S&P 500 Flagship Fund	49,814,660	23.8	4.48	18.60	14.21	18.60	17.01	10.80	14.20	10/01/2012
S&P 500 Index			4.48	18.61	14.24	18.61	17.01	10.81	14.22	
Geneva Mid Cap Growth	6,667,654	3.2	2.05	15.86	16.19	15.86	10.14	9.85	9.43	09/01/2005
Russell Midcap Growth Index			5.28	17.82	17.29	17.82	14.48	9.96	9.18	
Thompson, Siegel & Walmsley SMID Value	14,608,887	7.0	-1.13	N/A	4.38	N/A	N/A	N/A	11.88	11/01/2016
Russell 2500 Value Index			3.83	15.75	5.86	15.75	16.71	9.94	19.32	
International Developed Equity										
Oakmark International Value	21,783,614	10.4	9.56	35.44	27.13	35.44	19.96	9.32	12.24	03/01/2003
MSCI EAFE IMI Value (Net)			6.05	22.63	18.43	22.63	13.24	4.36	8.69	
Artisan International Growth (ARTIX)	19,462,816	9.3	5.62	15.66	26.21	15.66	10.54	3.47	8.48	01/01/2003
MSCI EAFE Growth Index (Net)			4.94	15.68	22.45	15.68	12.53	6.48	7.88	
Emerging Market Equity										
Wells Capital Emerging Markets	12,610,239	6.0	8.66	21.68	30.65	21.68	23.17	6.67	5.30	10/01/2013
MSCI Emerging Markets (Net) Index			7.89	22.46	27.78	22.46	19.59	4.90	4.75	

Returns for periods greater than one year are annualized.
Returns are expressed as percentages.

Asset Allocation & Performance
Total Fund
As of September 30, 2017

	Allocation		Performance(%)							
	Market Value $	%	QTD	FYTD	YTD	1 YR	2 YR	3 YR	Inception	Inception Date
Fixed Income										
Goldman Sachs Asset Management	20,500,670	9.8	0.58	0.49	3.18	0.49	2.96	2.56	2.38	10/01/2012
Bloomberg Barclays U.S. Aggregate Index			0.85	0.07	3.14	0.07	2.60	2.71	2.06	
Vanguard Total Bond Market Index (VBTIX)	3,711,291	1.8	0.71	-0.62	2.63	-0.62	2.33	N/A	2.06	06/01/2015
Bloomberg Barclays U.S. Aggregate Index			0.85	0.07	3.14	0.07	2.60	2.71	2.28	
Alternatives/Hedge Funds										
Weatherlow Offshore Fund I Ltd.	12,858,855	6.1	1.91	4.04	3.09	4.04	2.65	2.20	5.26	02/01/2012
HFRI FOF: Diversified Index			2.25	5.76	4.59	5.76	2.71	1.94	3.58	
JP Morgan Strategic Property	**10,477,939**	**5.0**	**1.56**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**4.09**	**03/01/2017**
NCREIF Fund Index-Open End Diversified Core (EW)			1.88	7.80	5.52	7.80	9.20	11.01	5.52	
Liquid Capital										
Cash Account	5,890,604	2.8	0.13	0.24	0.16	0.24	0.28	0.33	0.26	06/01/2013
90 Day U.S. Treasury Bill			0.27	0.64	0.57	0.64	0.41	0.28	0.21	

Returns for periods greater than one year are annualized.
Returns are expressed as percentages.

Asset Allocation & Performance [Net of Fees] - Fiscal Year Returns

	Allocation		Performance(%)								
	Market Value $	%	FYTD	FY2016	FY2015	FY2014	FY2013	FY2012	FY2011	FY2010	FY2009
Total Fund	**209,479,763**	**100.0**	**10.92**	**7.90**	**-4.23**	**7.09**	**13.60**	**N/A**	**N/A**	**N/A**	**N/A**
Total Fund Policy			12.72	10.05	-1.13	8.86	11.36	N/A	N/A	N/A	N/A
Total Fund	209,479,763	100.0	10.92	7.90	-4.23	7.09	13.60	N/A	N/A	N/A	N/A
Total Fund Composite Policy Index ex Alts			10.69	10.05	-1.13	8.86	11.36	N/A	N/A	N/A	N/A
Total Domestic Equity	**71,091,201**	**33.9**	**15.62**	**11.45**	**-1.62**	**14.14**	**21.65**	**N/A**	**N/A**	**N/A**	**N/A**
S&P 500 Index			18.61	15.43	-0.61	19.73	19.34	30.20	1.14	10.16	-6.91
Total International Equity	**41,246,430**	**19.7**	**25.33**	**5.93**	**-9.28**	**2.63**	**31.38**	**N/A**	**N/A**	**N/A**	**N/A**
MSCI EAFE (Net) Index			19.10	6.52	-8.66	4.25	23.77	13.75	-9.36	3.27	3.23
Total Emerging Markets Equity	**12,610,239**	**6.0**	**24.55**	**19.95**	**-19.90**	**2.96**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
MSCI Emerging Markets (Net) Index			22.46	16.78	-19.28	4.30	0.98	16.94	-16.15	20.22	19.07
Total Fixed Income	**24,211,962**	**11.6**	**-0.04**	**6.13**	**0.77**	**4.48**	**-1.15**	**N/A**	**N/A**	**N/A**	**N/A**
Total Fixed Income Policy			2.02	7.44	0.40	4.18	-0.67	9.62	5.58	10.91	12.80
Total Alternatives/Hedge Fund	**13,260,847**	**6.3**	**3.95**	**0.50**	**-3.93**	**7.28**	**10.64**	**N/A**	**N/A**	**N/A**	**N/A**
Total Alternative Policy			22.76	21.20	4.35	25.72	13.63	N/A	N/A	N/A	N/A
Total Private Equity	**15,246,376**	**7.3**									
Total Alternative Policy			22.76	21.20	4.35	25.72	13.63	N/A	N/A	N/A	N/A
Total Real Estate	**25,922,104**	**12.4**									
NCREIF Property Index			6.89	9.22	13.48	11.26	11.00	11.00	16.10	5.84	-22.09
Total Liquid Capital	**5,890,604**	**2.8**									
90 Day U.S. Treasury Bill			0.64	0.18	0.03	0.04	0.08	0.05	0.13	0.12	0.38

EXHIBIT B

Returns for periods greater than one year are annualized.
Returns are expressed as percentages. Mutual fund and ETF investments are reported net of fees.

EXHIBIT B

Asset Allocation & Performance
Total Fund
As of September 30, 2017

	Allocation		Performance(%)								
	Market Value $	%	FYTD	FY2016	FY2015	FY2014	FY2013	FY2012	FY2011	FY2010	FY2009
Domestic Equity											
SSgA S&P 500 Flagship Fund	49,814,660	23.8	18.60	15.44	-0.65	19.68	19.32	N/A	N/A	N/A	N/A
S&P 500 Index			18.61	15.43	-0.61	19.73	19.34	30.20	1.14	10.16	-6.91
Geneva Mid Cap Growth	6,667,654	3.2	15.86	4.70	9.26	5.03	21.94	26.37	5.61	21.46	-4.27
Russell Midcap Growth Index			17.82	11.24	1.45	14.43	27.54	26.69	0.80	18.27	-0.40
Thompson, Siegel & Walmsley SMID Value	14,608,887	7.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Russell 2500 Value Index			15.75	17.68	-2.44	9.88	27.58	32.15	-4.70	14.74	-8.33
International Developed Equity											
Oakmark International Value	21,783,614	10.4	35.44	6.24	-9.22	-0.71	42.23	15.55	-9.72	12.48	17.75
MSCI EAFE IMI Value (Net)			22.63	4.56	-11.36	5.44	25.40	12.29	-9.73	-0.97	8.82
Artisan International Growth (ARTIX)	19,462,816	9.3	15.66	5.64	-9.34	5.98	23.11	30.05	-9.95	3.27	5.01
MSCI EAFE Growth Index (Net)			15.68	9.47	-4.65	2.85	23.27	14.81	-8.79	8.41	-0.78
Emerging Market Equity											
Wells Capital Emerging Markets	12,610,239	6.0	21.68	24.68	-19.98	1.30	N/A	N/A	N/A	N/A	N/A
MSCI Emerging Markets (Net) Index			22.46	16.78	-19.28	4.30	0.98	16.94	-16.15	20.22	19.07

Returns for periods greater than one year are annualized.
Returns are expressed as percentages. Mutual fund and ETF investments are reported net of fees.

Asset Allocation & Performance
Total Fund
As of September 30, 2017

	Allocation		Performance(%)								
	Market Value $	%	FYTD	FY2016	FY2015	FY2014	FY2013	FY2012	FY2011	FY2010	FY2009
Fixed Income											
Goldman Sachs Asset Management	20,500,670	9.8	0.49	5.48	1.78	4.66	-0.37	N/A	N/A	N/A	N/A
Bloomberg Barclays U.S. Aggregate Index			0.07	5.19	2.94	3.96	-1.68	5.16	5.26	8.16	10.56
Vanguard Total Bond Market Index (VBTIX)	3,711,291	1.8	-0.62	5.36	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bloomberg Barclays U.S. Aggregate Index			0.07	5.19	2.94	3.96	-1.68	5.16	5.26	8.16	10.56
Alternatives/Hedge Funds											
Weatherlow Offshore Fund I Ltd.	12,858,855	6.1	4.04	1.29	1.31	7.55	11.76	N/A	N/A	N/A	N/A
HFRI FOF: Diversified Index			5.76	-0.25	0.44	6.41	6.34	2.79	-1.04	3.44	-1.01
Standard Life Global Absolute Return	-	0.0	3.81	-2.61	1.57	N/A	N/A	N/A	N/A	N/A	N/A
Balanced Index			9.43	10.96	-4.42	7.21	9.73	14.25	-0.60	6.47	4.82
JP Morgan Strategic Property	**10,477,939**	**5.0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
NCREIF Fund Index-Open End Diversified Core (EW)			7.80	10.62	14.71	12.39	12.47	11.77	18.03	6.14	-36.09
Liquid Capital											
Cash Account	5,890,604	2.8									
90 Day U.S. Treasury Bill			0.64	0.18	0.03	0.04	0.08	0.05	0.13	0.12	0.38

Returns for periods greater than one year are annualized.
Returns are expressed as percentages. Mutual fund and ETF investments are reported net of fees.

P: 954.527.1616 | F: 954.525.0083 | www.grsconsulting.com

November 17, 2017

William P. Hanes, Esq.
Administrator
Town of Palm Beach Retirement System
P.O. Box 2112
Palm Beach, FL 33480

Re: Town of Palm Beach Retirement System – 19-Year Projections Reflecting Actual Rate of Return for Fiscal Year Ending 2017

Dear Bill:

As requested, we have prepared updated projections for the Town of Palm Beach Retirement System (Plan) reflecting the rate of return on the market value of assets for the fiscal year ending 2017 provided by AndCo of 10.92%. The enclosed exhibits present projected assets, liabilities and contribution requirements for the Plan in the aggregate under three deterministic assumption scenarios, as described below. These projections reflect the $5.42 million additional contribution policy adopted by the Town, which was Alternative 2 in our previous projection study, dated August 31, 2017.

Even though we reflected the actual reported rate of return on the market value of assets for FY 2017, the Actuarial Value of Assets as of September 30, 2017 is still estimated because the actual cash flows during FY 2017 and the final market value of assets as of September 30, 2017 have not yet been finalized.

- **Scenario 1 (Baseline assumptions)** – same assumptions as used in the September 30, 2016 Actuarial Valuation Report, as amended by the General & Ocean Rescue Actuarial Impact Statement dated March 6, 2017 and the Firefighters Actuarial Impact Statement dated August 4, 2017, with the following exceptions:
    - The investment return assumption is assumed to decrease by 0.1% per year from 7.4% used in the September 30, 2016 Actuarial Valuation Report to 7.0% as of September 30, 2020;
    - the payroll growth assumption is assumed to decrease by 0.25% per year, from 3.25% used in the September 30, 2016 Actuarial Valuation Report to 2.75% as of September 30, 2018;
    - the amortization period for amortizing changes in the UAAL is limited to 25 years effective September 30, 2017;
    - an additional Town contribution of $5.42 million towards the UAAL is made each year beginning in FYE 2017 until the Plan is fully funded, limited to $16 million total (but not less than ADEC), indexed after 2017; and
    - the actual return on the market value of assets is 10.92% for the year beginning on the 9/30/2016 valuation date, followed by the assumed investment return assumption for the year beginning on the 9/30/17 valuation date and thereafter (7.3% as of 9/30/17, decreasing by 0.1% per year to 7.0% as of 9/30/20).

- **Scenario 2 (Stress Test)** – same assumptions as described above but reflecting an actual return on the market value of assets of 5.0% each year after FYE 2017.
- **Scenario 3 (Stress Test)** – same assumptions as described above but reflecting an actual return on the market value of assets of 3.0% each year after FYE 2017.

Throughout the projection period, new members are assumed to be hired each year at a rate sufficient to maintain a constant active headcount. New employees are assumed to have the same average demographic characteristics (age, gender, salary – adjusted each year for inflation) at their dates of employment as those of current members with 5 years of service or less as of September 30, 2016. Additionally, DROP and Share accounts are projected forward assuming 40% payout in the first projection year, 30% in year two, 20% in year three and the remainder paid out in year four.

Projections are deterministic, meaning that throughout the projection period, Plan experience is expected to match the actuarial assumptions. For the stress test scenarios (scenarios 2 and 3) the investment return on the market value of assets each year after September 30, 2017 is assumed to be 5.0% or 3.0%, as indicated, throughout the projection period.

The calculations are based upon assumptions regarding future events, which may or may not materialize. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. If you have reason to believe that the assumptions that were used are unreasonable, that the plan provisions are incorrectly described, that important plan provisions relevant to this proposal are not described, or that conditions have changed since the calculations were made, you should contact the author of the report prior to relying on information in the report.

The calculations in this report are based upon information furnished by the Town of Palm Beach and the Plan Administrator for the September 30, 2016 Actuarial Valuation concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We reviewed this information for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by the Town or the Plan Administrator.

This report complements the September 30, 2016 Actuarial Valuation Report and subsequent Actuarial Impact Statements previously delivered to the Plan Administrator and the City and should be considered in conjunction with those reports. Please see the Actuarial Valuation Report as of September 30, 2016, dated February 15, 2017, the March 6, 2017 Actuarial Impact Statement for General and Ocean Rescue Employees, and the August 4, 2017 Actuarial impact Statement for Firefighters for additional discussion of the nature of actuarial calculations and information related to participant data, economic and demographic assumptions, and benefit provisions.

Peter N. Strong and Jeffrey Amrose are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The undersigned actuaries are independent of the plan sponsor.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

Respectfully submitted,

Pete Strong

Jeff Amrose

Peter N. Strong, FSA, EA, MAAA
Senior Consultant and Actuary

Jeffrey Amrose, EA, MAAA, FCA
Senior Consultant and Actuary

Enclosures

cc: Jane Struder, CPA, Director of Finance (electronic)

Town of Palm Beach Retirement System (Composite)

Scenario 1 - Baseline Assumptions

19-Year Projection - Actual Rate of Return for FYE 2017, then Current Valuation Assumptions

(7.4% Investment Return Assumption, decreasing 0.1% per year until 7.0%; 25-Year Amortization Cap Effective 9/30/2017; Additional Annual Contributions of $5.42 Million Until Fully Funded, with Total Annual Town Contribution Cap of $16 million, indexed after 2017)

								Total Employer Contribution				
Valuation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio	Fiscal Year Ending	ADEC as % of Payroll	ADEC as Illustrative Dollar Amount	Additional Contribution	Total Contribution
								2017	44.46%	7,850,390	5,420,000	13,270,390
9/30/2016	268	17,731,259	22,063,581	307,993,649	209,122,540	98,871,109	67.9%	2018	49.43%	9,195,946	5,420,000	14,615,946
9/30/2017	268	18,123,933	21,532,997	313,221,673	214,000,585	99,221,088	68.3%	2019	51.08%	9,677,509	5,420,000	15,097,509
9/30/2018	268	18,548,556	21,002,777	319,102,237	219,103,196	99,999,041	68.7%	2020	52.07%	10,058,762	5,420,000	15,478,762
9/30/2019	268	18,937,496	20,620,727	325,750,807	225,295,027	100,455,780	69.2%	2021	52.22%	10,299,164	5,420,000	15,719,164
9/30/2020	268	19,377,832	20,256,213	333,058,771	237,284,378	95,774,393	71.2%	2022	50.71%	10,234,754	5,420,000	15,654,754
9/30/2021	268	19,785,486	20,813,129	337,380,724	250,720,947	86,659,777	74.3%	2023	47.84%	9,859,099	5,420,000	15,279,099
9/30/2022	268	20,189,359	21,391,659	341,460,933	263,298,574	78,162,359	77.1%	2024	45.08%	9,479,258	5,420,000	14,899,258
9/30/2023	268	20,613,885	21,929,486	345,257,188	275,733,434	69,523,754	79.9%	2025	42.21%	9,063,150	5,420,000	14,483,150
9/30/2024	268	20,950,292	22,588,177	348,777,817	288,020,511	60,757,306	82.6%	2026	39.37%	8,590,031	5,420,000	14,010,031
9/30/2025	268	21,375,235	23,167,859	351,901,163	300,121,371	51,779,792	85.3%	2027	35.99%	8,012,761	5,420,000	13,432,761
9/30/2026	268	21,729,139	23,761,573	354,657,529	311,890,123	42,767,406	87.9%	2028	29.43%	6,659,660	5,420,000	12,079,660
9/30/2027	268	22,020,368	24,382,720	357,016,661	323,250,298	33,766,363	90.5%	2029	26.05%	5,975,465	5,420,000	11,395,465
9/30/2028	268	22,463,010	24,888,582	359,033,526	333,468,431	25,565,095	92.9%	2030	22.51%	5,267,583	5,420,000	10,687,583
9/30/2029	268	22,967,849	25,380,341	360,732,106	343,215,726	17,516,380	95.1%	2031	18.64%	4,458,443	5,420,000	9,878,443
9/30/2030	268	23,389,073	25,910,337	362,091,775	352,373,329	9,718,446	97.3%	2032	14.39%	3,505,040	5,420,000	8,925,040
9/30/2031	268	23,851,153	26,371,126	363,059,422	360,759,541	2,299,881	99.4%	2033	9.35%	2,323,427	0	2,323,427
9/30/2032	268	24,343,818	26,780,929	363,682,052	368,260,045	(4,577,993)	101.3%	2034	8.14%	2,064,537	0	2,064,537
9/30/2033	268	24,885,592	27,068,714	363,974,201	369,193,605	(5,219,404)	101.4%	2035	8.14%	2,108,982	0	2,108,982
9/30/2034	268	25,431,351	27,362,885	364,012,716	369,599,278	(5,586,562)	101.5%	2036	8.14%	2,154,788	0	2,154,788
9/30/2035	268	26,022,528	27,673,624	363,833,394	369,813,294	(5,979,900)	101.6%	2037	8.14%	2,205,824	0	2,205,824
Total:										**$ 139,044,573**	**$ 86,720,000**	**$ 225,764,573**
Total Present Value at 9/30/2017 (using 7% discount rate):										**$ 88,988,938**	**$ 54,784,894**	**$ 143,773,832**

Assumptions

Mortality Assumption: FRS Non-Special Risk Mortality for General Employees and FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters

Investment Return Assumption: 7.40% as of 9/30/16, 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

Actual Return on Plan Assets: 10.92% as of 9/30/16 (actual rate of return on MVA for FYE 2017), then same as assumed above thereafter

Payroll Growth Assumption: 3.25% as of 9/30/16, 3.0% as of 9/30/17, and 2.75% as of 9/30/18 and thereafter

For the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2017, 30% in FYE 2018, 20% in FYE 2019, and 10% in FYE 2020.

We have not determined any additional possible impact due to F.S. 112.64(5).

Total employer contributions should not expect any reduction from Chapter 175 or 185 monies.

Additional contributions of $5.42 million per year beginning in FYE 2017 until the Plan is fully funded, subject to total annual contribution cap of $16 million, indexed after 2017; allocated between the benefit groups based on each group's proportion of the total amount of unfunded actuarial accrued liability as of the prior valuation year.

Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

EXHIBIT B

Town of Palm Beach Retirement System (Composite)

Scenario 2 - Stress Test

19-Year Projection - Actual Rate of Return for FYE 2017, then 5% Actual Rate of Return on Plan Assets Assumed to be Earned Each Year

(7.4% Investment Return Assumption, decreasing 0.1% per year until 7.0%; 25-Year Amortization Cap Effective 9/30/2017; Additional Annual Contributions of $5.42 Million Until Fully Funded, with Total Annual Town Contribution Cap of $16 million, indexed after 2017)

Valuation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio	Total Employer Contribution: Fiscal Year Ending	ADEC as % of Payroll	ADEC as Illustrative Dollar Amount	Additional Contribution	Total Contribution
								2017	44.46%	7,850,390	5,420,000	13,270,390
9/30/2016	268	17,731,259	22,063,581	307,993,649	209,122,540	98,871,109	67.9%	2018	49.43%	9,195,946	5,420,000	14,615,946
9/30/2017	268	18,123,933	21,532,997	313,221,673	214,000,585	99,221,088	68.3%	2019	51.08%	9,677,509	5,420,000	15,097,509
9/30/2018	268	18,548,556	21,002,777	319,102,237	218,117,895	100,984,343	68.4%	2020	52.39%	10,120,378	5,420,000	15,540,378
9/30/2019	268	18,937,496	20,620,727	325,750,807	222,283,469	103,467,338	68.2%	2021	53.21%	10,495,387	5,420,000	15,915,387
9/30/2020	268	19,377,832	20,256,213	333,058,771	231,232,785	101,825,986	69.4%	2022	52.70%	10,636,130	5,420,000	16,056,130
9/30/2021	268	19,785,486	20,813,129	337,380,724	240,601,081	96,779,642	71.3%	2023	51.18%	10,547,785	5,420,000	15,967,785
9/30/2022	268	20,189,359	21,391,659	341,460,933	248,025,722	93,435,210	72.6%	2024	50.16%	10,547,097	5,420,000	15,967,097
9/30/2023	268	20,613,885	21,929,486	345,257,188	255,189,701	90,067,487	73.9%	2025	49.15%	10,553,132	5,420,000	15,973,132
9/30/2024	268	20,950,292	22,588,177	348,777,817	262,127,960	86,649,858	75.2%	2026	48.32%	10,543,104	5,420,000	15,963,104
9/30/2025	268	21,375,235	23,167,859	351,901,163	268,797,819	83,103,343	76.4%	2027	47.08%	10,481,842	5,420,000	15,901,842
9/30/2026	268	21,729,139	23,761,573	354,657,529	275,059,047	79,598,483	77.6%	2028	42.26%	9,564,597	5,420,000	14,984,597
9/30/2027	268	22,020,368	24,382,720	357,016,661	280,930,027	76,086,634	78.7%	2029	41.35%	9,482,564	5,420,000	14,902,564
9/30/2028	268	22,463,010	24,888,582	359,033,526	285,628,355	73,405,172	79.6%	2030	40.43%	9,459,441	5,420,000	14,879,441
9/30/2029	268	22,967,849	25,380,341	360,732,106	290,012,359	70,719,747	80.4%	2031	39.42%	9,429,789	5,420,000	14,849,789
9/30/2030	268	23,389,073	25,910,337	362,091,775	294,023,503	68,068,273	81.2%	2032	38.48%	9,374,212	5,420,000	14,794,212
9/30/2031	268	23,851,153	26,371,126	363,059,422	297,629,197	65,430,224	82.0%	2033	33.51%	8,324,448	5,420,000	13,744,448
9/30/2032	268	24,343,818	26,780,929	363,682,052	300,871,486	62,810,566	82.7%	2034	29.76%	7,546,165	5,420,000	12,966,165
9/30/2033	268	24,885,592	27,068,714	363,974,201	302,780,466	61,193,736	83.2%	2035	29.10%	7,543,205	5,420,000	12,963,205
9/30/2034	268	25,431,351	27,362,885	364,012,716	303,620,435	60,392,281	83.4%	2036	28.72%	7,606,827	5,420,000	13,026,827
9/30/2035	268	26,022,528	27,673,624	363,833,394	304,217,572	59,615,822	83.6%	2037	28.32%	7,674,650	5,420,000	13,094,650
Total:										**$ 196,654,598**	**$113,820,000**	**$ 310,474,598**
Total Present Value at 9/30/2017 (using 7% discount rate):										**$ 110,812,368**	**$ 62,839,557**	**$ 173,651,925**

Assumptions

Mortality Assumption: FRS Non-Special Risk Mortality for General Employees and FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters

Investment Return Assumption: 7.40% as of 9/30/16, 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

Actual Return on Plan Assets: 10.92% as of 9/30/16 (actual rate of return on MVA for FYE 2017), then 5.0% per annum thereafter

Payroll Growth Assumption: 3.25% as of 9/30/16, 3.0% as of 9/30/17, and 2.75% as of 9/30/18 and thereafter

For the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2017, 30% in FYE 2018, 20% in FYE 2019, and 10% in FYE 2020.

We have not determined any additional possible impact due to F.S. 112.64(5).

Total employer contributions should not expect any reduction from Chapter 175 or 185 monies.

Additional contributions of $5.42 million per year beginning in FYE 2017 until the Plan is fully funded, subject to total annual contribution cap of $16 million, indexed after 2017; allocated between the benefit groups based on each group's proportion of the total amount of unfunded actuarial accrued liability as of the prior valuation year.

Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

EXHIBIT B

Town of Palm Beach Retirement System (Composite)

Scenario 3 - Stress Test

19-Year Projection - Actual Rate of Return for FYE 2017, then 3% Actual Rate of Return on Plan Assets Assumed to be Earned Each Year

(7.4% Investment Return Assumption, decreasing 0.1% per year until 7.0%; 25-Year Amortization Cap Effective 9/30/2017; Additional Annual Contributions of $5.42 Million Until Fully Funded, with Total Annual Town Contribution Cap of $16 million, indexed after 2017)

Valuation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio	Total Employer Contribution: Fiscal Year Ending	ADEC as % of Payroll	ADEC as Illustrative Dollar Amount	Additional Contribution	Total Contribution
								2017	44.46%	7,850,390	5,420,000	13,270,390
9/30/2016	268	17,731,259	22,063,581	307,993,649	209,122,540	98,871,109	67.9%	2018	49.43%	9,195,946	5,420,000	14,615,946
9/30/2017	268	18,123,933	21,532,997	313,221,673	214,000,585	99,221,088	68.3%	2019	51.08%	9,677,509	5,420,000	15,097,509
9/30/2018	268	18,548,556	21,002,777	319,102,237	217,329,131	101,773,106	68.1%	2020	52.64%	10,169,897	5,420,000	15,589,897
9/30/2019	268	18,937,496	20,620,727	325,750,807	219,828,940	105,921,867	67.5%	2021	54.02%	10,654,501	5,420,000	16,074,501
9/30/2020	268	19,377,832	20,256,213	333,058,771	226,205,498	106,853,273	67.9%	2022	54.35%	10,968,881	5,420,000	16,388,881
9/30/2021	268	19,785,486	20,813,129	337,380,724	232,078,734	105,301,990	68.8%	2023	53.98%	11,124,809	5,420,000	16,544,809
9/30/2022	268	20,189,359	21,391,659	341,460,933	235,078,532	106,382,401	68.8%	2024	54.44%	11,447,313	5,420,000	16,867,313
9/30/2023	268	20,613,885	21,929,486	345,257,188	237,693,865	107,563,323	68.8%	2025	54.99%	11,806,542	5,420,000	17,226,542
9/30/2024	268	20,950,292	22,588,177	348,777,817	240,067,546	108,710,271	68.8%	2026	55.79%	12,174,662	5,420,000	17,594,662
9/30/2025	268	21,375,235	23,167,859	351,901,163	242,236,126	109,665,037	68.8%	2027	56.18%	12,507,593	5,420,000	17,927,593
9/30/2026	268	21,729,139	23,761,573	354,657,529	244,092,772	110,564,757	68.8%	2028	52.71%	11,929,718	5,420,000	17,349,718
9/30/2027	268	22,020,368	24,382,720	357,016,661	245,713,421	111,303,240	68.8%	2029	53.46%	12,260,227	5,420,000	17,680,227
9/30/2028	268	22,463,010	24,888,582	359,033,526	246,290,698	112,742,828	68.6%	2030	54.14%	12,665,825	5,420,000	18,085,825
9/30/2029	268	22,967,849	25,380,341	360,732,106	246,782,054	113,950,052	68.4%	2031	54.67%	13,077,457	5,420,000	18,497,457
9/30/2030	268	23,389,073	25,910,337	362,091,775	247,126,629	114,965,146	68.2%	2032	55.32%	13,477,101	5,420,000	18,897,101
9/30/2031	268	23,851,153	26,371,126	363,059,422	247,344,447	115,714,975	68.1%	2033	50.70%	12,595,654	5,420,000	18,015,654
9/30/2032	268	24,343,818	26,780,929	363,682,052	247,506,333	116,175,719	68.1%	2034	47.27%	11,984,346	5,420,000	17,404,346
9/30/2033	268	24,885,592	27,068,714	363,974,201	246,396,390	117,577,811	67.7%	2035	47.73%	12,370,776	5,420,000	17,790,776
9/30/2034	268	25,431,351	27,362,885	364,012,716	244,262,482	119,750,234	67.1%	2036	48.49%	12,844,876	5,420,000	18,264,876
9/30/2035	268	26,022,528	27,673,624	363,833,394	242,186,129	121,647,265	66.6%	2037	49.16%	13,323,948	5,420,000	18,743,948
Total:										**$ 244,107,971**	**$113,820,000**	**$ 357,927,971**
Total Present Value at 9/30/2017 (using 7% discount rate):										**$ 128,580,855**	**$ 62,839,557**	**$ 191,420,412**

Assumptions

Mortality Assumption: FRS Non-Special Risk Mortality for General Employees and FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters

Investment Return Assumption: 7.40% as of 9/30/16, 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

Actual Return on Plan Assets: 10.92% as of 9/30/16 (actual rate of return on MVA for FYE 2017), then 3.0% per annum thereafter

Payroll Growth Assumption: 3.25% as of 9/30/16, 3.0% as of 9/30/17, and 2.75% as of 9/30/18 and thereafter

For the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2017, 30% in FYE 2018, 20% in FYE 2019, and 10% in FYE 2020.

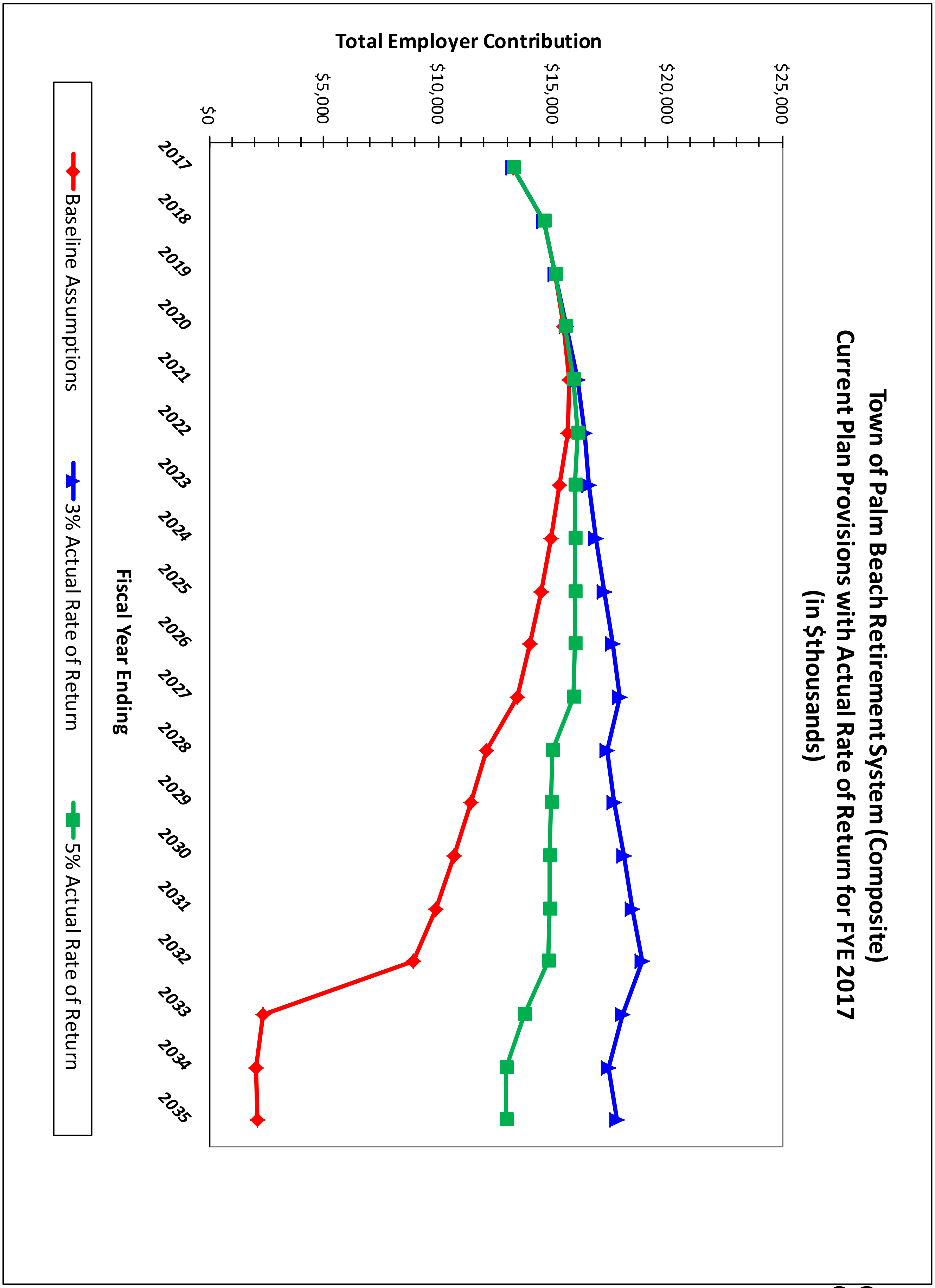
We have not determined any additional possible impact due to F.S. 112.64(5).

Total employer contributions should not expect any reduction from Chapter 175 or 185 monies.

Additional contributions of $5.42 million per year beginning in FYE 2017 until the Plan is fully funded, subject to total annual contribution cap of $16 million, indexed after 2017; allocated between the benefit groups based on each group's proportion of the total amount of unfunded actuarial accrued liability as of the prior valuation year.

Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

EXHIBIT B


Town of Palm Beach Retirement System (Composite)
Current Plan Provisions with Actual Rate of Return for FYE 2017
(in $thousands)
Total Employer Contribution
$0
$5,000
$10,000
$15,000
$20,000
$25,000
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
Fiscal Year Ending
Baseline Assumptions
3% Actual Rate of Return
5% Actual Rate of Return

Palm Beach Retirement System

Powers and Duties of Board of Trustees

I. Board Composition – 9 Members [82-57(b)]:

- 1 employee member of general employee/lifeguard group – elected by group
- 1 employee member of firefighter group – elected by firefighters
- 1 employee member of police officer group – elected by police officers
- 5 Town residents appointed by Town Council
- Town Manager

II. Officers and Advisors

- Board annually elects chair, chair pro tem and secretary [82-57(h)(1) and (2)]
- Town Finance Director serves as finance director and treasurer of the Board [82-57(h)(3)]
- Board required to retain an independent investment consultant [82-57(i)(6)]
- Board appoints actuary [82-57(h)(5)]
- Board authorized to engage services of plan administrator [82-57(h)(7)]
- Town Attorney or attorney designated by Town Attorney serves as legal advisor to the Board [82-57(h)(4)]
- Board authorized to employ professional and other services as required for proper administration of the Retirement System [82-57(h)(6)]

III. Board Powers - Generally

- Board is a legal entity with authority to administer the Retirement System for the benefit of members, retirants and beneficiaries [82-57(g)]
- Board has power to bring and defend lawsuits of every kind [82-57(g)]

IV. Investments

- Board directs investment of Retirement System assets in accordance with investment policy approved by the Board and Town Council [82-57(i)]
- Board investment authority subject to prudent person rule [82-57(i)(2)]
- Board may invest in a wide range of securities and funds, including group trusts [82-57(i)(3)-(5)]

V. Qualified Plan [82-67]

- Retirement System is a qualified plan under section 401(a) of the Internal Revenue Code
- Annual benefits limited by section 415, IRC [current limit = $210,000 at age 62]
- Compensation limited by section 401(a)(17), IRC [current limit = $265,000]
- Retirement System must be administered in accordance with Internal Revenue Code

DUTIES AND RESPONSIBILITIES OF PUBLIC PENSION TRUSTEES IN FORIDA

Jim Linn and Glenn Thomas
Lewis, Longman & Walker, P.A.

I. OVERVIEW

A. Public pension trustees are elected or appointed to boards that oversee the administration of government pension plans, and manage pension fund investments.

B. Public pension plans are generally exempt from ERISA (the "Employee Retirement Income Security Act" – the federal law governing most private pension plans), but are subject to Internal Revenue Code requirements and Part VII, Chapter 112, Florida Statutes (the "Florida Protection of Public Employee Retirement Benefits Act").

C. Public pension plans in Florida are also subject to the actuarial funding standard contained in Article X, Section 14 of the Florida Constitution:

"A governmental unit responsible for any retirement or pension system supported in whole or in part by public funds shall not ... provide any increase in the benefits to the members or beneficiaries of such system unless such unit has made or concurrently makes provision for the funding of the increase in benefits on a sound actuarial basis."

II. FIDUCIARY DUTY

A. Public pension trustees are "fiduciaries" and must:

"Discharge [their] duties with respect to a plan solely in the interest of the participants and beneficiaries for the exclusive purpose of providing benefits to participants and their beneficiaries and defraying reasonable expenses of administering the plan."

Section 112.656(1), Florida Statutes.

B. Other public pension plan fiduciaries:

1. Custodian
2. Plan administrator
3. Full-time accountant, lawyer or actuary
4. Anyone with discretionary control over plan assets

C. A public pension trustee's fiduciary cannot be avoided or contracted away:

"Any provision in a legal agreement, contract, or instrument which purports to relieve a fiduciary of a retirement system or plan from responsibility or liability is void as being against public policy."

Section 112.66(3), Florida Statutes.

D. Fiduciary duty can be delegated, such as to investment managers.

E. Fiduciary duty can be insured with fiduciary liability insurance (errors & omissions coverage).

F. Elements of fiduciary duty:

1. "Solely in the interest of the participants and beneficiaries"
   a. Must consider what is best for participants and beneficiaries.
   b. Cannot consider what may further the interests of any other party or entity.
   c. Cannot consider your own personal pension or benefits to the extent your interest conflicts with the interest of participants and beneficiaries.
   d. Investment managers, custodians and other professionals must look only at benefit to the plan, not effect on their fees or tenure.

2. "For the exclusive purpose of providing benefits"
   a. Plan assets may be used only to provide benefits (and defray reasonable expenses – see below).
   b. Plan assets cannot be used for benefits not specified in the plan.

3. "Defraying reasonable expenses"
   a. Trustees must review charges of plan vendors and professionals to make sure they are reasonable.
   b. Decisions on expenses cannot have other motives, such as directing plan business to favored vendors.
   c. Educational conferences and seminars are legitimate expenses, but must be supported by receipts and vouchers, and reviewed to make sure they are reasonable.

4. Practical application of fiduciary duty rules:
   a. Avoid self-dealing and conflict of interest. If in doubt consult board attorney.
   b. Consider advice of professionals and advisors before acting.
   c. Monitor performance and fees of professionals and advisors.

d. Require written opinions and backup on matters involving significant expenditures or potential liability.
e. Review trustee expenses and adopt travel expense policy.
f. Monitor and insist upon timely payment of employer and employee contributions (no less frequently than monthly for employee contributions and quarterly for employer contributions).

III. RESPONSIBILITIES OF TRUSTEES

A. Follow the plan.

B. Follow the laws:

1. local ordinances/resolutions
2. Part VII, Chapter 112, Florida Statutes (Protection of Public Employees Retirement Benefits Act)
3. Chapter 289, Florida Statutes (Government in the Sunshine Law)
4. Chapter 119, Florida Statutes (Public Records Act)
5. Part III, Chapter 112, Florida Statutes (Ethics and Financial Disclosure)
6. Internal Revenue Code and regulations applicable to governmental pension plans

C. Fiduciary duty – "solely in the interest of plan participants and beneficiaries"

D. Investments – "prudent person rule"

E. Consider the advice of professionals and advisors

F. Monitor the professionals

G. Determine reasonable expenses

H. Conduct disability hearings and make disability determinations

IV. THE ROLE OF PROFESSIONAL ADVISORS

A. Actuary

1. Prepares valuation — determines employer contribution
2. Advises on actuarial assumptions and methods
3. Calculates benefits or develops software to do so
4. Costs out benefit changes (actuarial impact statement)

B. Investment Consultant / Advisor / Performance Monitor

1. Prepares and recommends investment policy and amendments to policy
2. Conducts investment manager searches to implement investment policy
3. Monitors managers' performance and compares to:
   a. investment policy
   b. unmanaged investments (indices)
   c. performance of other managers (peers)
4. Recommends retention or replacement of investment managers
5. Works for fixed fee

C. Investment Manager

1. Makes investments as prescribed by investment policy
2. Has full discretion within restrictions of policy and law
3. Acknowledges that it is a fiduciary (generally)
4. Provides regular reports to investment consultant and board
5. Fee may be based on a percentage of invested assets

D. Custodian

1. Responsible for holding and protecting pension plan assets
2. May collect interest and dividends on investments
3. Delivers securities for sale
4. Receives securities when purchased
5. Delivers proxies to managers for voting
6. Files security fraud claims
7. Invests short-term or overnight funds (sweep account)
8. May pay benefits and expenses as directed by the board

E. Accountant

1. Performs annual audit
2. Reviews financial management and practices
3. Advises on setting up bookkeeping and financial statement

F. Insurance Broker — advises on liability insurance policies, and obtains coverage as directed by the board

G. Attorney

1. Represents board of trustees and pension plan on all legal matters concerning the plan
2. Attends board meetings
3. Advises trustees on compliance with laws
4. Issues written opinions as requested by the board

5. Negotiates and reviews contracts
6. Responds to questions from attorneys for members, employer, and unions
7. Responds to state and federal agency inquiries
8. Brings and defends lawsuits and administrative proceedings as directed by the board
9. Reviews or drafts policies, procedures and forms
10. Advises on potential securities fraud monitoring and litigation
11. Drafts or reviews plan amendments as directed by the board

H. Plan Administrator

1. Prepares meeting agendas, subject to approval of board chair
2. Prepares meeting notices
3. Prepares meeting minutes for board review and approval
4. Attends board meetings
5. Processes claims for benefits and refunds
6. Communicates on behalf of pension fund
7. Maintains member records, files, and forms
8. Receives and processes invoices for trustee approval and payment
9. May maintain member payroll and service records
10. Maintains pension plan records and files
11. Responds to member inquiries, public records requests, and correspondence
12. Communicates on behalf of board with plan members, employer, and other professionals, and the public, as directed by the board.

TOWN OF PALM BEACH

Information for Finance and Taxation Committee Meeting on: August 8, 2017

To: Members of Finance and Taxation Committee

Via: Thomas Bradford, Town Manager

From: Ed Carter, Trustee
William P. Hanes, Pension Administrator

Re: Retirement System Unfunded Actuarial Accrued Liability (UAAL)

Date: August 8, 2017

As a preliminary matter, it is important to take notice that the remarks made in this memorandum are intended to address matters of the Town's defined benefit (pension) plan, and does not address or otherwise make observations regarding the Town's defined contribution plans. The actuary has reviewed and verified the values provided herein, and the authors of this memorandum do not represent themselves as actuaries.

The board understands its duties to act as a fiduciary in administration of the pension, and that it is the Town's ultimate legal obligation to make future payments to the retirees and beneficiaries as has been contractually promised. This obligation is inviolable, and secured by the full, faith and credit of this municipality. It is the function of the Board of Trustees as fiduciaries to oversee, manage, and administer system assets as good stewards for the purpose of providing retirement benefits to its career public employees. Investment of the retirement system trust assets is a primary responsibility of the board of trustees. In contrast, it is the Town Council that is charged with making policy decisions for the Town and enacting an annual budget that reflects the policy decisions, and enables a continuing operation of Town government and implementation of the numerous governmental services.

This memorandum is a focus on the Town's retirement plan unfunded actuarial accrued liability (UAAL), or unfunded liability. The Board of Trustees have observed with much concern the trend toward significant growth of the pension's unfunded liability. In fact, a prior Town Council took action in 2012 to try to slow down the trend of the plan's unfunded liability. Unfortunately, precisely the opposite has occurred. Over a period of three years, fiscal year 2013 through the most recent 2016 fiscal year valuation, the composite unfunded liability has risen from $66 million to $96.5 million (from 74.2% funded to 68.1%.). This represents an increase of approximately $30.5 million in unfunded liability over that last 3-year period. So what is the unfunded liability and how is it calculated?

The board raised concerns at its May 19, 2017 board meeting regarding risks associated with a future investment performance that may be lower than what has been actuarially assumed. The actuary and investment consultant made similar forecasts that the current investment assumption (7.4% reduced by .1% per year until 7.0% in 2020) should be appropriate for funding the plan based on the board's adopted asset allocation model. The actuary provided the board a 10-year projection (see Exhibit A) that illustrates based on the current return assumption that the composite unfunded liability in 10 years will increase modestly from $98 million to $101 million in fiscal year 2026. Most alarming, however, is if an average annual market rate of return of 5% is realized, the unfunded liability increases to $141 million in the year 2026. In the year 2016 actuarial valuation, the actuary made note that over the last 16 years, since year 2000, investment performance has averaged at a market return rate of only 4.3%. As noted, Town contributions are not paid to the retirement trust until the second fiscal year after an annual actuarial valuation is performed. One significant budgeting matter presented by the 10-year actuarial forecast is that from years 2018 to 2028, the difference between earning an average of 7% and 5% annual market return causes the Town contributions to increase year by year with a $2.6 million increase in annual Town contributions by year 2028.

It is extremely important that policy makers understand the relationship between the actuarial return assumption based on valuation, or smoothing of assets, versus realized market return. The actuary will annually compute the investment valuation from the most recent 5-years of annual realized market return rates. This is referred to as "smoothing of assets". The fiscal year 2016 market rate of return performed at 7.6%. Yet, the 2016 valuation was calculated on the trailing 5-year smoothing of assets, and performed at a 7.1% valuation rate. This produced a loss for the fiscal year. The lower than benchmark return valuation resulted primarily because of partial recognition from the year 2015 investment market loss blended with less market gains valued over the 5-year smoothing period. By way of illustration, the plan's market investment experience for fiscal year 2015 was -4.22%, which produced a very significant market loss of $23.5 million to the portfolio in that year. However, instead of fully recognizing the total loss from this very poor year 2015 performance, and suffering significant increases in unfunded liability and Town contributions, the board's smoothing method of asset valuation recognized only a $4.7 million loss for five consecutive years, beginning in the year 2015 year and ending in 2019. The unrecognized losses going into years 2017 through 2019 will likely create even more significant valuation losses because of the partial gains that are removed from years 2012, 2013, and 2014 that performed with good market returns in those years. The 2016 actuarial valuation calculations indicate there are three years of gains scheduled to be removed from 2017 ($1.97 million) 2018 ($1.91 million) and 2019 ($0.1 million) valuations, when the period of calculating losses from the 2015 market performance losses will end. This further illustrates how significant losses/gains within a 5-year period can impact funding level, unfunded liability, and Town contributions over a forward 5-year period. (See Exhibit B)

In further illustration of the impact of these losses on the unfunded liability, and without consideration of other future investment and non-investment experiences, the actuary has verified that the unfunded liability is scheduled to increase by $6.7 million in fiscal year 2017, $7.7 million in fiscal year 2018, and $7.6 million in 2019, due in part to the continued phase-in of the 2015 market loss and in part due to the phase-in of the lower investment return assumption (by 10 basis points per year). This follows in year 2020 with a reduction in expected additions to unfunded liability. However, when the actuary assumes accrual of the future unfunded liability assuming an average future market rate return of 5% per year, the projected increase in unfunded liability is as follows: $7.8 million in 2017, $9.9 million in 2018, $10.8 million in 2019, $6.5 million in 2020, and $3.0 in 2021.

The actuary computed the following projection of future retirement plan funding levels (funded ratios) if 7.0% per year is earned on the market value of assets.

9/30/2016:	68.1%
9/30/2017:	66.4%
9/30/2018:	64.6%
9/30/2019:	62.9%
9/30/2020:	63.0%
9/30/2021:	64.1%

The actuary computed the following projection of future retirement plan funding levels (funded ratios) if 5% per year is earned on the market value of assets:

9/30/2016:	68.1%
9/30/2017:	66.1%
9/30/2018:	63.6%
9/30/2019:	60.9%
9/30/2020:	59.8%
9/30/2021:	59.4%

The actuary computed the following projection of future retirement plan funded levels (funded ratios) if an additional Town Council appropriation of $5 million is contributed towards the unfunded liability each year:

If 7.0% per year is earned on the market value of assets:
9/30/2016: 68.1%
9/30/2017: 68.0%
9/30/2018: 67.9%
9/30/2019: 67.9%
9/30/2020: 69.7%
9/30/2021: 72.7%

If 5.0% per year is earned on the market value of assets:
9/30/2016: 68.1%
9/30/2017: 67.7%
9/30/2018: 66.8%
9/30/2019: 65.8%
9/30/2020: 66.3%
9/30/2021: 67.6%

The actuary calculated the following to represent the market return rate required in future years to achieve the valuation rate (7.4% reducing to 7.0% by 2020) to prevent future investment experience losses:

9/30/2017: 15.3%
2017 to 2018: avg. 14.1%
2017-2019: avg. 12.7%
2017-2020: avg. 10.6%

The matter of pension funding is complicated, and often consists as a volatile process that relies heavily on appropriation levels of Town contributions and good economics and demographic experiences. Investment performance is generally the primary driver to better funding of retirement plans. This takes diligent and consistent coordination between the trustees, investment consultant, managers, custodian, and retirement administrator. There is significant contact and coordination served between the investment professionals to administer best practice in establishing an appropriate asset allocation model, selection of managers, and to provide sufficient liquidity to satisfy cash flow. It should be noted that “cash flow” and the need for liquidity within the asset allocation model constrains return opportunities available through the asset allocation model.

The retirement plan’s unfunded liability serves as the primary gauge from which to measure a plan’s funding status. This, in turn, determines the actuarial calculation required for deriving required minimum Town contributions. However, the true liability is represented by the unfunded liability, which represents the Town’s ultimate obligation toward payment of the retirement benefits earned by its public employees. Town Council, as policy makers, should consider a funding formula and policy that better establishes a commitment to paying this obligation within an annual budget process. The Town Council may wish to consider a procedure that requires a formula-based annual supplemental pension payment which is appropriated based on achieving a target funding level, instead of an afterthought discussion of an ad hoc $2.5 or $5 million additional contribution after consideration of general fund dollars which is secondary to other Town commitments. Supplemental payments toward the unfunded liability should be paid in a manner of paying a fixed and committed obligation. This may be based on a formula calculation from the preceding year’s level of UAAL. This too would acknowledge a Town policy for retirement funding that represents an inviolable commitment by the Town Council toward required payments to be made for its career public employees.

The retirement board meets quarterly throughout the year with agenda items posted in advance to be discussed at the meetings. The meeting is public, and the board invites Town citizens and policy makers to attend, engage, and be educated on the important matters of the retirement system. Matters of the Town’s retirement system should be important to the public when considering the significance of these financial considerations that impact the Town and the taxpayers who ultimately fund the retirement system. We appreciate your attention to these important matters of the public retirement system.

Town of Palm Beach Retirement System (Composite)

March 2017 10-Year Projection - Current Valuation Assumptions

(7.4% Investment Return Assumption, decreasing by 0.1% per year until ultimate 7.0%)

/aluation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio	Total Employer Contribution: Fiscal Year Ending	Total Employer Contribution: % of Payroll	Total Employer Contribution: Illustrative Dollar Amou
/30/2016	268	17,731,259	22,092,538	307,129,551	209,122,540	98,007,011	68.1%	2018	48.68%	9,055,557
/30/2017	268	18,122,166	21,548,353	312,022,298	207,317,384	104,704,915	66.4%	2019	51.89%	9,830,010
/30/2018	268	18,544,656	21,010,684	317,545,749	205,116,874	112,428,876	64.6%	2020	55.59%	10,736,545
/30/2019	268	18,930,511	20,620,177	323,800,187	203,794,617	120,005,570	62.9%	2021	58.47%	11,527,434
/30/2020	268	19,367,001	20,254,186	330,676,096	208,316,465	122,359,631	63.0%	2022	59.76%	12,054,512
/30/2021	268	19,769,985	20,813,719	334,555,499	214,363,588	120,191,912	64.1%	2023	60.03%	12,361,358
/30/2022	268	20,168,963	21,392,152	338,148,528	220,751,355	117,397,174	65.3%	2024	60.24%	12,653,771
/30/2023	268	20,588,105	21,913,922	341,413,189	227,280,581	114,132,608	66.6%	2025	60.41%	12,952,874
/30/2024	268	20,972,711	22,518,440	344,388,784	234,061,663	110,327,122	68.0%	2026	60.66%	13,251,365
/30/2025	268	21,432,486	23,060,539	346,984,466	241,081,168	105,903,298	69.5%	2027	60.48%	13,500,363
/30/2026	268	21,795,252	23,620,879	349,211,732	248,196,371	101,015,362	71.1%	2028	53.56%	12,158,260

umptions

rtality Assumption: FRS Non-Special Risk Mortality for General Employees and FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters

Healthy lives: RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for p retirement mortality), with mortality improvements projected to all future years using Scale BB; 50% blue collar / 50% white collar adjustment for N Special Risk males; 90% blue collar / 10% white collar adjustment for Special Risk males; 100% white collar adjustment for females.

Disabled lives: RP-2000 Mortality Table for disabled annuitants with 4-year set-forward for males and 2-year setback for females for Non-Special Risk members; 60% RP-2000 Mortality Table for disabled annuitants with 4-year setback for males and 2-year set-forward for females, and 40% of RP-2000 Mortality Ta for healthy annuitants with 100% white collar adjustment and no age setback for Special Risk members. No mortality improvements are projected.

estment Return Assumption: 7.40% as of 9/30/16, 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

ual Return on Plan Assets: Same as assumed above

ge Payroll Growth Assumption: 3.25% as of 9/30/16, 3.0% as of 9/30/17, and 2.75% as of 9/30/18 and thereafter

the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2017, 30% in FYE 2018, 20% in FYE 2019, and 10% in FYE 2020.

have not determined any additional possible impact due to F.S. 112.64(5).

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ure experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

Town of Palm Beach Retirement System (Composite)

March 2017 10-Year Projection - 5% Actual Rate of Return on Plan Assets Assumed to be Earned Each Year

(7.4% Investment Return Assumption, decreasing by 0.1% per year until ultimate 7.0%)

/aluation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio	Total Employer Contribution: Fiscal Year Ending	% of Payroll	Illustrative Dollar Amou
/30/2016	268	17,731,259	22,092,538	307,129,551	209,122,540	98,007,011	68.1%	2018	48.68%	9,055,557
/30/2017	268	18,122,166	21,548,353	312,022,298	206,252,008	105,770,291	66.1%	2019	52.21%	9,889,641
/30/2018	268	18,544,656	21,010,684	317,545,749	201,873,201	115,672,548	63.6%	2020	56.58%	10,929,091
/30/2019	268	18,930,511	20,620,177	323,800,187	197,318,668	126,481,519	60.9%	2021	60.43%	11,915,685
/30/2020	268	19,367,001	20,254,186	330,676,096	197,643,035	133,033,060	59.8%	2022	62.95%	12,697,807
/30/2021	268	19,769,985	20,813,719	334,555,499	198,560,308	135,995,192	59.4%	2023	64.72%	13,325,775
/30/2022	268	20,168,963	21,392,152	338,148,528	199,940,130	138,208,398	59.1%	2024	66.38%	13,944,494
/30/2023	268	20,588,105	21,913,922	341,413,189	201,630,392	139,782,797	59.1%	2025	67.95%	14,570,164
/30/2024	268	20,972,711	22,518,440	344,388,784	203,683,739	140,705,046	59.1%	2026	69.57%	15,196,895
/30/2025	268	21,432,486	23,060,539	346,984,466	206,010,388	140,974,078	59.4%	2027	70.70%	15,782,314
/30/2026	268	21,795,252	23,620,879	349,211,732	208,405,056	140,806,676	59.7%	2028	65.01%	14,758,171

umptions

rtality Assumption: FRS Non-Special Risk Mortality for General Employees and FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters

Healthy lives: RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for p retirement mortality), with mortality improvements projected to all future years using Scale BB; 50% blue collar / 50% white collar adjustment for N Special Risk males; 90% blue collar / 10% white collar adjustment for Special Risk males; 100% white collar adjustment for females.

Disabled lives: RP-2000 Mortality Table for disabled annuitants with 4-year set-forward for males and 2-year setback for females for Non-Special Risk members; 60% RP-2000 Mortality Table for disabled annuitants with 4-year setback for males and 2-year set-forward for females, and 40% of RP-2000 Mortality Ta for healthy annuitants with 100% white collar adjustment and no age setback for Special Risk members. No mortality improvements are projected.

estment Return Assumption: 7.40% as of 9/30/16, 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

ual Return on Plan Assets: 5.0% per annum

ge Payroll Growth Assumption: 3.25% as of 9/30/16, 3.0% as of 9/30/17, and 2.75% as of 9/30/18 and thereafter

the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2017, 30% in FYE 2018, 20% in FYE 2019, and 10% in FYE 2020.

have not determined any additional possible impact due to F.S. 112.64(5).

al employer contributions should not expect any reduction from Chapter 175 monies.

ure experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

Funding Value of Retirement System Assets by Benefit Group

Valuation Date – September 30, 2016	General & Ocean Rescue	Police Officers	Firefighters	Total
A. Funding Value Beginning of Year	$79,002,801	$ 63,672,679	$60,780,891	$203,456,371
B. Market Value End of Year	76,497,011	61,488,263	58,525,406	$196,510,680
C. Market Value Beginning of Year	74,419,536	59,516,573	56,828,381	$190,764,490
D. Non-Investment/Administrative Net Cash Flow	(3,408,375)	(2,423,742)	(2,480,188)	(8,312,305)
E. Investment Income				
E1. Actual Market Total: B-C-D	5,485,850	4,395,432	4,177,213	$14,058,495
E2. Assumed Rate of Return	7.50%	7.50%	7.50%	7.50%
E3. Amount for Immediate Recognition	5,768,097	4,654,255	4,431,414	14,853,766
E4. Amount Subject to Phase-In: E1–E3	(282,247)	(258,823)	(254,201)	(795,271)
F. Phased-In Recognition of Investment Income				
F1. Current Year: 0.2 x E4	(56,449)	(51,765)	(50,840)	(159,054)
F2. First Prior Year	(1,830,648)	(1,480,244)	(1,386,527)	(4,697,419)
F3. Second Prior Year	27,081	66,880	7,666	101,627
F4. Third Prior Year	778,658	573,879	560,825	1,913,362
F5. Fourth Prior Year	1,100,769	416,475	448,948	1,966,192
F6. Total Phase-Ins	19,411	(474,775)	(419,928)	(875,292)
G. Funding Value End of Year				
G1. Preliminary Funding Value End of Year: A + D + E3 + F6	81,381,934	65,428,417	62,312,189	209,122,540
G2. Upper Corridor Limit: 120%*B	91,796,413	73,785,916	70,230,487	235,812,816
G3. Funding Value End of Year	81,381,934	65,428,417	62,312,189	209,122,540
H. Difference between Market & Funding Value	(4,884,923)	(3,940,154)	(3,786,783)	(12,611,860)
I. Funding Value Rate of Return	7.53%	6.73%	6.79%	7.06%
J. Recognized Rate of Investment Expenses	0.29%	0.29%	0.29%	0.29%
K. Market Value Rate of Return	7.59%	7.59%	7.58%	7.58%
L. Ratio of Funding Value to Market Value	106.4%	106.4%	106.5%	106.4%

Funding Value of Retirement System Assets
General and Ocean Rescue

Valuation Date – September 30,	2015	2016	2017	2018	2019	2020
A. Funding Value Beginning of Year	$81,384,340	$79,002,801				
B. Market Value End of Year	74,419,536	76,497,011				
C. Market Value Beginning of Year	84,908,713	74,419,536				
D. Non-Investment/Administrative Net Cash Flow	(7,170,857)	(3,408,375)				
E. Investment Income						
E1. Actual Market Total: B-C-D	(3,318,320)	5,485,850				
E2. Assumed Rate of Return	7.50%	7.50%				
E3. Amount for Immediate Recognition	5,834,918	5,768,097				
E4. Amount Subject to Phase-In: E1–E3	(9,153,238)	(282,247)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.2 x E4	(1,830,648)	(56,449)				
F2. First Prior Year	27,081	(1,830,648)	(56,449)			
F3. Second Prior Year	778,658	27,081	(1,830,648)	(56,449)		
F4. Third Prior Year	1,100,769	778,658	27,081	(1,830,648)	(56,449)	
F5. Fourth Prior Year	(1,121,460)	1,100,769	778,658	27,081	(1,830,649)	(56,451)
F6. Total Phase-Ins	(1,045,600)	19,411	(1,081,358)	(1,860,016)	(1,887,098)	(56,451)
G. Funding Value End of Year						
G1. Preliminary Funding Value End of Year: A + D + E3 + F6	79,002,801	81,381,934				
G2. Upper Corridor Limit: 120%*B	89,303,443	91,796,413				
G3. Funding Value End of Year	79,002,801	81,381,934				
H. Difference between Market & Funding Value	(4,583,265)	(4,884,923)				
I. Funding Value Rate of Return	6.16%	7.53%				
J. Recognized Rate of Investment Expenses	0.31%	0.29%				
K. Market Value Rate of Return	-4.08%	7.59%				
L. Ratio of Funding Value to Market Value	106.2%	106.4%				

The Funding Value of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased-in over a closed 5-year period. During periods when investment performance exceeds the assumed rate, the Funding Value of Assets will tend to be less than Market Value. During periods when investment performance is less than the assumed rate, the Funding Value of Assets will tend to be greater than Market Value. If assumed rates are exactly realized for 4 consecutive years, it will become equal to Market Value.

Funding Value of Retirement System Assets
Police Officers

	Valuation Date – September 30,	2015	2016	2017	2018	2019	2020
A.	Funding Value Beginning of Year	$66,161,898	$63,672,679				
B.	Market Value End of Year	59,516,573	61,488,263				
C.	Market Value Beginning of Year	68,013,491	59,516,573				
D.	Non-Investment/Administrative Net Cash Flow	(5,838,882)	(2,423,742)				
E.	Investment Income						
	E1. Actual Market Total: B-C-D	(2,658,036)	4,395,432				
	E2. Assumed Rate of Return	7.50%	7.50%				
	E3. Amount for Immediate Recognition	4,743,184	4,654,255				
	E4. Amount Subject to Phase-In: E1–E3	(7,401,220)	(258,823)				
F.	Phased-In Recognition of Investment Income						
	F1. Current Year: 0.2 x E4	(1,480,244)	(51,765)				
	F2. First Prior Year	66,880	(1,480,244)	(51,765)			
	F3. Second Prior Year	573,879	66,880	(1,480,244)	(51,765)		
	F4. Third Prior Year	416,475	573,879	66,880	(1,480,244)	(51,765)	
	F5. Fourth Prior Year	(970,511)	416,475	573,879	66,880	(1,480,247)	(51,763)
	F6. Total Phase-Ins	(1,393,521)	(474,775)	(891,250)	(1,465,129)	(1,532,012)	(51,763)
G.	**Funding Value End of Year**						
	G1. Preliminary Funding Value End of Year: A + D + E3 + F6	63,672,679	65,428,417				
	G2. Upper Corridor Limit: 120%*B	71,419,888	73,785,916				
	G3. Funding Value End of Year	63,672,679	65,428,417				
H.	Difference between Market & Funding Value	(4,156,106)	(3,940,154)				
I.	**Funding Value Rate of Return**	5.30%	6.73%				
J.	**Recognized Rate of Investment Expenses**	0.31%	0.29%				
K.	**Market Value Rate of Return**	-4.08%	7.59%				
L.	**Ratio of Funding Value to Market Value**	107.0%	106.4%				

The Funding Value of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased-in over a closed 5-year period. During periods when investment performance exceeds the assumed rate, the Funding Value of Assets will tend to be less than Market Value. During periods when investment performance is less than the assumed rate, the Funding Value of Assets will tend to be greater than Market Value. If assumed rates are exactly realized for 4 consecutive years, it will become equal to Market Value.

Funding Value of Retirement System Assets
Firefighters

	Valuation Date – September 30,	2015	2016	2017	2018	2019	2020
A.	Funding Value Beginning of Year	$61,458,654	$60,780,891				
B.	Market Value End of Year	56,828,381	58,525,406				
C.	Market Value Beginning of Year	63,079,168	56,828,381				
D.	Non-Investment/Administrative Net Cash Flow	(3,785,589)	(2,480,188)				
E.	Investment Income						
	E1. Actual Market Total: B-C-D	(2,465,198)	4,177,213				
	E2. Assumed Rate of Return	7.50%	7.50%				
	E3. Amount for Immediate Recognition	4,467,439	4,431,414				
	E4. Amount Subject to Phase-In: E1–E3	(6,932,637)	(254,201)				
F.	Phased-In Recognition of Investment Income						
	F1. Current Year: 0.2 x E4	(1,386,527)	(50,840)				
	F2. First Prior Year	7,666	(1,386,527)	(50,840)			
	F3. Second Prior Year	560,825	7,666	(1,386,527)	(50,840)		
	F4. Third Prior Year	448,948	560,825	7,666	(1,386,527)	(50,840)	
	F5. Fourth Prior Year	(990,525)	448,948	560,825	7,666	(1,386,525)	(50,841)
	F6. Total Phase-Ins	(1,359,613)	(419,928)	(868,876)	(1,429,701)	(1,437,365)	(50,841)
G.	**Funding Value End of Year**						
	G1. Preliminary Funding Value End of Year: A + D + E3 + F6	60,780,891	62,312,189				
	G2. Upper Corridor Limit: 120%*B	68,194,057	70,230,487				
	G3. Funding Value End of Year	60,780,891	62,312,189				
H.	Difference between Market & Funding Value	(3,952,510)	(3,786,783)				
I.	**Funding Value Rate of Return**	5.22%	6.79%				
J.	**Recognized Rate of Investment Expenses**	0.30%	0.29%				
K.	**Market Value Rate of Return**	-4.03%	7.58%				
L.	**Ratio of Funding Value to Market Value**	107.0%	106.5%				

The Funding Value of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased-in over a closed 5-year period. During periods when investment performance exceeds the assumed rate, the Funding Value of Assets will tend to be less than Market Value. During periods when investment performance is less than the assumed rate, the Funding Value of Assets will tend to be greater than Market Value. If assumed rates are exactly realized for 4 consecutive years, it will become equal to Market Value.

TOWN OF PALM BEACH

Information for Town Council Meeting on: September 12, 2017

To: Mayor and Town Council

Via: Thomas Bradford, Town Manager

From: William P. Hanes, Pension Administrator

Re: Annual Report-Town of Palm Beach Retirement System

Date: September 12, 2017

STAFF RECOMMENDATION

Staff recommends that the Town Council hear and accept the Town of Palm Beach Retirement System Board of Trustees Annual Report for 2016-2017.

GENERAL INFORMATION

Chairman Daniel W. Stanton will be presenting the report on behalf of the Town of Palm Beach Retirement System Board of Trustees, and will discuss the ongoing activities of the retirement board. The presentation will examine matters that impact funding of the pension (defined benefit) plan with a primary focus on events and plan experiences that impact the payment of future Town contributions.

Town of Palm Beach Retirement System

Annual Report

Presented by

Daniel W. Stanton

Chairman

September 12, 2017

Thank you Mayor Coniglio, Council President Kleid, and the Council members for taking the time to understand the many issues involving the Town's retirement system. On behalf of the Retirement Board, I appreciate the opportunity to appear before you to discuss matters that we believe are of vital concern to the future financial situation for the Town of Palm Beach.

The following bullet pointed topics are the highlights we believe need to be discussed. There are significant amounts of backup materials that are included with this report and will be referenced where appropriate.

- The Unfunded Actuarial Accrued Liability (UAAL) for the Town of Palm Beach as of the most recent analysis of August 4, 2017 was approximately $98.9 million (attachment A). We expect that amount will rise to over $100 million by the end of the current fiscal year. This liability is a contractual obligation for the Town and has been allowed to grow over many years without the Town taking prudent steps to reduce the burden of this liability in any meaningful way. To be clear, this problem was not created by the current Council. It is also not a problem unique to Palm Beach as many jurisdictions around the country, both state and local, are currently confronting these issues. It has been caused by many economic and demographic factors including substantial retirement benefits that have been negotiated, longer life expectancy and expected rates of return on investments which have been increasingly difficult to achieve in the lower interest rate environment we have experienced in recent years.

- As you heard from my fellow Retirement Board member, Ed Carter, in his report to the Finance and Taxation Committee on August 8, 2017 (attachment B), the rate of return the Town's portfolio achieved on a compounded basis over the prior sixteen years is 4.3%. As you also heard at that time, if our realized rate of return over the next ten years is approximately the same, at a rate of 5% instead of our actuarial assumed rate of 7.4% declining slowly to 7%, our UAAL in ten years will be approximately $141 million.

This is a situation that is clearly unacceptable for the Town of Palm Beach and its current and future citizens. We on the Retirement Board feel that it is our fiduciary responsibility to bring these issues to the attention of Town Council. We also feel strongly that it is the fiduciary responsibility of Town Council to take meaningful action to begin to address this serious problem immediately. Failure to do so not only will ensure a growing problem in the future which will become increasingly unmanageable for the Town but is irresponsible for the impact it will have on future generations of Town residents. Intergenerational irresponsibility, frequently referred to as "kicking the can down the road" is what created the problem we now face. Not taking action, in our opinion, is unacceptable. This problem needs to be confronted and action needs to be taken now.

- We have asked our actuaries to frame a couple of models to improve the UAAL situation for your consideration. They are attached in their memo of August 31, 2017 as (attachment C). Before we highlight those models we respectfully have one additional suggestion.

Heretofore, additional retirement contributions have been discretionary and last year $2.5 million was added toward the end of the budgetary process when these excess funds were made available. We believe the entire budgetary process needs to change. Further, we believe that the Council needs a new approach in the budget process such that formulaic payments, following a suggested plan by our actuaries, are treated in a manner similar to bond interest payments. Said differently, these payments need to take priority over other budgeted line items. Lastly, this new methodology needs to become a legacy for future Town Councils to follow. Town Council members change with some frequency. A system is needed that is understood and followed by future Town Councils such that this problem will be decreased over many years. It needs to be a legacy you create for your successors. As you will see in the aforementioned actuary report, the recommended solutions have a lifespan of almost 20 years or possibly longer, and this assumes a future of unchanged demographic and economic experience expectations. Only when this approach is adopted and codified for the Town going forward will this problem slowly be solved. As previously mentioned, this dire situation is not of your creation. However, it is a situation that is your responsibility to solve.

The two models from this actuarial analysis illustrate alternative approaches for the Town to reduce its liability. The first has a goal of maintaining our funded ratio at no lower than 68% through 2019 and then increasing the funded ratio by 2% each year until we are 100% funded in 2035. That of course assumes that we achieve our target rate of return each year and meet other economic and demographic experience expectations. Stress test scenarios were added to illustrate additional UAAL losses due to annual returns at 5% and 3%. Those scenarios of course would require greater contributions from the Town between now and 2035.

The second model shows the Town paying a fixed amount each year to reduce this liability. Once again the fixed approach illustrates results with a 7%, 5%, and 3% return over the years. A 7% actual return will fully fund by 2032, and at 5% we are still only 83.2% funded in 2035.

As you can see, the future varies greatly as a function of investment returns. The Retirement Board believes the goal of Town Council should be to have a plan that allows the Town to be 100% funded over this timeframe of about 18 years. We believe that Town Council should choose the method they feel would achieve this goal best given the budgetary complexities they face. We are also very happy to work with Town Council to reach a conclusion on these matters.

- Turning to the asset side of what we do, the Town of Palm Beach Retirement portfolio as of 6/30/17 was valued at $206,364,080. Our returns are 7.25% calendar year to date and 7.14% fiscal year to date.

Our former consultant, Segal Rogerscasey had a poor allocation of our assets and were terminated, as you know, in 2016. Their replacement, the Bogdahn Group, now known as AndCo, has done a good job of reallocation of assets. The effectiveness of their decisions will take some time to ascertain fully, but we feel as if we have moved in a better direction. The reallocation process takes a bit of time and there is still much work to be done. We have let our views be known to them and each passing quarter shows signs of progress.

It should be noted, however, that markets are felt to be rather fully valued. There has not been a recession in approximately 9 years. As a result, we are positioned for growth with an eye toward being somewhat conservative given current valuations. Attachment D provides important performance information from the 6/30/17 investment consultant report.

- The Retirement Board voted to reduce the amortization period for the plan from 30 years to 25 years at our August meeting. The rationale behind this decision is described in (attachment E). Our actuary will be present at our September 12th meeting and can address any questions on this issue. The savings to the Town over the longer term are very substantial.

Those issues combined with the attachments you have received are the most important issues we want to convey to Town Council. We are happy to receive your questions and help you work through any and all of the issues we have highlighted above.

Respectfully submitted,

Daniel W. Stanton, Chairman
Town of Palm Beach
Retirement System Board of Trustees

GRS Retirement Consulting
P: 954.527.1616 | F: 954.525.0083 | www.grsconsulting.com

August 4, 2017

William P. Hanes, Esq.
Administrator
Town of Palm Beach Retirement System
P.O. Box 2112
Palm Beach, FL 33480

Re: Town of Palm Beach Retirement System – 10-Year Projections [UPDATED] and 50-Years of Benefit Payments

Dear Bill:

As requested, we have prepared updated projections for the Town of Palm Beach Retirement System (Plan) reflecting new benefit provisions for Bargaining Firefighters under Ordinance N0. 20-2017. The enclosed exhibits present projected assets, liabilities and contribution requirements over the next 10 years for the Plan in aggregate under three deterministic assumption scenarios, as described below. We have also prepared exhibits presenting projected benefit payments for the Plan in aggregate as well as for each subgroup (General & Ocean Rescue, Police Officers, and Firefighters).

- **Scenario 1 (Baseline assumptions)** – same assumptions as used in the September 30, 2016 Actuarial Valuation Report, as amended by the General & Ocean Rescue Actuarial Impact Statement dated March 6, 2017 and the Firefighters Actuarial Impact Statement dated August 4, 2017, with two exceptions. The investment return assumption is assumed to decrease by 0.1% per year from 7.4% used in the September 30, 2016 Actuarial Valuation Report to 7.0% as of September 30, 2020; and the payroll growth assumption is assumed to decrease by 0.25% per year, from 3.25% used in the September 30, 2016 Actuarial Valuation Report to 2.75% as of September 30, 2018.
- **Scenario 2 (Stress Test)** – same assumptions as described above but reflecting an actual return on the market value of assets of 5.0% each year.
- **Scenario 3 (Stress Test)** – same assumptions as described above but reflecting an actual return on the market value of assets of 3.0% each year.

Throughout the projection period, new members are assumed to be hired each year at a rate sufficient to maintain a constant active headcount. New employees are assumed to have the same average demographic characteristics (age, gender, salary – adjusted each year for inflation) at their dates of employment as those of current members with 5 years of service or less as of September 30, 2016. Additionally, DROP and Share accounts are projected forward assuming 40% payout in the first projection year, 30% in year two, 20% in year three and the remainder paid out in year four.

Projections are deterministic, meaning that throughout the projection period, Plan experience is expected to match the actuarial assumptions. For the stress test scenarios (scenarios 2 and 3) the investment return on the market value of assets each year is assumed to be 5.0% or 3.0%, as indicated, throughout the projection period.

The calculations are based upon assumptions regarding future events, which may or may not materialize. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. If you have reason to believe that the assumptions that were used are unreasonable, that the plan provisions are incorrectly described, that important plan provisions relevant to this proposal are not described, or that conditions have changed since the calculations were made, you should contact the author of the report prior to relying on information in the report.

The calculations in this report are based upon information furnished by the Town of Palm Beach and the Plan Administrator for the September 30, 2016 Actuarial Valuation concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We reviewed this information for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by the Town or the Plan Administrator.

This report complements the September 30, 2016 Actuarial Valuation Report and subsequent Actuarial Impact Statements previously delivered to the Plan Administrator and the City and should be considered in conjunction with those reports. Please see the Actuarial Valuation Report as of September 30, 2016, dated February 15, 2017, the March 6, 2017 Actuarial Impact Statement for General and Ocean Rescue Employees, and the August 4, 2017 Actuarial impact Statement for Firefighters for additional discussion of the nature of actuarial calculations and information related to participant data, economic and demographic assumptions, and benefit provisions.

Peter N. Strong and Nicolas Lahaye are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The undersigned actuaries are independent of the plan sponsor.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

Respectfully submitted,

Peter N. Strong, FSA, EA, MAAA
Senior Consultant and Actuary

Nicolas Lahaye, FSA, EA, MAAA, FCA
Consultant and Actuary

Enclosures

cc: Jane Struder, CPA, Director of Finance (electronic)

Town of Palm Beach Retirement System (Composite)

August 2017 10-Year Projection - Current Valuation Assumptions

(7.4% Investment Return Assumption, decreasing by 0.1% per year until ultimate 7.0%)

Valuation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio	Total Employer Contribution: Fiscal Year Ending	Total Employer Contribution: % of Payroll	Total Employer Contribution: Illustrative Dollar Amount
9/30/2016	268	17,731,259	22,063,581	307,993,649	209,122,540	98,871,109	67.9%	2018	49.43%	9,195,946
9/30/2017	268	18,123,933	21,532,997	313,221,673	207,477,401	105,744,272	66.2%	2019	52.75%	9,994,592
9/30/2018	268	18,548,556	21,002,777	319,102,237	205,580,637	113,521,601	64.4%	2020	56.49%	10,913,936
9/30/2019	268	18,937,496	20,620,727	325,750,807	204,617,965	121,132,843	62.8%	2021	59.40%	11,715,467
9/30/2020	268	19,377,832	20,256,213	333,058,771	209,533,998	123,524,773	62.9%	2022	60.73%	12,256,872
9/30/2021	268	19,785,486	20,813,129	337,380,724	216,020,724	121,360,001	64.0%	2023	61.00%	12,569,702
9/30/2022	268	20,189,359	21,391,659	341,460,933	222,906,844	118,554,089	65.3%	2024	61.20%	12,868,137
9/30/2023	268	20,613,885	21,929,486	345,257,188	229,975,586	115,281,603	66.6%	2025	61.37%	13,175,260
9/30/2024	268	20,950,292	22,588,177	348,777,817	237,214,646	111,563,172	68.0%	2026	61.83%	13,490,930
9/30/2025	268	21,375,235	23,167,859	351,901,163	244,719,012	107,182,151	69.5%	2027	61.75%	13,747,208
9/30/2026	268	21,729,139	23,761,573	354,657,529	252,358,838	102,298,693	71.2%	2028	54.84%	12,412,103

Assumptions

Mortality Assumption: FRS Non-Special Risk Mortality for General Employees and FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters

Healthy lives: RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for post-retirement mortality), with mortality improvements projected to all future years using Scale BB; 50% blue collar / 50% white collar adjustment for Non-Special Risk males; 90% blue collar / 10% white collar adjustment for Special Risk males; 100% white collar adjustment for females.

Disabled lives: RP-2000 Mortality Table for disabled annuitants with 4-year set-forward for males and 2-year setback for females for Non-Special Risk members; 60% of RP-2000 Mortality Table for disabled annuitants with 4-year setback for males and 2-year set-forward for females, and 40% of RP-2000 Mortality Table for healthy annuitants with 100% white collar adjustment and no age setback for Special Risk members. No mortality improvements are projected.

Investment Return Assumption: 7.40% as of 9/30/16, 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

Actual Return on Plan Assets: Same as assumed above

Wage Payroll Growth Assumption: 3.25% as of 9/30/16, 3.0% as of 9/30/17, and 2.75% as of 9/30/18 and thereafter

For the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2017, 30% in FYE 2018, 20% in FYE 2019, and 10% in FYE 2020.

We have not determined any additional possible impact due to F.S. 112.64(5).

Total employer contributions should not expect any reduction from Chapter 175 monies.

Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

Prepared by
Gabriel, Roeder, Smith and Company
August 4, 2017

Town of Palm Beach Retirement System (Composite)

August 2017 10-Year Projection - 5% Actual Rate of Return on Plan Assets Assumed to be Earned Each Year

(7.4% Investment Return Assumption, decreasing by 0.1% per year until ultimate 7.0%)

Valuation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio	Total Employer Contribution: Fiscal Year Ending	Total Employer Contribution: % of Payroll	Total Employer Contribution: Illustrative Dollar Amount
9/30/2016	268	17,731,259	22,063,581	307,993,649	209,122,540	98,871,109	67.9%	2018	49.43%	9,195,946
9/30/2017	268	18,123,933	21,532,997	313,221,673	206,411,310	106,810,363	65.9%	2019	53.07%	10,053,858
9/30/2018	268	18,548,556	21,002,777	319,102,237	202,333,468	116,768,769	63.4%	2020	57.48%	11,105,387
9/30/2019	268	18,937,496	20,620,727	325,750,807	198,132,142	127,618,666	60.8%	2021	61.36%	12,102,738
9/30/2020	268	19,377,832	20,256,213	333,058,771	198,839,078	134,219,693	59.7%	2022	63.91%	12,899,458
9/30/2021	268	19,785,486	20,813,129	337,380,724	200,177,548	137,203,176	59.3%	2023	65.68%	13,533,925
9/30/2022	268	20,189,359	21,391,659	341,460,933	202,029,370	139,431,562	59.2%	2024	67.34%	14,160,682
9/30/2023	268	20,613,885	21,929,486	345,257,188	204,223,468	141,033,719	59.2%	2025	68.92%	14,796,242
9/30/2024	268	20,950,292	22,588,177	348,777,817	206,680,786	142,097,032	59.3%	2026	70.77%	15,443,237
9/30/2025	268	21,375,235	23,167,859	351,901,163	209,431,871	142,469,292	59.5%	2027	72.05%	16,040,141
9/30/2026	268	21,729,139	23,761,573	354,657,529	212,282,299	142,375,231	59.9%	2028	66.40%	15,026,937

Assumptions

Mortality Assumption: FRS Non-Special Risk Mortality for General Employees and FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters

Healthy lives: RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for post-retirement mortality), with mortality improvements projected to all future years using Scale BB; 50% blue collar / 50% white collar adjustment for Non-Special Risk males; 90% blue collar / 10% white collar adjustment for Special Risk males; 100% white collar adjustment for females.

Disabled lives: RP-2000 Mortality Table for disabled annuitants with 4-year set-forward for males and 2-year setback for females for Non-Special Risk members; 60% of RP-2000 Mortality Table for disabled annuitants with 4-year setback for males and 2-year set-forward for females, and 40% of RP-2000 Mortality Table for healthy annuitants with 100% white collar adjustment and no age setback for Special Risk members. No mortality improvements are projected.

Investment Return Assumption: 7.40% as of 9/30/16, 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

Actual Return on Plan Assets: 5.0% per annum

Wage Payroll Growth Assumption: 3.25% as of 9/30/16, 3.0% as of 9/30/17, and 2.75% as of 9/30/18 and thereafter

For the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2017, 30% in FYE 2018, 20% in FYE 2019, and 10% in FYE 2020.

We have not determined any additional possible impact due to F.S. 112.64(5).

Total employer contributions should not expect any reduction from Chapter 175 monies.

Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

Town of Palm Beach Retirement System (Composite)

August 2017 10-Year Projection - 3% Actual Rate of Return on Plan Assets Assumed to be Earned Each Year

(7.4% Investment Return Assumption, decreasing by 0.1% per year until ultimate 7.0%)

								Total Employer Contribution		
Valuation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio	Fiscal Year Ending	% of Payroll	Illustrative Dollar Amount
9/30/2016	268	17,731,259	22,063,581	307,993,649	209,122,540	98,871,109	67.9%	2018	49.43%	9,195,946
9/30/2017	268	18,123,933	21,532,997	313,221,673	205,678,447	107,543,226	65.7%	2019	53.29%	10,095,519
9/30/2018	268	18,548,556	21,002,777	319,102,237	200,079,258	119,022,981	62.7%	2020	58.17%	11,238,334
9/30/2019	268	18,937,496	20,620,727	325,750,807	193,562,686	132,188,122	59.4%	2021	62.74%	12,375,098
9/30/2020	268	19,377,832	20,256,213	333,058,771	191,169,169	141,889,602	57.4%	2022	66.19%	13,359,857
9/30/2021	268	19,785,486	20,813,129	337,380,724	188,633,069	148,747,655	55.9%	2023	69.08%	14,234,668
9/30/2022	268	20,189,359	21,391,659	341,460,933	186,580,779	154,880,153	54.6%	2024	71.88%	15,114,973
9/30/2023	268	20,613,885	21,929,486	345,257,188	184,919,797	160,337,391	53.6%	2025	74.56%	16,007,551
9/30/2024	268	20,950,292	22,588,177	348,777,817	183,596,667	165,181,151	52.6%	2026	77.50%	16,911,093
9/30/2025	268	21,375,235	23,167,859	351,901,163	182,677,811	169,223,351	51.9%	2027	79.80%	17,766,553
9/30/2026	268	21,729,139	23,761,573	354,657,529	181,961,186	172,696,344	51.3%	2028	75.10%	16,996,209

Assumptions

Mortality Assumption: FRS Non-Special Risk Mortality for General Employees and FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters

Healthy lives: RP-2000 Combined Healthy Participant Mortality Table (for pre-retirement mortality) and the RP-2000 Mortality Table for Annuitants (for post-retirement mortality), with mortality improvements projected to all future years using Scale BB; 50% blue collar / 50% white collar adjustment for Non-Special Risk males; 90% blue collar / 10% white collar adjustment for Special Risk males; 100% white collar adjustment for females.

Disabled lives: RP-2000 Mortality Table for disabled annuitants with 4-year set-forward for males and 2-year setback for females for Non-Special Risk members; 60% of RP-2000 Mortality Table for disabled annuitants with 4-year setback for males and 2-year set-forward for females, and 40% of RP-2000 Mortality Table for healthy annuitants with 100% white collar adjustment and no age setback for Special Risk members. No mortality improvements are projected.

Investment Return Assumption: 7.40% as of 9/30/16, 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

Actual Return on Plan Assets: 3.0% per annum

Wage Payroll Growth Assumption: 3.25% as of 9/30/16, 3.0% as of 9/30/17, and 2.75% as of 9/30/18 and thereafter

For the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2017, 30% in FYE 2018, 20% in FYE 2019, and 10% in FYE 2020.

We have not determined any additional possible impact due to F.S. 112.64(5).

Total employer contributions should not expect any reduction from Chapter 175 monies.

Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

Town of Palm Beach Retirement System

50-Year Open Group Cash Flow Projection
All Groups

Fiscal Year Ending	Expected Benefit Payments
9/30/2017	$ 22,063,581
9/30/2018	21,532,997
9/30/2019	21,002,777
9/30/2020	20,620,727
9/30/2021	20,256,213
9/30/2022	20,813,129
9/30/2023	21,391,659
9/30/2024	21,929,486
9/30/2025	22,588,177
9/30/2026	23,167,859
9/30/2027	23,761,573
9/30/2028	24,382,720
9/30/2029	24,888,582
9/30/2030	25,380,341
9/30/2031	25,910,337
9/30/2032	26,371,126
9/30/2033	26,780,929
9/30/2034	27,068,714
9/30/2035	27,362,885
9/30/2036	27,673,624
9/30/2037	28,031,911
9/30/2038	28,329,161
9/30/2039	28,618,899
9/30/2040	28,922,354
9/30/2041	29,147,217
9/30/2042	29,261,371
9/30/2043	29,300,053
9/30/2044	29,350,821
9/30/2045	29,427,517
9/30/2046	29,490,598
9/30/2047	29,511,203
9/30/2048	29,537,515
9/30/2049	29,454,354
9/30/2050	29,284,486
9/30/2051	29,070,247
9/30/2052	28,821,726
9/30/2053	28,536,010
9/30/2054	28,261,463
9/30/2055	27,984,094
9/30/2056	27,696,964
9/30/2057	27,415,670
9/30/2058	27,135,440
9/30/2059	26,870,178
9/30/2060	26,635,924
9/30/2061	26,433,975
9/30/2062	26,275,470
9/30/2063	26,147,421
9/30/2064	26,042,231
9/30/2065	25,948,814
9/30/2066	25,888,879

The above projections are based on the same assumptions, census data and plan provisions as used in the September 30, 2016 Actuarial Valuation Report, as amended by the General & Ocean Rescue Actuarial Impact Statement dated March 6, 2017 and the Firefighters Actuarial Impact Statement dated August 4, 2017, with the exception that future new entrants are included.

DROP and Share accounts as of September 30, 2016 were projected forward assuming 40% of the total is paid out in FYE 2017, 30% in FYE 2018, 20% in FYE 2019, and 10% in FYE 2020.

TOWN OF PALM BEACH

Information for Finance and Taxation Committee Meeting on: August 8, 2017

To: Members of Finance and Taxation Committee

Via: Thomas Bradford, Town Manager

From: Ed Carter, Trustee
William P. Hanes, Pension Administrator

Re: Retirement System Unfunded Actuarial Accrued Liability (UAAL)

Date: August 8, 2017

As a preliminary matter, it is important to take notice that the remarks made in this memorandum are intended to address matters of the Town's defined benefit (pension) plan, and does not address or otherwise make observations regarding the Town's defined contribution plans. The actuary has reviewed and verified the values provided herein, and the authors of this memorandum do not represent themselves as actuaries.

The board understands its duties to act as a fiduciary in administration of the pension, and that it is the Town's ultimate legal obligation to make future payments to the retirees and beneficiaries as has been contractually promised. This obligation is inviolable, and secured by the full, faith and credit of this municipality. It is the function of the Board of Trustees as fiduciaries to oversee, manage, and administer system assets as good stewards for the purpose of providing retirement benefits to its career public employees. Investment of the retirement system trust assets is a primary responsibility of the board of trustees. In contrast, it is the Town Council that is charged with making policy decisions for the Town and enacting an annual budget that reflects the policy decisions, and enables a continuing operation of Town government and implementation of the numerous governmental services.

This memorandum is a focus on the Town's retirement plan unfunded actuarial accrued liability (UAAL), or unfunded liability. The Board of Trustees have observed with much concern the trend toward significant growth of the pension's unfunded liability. In fact, a prior Town Council took action in 2012 to try to slow down the trend of the plan's unfunded liability. Unfortunately, precisely the opposite has occurred. Over a period of three years, fiscal year 2013 through the most recent 2016 fiscal year valuation, the composite unfunded liability has risen from $66 million to $96.5 million (from 74.2% funded to 68.1%.). This represents an increase of approximately $30.5 million in unfunded liability over that last 3-year period. So what is the unfunded liability and how is it calculated?

The board raised concerns at its May 19, 2017 board meeting regarding risks associated with a future investment performance that may be lower than what has been actuarially assumed. The actuary and investment consultant made similar forecasts that the current investment assumption (7.4% reduced by .1% per year until 7.0% in 2020) should be appropriate for funding the plan based on the board's adopted asset allocation model. The actuary provided the board a 10-year projection (see Exhibit A) that illustrates based on the current return assumption that the composite unfunded liability in 10 years will increase modestly from $98 million to $101 million in fiscal year 2026. Most alarming, however, is if an average annual market rate of return of 5% is realized, the unfunded liability increases to $141 million in the year 2026. In the year 2016 actuarial valuation, the actuary made note that over the last 16 years, since year 2000, investment performance has averaged at a market return rate of only 4.3%. As noted, Town contributions are not paid to the retirement trust until the second fiscal year after an annual actuarial valuation is performed. One significant budgeting matter presented by the 10-year actuarial forecast is that from years 2018 to 2028, the difference between earning an average of 7% and 5% annual market return causes the Town contributions to increase year by year with a $2.6 million increase in annual Town contributions by year 2028.

It is extremely important that policy makers understand the relationship between the actuarial return assumption based on valuation, or smoothing of assets, versus realized market return. The actuary will annually compute the investment valuation from the most recent 5-years of annual realized market return rates. This is referred to as “smoothing of assets”. The fiscal year 2016 market rate of return performed at 7.6%. Yet, the 2016 valuation was calculated on the trailing 5-year smoothing of assets, and performed at a 7.1% valuation rate. This produced a loss for the fiscal year. The lower than benchmark return valuation resulted primarily because of partial recognition from the year 2015 investment market loss blended with less market gains valued over the 5-year smoothing period. By way of illustration, the plan’s market investment experience for fiscal year 2015 was -4.22%, which produced a very significant market loss of $23.5 million to the portfolio in that year. However, instead of fully recognizing the total loss from this very poor year 2015 performance, and suffering significant increases in unfunded liability and Town contributions, the board’s smoothing method of asset valuation recognized only a $4.7 million loss for five consecutive years, beginning in the year 2015 year and ending in 2019. The unrecognized losses going into years 2017 through 2019 will likely create even more significant valuation losses because of the partial gains that are removed from years 2012, 2013, and 2014 that performed with good market returns in those years. The 2016 actuarial valuation calculations indicate there are three years of gains scheduled to be removed from 2017 ($1.97 million) 2018 ($1.91 million) and 2019 ($0.1 million) valuations, when the period of calculating losses from the 2015 market performance losses will end. This further illustrates how significant losses/gains within a 5-year period can impact funding level, unfunded liability, and Town contributions over a forward 5-year period. (See Exhibit B)

In further illustration of the impact of these losses on the unfunded liability, and without consideration of other future investment and non-investment experiences, the actuary has verified that the unfunded liability is scheduled to increase by $6.7 million in fiscal year 2017, $7.7 million in fiscal year 2018, and $7.6 million in 2019, due in part to the continued phase-in of the 2015 market loss and in part due to the phase-in of the lower investment return assumption (by 10 basis points per year). This follows in year 2020 with a reduction in expected additions to unfunded liability. However, when the actuary assumes accrual of the future unfunded liability assuming an average future market rate return of 5% per year, the projected increase in unfunded liability is as follows: $7.8 million in 2017, $9.9 million in 2018, $10.8 million in 2019, $6.5 million in 2020, and $3.0 in 2021.

The actuary computed the following projection of future retirement plan funding levels (funded ratios) if 7.0% per year is earned on the market value of assets.

9/30/2016:	68.1%
9/30/2017:	66.4%
9/30/2018:	64.6%
9/30/2019:	62.9%
9/30/2020:	63.0%
9/30/2021:	64.1%

The actuary computed the following projection of future retirement plan funding levels (funded ratios) if 5% per year is earned on the market value of assets:

9/30/2016:	68.1%
9/30/2017:	66.1%
9/30/2018:	63.6%
9/30/2019:	60.9%
9/30/2020:	59.8%
9/30/2021:	59.4%

The actuary computed the following projection of future retirement plan funded levels (funded ratios) if an additional Town Council appropriation of $5 million is contributed towards the unfunded liability each year:

If 7.0% per year is earned on the market value of assets:

9/30/2016:	68.1%
9/30/2017:	68.0%
9/30/2018:	67.9%
9/30/2019:	67.9%
9/30/2020:	69.7%
9/30/2021:	72.7%

If 5.0% per year is earned on the market value of assets:

9/30/2016:	68.1%
9/30/2017:	67.7%
9/30/2018:	66.8%
9/30/2019:	65.8%
9/30/2020:	66.3%
9/30/2021:	67.6%

The actuary calculated the following to represent the market return rate required in future years to achieve the valuation rate (7.4% reducing to 7.0% by 2020) to prevent future investment experience losses:

9/30/2017:	15.3%
2017 to 2018:	avg. 14.1%
2017-2019:	avg. 12.7%
2017-2020:	avg. 10.6%

The matter of pension funding is complicated, and often consists as a volatile process that relies heavily on appropriation levels of Town contributions and good economics and demographic experiences. Investment performance is generally the primary driver to better funding of retirement plans. This takes diligent and consistent coordination between the trustees, investment consultant, managers, custodian, and retirement administrator. There is significant contact and coordination served between the investment professionals to administer best practice in establishing an appropriate asset allocation model, selection of managers, and to provide sufficient liquidity to satisfy cash flow. It should be noted that “cash flow” and the need for liquidity within the asset allocation model constrains return opportunities available through the asset allocation model.

The retirement plan’s unfunded liability serves as the primary gauge from which to measure a plan’s funding status. This, in turn, determines the actuarial calculation required for deriving required minimum Town contributions. However, the true liability is represented by the unfunded liability, which represents the Town’s ultimate obligation toward payment of the retirement benefits earned by its public employees. Town Council, as policy makers, should consider a funding formula and policy that better establishes a commitment to paying this obligation within an annual budget process. The Town Council may wish to consider a procedure that requires a formula-based annual supplemental pension payment which is appropriated based on achieving a target funding level, instead of an afterthought discussion of an ad hoc $2.5 or $5 million additional contribution after consideration of general fund dollars which is secondary to other Town commitments. Supplemental payments toward the unfunded liability should be paid in a manner of paying a fixed and committed obligation. This may be based on a formula calculation from the preceding year’s level of UAAL. This too would acknowledge a Town policy for retirement funding that represents an inviolable commitment by the Town Council toward required payments to be made for its career public employees.

The retirement board meets quarterly throughout the year with agenda items posted in advance to be discussed at the meetings. The meeting is public, and the board invites Town citizens and policy makers to attend, engage, and be educated on the important matters of the retirement system. Matters of the Town’s retirement system should be important to the public when considering the significance of these financial considerations that impact the Town and the taxpayers who ultimately fund the retirement system. We appreciate your attention to these important matters of the public retirement system.

GRS Retirement Consulting

P: 954.527.1616 | F: 954.525.0083 | www.grsconsulting.com

August 31, 2017

William P. Hanes, Esq.
Administrator
Town of Palm Beach Retirement System
P.O. Box 2112
Palm Beach, FL 33480

Re: Town of Palm Beach Retirement System – Alternative Contribution Policy Projections

Dear Bill:

As requested, we have prepared alternative contribution policy projections for the Town of Palm Beach Retirement System (Plan). The enclosed exhibits present projected assets, liabilities and contribution requirements over the next 20 years for the Plan in aggregate under two alternative contribution policy methods, each with three deterministic assumption scenarios, as described below.

Alternative Contribution Policy Methods:

- **Alternative 1** – An additional Town contribution is made each year to reduce the Unfunded Actuarial Accrued Liability (UAAL) with a target funded ratio of 68% as of 9/30/2017. The target funded ratio will remain at 68% through 9/30/2019, and thereafter increase to 70% as of 9/30/2020, 72% as of 9/30/2021, and by 2% in each subsequent year until 100% (full funding) is reached as of 9/30/2035. The total Town contribution is limited to $16 million with indexing at the assumed rate of payroll growth (3.0% for 2017-18, 2.75% in subsequent years), but never less than the Actuarially Determined Employer Contribution (ADEC).
- **Alternative 2** – An additional Town contribution of $5.42 million towards the UAAL is made each year until the Plan is fully funded.

Deterministic Assumption Scenarios:

- **Scenario 1 (Baseline assumptions)** – same assumptions as used in the September 30, 2016 Actuarial Valuation Report, as amended by the General & Ocean Rescue Actuarial Impact Statement dated March 6, 2017 and the Firefighters Actuarial Impact Statement dated August 4, 2017, with three exceptions. The investment return assumption is assumed to decrease by 0.1% per year from 7.4% used in the September 30, 2016 Actuarial Valuation Report to 7.0% as of September 30, 2020; the payroll growth assumption is assumed to decrease by 0.25% per year, from 3.25% used in the September 30, 2016 Actuarial Valuation Report to 2.75% as of September 30, 2018; and the amortization period for amortizing changes in the UAAL is limited to 25 years effective September 30, 2017.
- **Scenario 2 (Stress Test)** – same assumptions as described above but reflecting an actual return on the market value of assets of 5.0% each year.
- **Scenario 3 (Stress Test)** – same assumptions as described above but reflecting an actual return on the market value of assets of 3.0% each year.

Throughout the projection period, new members are assumed to be hired each year at a rate sufficient to maintain a constant active headcount. New employees are assumed to have the same average demographic characteristics (age, gender, salary – adjusted each year for inflation) at their dates of employment as those of current members with 5 years of service or less as of September 30, 2016. Additionally, DROP and Share accounts are projected forward assuming 40% payout in the first projection year, 30% in year two, 20% in year three and the remainder paid out in year four.

Projections are deterministic, meaning that throughout the projection period, Plan experience is expected to match the actuarial assumptions. For the stress test scenarios (scenarios 2 and 3) the investment return on the market value of assets each year is assumed to be 5.0% or 3.0%, as indicated, throughout the projection period.

The calculations are based upon assumptions regarding future events, which may or may not materialize. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. If you have reason to believe that the assumptions that were used are unreasonable, that the plan provisions are incorrectly described, that important plan provisions relevant to this proposal are not described, or that conditions have changed since the calculations were made, you should contact the author of the report prior to relying on information in the report.

The calculations in this report are based upon information furnished by the Town of Palm Beach and the Plan Administrator for the September 30, 2016 Actuarial Valuation concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We reviewed this information for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by the Town or the Plan Administrator.

This report complements the September 30, 2016 Actuarial Valuation Report and subsequent Actuarial Impact Statements previously delivered to the Plan Administrator and the City and should be considered in conjunction with those reports. Please see the Actuarial Valuation Report as of September 30, 2016, dated February 15, 2017, the March 6, 2017 Actuarial Impact Statement for General and Ocean Rescue Employees, and the August 4, 2017 Actuarial impact Statement for Firefighters for additional discussion of the nature of actuarial calculations and information related to participant data, economic and demographic assumptions, and benefit provisions.

Peter N. Strong and Jeffrey Amrose are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The undersigned actuaries are independent of the plan sponsor.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

Respectfully submitted,

Peter N. Strong, FSA, EA, MAAA
Senior Consultant and Actuary

Jeffrey Amrose, EA, MAAA, FCA
Senior Consultant and Actuary

Enclosures

cc: Jane Struder, CPA, Director of Finance (electronic)

Town of Palm Beach Retirement System (Composite)

Alternative 1: Additional Contributions for Target Funded Ratio (68.0% for 2017-2019, Increasing 2% Per Year Until Fully Funded)
Total Annual Town Contribution Cap of $16 million, indexed after 2017; Current Valuation Assumptions
(7.4% Investment Return Assumption, decreasing by 0.1% per year until ultimate 7.0%; 25-year Amortization Cap Effective 9/30/2017)

								Total Employer Contribution					
Valuation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio	Fiscal Year Ending	ADEC as % of Payroll	ADEC as Illustrative Dollar Amount	Additional Contribution	Total Contribution
								2017	44.46%	7,850,390	5,513,336	13,363,726
9/30/2016	268	17,731,259	22,063,581	307,993,649	209,122,540	98,871,109	67.9%	2018	49.43%	9,195,946	5,493,077	14,689,023
9/30/2017	268	18,123,933	21,532,997	313,221,673	212,990,737	100,230,936	68.0%	2019	51.40%	9,738,243	4,935,468	14,673,711
9/30/2018	268	18,548,556	21,002,777	319,102,237	216,989,523	102,112,715	68.0%	2020	52.78%	10,196,716	6,281,776	16,478,492
9/30/2019	268	18,937,496	20,620,727	325,750,807	221,510,550	104,240,258	68.0%	2021	53.56%	10,564,187	2,862,761	13,426,948
9/30/2020	268	19,377,832	20,256,213	333,058,771	233,141,141	99,917,629	70.0%	2022	52.10%	10,514,788	2,854,582	13,369,370
9/30/2021	268	19,785,486	20,813,129	337,380,724	242,914,121	94,466,603	72.0%	2023	50.77%	10,461,533	2,798,416	13,259,949
9/30/2022	268	20,189,359	21,391,659	341,460,933	252,681,090	88,779,842	74.0%	2024	49.43%	10,395,087	2,751,415	13,146,502
9/30/2023	268	20,613,885	21,929,486	345,257,188	262,395,463	82,861,725	76.0%	2025	48.06%	10,318,105	2,576,181	12,894,286
9/30/2024	268	20,950,292	22,588,177	348,777,817	272,046,697	76,731,122	78.0%	2026	46.84%	10,219,754	2,532,329	12,752,083
9/30/2025	268	21,375,235	23,167,859	351,901,163	281,520,930	70,380,232	80.0%	2027	45.24%	10,070,849	2,439,174	12,510,023
9/30/2026	268	21,729,139	23,761,573	354,657,529	290,819,174	63,838,357	82.0%	2028	39.36%	8,908,129	3,324,670	12,232,799
9/30/2027	268	22,020,368	24,382,720	357,016,661	299,893,995	57,122,666	84.0%	2029	37.85%	8,680,793	3,190,250	11,871,043
9/30/2028	268	22,463,010	24,888,582	359,033,526	308,768,832	50,264,695	86.0%	2030	35.86%	8,389,054	3,190,716	11,579,770
9/30/2029	268	22,967,849	25,380,341	360,732,106	317,444,252	43,287,853	88.0%	2031	33.65%	8,049,080	3,218,452	11,267,532
9/30/2030	268	23,389,073	25,910,337	362,091,775	325,882,597	36,209,179	90.0%	2032	31.28%	7,618,787	3,292,190	10,910,977
9/30/2031	268	23,851,153	26,371,126	363,059,422	334,014,668	29,044,754	92.0%	2033	23.92%	5,943,062	4,615,199	10,558,261
9/30/2032	268	24,343,818	26,780,929	363,682,052	341,861,128	21,820,924	94.0%	2034	18.09%	4,586,418	5,609,599	10,196,017
9/30/2033	268	24,885,592	27,068,714	363,974,201	349,415,233	14,558,967	96.0%	2035	15.16%	3,928,587	5,843,725	9,772,312
9/30/2034	268	25,431,351	27,362,885	364,012,716	356,732,463	7,280,253	98.0%	2036	11.88%	3,146,636	0	3,146,636
9/30/2035	268	26,022,528	27,673,624	363,833,394	363,833,395	0	100.0%	2037	8.14%	2,206,417	0	2,206,417
Total:										**$ 170,982,561**	**$ 73,323,316**	**$ 244,305,877**
Total Present Value at 9/30/2017 (using 7% discount rate):										**$ 102,476,758**	**$ 43,829,437**	**$ 146,306,195**

Assumptions

Mortality Assumption: FRS Non-Special Risk Mortality for General Employees and FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters
Please see our 9/30/2016 Actuarial Valuation Report dated February 15, 2017 for additional details on this assumption.

Investment Return Assumption: 7.40% as of 9/30/16, 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

Actual Return on Plan Assets: Same as assumed above

Wage Payroll Growth Assumption: 3.25% as of 9/30/16, 3.0% as of 9/30/17, and 2.75% as of 9/30/18 and thereafter

For the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2017, 30% in FYE 2018, 20% in FYE 2019, and 10% in FYE 2020.

We have not determined any additional possible impact due to F.S. 112.64(5).

Total employer contributions should not expect any reduction from Chapter 175 or 185 monies.

Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

Town of Palm Beach Retirement System (Composite)

Alternative 1: Additional Contributions for Target Funded Ratio (68.0% for 2017-2019, Increasing 2% Per Year Until Fully Funded)

Total Annual Town Contribution Cap of $16 million, indexed after 2017; 5% Actual Rate of Return on Plan Assets Assumed to be Earned Each Year

(7.4% Investment Return Assumption, decreasing by 0.1% per year until ultimate 7.0%; 25-year Amortization Cap Effective 9/30/2017)

								Total Employer Contribution				
Valuation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio	Fiscal Year Ending	ADEC as % of Payroll	ADEC as Illustrative Dollar Amount	Additional Contribution	Total Contribution
								2017	44.46%	7,850,390	6,514,286	14,364,676
9/30/2016	268	17,731,259	22,063,581	307,993,649	209,122,540	98,871,109	67.9%	2018	49.43%	9,195,946	7,284,054	16,480,000
9/30/2017	268	18,123,933	21,532,997	313,221,673	212,990,739	100,230,934	68.0%	2019	51.28%	9,715,442	7,217,758	16,933,200
9/30/2018	268	18,548,556	21,002,777	319,102,237	216,787,573	102,314,665	67.9%	2020	52.52%	10,145,444	7,253,419	17,398,863
9/30/2019	268	18,937,496	20,620,727	325,750,807	220,606,534	105,144,274	67.7%	2021	53.26%	10,504,537	7,372,795	17,877,332
9/30/2020	268	19,377,832	20,256,213	333,058,771	229,246,436	103,812,334	68.8%	2022	52.64%	10,623,652	7,667,854	18,291,506
9/30/2021	268	19,785,486	20,813,129	337,380,724	238,450,193	98,930,531	70.7%	2023	50.95%	10,498,539	7,668,475	18,167,014
9/30/2022	268	20,189,359	21,391,659	341,460,933	248,163,645	93,297,288	72.7%	2024	48.95%	10,294,107	7,820,286	18,114,393
9/30/2023	268	20,613,885	21,929,486	345,257,188	257,827,797	87,429,391	74.7%	2025	46.82%	10,052,977	7,965,877	18,018,854
9/30/2024	268	20,950,292	22,588,177	348,777,817	267,432,454	81,345,363	76.7%	2026	44.73%	9,760,135	8,304,758	18,064,893
9/30/2025	268	21,375,235	23,167,859	351,901,163	276,865,366	75,035,797	78.7%	2027	42.16%	9,385,625	8,632,634	18,018,259
9/30/2026	268	21,729,139	23,761,573	354,657,529	286,127,144	68,530,386	80.7%	2028	36.70%	8,306,810	9,597,997	17,904,807
9/30/2027	268	22,020,368	24,382,720	357,016,661	295,170,754	61,845,907	82.7%	2029	34.21%	7,846,192	9,874,450	17,720,642
9/30/2028	268	22,463,010	24,888,582	359,033,526	304,018,909	55,014,616	84.7%	2030	31.25%	7,312,265	10,289,304	17,601,569
9/30/2029	268	22,967,849	25,380,341	360,732,106	312,671,857	48,060,249	86.7%	2031	28.08%	6,717,453	10,721,292	17,438,745
9/30/2030	268	23,389,073	25,910,337	362,091,775	321,092,215	40,999,562	88.7%	2032	24.84%	6,050,688	11,179,228	17,229,916
9/30/2031	268	23,851,153	26,371,126	363,059,422	329,211,484	33,847,938	90.7%	2033	20.07%	4,985,538	11,998,041	16,983,579
9/30/2032	268	24,343,818	26,780,929	363,682,052	337,049,709	26,632,343	92.7%	2034	16.38%	4,153,583	12,553,577	16,707,160
9/30/2033	268	24,885,592	27,068,714	363,974,201	344,599,946	19,374,256	94.7%	2035	13.68%	3,546,654	12,848,567	16,395,221
9/30/2034	268	25,431,351	27,362,885	364,012,716	351,916,666	12,096,050	96.7%	2036	11.10%	2,940,644	N/A	2,940,644
9/30/2035	268	26,022,528	27,673,624	363,833,394	359,019,970	4,813,424	98.7%	2037	8.80%	2,385,979	N/A	2,385,979
Total:										**$ 162,272,600**	**$ 172,764,652**	**$ 335,037,252**
Total Present Value at 9/30/2017 (using 7% discount rate):										**$ 98,883,441**	**$ 93,424,028**	**$ 192,307,470**

Assumptions

Mortality Assumption: FRS Non-Special Risk Mortality for General Employees and FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters
Please see our 9/30/2016 Actuarial Valuation Report dated February 15, 2017 for additional details on this assumption.

Investment Return Assumption: 7.40% as of 9/30/16, 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

Actual Return on Plan Assets: 5.0% per annum

Wage Payroll Growth Assumption: 3.25% as of 9/30/16, 3.0% as of 9/30/17, and 2.75% as of 9/30/18 and thereafter

For the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2017, 30% in FYE 2018, 20% in FYE 2019, and 10% in FYE 2020.

We have not determined any additional possible impact due to F.S. 112.64(5).

Total employer contributions should not expect any reduction from Chapter 175 or 185 monies.

Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

Town of Palm Beach Retirement System (Composite)

Alternative 1: Additional Contributions for Target Funded Ratio (68.0% for 2017-2019, Increasing 2% Per Year Until Fully Funded)
Total Annual Town Contribution Cap of $16 million, indexed after 2017; 3% Actual Rate of Return on Plan Assets Assumed to be Earned Each Year
(7.4% Investment Return Assumption, decreasing by 0.1% per year until ultimate 7.0%; 25-year Amortization Cap Effective 9/30/2017)

								Total Employer Contribution				
Valuation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio	Fiscal Year Ending	ADEC as % of Payroll	ADEC as Illustrative Dollar Amount	Additional Contribution	Total Contribution
								2017	44.46%	7,850,390	7,268,678	15,119,068
9/30/2016	268	17,731,259	22,063,581	307,993,649	209,122,540	98,871,109	67.9%	2018	49.43%	9,195,946	7,284,054	16,480,000
9/30/2017	268	18,123,933	21,532,997	313,221,673	212,990,737	100,230,936	68.0%	2019	51.19%	9,698,898	7,234,302	16,933,200
9/30/2018	268	18,548,556	21,002,777	319,102,237	215,234,876	103,867,362	67.5%	2020	52.95%	10,228,670	7,170,193	17,398,863
9/30/2019	268	18,937,496	20,620,727	325,750,807	216,565,677	109,185,130	66.5%	2021	54.53%	10,754,782	7,122,550	17,877,332
9/30/2020	268	19,377,832	20,256,213	333,058,771	221,704,030	111,354,741	66.6%	2022	55.08%	11,115,983	7,252,976	18,368,959
9/30/2021	268	19,785,486	20,813,129	337,380,724	226,313,101	111,067,623	67.1%	2023	54.94%	11,322,502	7,551,603	18,874,105
9/30/2022	268	20,189,359	21,391,659	341,460,933	231,087,982	110,372,950	67.7%	2024	54.71%	11,505,212	7,887,931	19,393,143
9/30/2023	268	20,613,885	21,929,486	345,257,188	236,051,271	109,205,917	68.4%	2025	54.27%	11,651,306	8,275,148	19,926,454
9/30/2024	268	20,950,292	22,588,177	348,777,817	241,169,552	107,608,266	69.1%	2026	53.87%	11,754,545	8,719,886	20,474,431
9/30/2025	268	21,375,235	23,167,859	351,901,163	246,447,235	105,453,927	70.0%	2027	52.88%	11,772,815	9,264,663	21,037,478
9/30/2026	268	21,729,139	23,761,573	354,657,529	251,761,945	102,895,584	71.0%	2028	48.60%	10,999,124	10,616,885	21,616,009
9/30/2027	268	22,020,368	24,382,720	357,016,661	257,207,164	99,809,497	72.0%	2029	47.63%	10,923,279	11,287,170	22,210,449
9/30/2028	268	22,463,010	24,888,582	359,033,526	262,920,074	96,113,452	73.2%	2030	46.01%	10,764,372	12,056,864	22,821,236
9/30/2029	268	22,967,849	25,380,341	360,732,106	269,021,081	91,711,024	74.6%	2031	43.97%	10,518,471	12,930,349	23,448,820
9/30/2030	268	23,389,073	25,910,337	362,091,775	275,409,175	86,682,602	76.1%	2032	41.75%	10,170,267	13,923,396	24,093,663
9/30/2031	268	23,851,153	26,371,126	363,059,422	282,121,887	80,937,535	77.7%	2033	36.45%	9,054,731	15,544,493	24,599,224
9/30/2032	268	24,343,818	26,780,929	363,682,052	289,267,143	74,414,909	79.5%	2034	32.09%	8,135,843	16,318,746	24,454,589
9/30/2033	268	24,885,592	27,068,714	363,974,201	296,780,292	67,193,909	81.5%	2035	29.29%	7,592,178	16,672,859	24,265,037
9/30/2034	268	25,431,351	27,362,885	364,012,716	304,091,952	59,920,764	83.5%	2036	26.46%	7,008,680	N/A	7,008,680
9/30/2035	268	26,022,528	27,673,624	363,833,394	311,218,816	52,614,578	85.5%	2037	23.61%	6,399,476	N/A	6,399,476
Total:										**$ 208,417,470**	**$ 194,382,746**	**$ 402,800,216**
Total Present Value at 9/30/2017 (using 7% discount rate):										**$ 117,053,798**	**$ 101,550,422**	**$ 218,604,220**

Assumptions

Mortality Assumption: FRS Non-Special Risk Mortality for General Employees and FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters
Please see our 9/30/2016 Actuarial Valuation Report dated February 15, 2017 for additional details on this assumption.

Investment Return Assumption: 7.40% as of 9/30/16, 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

Actual Return on Plan Assets: 3.0% per annum

Wage Payroll Growth Assumption: 3.25% as of 9/30/16, 3.0% as of 9/30/17, and 2.75% as of 9/30/18 and thereafter

For the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2017, 30% in FYE 2018, 20% in FYE 2019, and 10% in FYE 2020.

We have not determined any additional possible impact due to F.S. 112.64(5).

Total employer contributions should not expect any reduction from Chapter 175 or 185 monies.

Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

Town of Palm Beach Retirement System (Composite)

Alternative 2: Additional Contributions of $5.42 Million Per Year Until Fully Funded

Total Annual Town Contribution Cap of $16 million, indexed after 2017; Current Valuation Assumptions

(7.4% Investment Return Assumption, decreasing by 0.1% per year until ultimate 7.0%; 25-Year Amortization Cap Effective 9/30/2017)

								Total Employer Contribution				
Valuation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio	Fiscal Year Ending	ADEC as % of Payroll	ADEC as Illustrative Dollar Amount	Additional Contribution	Total Contribution
								2017	44.46%	7,850,390	5,420,000	13,270,390
9/30/2016	268	17,731,259	22,063,581	307,993,649	209,122,540	98,871,109	67.9%	2018	49.43%	9,195,946	5,420,000	14,615,946
9/30/2017	268	18,123,933	21,532,997	313,221,673	212,897,401	100,324,272	68.0%	2019	51.44%	9,746,291	5,420,000	15,166,291
9/30/2018	268	18,548,556	21,002,777	319,102,237	216,816,298	102,285,939	67.9%	2020	52.86%	10,211,212	5,420,000	15,631,212
9/30/2019	268	18,937,496	20,620,727	325,750,807	221,817,725	103,933,082	68.1%	2021	53.42%	10,536,958	5,420,000	15,956,958
9/30/2020	268	19,377,832	20,256,213	333,058,771	232,624,551	100,434,220	69.8%	2022	52.32%	10,560,362	5,420,000	15,980,362
9/30/2021	268	19,785,486	20,813,129	337,380,724	244,890,134	92,490,590	72.6%	2023	49.88%	10,279,258	5,420,000	15,699,258
9/30/2022	268	20,189,359	21,391,659	341,460,933	257,409,970	84,050,963	75.4%	2024	47.24%	9,932,560	5,420,000	15,352,560
9/30/2023	268	20,613,885	21,929,486	345,257,188	269,882,303	75,374,885	78.2%	2025	44.44%	9,541,094	5,420,000	14,961,094
9/30/2024	268	20,950,292	22,588,177	348,777,817	282,237,955	66,539,862	80.9%	2026	41.68%	9,095,201	5,420,000	14,515,201
9/30/2025	268	21,375,235	23,167,859	351,901,163	294,443,137	57,458,026	83.7%	2027	38.40%	8,548,500	5,420,000	13,968,500
9/30/2026	268	21,729,139	23,761,573	354,657,529	306,347,507	48,310,022	86.4%	2028	31.75%	7,186,473	5,420,000	12,606,473
9/30/2027	268	22,020,368	24,382,720	357,016,661	317,883,997	39,132,664	89.0%	2029	28.47%	6,530,361	5,420,000	11,950,361
9/30/2028	268	22,463,010	24,888,582	359,033,526	328,284,694	30,748,832	91.4%	2030	25.04%	5,858,898	5,420,000	11,278,898
9/30/2029	268	22,967,849	25,380,341	360,732,106	338,261,103	22,471,003	93.8%	2031	21.29%	5,092,733	5,420,000	10,512,733
9/30/2030	268	23,389,073	25,910,337	362,091,775	347,699,373	14,392,402	96.0%	2032	17.20%	4,190,632	5,420,000	9,610,632
9/30/2031	268	23,851,153	26,371,126	363,059,422	356,430,840	6,628,582	98.2%	2033	11.69%	2,904,751	0	2,904,751
9/30/2032	268	24,343,818	26,780,929	363,682,052	364,353,677	(671,625)	100.2%	2034	8.20%	2,079,494	0	2,079,494
9/30/2033	268	24,885,592	27,068,714	363,974,201	365,632,870	(1,658,669)	100.5%	2035	8.14%	2,108,982	0	2,108,982
9/30/2034	268	25,431,351	27,362,885	364,012,716	365,804,936	(1,792,220)	100.5%	2036	8.14%	2,154,788	0	2,154,788
9/30/2035	268	26,022,528	27,673,624	363,833,394	365,753,347	(1,919,953)	100.5%	2037	8.14%	2,205,824	0	2,205,824
Total:										**$ 145,810,708**	**$ 86,720,000**	**$ 232,530,708**
Total Present Value at 9/30/2017 (using 7% discount rate):										**$ 92,412,746**	**$ 54,784,894**	**$ 147,197,640**

Assumptions

Mortality Assumption: FRS Non-Special Risk Mortality for General Employees and FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters
Please see our 9/30/2016 Actuarial Valuation Report dated February 15, 2017 for additional details on this assumption.

Investment Return Assumption: 7.40% as of 9/30/16, 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

Actual Return on Plan Assets: Same as assumed above

Wage Payroll Growth Assumption: 3.25% as of 9/30/16, 3.0% as of 9/30/17, and 2.75% as of 9/30/18 and thereafter

For the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2017, 30% in FYE 2018, 20% in FYE 2019, and 10% in FYE 2020.

We have not determined any additional possible impact due to F.S. 112.64(5).

Total employer contributions should not expect any reduction from Chapter 175 or 185 monies.

Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

Town of Palm Beach Retirement System (Composite)

Alternative 2: Additional Contributions of $5.42 Million Per Year Until Fully Funded

Total Annual Town Contribution Cap of $16 million, indexed after 2017; 5% Actual Rate of Return on Plan Assets Assumed to be Earned Each Year

(7.4% Investment Return Assumption, decreasing by 0.1% per year until ultimate 7.0%; 25-year Amortization Cap Effective 9/30/2017)

Valuation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio	Total Employer Contribution: Fiscal Year Ending	ADEC as % of Payroll	ADEC as Illustrative Dollar Amount	Additional Contribution	Total Contribution
								2017	44.46%	7,850,390	5,420,000	13,270,390
9/30/2016	268	17,731,259	22,063,581	307,993,649	209,122,540	98,871,109	67.9%	2018	49.43%	9,195,946	5,420,000	14,615,946
9/30/2017	268	18,123,933	21,532,997	313,221,673	211,885,510	101,336,162	67.6%	2019	51.77%	9,808,108	5,420,000	15,228,108
9/30/2018	268	18,548,556	21,002,777	319,102,237	213,712,671	105,389,566	67.0%	2020	53.90%	10,412,615	5,420,000	15,832,615
9/30/2019	268	18,937,496	20,620,727	325,750,807	215,580,358	110,170,449	66.2%	2021	55.52%	10,951,313	5,420,000	16,371,313
9/30/2020	268	19,377,832	20,256,213	333,058,771	222,285,632	110,773,139	66.7%	2022	55.78%	11,257,863	5,420,000	16,677,863
9/30/2021	268	19,785,486	20,813,129	337,380,724	229,502,750	107,877,974	68.0%	2023	55.04%	11,341,985	5,420,000	16,761,985
9/30/2022	268	20,189,359	21,391,659	341,460,933	237,014,318	104,446,614	69.4%	2024	54.16%	11,387,899	5,420,000	16,807,899
9/30/2023	268	20,613,885	21,929,486	345,257,188	244,575,102	100,682,086	70.8%	2025	53.14%	11,409,569	5,420,000	16,829,569
9/30/2024	268	20,950,292	22,588,177	348,777,817	252,065,541	96,712,277	72.3%	2026	52.28%	11,408,334	5,420,000	16,828,334
9/30/2025	268	21,375,235	23,167,859	351,901,163	259,413,191	92,487,971	73.7%	2027	50.96%	11,345,143	5,420,000	16,765,143
9/30/2026	268	21,729,139	23,761,573	354,657,529	266,428,791	88,228,738	75.1%	2028	45.84%	10,373,682	5,420,000	15,793,682
9/30/2027	268	22,020,368	24,382,720	357,016,661	273,101,221	83,915,440	76.5%	2029	44.81%	10,276,345	5,420,000	15,696,345
9/30/2028	268	22,463,010	24,888,582	359,033,526	278,593,781	80,439,745	77.6%	2030	43.75%	10,236,555	5,420,000	15,656,555
9/30/2029	268	22,967,849	25,380,341	360,732,106	283,802,374	76,929,731	78.7%	2031	42.58%	10,186,459	5,420,000	15,606,459
9/30/2030	268	23,389,073	25,910,337	362,091,775	288,657,913	73,433,863	79.7%	2032	41.49%	10,106,473	5,420,000	15,526,473
9/30/2031	268	23,851,153	26,371,126	363,059,422	293,128,551	69,930,870	80.7%	2033	35.95%	8,930,925	5,420,000	14,350,925
9/30/2032	268	24,343,818	26,780,929	363,682,052	297,250,836	66,431,216	81.7%	2034	31.70%	8,036,597	5,420,000	13,456,597
9/30/2033	268	24,885,592	27,068,714	363,974,201	299,954,496	64,019,705	82.4%	2035	30.82%	7,987,622	5,420,000	13,407,622
9/30/2034	268	25,431,351	27,362,885	364,012,716	301,503,672	62,509,044	82.8%	2036	30.25%	8,011,404	5,420,000	13,431,404
9/30/2035	268	26,022,528	27,673,624	363,833,394	302,795,105	61,038,289	83.2%	2037	29.65%	8,037,367	5,420,000	13,457,367
Total:										**$ 208,552,594**	**$ 113,820,000**	**$ 322,372,594**
Total Present Value at 9/30/2017 (using 7% discount rate):										**$ 116,732,810**	**$ 62,839,557**	**$ 179,572,367**

Assumptions

Mortality Assumption: FRS Non-Special Risk Mortality for General Employees and FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters
Please see our 9/30/2016 Actuarial Valuation Report dated February 15, 2017 for additional details on this assumption.

Investment Return Assumption: 7.40% as of 9/30/16, 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

Actual Return on Plan Assets: 5.0% per annum

Wage Payroll Growth Assumption: 3.25% as of 9/30/16, 3.0% as of 9/30/17, and 2.75% as of 9/30/18 and thereafter

For the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2017, 30% in FYE 2018, 20% in FYE 2019, and 10% in FYE 2020.

We have not determined any additional possible impact due to F.S. 112.64(5).

Total employer contributions should not expect any reduction from Chapter 175 or 185 monies.

Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

Town of Palm Beach Retirement System (Composite)

Alternative 2: Additional Contributions of $5.42 Million Per Year Until Fully Funded

Total Annual Town Contribution Cap of $16 million, indexed after 2017; 3% Actual Rate of Return on Plan Assets Assumed to be Earned Each Year

(7.4% Investment Return Assumption, decreasing by 0.1% per year until ultimate 7.0%; 25-year Amortization Cap Effective 9/30/2017)

								Total Employer Contribution				
Valuation Date	Active Count	Payroll	Expected Benefit Payments	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Ratio	Fiscal Year Ending	ADEC as % of Payroll	ADEC as Illustrative Dollar Amount	Additional Contribution	Total Contribution
								2017	44.46%	7,850,390	5,420,000	13,270,390
9/30/2016	268	17,731,259	22,063,581	307,993,649	209,122,540	98,871,109	67.9%	2018	49.43%	9,195,946	5,420,000	14,615,946
9/30/2017	268	18,123,933	21,532,997	313,221,673	211,130,967	102,090,706	67.4%	2019	52.01%	9,854,371	5,420,000	15,274,371
9/30/2018	268	18,548,556	21,002,777	319,102,237	211,368,740	107,733,497	66.2%	2020	54.69%	10,566,252	5,420,000	15,986,252
9/30/2019	268	18,937,496	20,620,727	325,750,807	210,786,506	114,964,301	64.7%	2021	57.15%	11,271,647	5,420,000	16,691,647
9/30/2020	268	19,377,832	20,256,213	333,058,771	214,172,540	118,886,231	64.3%	2022	58.49%	11,805,207	5,420,000	17,225,207
9/30/2021	268	19,785,486	20,813,129	337,380,724	217,197,957	120,182,767	64.4%	2023	59.15%	12,189,819	5,420,000	17,609,819
9/30/2022	268	20,189,359	21,391,659	341,460,933	220,399,933	121,061,000	64.5%	2024	59.74%	12,562,326	5,420,000	17,982,326
9/30/2023	268	20,613,885	21,929,486	345,257,188	223,629,365	121,627,823	64.8%	2025	60.23%	12,931,869	5,420,000	18,351,869
9/30/2024	268	20,950,292	22,588,177	348,777,817	226,810,076	121,967,741	65.0%	2026	60.94%	13,297,454	5,420,000	18,717,454
9/30/2025	268	21,375,235	23,167,859	351,901,163	229,931,371	121,969,792	65.3%	2027	61.17%	13,617,636	5,420,000	19,037,636
9/30/2026	268	21,729,139	23,761,573	354,657,529	232,815,330	121,842,199	65.6%	2028	57.30%	12,968,979	5,420,000	18,388,979
9/30/2027	268	22,020,368	24,382,720	357,016,661	235,494,301	121,522,360	66.0%	2029	57.87%	13,272,092	5,420,000	18,692,092
9/30/2028	268	22,463,010	24,888,582	359,033,526	237,101,316	121,932,210	66.0%	2030	58.36%	13,653,772	5,420,000	19,073,772
9/30/2029	268	22,967,849	25,380,341	360,732,106	238,633,976	122,098,130	66.2%	2031	58.69%	14,039,025	5,420,000	19,459,025
9/30/2030	268	23,389,073	25,910,337	362,091,775	240,018,108	122,073,667	66.3%	2032	59.15%	14,408,762	5,420,000	19,828,762
9/30/2031	268	23,851,153	26,371,126	363,059,422	241,277,590	121,781,832	66.5%	2033	53.95%	13,401,298	5,420,000	18,821,298
9/30/2032	268	24,343,818	26,780,929	363,682,052	242,480,379	121,201,673	66.7%	2034	50.00%	12,677,495	5,420,000	18,097,495
9/30/2033	268	24,885,592	27,068,714	363,974,201	242,314,221	121,659,980	66.6%	2035	50.25%	13,023,613	5,420,000	18,443,613
9/30/2034	268	25,431,351	27,362,885	364,012,716	241,029,086	122,983,630	66.2%	2036	50.84%	13,467,304	5,420,000	18,887,304
9/30/2035	268	26,022,528	27,673,624	363,833,394	239,780,905	124,052,489	65.9%	2037	51.35%	13,916,223	5,420,000	19,336,223
Total:										**$ 259,971,480**	**$ 113,820,000**	**$ 373,791,480**
Total Present Value at 9/30/2017 (using 7% discount rate):										**$ 136,434,206**	**$ 62,839,557**	**$ 199,273,763**

Assumptions

Mortality Assumption: FRS Non-Special Risk Mortality for General Employees and FRS Special Risk Mortality for Ocean Rescue, Police Officers and Firefighters
Please see our 9/30/2016 Actuarial Valuation Report dated February 15, 2017 for additional details on this assumption.

Investment Return Assumption: 7.40% as of 9/30/16, 7.30% as of 9/30/17, 7.20% as of 9/30/18, 7.10% as of 9/30/19, and 7.00% as of 9/30/20 and thereafter

Actual Return on Plan Assets: 3.0% per annum

Wage Payroll Growth Assumption: 3.25% as of 9/30/16, 3.0% as of 9/30/17, and 2.75% as of 9/30/18 and thereafter

For the Share and DROP accounts, 40% of the total was included in the benefit payments in the FYE 2017, 30% in FYE 2018, 20% in FYE 2019, and 10% in FYE 2020.

We have not determined any additional possible impact due to F.S. 112.64(5).

Total employer contributions should not expect any reduction from Chapter 175 or 185 monies.

Future experience was assumed to be consistent with the aforementioned actuarial assumptions and methods. If experience differs from the actuarial assumptions or if the Board adopts different assumptions or methods, future results could be significantly different from the projected results above.

Investment Performance Review
Period Ending June 30, 2017

Town of Palm Beach Retirement System

AndCo Consulting | (844) 44-ANDCO | *AndCoConsulting.com*

Asset Allocation & Performance [Net of Fees] - Trailing Returns

	Allocation		Performance(%)							
	Market Value $	%	QTD	FYTD	YTD	1 YR	2 YR	3 YR	Inception	Inception Date
Total Fund	**205,364,080**	**100.0**	**3.01**	**7.14**	**7.25**	**11.15**	**3.95**	**2.69**	**6.47**	**10/01/2012**
Total Fund Policy			3.15	8.48	8.06	12.31	6.64	5.35	7.83	
Total Domestic Equity	**65,536,380**	**31.9**	**3.34**	**12.43**	**8.61**	**16.48**	**7.52**	**6.39**	**11.98**	**10/01/2012**
S&P 500 Index			3.09	13.52	9.34	17.90	10.73	9.61	13.97	
Total International Equity	**38,326,248**	**18.7**	**7.74**	**16.41**	**17.67**	**26.10**	**3.40**	**1.77**	**9.04**	**10/01/2012**
MSCI EAFE (Net) Index			6.12	13.00	13.81	20.27	3.94	1.15	7.64	
Total Emerging Markets Equity	**11,587,182**	**5.6**	**6.16**	**14.63**	**20.53**	**25.30**	**6.48**	**2.09**	**5.23**	**09/01/2013**
MSCI Emerging Markets (Net) Index			6.27	13.50	18.43	23.75	4.32	1.07	4.61	
Total Fixed Income	**21,679,762**	**10.6**	**1.55**	**-0.49**	**2.43**	**0.97**	**2.90**	**2.03**	**2.01**	**10/01/2012**
Total Fixed Income Policy			1.16	0.87	2.58	2.73	3.63	2.55	2.53	
Total Alternatives/Hedge Fund	**19,880,247**	**9.7**	**0.06**	**2.31**	**0.97**	**4.52**	**-1.26**	**-0.72**	**3.41**	**10/01/2012**
90 Day T-Bills + 5%			1.43	4.11	2.78	5.46	5.30	5.21	5.16	
Total Private Equity	**15,227,645**	**7.4**								
Total Alternative Policy			3.85	16.63	10.97	22.61	15.71	14.73	N/A	
Total Real Estate	**25,250,224**	**12.3**								
NCREIF Property Index			1.75	5.11	3.32	6.97	8.79	10.17	10.43	
Total Liquid Capital	**7,876,392**	**3.8**	**0.37**	**0.12**	**0.03**	**0.14**	**0.73**	**0.68**	**0.51**	**10/01/2012**
90 Day U.S. Treasury Bill			0.20	0.37	0.30	0.44	0.29	0.20	0.15	

Returns for periods greater than one year are annualized.
Returns are expressed as percentages.

	Allocation		Performance(%)							
	Market Value $	%	QTD	FYTD	YTD	1 YR	2 YR	3 YR	Inception	Inception Date
Domestic Equity										
SSgA S&P 500 Flagship Fund	44,253,063	21.5	3.09	13.54	9.33	17.94	10.70	9.61	13.96	10/01/2012
S&P 500 Index			3.09	13.52	9.34	17.90	10.73	9.61	13.97	
Geneva Mid Cap Growth	6,524,196	3.2	7.10	13.86	14.19	14.15	6.47	8.88	9.48	09/01/2005
Russell Midcap Growth Index			4.21	11.91	11.40	17.05	7.02	7.83	8.91	
Thompson, Siegel & Walmsley SMID Value	14,759,121	7.2	2.49	N/A	5.89	N/A	N/A	N/A	13.50	11/01/2016
Russell 2500 Value Index			0.32	11.48	1.95	18.36	8.91	6.21	14.91	
International Developed Equity										
Oakmark International Value	19,899,453	9.7	6.05	23.62	16.04	40.33	6.61	3.54	11.75	03/01/2003
MSCI EAFE IMI Value (Net)			5.13	15.64	11.68	25.15	3.60	0.08	8.40	
Artisan International Growth (ARTIX)	18,426,795	9.0	9.62	9.50	19.50	13.64	0.23	0.00	8.22	01/01/2003
MSCI EAFE Growth Index (Net)			7.52	10.24	16.68	15.70	4.95	2.81	7.66	
Emerging Market Equity										
Wells Capital Emerging Markets	11,587,182	5.6	6.16	11.98	20.24	22.07	7.58	2.62	3.35	10/01/2013
MSCI Emerging Markets (Net) Index			6.27	13.50	18.43	23.75	4.32	1.07	2.97	

Returns for periods greater than one year are annualized.
Returns are expressed as percentages.

EXHIBIT E

	Allocation		Performance(%)							
	Market Value $	%	QTD	FYTD	YTD	1 YR	2 YR	3 YR	Inception	Inception Date
Fixed Income										
Goldman Sachs Asset Management	20,370,802	9.9	1.53	0.09	2.71	1.57	3.44	2.53	2.44	10/01/2012
Bloomberg Barclays U.S. Aggregate Index			1.45	-0.77	2.27	-0.31	2.79	2.48	1.99	
Vanguard Total Bond Market Index (VBTIX)	1,308,961	0.6	1.48	-1.31	1.91	-0.91	2.57	N/A	1.97	06/01/2015
Bloomberg Barclays U.S. Aggregate Index			1.45	-0.77	2.27	-0.31	2.79	2.48	2.14	
Alternatives/Hedge Funds										
Weatherlow Offshore Fund I Ltd.	12,617,611	6.1	-0.38	2.09	1.16	6.08	-0.60	1.28	5.14	02/01/2012
HFRI FOF: Diversified Index			0.30	3.35	2.20	5.18	0.03	1.29	3.30	
Standard Life Global Absolute Return	6,859,889	3.3	0.78	3.18	1.36	3.61	-0.36	1.52	1.59	02/01/2014
Balanced Index			3.57	5.59	8.16	8.79	5.82	2.86	4.73	
JP Morgan Strategic Property	**10,316,532**	**5.0**	**1.57**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**2.57**	**03/01/2017**
NCREIF Fund Index-Open End Diversified Core (EW)			1.71	5.81	3.57	8.12	10.14	11.58	3.57	
Liquid Capital										
Cash Account	7,876,392	3.8	0.37	0.12	0.03	0.21	0.38	0.29	0.24	06/01/2013
90 Day U.S. Treasury Bill			0.20	0.37	0.30	0.44	0.29	0.20	0.16	

Returns for periods greater than one year are annualized.
Returns are expressed as percentages.

Asset Allocation & Performance [Net of Fees] - Fiscal Year Returns

	Allocation		Performance(%)								
	Market Value $	%	FYTD	FY2016	FY2015	FY2014	FY2013	FY2012	FY2011	FY2010	FY2009
Total Fund	**205,364,080**	**100.0**	**7.14**	**7.90**	**-4.23**	**7.09**	**13.60**	**N/A**	**N/A**	**N/A**	**N/A**
Total Fund Policy			8.48	10.05	-1.13	8.86	11.36	N/A	N/A	N/A	N/A
Total Fund	205,364,080	100.0	7.14	7.90	-4.23	7.09	13.60	N/A	N/A	N/A	N/A
Total Fund Composite Policy Index ex Alts			7.23	10.05	-1.13	8.86	11.36	N/A	N/A	N/A	N/A
Total Domestic Equity	**65,536,380**	**31.9**	**12.43**	**11.45**	**-1.62**	**14.14**	**21.65**	**N/A**	**N/A**	**N/A**	**N/A**
S&P 500 Index			13.52	15.43	-0.61	19.73	19.34	30.20	1.14	10.16	-6.91
Total International Equity	**38,326,248**	**18.7**	**16.41**	**5.93**	**-9.28**	**2.63**	**31.38**	**N/A**	**N/A**	**N/A**	**N/A**
MSCI EAFE (Net) Index			13.00	6.52	-8.66	4.25	23.77	13.75	-9.36	3.27	3.23
Total Emerging Markets Equity	**11,587,182**	**5.6**	**14.63**	**19.95**	**-19.90**	**2.96**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
MSCI Emerging Markets (Net) Index			13.50	16.78	-19.28	4.30	0.98	16.94	-16.15	20.22	19.07
Total Fixed Income	**21,679,762**	**10.6**	**-0.49**	**6.13**	**0.77**	**4.48**	**-1.15**	**N/A**	**N/A**	**N/A**	**N/A**
Total Fixed Income Policy			0.87	7.44	0.40	4.18	-0.67	9.62	5.58	10.91	12.80
Total Alternatives/Hedge Fund	**19,880,247**	**9.7**	**2.31**	**0.50**	**-3.93**	**7.28**	**10.64**	**N/A**	**N/A**	**N/A**	**N/A**
Total Alternative Policy			16.63	21.20	4.35	25.72	13.63	N/A	N/A	N/A	N/A
Total Private Equity	**15,227,645**	**7.4**									
S&P 500 + 5%			17.75	21.20	4.35	25.72	25.31	36.71	6.20	15.67	-2.25
Total Real Estate	**25,250,224**	**12.3**									
NCREIF Property Index			5.11	9.22	13.48	11.26	11.00	11.00	16.10	5.84	-22.09
Total Liquid Capital	**7,876,392**	**3.8**									
90 Day U.S. Treasury Bill			0.37	0.18	0.03	0.04	0.08	0.05	0.13	0.12	0.38

Returns for periods greater than one year are annualized.
Returns are expressed as percentages. Mutual fund and ETF investments are reported net of fees.

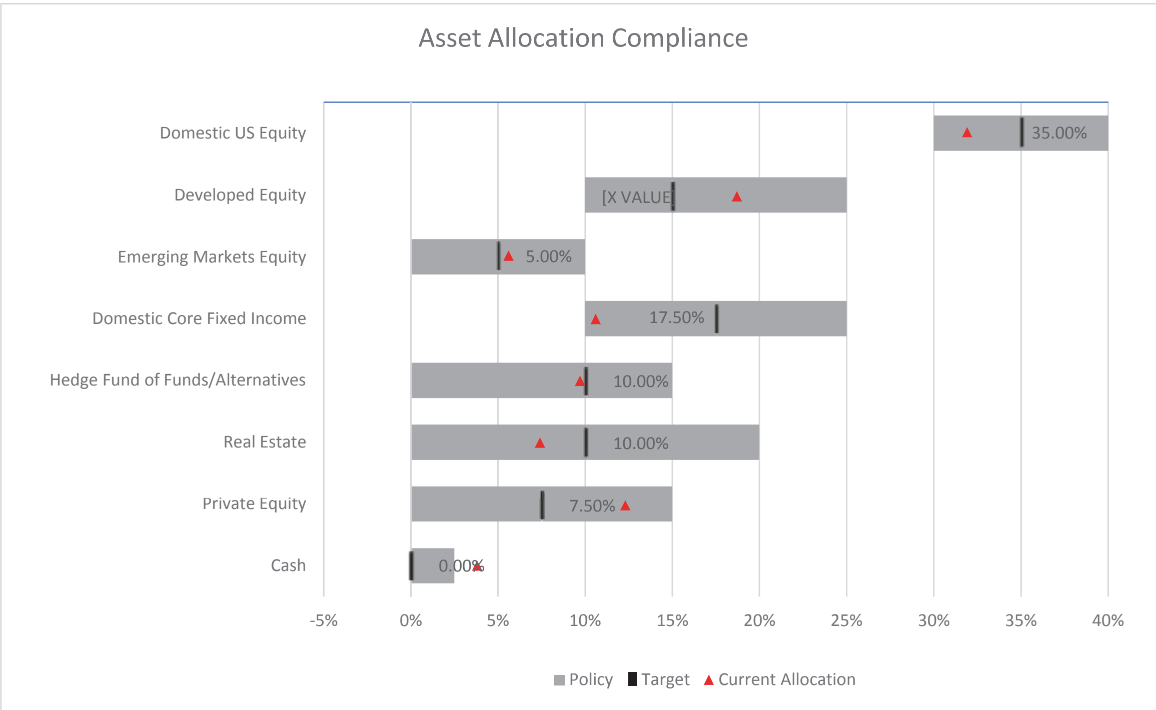
	Allocation		Performance(%)								
	Market Value $	%	FYTD	FY2016	FY2015	FY2014	FY2013	FY2012	FY2011	FY2010	FY2009
Domestic Equity											
SSgA S&P 500 Flagship Fund	44,253,063	21.5	13.54	15.47	-0.65	19.68	19.32	N/A	N/A	N/A	N/A
S&P 500 Index			13.52	15.43	-0.61	19.73	19.34	30.20	1.14	10.16	-6.91
Geneva Mid Cap Growth	6,524,196	3.2	13.86	4.70	9.26	5.03	21.94	26.37	5.61	21.46	-4.27
Russell Midcap Growth Index			11.91	11.24	1.45	14.43	27.54	26.69	0.80	18.27	-0.40
Thompson, Siegel & Walmsley SMID Value	14,759,121	7.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Russell 2500 Value Index			11.48	17.68	-2.44	9.88	27.58	32.15	-4.70	14.74	-8.33
International Developed Equity											
Oakmark International Value	19,899,453	9.7	23.62	6.24	-9.22	-0.71	42.23	15.55	-9.72	12.48	17.75
MSCI EAFE IMI Value (Net)			15.64	4.56	-11.36	5.44	25.40	12.29	-9.73	-0.97	8.82
Artisan International Growth (ARTIX)	18,426,795	9.0	9.50	5.64	-9.34	5.98	23.11	30.05	-9.95	3.27	5.01
MSCI EAFE Growth Index (Net)			10.24	9.47	-4.65	2.85	23.27	14.81	-8.79	8.41	-0.78
Emerging Market Equity											
Wells Capital Emerging Markets	11,587,182	5.6	11.98	24.68	-19.98	1.30	N/A	N/A	N/A	N/A	N/A
MSCI Emerging Markets (Net) Index			13.50	16.78	-19.28	4.30	0.98	16.94	-16.15	20.22	19.07

Returns for periods greater than one year are annualized.
Returns are expressed as percentages. Mutual fund and ETF investments are reported net of fees.

	Allocation		Performance(%)								
	Market Value $	%	FYTD	FY2016	FY2015	FY2014	FY2013	FY2012	FY2011	FY2010	FY2009
Fixed Income											
Goldman Sachs Asset Management	20,370,802	9.9	0.09	5.55	1.78	4.66	-0.37	N/A	N/A	N/A	N/A
Bloomberg Barclays U.S. Aggregate Index			-0.77	5.19	2.94	3.96	-1.68	5.16	5.26	8.16	10.56
Vanguard Total Bond Market Index (VBTIX)	1,308,961	0.6	-1.31	5.36	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bloomberg Barclays U.S. Aggregate Index			-0.77	5.19	2.94	3.96	-1.68	5.16	5.26	8.16	10.56
Alternatives/Hedge Funds											
Weatherlow Offshore Fund I Ltd.	12,617,611	6.1	2.09	1.29	1.31	7.55	11.76	N/A	N/A	N/A	N/A
HFRI FOF: Diversified Index			3.35	-0.25	0.44	6.41	6.34	2.79	-1.04	3.44	-1.01
Standard Life Global Absolute Return	6,859,889	3.3	3.18	-2.61	1.57	N/A	N/A	N/A	N/A	N/A	N/A
Balanced Index			5.59	10.96	-4.42	7.21	9.73	14.25	-0.60	6.47	4.82
JP Morgan Strategic Property	**10,316,532**	**5.0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
NCREIF Fund Index-Open End Diversified Core (EW)			5.81	10.62	14.71	12.39	12.47	11.77	18.03	6.14	-36.09
Liquid Capital											
Cash Account	7,876,392	3.8									
90 Day U.S. Treasury Bill			0.37	0.18	0.03	0.04	0.08	0.05	0.13	0.12	0.38

Returns for periods greater than one year are annualized.
Returns are expressed as percentages. Mutual fund and ETF investments are reported net of fees.

Asset Allocation Current Target vs. Policy Targets
Total Fund
as of June 30, 2017

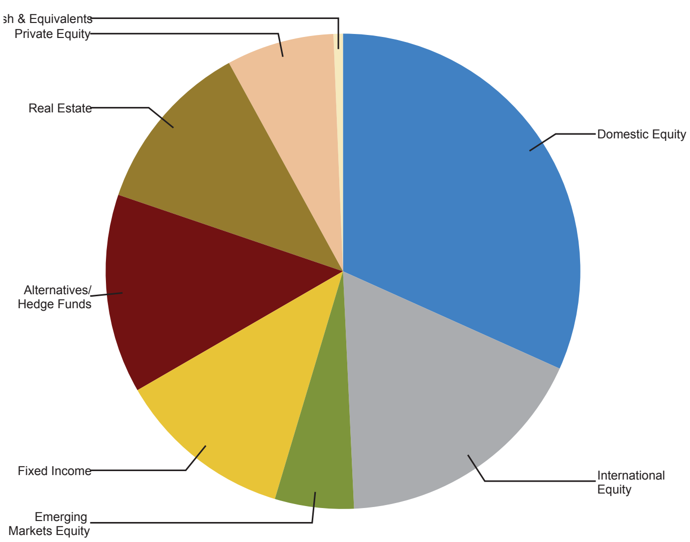


Asset Allocation	Minimum	Target	Maximum	Current Allocation
Domestic US Equity	30.0%	35.0%	40.0%	31.9%
Developed Equity	10.0%	15.0%	20.0%	18.7%
Emerging Markets Equity	0.0%	5.0%	10.0%	5.6%
Domestic Core Fixed Income	12.0%	17.5%	22.0%	10.6%
Hedge Fund of Funds/GTAA/Risk Parity	10.0%	10.0%	20.0%	9.7%
Real Estate	5.0%	10.0%	15.0%	7.4%
Private Equity	5.0%	7.5%	15.0%	12.3%
Cash	0.0%	0.0%	2.5%	3.8%

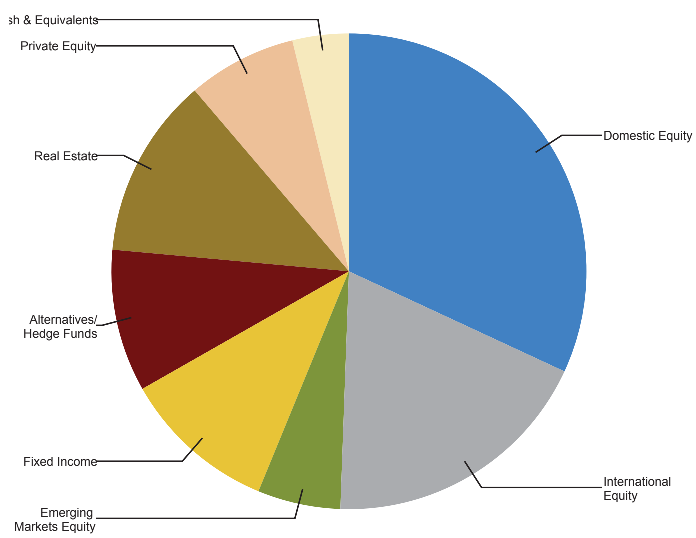
EXHIBIT E

Asset Allocation by Asset Class
Total Fund
As of June 30, 2017

March 31, 2017 : $202,785,426



June 30, 2017 : $205,364,080



Allocation (March 31, 2017)

	Market Value ($)	Allocation (%)
Domestic Equity	64,308,153	31.71
International Equity	35,584,598	17.55
Emerging Markets Equity	10,897,722	5.37
Fixed Income	24,385,867	12.03
Alternatives/Hedge Funds	27,500,645	13.56
Real Estate	23,930,255	11.80
Private Equity	14,864,868	7.33
Cash & Equivalents	1,313,318	0.65

Allocation (June 30, 2017)

	Market Value ($)	Allocation (%)
Domestic Equity	65,536,380	31.91
International Equity	38,326,248	18.66
Emerging Markets Equity	11,587,182	5.64
Fixed Income	21,679,762	10.56
Alternatives/Hedge Funds	19,880,247	9.68
Real Estate	25,250,224	12.30
Private Equity	15,227,645	7.41
Cash & Equivalents	7,876,392	3.84

GRS Retirement Consulting

EXHIBIT E

MEMORANDUM

Date: August 7, 2017

To: Bill Haines

From: Jeffrey Amrose

Re: Reducing the Amortization Period for the Unfunded Accrued Liability

The Unfunded Accrued Liability (UAL) in a pension plan is created when there are plan changes, actuarial gains or losses, assumption changes or method changes that increase the liability or decrease the assets. When these events occur there are changes in the UAL that are required, under Florida Statute, to be paid off over a period of time not to exceed 30 years.

As of September 30, 2016 the UAL for the composite Plan was $98.9 million and the annual amortization payment was $7.7 million.[1] The payment on the UAL represents about 85% of the Actuarially Determined Employer Contribution (ADEC) and the Employer Normal Cost represents the other 15%.

Currently, the Board uses a 30-year amortization period and a level percent of payroll amortization method to determine the annual payment on the UAL. The level percent of payroll method allows for lower payments in early years and higher payments in later years as the payroll of the Plan is expected to increase. The amortization payment was determined using a payroll growth assumption of 3.25% in our September 30, 2016 Actuarial Valuation Report. This assumption will be lowered by 0.25% in each of the next two valuation reports.

We recommend shortening the amortization period from 30 years to 25 or 20 years. The benefits the Plan would realize from this action are as follows:

- The quicker the current UAL is paid off, the less interest the Town would pay.
  - 30-year amortization period - $153 million in interest payments over the 30 years.
  - 25-year amortization period - $127 million in interest payments over the 25 years.
  - 20-year amortization period - $100 million in interest payments over the 20 years.
- The Plan would reduce or eliminate the number of years there are negative amortization payments. Currently, there are negative amortization payments for the first 9 years due to a combination of a 30-year amortization period and the level percent of payroll method.
- If the amortization period is shortened to 25 years [20 years], the ADEC would increase by approximately $250,000 [$735,000] in the first year and by $1.7 million [$5.0 million] over the first 5 years. The funded ratio, which was 67.9% as of September 30, 2016, would increase by approximately 1.6% for each additional $5 million contributed.
- The average working lifetime for active members is less than 30 years. A 20- or 25-year amortization period would be more aligned with the average expected future working lifetime of active members. This means that UAL created when a member is hired would be expected to be paid off by the time the member retires.

Jeffrey Amrose is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

[1] Please see the September 30, 2016 Actuarial Valuation Report, dated February 15, 2017; the March 6, 2017 Actuarial Impact Statement for General and Ocean Rescue Employees; and the August 4, 2017 Actuarial Impact Statement for Firefighters.

PROGRAM: EMPLOYEES RETIREMENT FUND (600)

Revenue and Expense Summary

	FY2015 Actual	FY2016 Actual	FY2017 Budget	FY2017 Projected	FY2018 Budget	% Change
Revenues						
Employer Contributions	5,626,652	6,876,923	8,179,695	8,087,085	9,320,235	13.94%
Transfer from Prepaid Town Contributions	750,000	-	-	-	-	0.00%
Employee Contibutions	591,047	541,133	750,000	963,708	755,000	0.67%
Gain/(Loss) on Investments	(10,314,333)	13,248,261	14,837,114	18,045,063	14,886,649	0.33%
Miscellaneous	103,396	13,310	2,500	3,309	2,500	0.00%
Interest on Investments	1,778,887	1,368,443	2,000,000	3,582,546	1,750,000	-12.50%
Transfer from General Fund	-		2,500,000	2,800,000	4,759,016	90.36%
TOTALS	(1,464,351)	22,048,070	28,269,309	33,481,711	31,473,400	11.33%
Expenses						
Salaries and Wages	32,572	51,772	52,247	51,803	52,910	1.27%
Employee Benefits	21,341	25,804	28,009	27,364	29,558	5.53%
Contractual	23,718,618	18,724,304	19,501,658	18,533,804	20,272,050	3.95%
TOTALS	23,772,531	18,801,880	19,581,914	18,612,971	20,354,518	3.95%
Total Revenues Over/(Under) Expenses	(25,236,882)	3,246,190	8,687,395	14,868,740	11,118,882	
Beginning Net Assets	216,001,372	190,764,490	194,010,680	194,010,680	208,879,420	
ENDING NET ASSETS	190,764,490	194,010,680	202,698,075	208,879,420	219,998,302	

REVENUES

Employer Contributions
The employer contributions are actuarially determined for the hybrid pension plan.

Transfer from Prepaid Town Contributions
Transfer to pay for a portion of the investment return assumption change from 8% to 7.5%.

Employee Contributions
Employee contributions are calculated based on the eligible employee’s salary multiplied by a contribution rate.

Gain/(Loss) on Investments
This line item reflects the estimated gains on the sale of equities. Projections reflect the 7.4% return assumption for the fund.

Interest on Investments
The budgeted amount represents the anticipated interest to be earned on fixed income investments.

Transfer from General Fund
Extraordinary transfer from General Fund Fund Balance to improve the unfunded status.

EXPENSES

Salaries and Wages

The proposed budget for salaries and wages includes performance based merit pay increases.

Employee Benefits

Employee benefit costs include the health insurance program and the hybrid pension plan for the FTEP assigned to this fund.

Contractual

This line item reflects anticipated pension payments and operating costs.

Town of Palm Beach Retirement System

Quarterly Financial Reports

As of September 30, 2017 (Unaudited)

Town of Palm Beach Employee's Retirement Fund
Statement of Net Assets
September 30, 2017

	September 30, 2017
Assets	
Cash (held in bank accounts)	1,490,721
Cash and cash equivalents (held in custodial accounts)	7,233,140
Total Cash and Cash Equivalents	**8,723,861**
Receivables	
Due from Brokers	515,099
Due from General Fund	-
Interest Receivable	38,609
Total Receivables	**553,709**
Investments at Market Value	
Domestic Equity	70,097,656
Fixed Income	24,207,768
Alternative	12,783,384
International Equity	53,856,663
Private Equity	17,117,997
Real Estate	23,863,282
Total Investments	**201,926,751**
Other Assets	29,608
Total Assets	**211,233,928**
Liabilities	
Accounts Payable and Accrued Expenses	103,910
Due to General Fund	2,046,315
Due to Brokers	195,363
Total Liabilities	**2,345,588**
Net Assets Held in Trust for Pension Benefits	**208,888,340**

Town of Palm Beach Retirement System
Statement of Changes in Net Assets
September 30, 2017 and September 30, 2016

	FYTD Through September 30, 2017					FYTD Through September 30, 2016				
	General	Ocean Rescue	Police Officers	Firefighters	Total	General	Ocean Rescue	Police Officers	Firefighters	Total
Additions										
Contributions										
Employer	2,414,960	163,443	2,832,558	2,676,124	8,087,085	1,896,730	150,269	2,148,761	2,192,530	6,388,290
Employee	327,592	4,865	368,777	262,473	963,707	284,732	4,585	98,091	129,585	516,993
Employee Service Purchase	-	-	-	-	-	-	-	24,140	-	24,140
Additional Transfer from Town	894,750	58,521	914,941	931,787	2,800,000				-	-
Prepaid Contribution	-	-	-	-	-	153,109	10,501	158,034	166,989	488,633
Total Contributions	**3,637,302**	**226,830**	**4,116,277**	**3,870,384**	**11,850,792**	**2,334,571**	**165,355**	**2,404,886**	**2,489,104**	**7,418,056**
Investment Income (loss)										
Net Appreciation (Depreciation) in										
Fair Value of Investments	7,665,057	378,930	6,446,616	6,120,963	20,611,566	4,926,111	243,723	4,141,960	3,934,001	13,245,795
Interest and Dividends	377,847	18,679	317,784	301,732	1,016,043	508,924	25,179	427,912	406,428	1,368,443
Other	1,230	61	1,035	983	3,309	4,950	245	4,162	3,953	13,310
Total Investment Income	**8,044,134**	**397,670**	**6,765,435**	**6,423,677**	**21,630,917**	**5,439,985**	**269,147**	**4,574,034**	**4,344,382**	**14,627,548**
Less Investment Expense	187,322	9,268	157,504	149,596	503,690	201,599	9,974	169,508	160,997	542,078
Net Investment Income	**7,856,812**	**388,403**	**6,607,932**	**6,274,081**	**21,127,227**	**5,238,386**	**259,173**	**4,404,526**	**4,183,385**	**14,085,470**
Total Additions	**11,494,114**	**615,232**	**10,724,208**	**10,144,465**	**32,978,020**	**7,572,957**	**424,528**	**6,809,412**	**6,672,489**	**21,503,526**
Deductions										
Benefit Payments	5,727,223	325,021	4,986,041	5,219,976	16,258,262	5,603,901	319,496	4,769,649	4,894,309	15,587,355
Share distributions	-	-		-	-	-	-	-	71,998	71,998
DROP Withdrawal*	191,206	-	523,447	641,134	1,355,787	553,392	-	722,657	710,658	1,986,707
Refunds of Participants Contributions	20,235	-	9,583	39,427	69,245	37,241	-	27,651	66,548	131,440
Salary and Benefits	29,441	1,455	24,761	23,510	79,168	28,851	1,427	24,259	23,041	77,578
Administrative Expense	125,725	6,220	105,712	100,404	338,061	138,784	6,866	116,692	110,833	373,175
Total Deductions	**6,093,830**	**332,697**	**5,649,543**	**6,024,452**	**18,100,522**	**6,362,169**	**327,789**	**5,660,908**	**5,877,387**	**18,228,253**
Net Increase (Decrease)	**5,400,284**	**282,535**	**5,074,665**	**4,120,013**	**14,877,497**	**1,210,788**	**96,739**	**1,148,504**	**795,102**	**3,275,273**

Town of Palm Beach, Florida

Subject Policy: Funding Policy for the Town of Palm Beach Retirement System

Effective Date: October 1, 2017

Purpose: The Mayor and Town Council along with the Retirement Board recognizes its fiduciary duty to set prudent funding policies that promote benefit security and intergenerational equity in compliance with all federal, state and local statutes, ordinances and regulations. This Funding Policy constitutes the Town's intentions that the Retirement Systems benefit obligations be funded on a systematic and actuarially sound basis in accordance with State Statutes.

This Funding Policy is intended to guide the Town, the Board members, and the plan's actuary in the discharge of their respective services to the Plan.

Policy: Each year the Town of Palm Beach will budget and contribute an amount equal to the Actuarially Determined Employer Contribution (ADEC). The contribution will be made to the Retirement Fund in quarterly installments throughout the fiscal year. The ADEC amount will be derived from the annual valuation report and determined based on the current actuarial assumptions in place each year that is adjusted by the Board and/or the Town Council.

In addition, the Town of Palm Beach will contribute additional funds over and above the ADEC during the first month of the fiscal year. These additional funds serve to reduce the Town's Unfunded Actuarially Accrued Liability (UAAL) and will be reflected as receivable contributions in the actuarial valuation that is as of the September 30^{th} immediately preceding the deposit date of the additional funds. The amount of $5,420,000 of additional funding will be paid annually until fully funded, unless reduced due to a maximum allowed under this policy and subject to said funds being budgeted annually. The total Town contribution (including the ADEC) shall be capped at $16 million (indexed after 2017 at 2.75% per annum).

It is the intent of this policy that the additional contribution will be budgeted and paid each year unless one of the following circumstances are met:

1. A force majeure, including a catastrophic storm or other unforeseen event that would prohibit the Town from meeting this obligation.
2. A financial circumstance such as a severe recession or other unforeseen financial event that would cause the Town to not be able to meet this obligation.
3. The Retirement Fund achieves the 100% actuarial funding objective.

Responsibility: It is the responsibility of the Town Manager and the Finance Director to, appropriate funds for this contribution in the Town's annual budget process.

Approval Date: October 10, 2017

Reference Document: Refer to GRS Retirement Consulting Report dated August 31, 2017 for the basis of the minimum amount.