



**Cavanaugh Macdonald**  
CONSULTING, LLC

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**GASB STATEMENT NO. 68 REPORT**

**FOR THE**

**CITY OF MIAMI GENERAL EMPLOYEES'  
AND SANITATION EMPLOYEES'  
RETIREMENT TRUST**

**CITY OF MIAMI GENERAL EMPLOYEES'  
AND SANITATION EMPLOYEES' RETIREMENT TRUST  
STAFF PENSION PLAN**

**CITY OF MIAMI GENERAL EMPLOYEES'  
AND SANITATION EMPLOYEES'  
EXCESS BENEFIT PLAN**

**PREPARED AS OF OCTOBER 1, 2018**





# Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

March 25, 2019

Board of Trustees  
City of Miami General Employees' and  
Sanitation Employees' Retirement Trust  
2901 Bridgeport Avenue  
Coconut Grove, Florida 33133

Dear Members of the Board:

Presented in this report is information to assist the City of Miami General Employees' and Sanitation Employees' Retirement Trust in meeting the requirements of the Governmental Accounting Standards Board (GASB) Statement No. 68 and to identify the information to be provided by the actuary, Cavanaugh Macdonald Consulting (CMC). The information is presented for the period ending October 1, 2018 (the Measurement Date).

GASB Statement No. 68 establishes accounting and financial reporting requirements for governmental employers who provide pension benefits to their employees through a trust.

The annual actuarial valuation used as a basis for much of the information presented in this report, including the Net Pension Liability, was performed as of October 1, 2017. The valuation was based on data, furnished by the Retirement Trust office, for active, inactive and retired members along with pertinent financial information.

The actuarial calculations were performed by qualified actuaries according to generally accepted actuarial procedures and methods. The calculations are based on the current provisions of the plans and on actuarial assumptions that are, individually and in the aggregate, internally consistent and reasonably based on the actual experience of the plans. In addition, the calculations were completed in compliance with the laws governing the plans and, in our opinion, meet the requirements of GASB 68. The undersigned 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.



Board of Trustees

March 25, 2019

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These results are only for financial reporting and may not be appropriate for funding purposes or other types of analysis. Calculations for purposes other than satisfying the requirements of GASB 67 and GASB 68 may produce significantly different results. Future actuarial results may differ significantly from the current results presented in the report due to such factors as changes in plan experience or changes in economic or demographic assumptions.

Respectfully submitted,

A handwritten signature in blue ink that reads 'Todd B. Green' followed by a horizontal flourish.

Todd Green, ASA, FCA, MAAA  
Principal and Consulting Actuary

A handwritten signature in blue ink that reads 'Micki R. Taylor'.

Micki R. Taylor, ASA, EA, FCA, MAAA  
Consulting Actuary  
Enrolled Actuary No. 17-5975

TG/mrt



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**REPORT OF THE ANNUAL GASB STATEMENT NO. 68  
REQUIRED INFORMATION FOR THE  
CITY OF MIAMI GENERAL EMPLOYEES' AND SANITATION EMPLOYEES'  
RETIREMENT TRUST  
PREPARED AS OF OCTOBER 1, 2018**

**SECTION I – INTRODUCTION**

The City of Miami General Employees' and Sanitation Employees' Retirement Trust is a single-employer defined benefit pension plan. This report, prepared as of October 1, 2018 (the Measurement Date), presents information to assist the City of Miami General Employees' and Sanitation Employees' Retirement Trust (GESE) in meeting the requirements of Governmental Accounting Standards Board Statement No. 68 (GASB 68) for the fiscal year ending September 30, 2019 (Reporting Date). Much of the material provided in this report is based on the data, assumptions and results of the annual actuarial valuation of the City of Miami General Employees' and Sanitation Employees' Retirement Trust as of October 1, 2017. The results of the valuations of the plans listed below are provided in our reports dated January 18, 2018.

- General Employees' and Sanitation Employees' Retirement Trust
- Staff Pension Plan
- Excess Benefit Plan

GASB 68 creates disclosure and reporting requirements that may or may not be consistent with the basis used for funding the plans. GASB 68 requires the employer to include Net Pension Liability (NPL) and to recognize a Pension Expense (PE) on its balance sheet.

Pension Expense includes amounts for service cost (the Normal Cost under the Entry Age Normal actuarial cost method for the year), interest on the Total Pension Liability (TPL), changes in benefit structure, recognition of increases/decreases in liability due to actuarial experience and actuarial assumption changes, and recognition of investment gains/losses. The actuarial experience and assumption change impacts are recognized over the average expected remaining service life of the plan membership as of the beginning of the measurement period, and investment gains/losses are recognized over five years. The development of the PE is shown in Section IV.

The unrecognized portions of each year's experience, assumption changes and investment gains/losses are used to develop deferred inflows and outflows, which also must be included on each employer's balance sheet. The development of the deferred inflows and outflows is shown in Section III.



Section II of this report is a summary of the principal results of the amounts under GASB 68. Section III provides the results of all the necessary calculations, presented in the order presented in GASB 68 for note disclosure. Schedule A of this report shows the Required Supplementary Information (RSI).



**SECTION II – SUMMARY OF PRINCIPAL RESULTS**

	GESE	Staff Pension Plan	Excess Benefit Plan
<b>Valuation Date (VD)</b>	September 30, 2017	September 30, 2017	September 30, 2017
<b>Measurement Date (MD)</b>	September 30, 2018	September 30, 2018	September 30, 2018
<b>Reporting Date (RD)</b>	September 30, 2019	September 30, 2019	September 30, 2019
<b>Single Equivalent Interest Rate (SEIR):</b>			
Long-Term Expected Rate of Return	7.60%	7.60%	7.60%
Municipal Bond Index Rate	N/A	N/A	4.09%
Fiscal year in which Plan's Fiduciary net position is projected to be depleted from future benefit payments for current members	N/A	N/A	N/A
Single Equivalent Interest Rate	7.60%	7.60%	4.09%
<b>Net Pension Liability:</b>			
Total Pension Liability (TPL)	\$992,241,080	\$5,228,668	\$8,020,884
Fiduciary Net Position (FNP)	<u>704,529,898</u>	<u>4,262,009</u>	<u>0</u>
Net Pension Liability (NPL = TPL - FNP)	\$287,711,182	\$966,659	\$8,020,884
FNP as a percentage of TPL	71.00%	81.51%	0.00%
<b>Pension Expense (PE)</b>	\$34,736,150	(\$104,177)	\$442,043
<b>Deferred Outflows of Resources</b>	\$68,663,121	\$87,391	\$1,165,444
<b>Deferred Inflows of Resources</b>	\$27,452,189	\$209,943	\$3,891,564



### **SECTION III – NOTES TO FINANCIAL STATEMENTS**

The material presented herein will follow the order presented in GASB 68. Paragraph numbers are provided for ease of reference.

**Paragraph 40 (c):** The data required regarding the membership of the GESE, Staff, and Excess plan members were furnished by the Retirement Trust office. The following table summarizes the membership of the system as of October 1, 2017, the valuation date.

#### **Membership**

<b>Membership as of October 1, 2017</b>	<b>GESE</b>	<b>STAFF Plan</b>	<b>Excess Benefit Plan</b>
Active Members	1,943	4	0
Inactive Members (due contribs. refund)	201	1	0
Deferred Vested Members	35	0	0
Retired Members:			
Non-disabled	1,533	7	36
Disabled	55	0	0
Beneficiaries	391	0	0
Subtotal	<u>1,979</u>	<u>7</u>	<u>36</u>
Total Members	<u>4,158</u>	<u>12</u>	<u>36</u>





**Paragraph 41:** This paragraph requires information regarding the actuarial assumptions used to measure the TPL. The TPL as of October 1, 2018 was determined based on the annual actuarial funding valuation report prepared as of October 1, 2017. The complete set of actuarial assumptions utilized in developing the TPL are outlined in Schedule C. The key actuarial assumptions are summarized below:

Inflation	3.5 percent
Salary increases, including inflation	GESE plan – 4 percent to 8.75 percent Staff plan – 6 percent Excess plan – 4 percent to 8.75 percent
Investment rate of return	GESE and Staff plans – 7.6% per year, net of pension plan investment expenses and including inflation  Excess plan – Not applicable. The plan has no assets for investment.

The rates of mortality are according to the following mortality tables.

- **Pre-Retirement Mortality**  
Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB  
Male: RP2000 Generational, 50% Combined Healthy White Collar / 50% Combined Healthy Blue Collar, Scale BB
- **Post-Retirement Healthy Mortality**  
Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB  
Male: RP2000 Generational, 50% Annuitant White Collar / 50% Annuitant Blue Collar, Scale BB
- **Post-Retirement Disabled Mortality**  
Female: RP2000, 100% Disabled Female set forward two years, no projection scale  
Male: RP2000, 100% Disabled Male, set back four years, no projection scale



**Paragraph 42 (a)-(f):** The discount rate used to measure the TPL at October 1, 2018 was 7.6 percent for the GESE and Staff plans. For the Excess plan the discount rate used to measure the TPL was 4.09 percent. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made and that employer contributions will be made in accordance with the City of Miami Ordinance and Florida Statutes.

Based on those assumptions, the GESE and Staff plan's FNP was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL and a municipal bond rate was not used in determining the discount rate. Since the Excess plan has no assets, there are no assets available to make projected future benefit payments of current plan members. The rate used, if necessary, for this purpose is the monthly average of the Bond Buyers General Obligation 20-year Municipal Bond Index Rate published weekly by The Bond Buyer ([www.bondbuyer.com](http://www.bondbuyer.com)). The municipal bond rate as of the measurement date is 4.09 percent, which was applied to all periods of projected benefit payments. As a result, the Single Equivalent Interest Rate (SEIR) is also 4.09 percent. The SEIR at the beginning of the measurement period was 3.57 percent based on the applicable municipal bond index rate of 3.57 percent as of September 30, 2017 applied to all periods of projected benefit payments.

The long-term expected rate of return on GESE and the Staff plan investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The Excess plan has no assets; therefore, the long term rate of return is not applicable.

The target asset allocation and best estimates of arithmetic rates of return, including inflation, for each major asset class as provided by the Retirement Trust's investment consultant – Southeastern Advisory Services - are summarized in the following table. The Excess plan has no assets.



	Asset Class	Target Allocation	Long-Term Expected Rate of Return, Including Inflation
GESE	Large Cap Core Stock	48.00%	8.40%
	Small Stocks	9.00%	9.25%
	International Stocks	10.00%	8.75%
	Core Bonds	30.00%	5.00%
	Cash Equivalents	3.00%	2.10%
	Total	100.00%	
Staff Pension Plan	Large Cap Core Stock	48.00%	8.40%
	Small Stocks	9.00%	9.25%
	International Stocks	10.00%	8.75%
	Core Bonds	30.00%	5.00%
	Cash Equivalents	3.00%	2.10%
	Total	100.00%	

**Paragraph 42 (g):** This paragraph requires disclosure of the sensitivity of the NPL to changes in the discount rate. The following presents the net pension liability of the GESE and Staff plans, calculated using the discount rate of 7.6 percent, as well as what the plans' net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.6 percent) or 1-percentage-point higher (8.6 percent) than the current rate. For the Excess plan the NPL is presented at the discount rate of 4.09 percent, as well as at 3.09 percent and 5.09 percent.

Net Pension Liability	1% Decrease	Current Assumption	1% Increase
GESE	\$395,196,676	\$287,711,182	\$197,221,555
STAFF	1,721,519	966,659	366,812
EXCESS	9,183,497	8,020,884	7,089,360



**Paragraph 44:** This paragraph requires a schedule of changes in the NPL. The needed information is provided in the tables below.

**CHANGES IN THE NET PENSION LIABILITY  
GESE**

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) – (b)
Balances at September 30, 2017	\$960,959,524	\$667,854,473	\$293,105,051
Changes for the year:			
Service cost	14,547,783		14,547,783
Interest	70,181,377		70,181,377
Benefit changes	0		0
Difference between expected and actual experience	21,593,105		21,593,105
Changes in assumptions	0		0
Contributions - employer		40,879,285	(40,879,285)
Contributions - employee		10,847,473	(10,847,473)
Net investment income		60,276,827	(60,276,827)
Benefit payments, including refunds of employee contributions	(75,040,709)	(75,040,709)	0
Administrative expense		(287,451)	287,451
Other changes	<u>0</u>	<u>0</u>	<u>0</u>
Net changes	<u>31,281,556</u>	<u>36,675,425</u>	<u>(5,393,869)</u>
Balances at September 30, 2018	<u>\$992,241,080</u>	<u>\$704,529,898</u>	<u>\$287,711,182</u>



**CHANGES IN THE NET PENSION LIABILITY  
STAFF PENSION PLAN**

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) – (b)
Balances at September 30, 2017	\$5,019,792	\$3,880,536	\$1,139,256
Changes for the year:			
Service cost	69,391		69,391
Interest	369,771		369,771
Benefit changes	0		0
Difference between expected and actual experience	78,475		78,475
Changes in assumptions	0		0
Contributions - employer		233,242	(233,242)
Contributions - employee		32,621	(32,621)
Net investment income		424,371	(424,371)
Benefit payments, including refunds of employee contributions	(308,761)	(308,761)	0
Administrative expense		0	0
Other changes	<u>0</u>	<u>0</u>	<u>0</u>
Net changes	<u>208,876</u>	<u>381,473</u>	<u>(172,597)</u>
Balances at September 30, 2018	<u>\$5,228,668</u>	<u>\$4,262,009</u>	<u>\$966,659</u>



**CHANGES IN THE NET PENSION LIABILITY  
EXCESS BENEFIT PLAN**

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) – (b)
Balances at September 30, 2017	\$11,152,247	\$0	\$11,152,247
Changes for the year:			
Service cost	0		0
Interest	387,640		387,640
Benefit changes	0		0
Difference between expected and actual experience	(2,359,812)		(2,359,812)
Changes in assumptions	(571,232)		(571,232)
Contributions - employer		587,959	(587,959)
Contributions - employee		0	0
Net investment income		0	0
Benefit payments, including refunds of employee contributions	(587,959)	(587,959)	0
Administrative expense		0	0
Other changes	<u>0</u>	<u>0</u>	<u>0</u>
Net changes	<u>(3,131,363)</u>	<u>0</u>	<u>(3,131,363)</u>
Balances at September 30, 2018	<u>\$8,020,884</u>	<u>\$0</u>	<u>\$8,020,884</u>

**Paragraph 45 (a):** October 1, 2017 is the actuarial valuation date upon which the TPL is based. An expected TPL is determined as of October 1, 2018 using standard roll forward techniques.

**Paragraph 45 (c):** The discount rate used to measure the TPL for the Excess plan increased from 3.57% to 4.09%.

**Paragraph 45 (d):** There have been no significant changes to the Retirement Trust benefit provisions since the prior actuarial valuation.

**Paragraph 45 (g):** See Section IV for the annual Pension Expense.



**Paragraph 45 (h):** Since certain expense items are amortized over closed periods each year, the deferred portions of these items must be tracked annually. If the amounts serve to reduce Pension Expense they are labeled deferred inflows. If they will increase Pension Expense they are labeled deferred outflows. The amortization of these amounts is accomplished on a level dollar basis, with no interest included in the deferred amounts. Experience gains/losses and the impact of changes in actuarial assumptions, if any, are amortized over the average expected remaining service life of the active and inactive members of each plan at the beginning of the measurement period. Investment gains and losses are amortized over a fixed five year period.

The following tables show the detail of the deferred outflows (inflows) for each plan.

## GESE



Increase/(Decrease) in Pension Expense Year Ending Measurement Date June 30									
Year		(Gain)/Loss	Recognition Period (Years)	2018	2019	2020	2021	2022	2023
2013-2014	Experience	\$0	4.77	\$0	\$0	\$0	\$0	\$0	\$0
2013-2014	Assumptions	\$0	4.77	\$0	\$0	\$0	\$0	\$0	\$0
2013-2014	Investment	(\$21,775,326)	5.00	(\$4,355,066)	\$0	\$0	\$0	\$0	\$0
2014-2015	Experience	(\$8,035,778)	4.91	(\$1,636,615)	(\$1,489,318)	\$0	\$0	\$0	\$0
2014-2015	Assumptions	\$0	4.91	\$0	\$0	\$0	\$0	\$0	\$0
2014-2015	Investment	\$44,374,010	5.00	\$8,874,802	\$8,874,802	\$0	\$0	\$0	\$0
2015-2016	Experience	\$8,476,546	4.96	\$1,708,981	\$1,708,981	\$1,640,622	\$0	\$0	\$0
2015-2016	Assumptions	(\$421,932)	4.96	(\$85,067)	(\$85,067)	(\$81,664)	\$0	\$0	\$0
2015-2016	Investment	(\$16,669,647)	5.00	(\$3,333,929)	(\$3,333,929)	(\$3,333,931)	\$0	\$0	\$0
2016-2017	Experience	\$10,997,320	5.40	\$2,036,541	\$2,036,541	\$2,036,541	\$2,036,541	\$814,615	\$0
2016-2017	Assumptions	\$64,620,251	5.40	\$11,966,713	\$11,966,713	\$11,966,713	\$11,966,713	\$4,786,686	\$0
2016-2017	Investment	(\$32,782,816)	5.00	(\$6,556,563)	(\$6,556,563)	(\$6,556,563)	(\$6,556,564)	\$0	\$0
2017-2018	Experience	\$21,593,105	5.55	\$3,890,650	\$3,890,650	\$3,890,650	\$3,890,650	\$3,890,650	\$2,139,855
2017-2018	Assumptions	\$0	5.55	\$0	\$0	\$0	\$0	\$0	\$0
2017-2018	Investment	(\$10,416,740)	5.00	(\$2,083,348)	(\$2,083,348)	(\$2,083,348)	(\$2,083,348)	(\$2,083,348)	\$0
				\$10,427,099	\$14,929,462	\$7,479,020	\$9,253,992	\$7,408,603	\$2,139,855

Year		Amounts Recognized in Pension Expense Through Reporting Date June 30, 2019				
		Losses (a)	(Gains) (b)	(c)	Deferred Outflows of Resources (a) – (c)	Deferred Inflows of Resources (b) – (c)
2013-2014	Experience	\$0	\$0	\$0	\$0	\$0
2013-2014	Assumptions	\$0	\$0	\$0	\$0	\$0
2013-2014	Investment	\$0	(\$21,775,326)	(\$21,775,326)	\$0	\$0
2014-2015	Experience	\$0	(\$8,035,778)	(\$6,546,460)	\$0	(\$1,489,318)
2014-2015	Assumptions	\$0	\$0	\$0	\$0	\$0
2014-2015	Investment	\$44,374,010	\$0	\$35,499,208	\$8,874,802	\$0
2015-2016	Experience	\$8,476,546	\$0	\$5,126,943	\$3,349,603	\$0
2015-2016	Assumptions	\$0	(\$421,932)	(\$255,201)	\$0	(\$166,731)
2015-2016	Investment	\$0	(\$16,669,647)	(\$10,001,787)	\$0	(\$6,667,860)
2016-2017	Experience	\$10,997,320	\$0	\$4,073,082	\$6,924,238	\$0
2016-2017	Assumptions	\$64,620,251	\$0	\$23,933,426	\$40,686,825	\$0
2016-2017	Investment	\$0	(\$32,782,816)	(\$13,113,126)	\$0	(\$19,669,690)
2017-2018	Experience	\$21,593,105	\$0	\$3,890,650	\$17,702,455	\$0
2017-2018	Assumptions	\$0	\$0	\$0	\$0	\$0
2017-2018	Investment	\$0	(\$10,416,740)	(\$2,083,348)	\$0	(\$8,333,392)
				\$18,748,061	\$77,537,923	(\$36,326,991)





## STAFF PENSION PLAN

Increase/(Decrease) in Pension Expense Year Ending Measurement Date June 30									
Year		(Gain)/Loss	Recognition Period (Years)	2018	2019	2020	2021	2022	2023
2013-2014	Experience	\$0	2.55	\$0	\$0	\$0	\$0	\$0	\$0
2013-2014	Assumptions	\$0	2.55	\$0	\$0	\$0	\$0	\$0	\$0
2013-2014	Investment	(\$121,676)	5.00	(\$24,336)	\$0	\$0	\$0	\$0	\$0
2014-2015	Experience	\$99,869	3.17	\$5,357	\$0	\$0	\$0	\$0	\$0
2014-2015	Assumptions	\$0	3.17	\$0	\$0	\$0	\$0	\$0	\$0
2014-2015	Investment	\$256,963	5.00	\$51,393	\$51,391	\$0	\$0	\$0	\$0
2015-2016	Experience	(\$686,043)	3.00	(\$228,681)	\$0	\$0	\$0	\$0	\$0
2015-2016	Assumptions	\$0	3.00	\$0	\$0	\$0	\$0	\$0	\$0
2015-2016	Investment	(\$126,712)	5.00	(\$25,342)	(\$25,342)	(\$25,344)	\$0	\$0	\$0
2016-2017	Experience	\$10,440	2.79	\$3,742	\$2,956	\$0	\$0	\$0	\$0
2016-2017	Assumptions	\$105,798	2.79	\$37,920	\$29,958	\$0	\$0	\$0	\$0
2016-2017	Investment	(\$176,308)	5.00	(\$35,262)	(\$35,262)	(\$35,262)	(\$35,260)	\$0	\$0
2017-2018	Experience	\$78,475	3.27	\$23,998	\$23,998	\$23,998	\$6,481	\$0	\$0
2017-2018	Assumptions	\$0	3.27	\$0	\$0	\$0	\$0	\$0	\$0
2017-2018	Investment	(\$131,080)	5.00	(\$26,216)	(\$26,216)	(\$26,216)	(\$26,216)	(\$26,216)	\$0
				(\$217,427)	\$21,483	(\$62,824)	(\$54,995)	(\$26,216)	\$0

		Amounts Recognized in Pension Expense				
Year		Losses (a)	(Gains) (b)	Through Reporting Date June 30, 2019 (c)	Deferred Outflows of Resources (a) – (c)	Deferred Inflows of Resources (b) – (c)
2013-2014	Experience	\$0	\$0	\$0	\$0	\$0
2013-2014	Assumptions	\$0	\$0	\$0	\$0	\$0
2013-2014	Investment	\$0	(\$121,676)	(\$121,676)	\$0	\$0
2014-2015	Experience	\$99,869	\$0	\$99,869	\$0	\$0
2014-2015	Assumptions	\$0	\$0	\$0	\$0	\$0
2014-2015	Investment	\$256,963	\$0	\$205,572	\$51,391	\$0
2015-2016	Experience	\$0	(\$686,043)	(\$686,043)	\$0	\$0
2015-2016	Assumptions	\$0	\$0	\$0	\$0	\$0
2015-2016	Investment	\$0	(\$126,712)	(\$76,026)	\$0	(\$50,686)
2016-2017	Experience	\$10,440	\$0	\$7,484	\$2,956	\$0
2016-2017	Assumptions	\$105,798	\$0	\$75,840	\$29,958	\$0
2016-2017	Investment	\$0	(\$176,308)	(\$70,524)	\$0	(\$105,784)
2017-2018	Experience	\$78,475	\$0	\$23,998	\$54,477	\$0
2017-2018	Assumptions	\$0	\$0	\$0	\$0	\$0
2017-2018	Investment	\$0	(\$131,080)	(\$26,216)	\$0	(\$104,864)
				(\$567,722)	\$138,782	(\$261,334)



## EXCESS BENEFIT PLAN

Increase/(Decrease) in Pension Expense Year Ending Measurement Date June 30									
Year	(Gain)/Loss	Recognition Period (Years)	2018	2019	2020	2021	2022	2023	
2013-2014	Experience	\$763,199	4.77	\$123,199	\$0	\$0	\$0	\$0	\$0
2013-2014	Assumptions	\$0	4.77	\$0	\$0	\$0	\$0	\$0	\$0
2013-2014	Investment	\$0	5.00	\$0	\$0	\$0	\$0	\$0	\$0
2014-2015	Experience	\$3,177,002	4.91	\$647,047	\$588,814	\$0	\$0	\$0	\$0
2014-2015	Assumptions	\$0	4.91	\$0	\$0	\$0	\$0	\$0	\$0
2014-2015	Investment	\$0	5.00	\$0	\$0	\$0	\$0	\$0	\$0
2015-2016	Experience	(\$516,393)	4.96	(\$104,111)	(\$104,111)	(\$99,949)	\$0	\$0	\$0
2015-2016	Assumptions	\$1,459,230	4.96	\$294,200	\$294,200	\$282,430	\$0	\$0	\$0
2015-2016	Investment	\$0	5.00	\$0	\$0	\$0	\$0	\$0	\$0
2016-2017	Experience	(\$1,948,114)	5.40	(\$360,762)	(\$360,762)	(\$360,762)	(\$360,762)	(\$144,304)	\$0
2016-2017	Assumptions	(\$92,094)	5.40	(\$17,054)	(\$17,054)	(\$17,054)	(\$17,054)	(\$6,824)	\$0
2016-2017	Investment	\$0	5.00	\$0	\$0	\$0	\$0	\$0	\$0
2017-2018	Experience	(\$2,359,812)	5.55	(\$425,191)	(\$425,191)	(\$425,191)	(\$425,191)	(\$425,191)	(\$233,857)
2017-2018	Assumptions	(\$571,232)	5.55	(\$102,925)	(\$102,925)	(\$102,925)	(\$102,925)	(\$102,925)	(\$56,607)
2017-2018	Investment	\$0	5.00	\$0	\$0	\$0	\$0	\$0	\$0
				\$54,403	(\$127,029)	(\$723,451)	(\$905,932)	(\$679,244)	(\$290,464)

Year		Amounts Recognized in Pension Expense				
		Losses (a)	(Gains) (b)	Through Reporting Date June 30, 2019 (c)	Deferred Outflows of Resources (a) – (c)	Deferred Inflows of Resources (b) – (c)
2013-2014	Experience	\$763,199	\$0	\$763,199	\$0	\$0
2013-2014	Assumptions	\$0	\$0	\$0	\$0	\$0
2013-2014	Investment	\$0	\$0	\$0	\$0	\$0
2014-2015	Experience	\$3,177,002	\$0	\$2,588,188	\$588,814	\$0
2014-2015	Assumptions	\$0	\$0	\$0	\$0	\$0
2014-2015	Investment	\$0	\$0	\$0	\$0	\$0
2015-2016	Experience	\$0	(\$516,393)	(\$312,333)	\$0	(\$204,060)
2015-2016	Assumptions	\$1,459,230	\$0	\$882,600	\$576,630	\$0
2015-2016	Investment	\$0	\$0	\$0	\$0	\$0
2016-2017	Experience	\$0	(\$1,948,114)	(\$721,524)	\$0	(\$1,226,590)
2016-2017	Assumptions	\$0	(\$92,094)	(\$34,108)	\$0	(\$57,986)
2016-2017	Investment	\$0	\$0	\$0	\$0	\$0
2017-2018	Experience	\$0	(\$2,359,812)	(\$425,191)	\$0	(\$1,934,621)
2017-2018	Assumptions	\$0	(\$571,232)	(\$102,925)	\$0	(\$468,307)
2017-2018	Investment	\$0	\$0	\$0	\$0	\$0
				\$2,637,906	\$1,165,444	(\$3,891,564)



The table below provides a summary of the deferred inflows and outflows as of October 1, 2018.

	GESE		Staff Plan		Excess Benefit Plan	
	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$27,976,296	\$1,489,318	\$57,433	\$0	\$588,814	\$3,365,271
Changes of assumptions	40,686,825	166,731	29,958	0	576,630	526,293
Net difference between projected and actual earnings on plan investments	0	25,796,140	0	209,943	0	0
Employer contributions subsequent to the Measurement Date *	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	<u>\$68,663,121</u>	<u>\$27,452,189</u>	<u>\$87,391</u>	<u>\$209,943</u>	<u>\$1,165,444</u>	<u>\$3,891,564</u>

\* Contributions after the measurement date will be provided by the employer.

**Paragraph 45 (i):** Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in Pension Expense as follows:

**Deferred Amounts to be Recognized in Fiscal Years Following the Reporting Date**

	GESE	Staff Plan	Excess Benefit Plan
2020	\$ 14,929,462	\$ 21,483	\$ (127,029)
2021	7,479,020	(62,824)	(723,451)
2022	9,253,992	(54,995)	(905,932)
2023	7,408,603	(26,216)	(679,244)
2024	2,139,855	0	(290,464)
Thereafter	0	0	0



## **SECTION IV – PENSION EXPENSE**

As noted earlier, the Pension Expense (PE) consists of a number of different items. GASB 68 refers to the first as Service Cost which is the Normal Cost using the Entry Age Normal (EAN) actuarial funding method. The second item is interest on the beginning of year TPL and the cash flows during the year at the 7.60% rate of return in effect as of the previous measurement date for the GESE and Staff plans and the 3.57% discount rate in effect as of the previous measurement date for the Excess plan.

The next three items refer to any changes that occurred in the TPL due to:

- benefit changes,
- actual versus expected experience or
- changes in actuarial assumptions.

Benefit changes, which are reflected immediately in PE, can be positive if there is a benefit improvement for existing plan members or negative if there is a benefit reduction. For the year ended October 1, 2017 there were no benefit changes to be recognized.

The next item to be recognized is the portion of current year changes in TPL due to actual versus expected experience for the year. The portion to recognize in the current year is determined by spreading the total change over the average expected remaining service life of the entire membership of the plan. The remaining service life of active members is the average number of years the active members are expected to remain active. For the year ended October 1, 2018 this number is 11.88 years for the GESE and Excess plans and 9.82 years for Staff. The remaining service life of the inactive members is zero. Therefore, the figure to use for the amortization is the weighted average of these two amounts, or 5.55 years for GESE and Excess and 3.27 years for Staff.

The last item under changes in TPL are changes in actuarial assumptions or other inputs. Recognition of these changes is spread over the remaining service life of the entire membership of the plan.

Member contributions for the year and projected earnings on the FNP, again at the rate used to calculate the liabilities, are subtracted from the amount determined thus far. One-fifth of current period differences between actual and projected earnings on the FNP are recognized in the pension expense.

The current year portions of previously determined experience, assumption, and earnings amounts, recognized as deferred inflows and outflows are included next. Deferred inflows are subtracted from the PE while deferred outflows are added to the PE. Finally, administrative expenses and other miscellaneous items are included.



The calculation of the Pension Expense is shown in the following table.

**Pension Expense  
Determined as of the Measurement Date**

	GESE	Staff Plan	Excess Benefit Plan
Service Cost	\$14,547,783	\$69,391	\$0
Interest on the total pension liability and cash flow	70,181,377	369,771	387,640
Current-period benefit changes	0	0	0
Expensed portion of current-period difference between expected and actual experience in the total pension liability	3,890,650	23,998	(425,191)
Expensed portion of current-period changes of assumptions	0	0	(102,925)
Member contributions	(10,847,473)	(32,621)	0
Projected earnings on plan investments	(49,860,087)	(293,291)	0
Expensed portion of current-period differences between actual and projected earnings on plan investments	(2,083,348)	(26,216)	0
Administrative expense	287,451	0	0
Other	0	0	0
Recognition of beginning deferred outflows of resources as pension expense	15,712,235	47,019	1,064,446
Recognition of beginning deferred inflows of resources as pension expense	(7,092,438)	(262,228)	(481,927)
<b>Pension Expense</b>	<u>\$34,736,150</u>	<u>(\$104,177)</u>	<u>\$442,043</u>



**SCHEDULE A**

**REQUIRED SUPPLEMENTARY INFORMATION**

**SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY**

**GESE**

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
<b>Total pension liability</b>										
Service Cost	\$14,547,783	\$12,906,853	\$10,165,542	\$9,234,478	\$8,678,294					
Interest	70,181,377	64,220,387	63,603,300	64,212,607	64,248,602					
Benefit changes	0	0	0	0	0					
Difference between expected and actual experience	21,593,105	10,997,320	8,476,546	(8,035,778)	0					
Changes of assumptions	0	64,620,251	(421,932)	0	0					
Benefit payments	(72,722,490)	(72,514,134)	(71,859,673)	(71,940,377)	(71,903,481)					
Refunds of contributions	(2,318,219)	(1,066,601)	(1,967,393)	(1,089,556)	(1,867,614)					
<b>Net change in total pension liability</b>	<b>31,281,556</b>	<b>79,164,076</b>	<b>7,996,390</b>	<b>(7,618,626)</b>	<b>(844,199)</b>					
<b>Total pension liability - beginning</b>	<b>\$960,959,524</b>	<b>\$881,795,448</b>	<b>\$873,799,058</b>	<b>\$881,417,684</b>	<b>\$882,261,883</b>					
<b>Total pension liability - ending (a)</b>	<b>\$992,241,080</b>	<b>\$960,959,524</b>	<b>\$881,795,448</b>	<b>\$873,799,058</b>	<b>\$881,417,684</b>					
<b>Plan net position</b>										
Contributions - employer	\$40,879,285	\$34,355,719	\$32,881,500	\$33,036,318	\$30,710,096					
Contributions - member	10,847,473	11,081,234	9,595,465	8,163,643	7,231,235					
Net investment income	60,276,827	78,645,544	60,237,354	1,496,395	65,272,884					
Benefit payments	(72,722,490)	(72,514,134)	(71,859,673)	(71,940,377)	(71,903,481)					
Administrative expense	(287,451)	(352,230)	(233,337)	(176,693)	(265,995)					
Refunds of contributions	(2,318,219)	(1,066,601)	(1,967,393)	(1,089,556)	(1,867,614)					
Other	0	0	0	0	0					
<b>Net change in plan net position</b>	<b>36,675,425</b>	<b>50,149,532</b>	<b>28,653,916</b>	<b>(30,510,270)</b>	<b>29,177,125</b>					
<b>Plan net position - beginning</b>	<b>\$667,854,473</b>	<b>\$617,704,941</b>	<b>\$589,051,025</b>	<b>\$619,561,295</b>	<b>\$590,384,170</b>					
<b>Plan net position - ending (b)</b>	<b>\$704,529,898</b>	<b>\$667,854,473</b>	<b>\$617,704,941</b>	<b>\$589,051,025</b>	<b>\$619,561,295</b>					
<b>Net pension liability - ending (a) - (b)</b>	<b>\$287,711,182</b>	<b>\$293,105,051</b>	<b>\$264,090,507</b>	<b>\$284,748,033</b>	<b>\$261,856,389</b>					



**SCHEDULE A**

**REQUIRED SUPPLEMENTARY INFORMATION**

**SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY**

**STAFF PENSION PLAN**

	2018	2017	2016	2015	2014	2013	2012	2011	2010
<b>Total pension liability</b>									
Service Cost	\$69,391	\$52,832	\$45,464	\$43,416	\$77,022				
Interest	369,771	320,492	365,280	353,121	345,755				
Benefit changes	0	460,951	0	0	0				
Difference between expected and actual experience	78,475	10,440	(686,043)	99,869	0				
Changes of assumptions	0	105,798	0	0	0				
Benefit payments	(301,155)	(295,460)	(319,459)	(340,299)	(311,388)				
Refunds of contributions	(7,606)	0	(13,095)	0	0				
<b>Net change in total pension liability</b>	<b>208,876</b>	<b>655,053</b>	<b>(607,853)</b>	<b>156,107</b>	<b>111,389</b>				
<b>Total pension liability - beginning</b>	<b>\$5,019,792</b>	<b>\$4,364,739</b>	<b>\$4,972,592</b>	<b>\$4,816,485</b>	<b>\$4,705,096</b>				
<b>Total pension liability - ending (a)</b>	<b>\$5,228,668</b>	<b>\$5,019,792</b>	<b>\$4,364,739</b>	<b>\$4,972,592</b>	<b>\$4,816,485</b>				
<b>Plan net position</b>									
Contributions - employer	\$233,242	\$247,449	\$269,054	\$291,087	\$291,968				
Contributions - member	32,621	24,542	19,316	19,838	23,377				
Net investment income	424,371	438,774	364,079	(15,614)	338,281				
Benefit payments	(301,155)	(295,460)	(319,459)	(340,299)	(311,388)				
Administrative expense	0	0	0	0	0				
Refunds of contributions	(7,606)	0	(13,095)	0	0				
Other	0	0	0	0	0				
<b>Net change in plan net position</b>	<b>381,473</b>	<b>415,305</b>	<b>319,895</b>	<b>(44,988)</b>	<b>342,238</b>				
<b>Plan net position - beginning</b>	<b>\$3,880,536</b>	<b>\$3,465,231</b>	<b>\$3,145,336</b>	<b>\$3,190,324</b>	<b>\$2,848,086</b>				
<b>Plan net position - ending (b)</b>	<b>\$4,262,009</b>	<b>\$3,880,536</b>	<b>\$3,465,231</b>	<b>\$3,145,336</b>	<b>\$3,190,324</b>				
<b>Net pension liability - ending (a) - (b)</b>	<b>\$966,659</b>	<b>\$1,139,256</b>	<b>\$899,508</b>	<b>\$1,827,256</b>	<b>\$1,626,161</b>				



**SCHEDULE A**

**REQUIRED SUPPLEMENTARY INFORMATION**

**SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY**

**EXCESS BENEFIT PLAN**

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
<b>Total pension liability</b>										
Service Cost	\$0	\$0	\$0	\$0	\$0					
Interest	387,640	385,137	469,106	392,659	427,362					
Benefit changes	0	0	0	0	0					
Difference between expected and actual experience	(2,359,812)	(1,948,114)	(516,393)	3,177,002	763,199					
Changes of assumptions or other inputs	(571,232)	(92,094)	1,459,230	0	0					
Benefit payments	(587,959)	(674,572)	(680,534)	(653,302)	(556,805)					
Refunds of contributions	0	0	0	0	0					
<b>Net change in total pension liability</b>	<b>(3,131,363)</b>	<b>(2,329,643)</b>	<b>731,409</b>	<b>2,916,359</b>	<b>633,756</b>					
<b>Total pension liability - beginning</b>	<b>\$11,152,247</b>	<b>\$13,481,890</b>	<b>\$12,750,481</b>	<b>\$9,834,122</b>	<b>\$9,200,366</b>					
<b>Total pension liability - ending (a)</b>	<b>\$8,020,884</b>	<b>\$11,152,247</b>	<b>\$13,481,890</b>	<b>\$12,750,481</b>	<b>\$9,834,122</b>					
<b>Plan net position</b>										
Contributions - employer	\$587,959	\$674,572	\$680,534	\$648,302	\$561,805					
Contributions - member	0	0	0	0	0					
Net investment income	0	0	0	0	0					
Benefit payments	(587,959)	(674,572)	(680,534)	(653,302)	(556,805)					
Administrative expense	0	0	0	5,000	(5,000)					
Refunds of contributions	0	0	0	0	0					
Other	0	0	0	0	0					
<b>Net change in plan net position</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>					
<b>Plan net position - beginning</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>					
<b>Plan net position - ending (b)</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>					
<b>Net pension liability - ending (a) - (b)</b>	<b>\$8,020,884</b>	<b>\$11,152,247</b>	<b>\$13,481,890</b>	<b>\$12,750,481</b>	<b>\$9,834,122</b>					





**SCHEDULE OF EMPLOYER CONTRIBUTIONS  
GESE**

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Actuarially determined employer contribution	\$40,879,285	\$34,355,719	\$32,881,500	\$33,036,318	\$30,710,096	\$25,568,193	\$25,784,849	\$20,420,995	\$24,037,093	\$23,191,828
Actual employer contributions	<u>40,879,285</u>	<u>34,355,719</u>	<u>32,881,500</u>	<u>33,036,318</u>	<u>30,710,096</u>	<u>25,568,193</u>	<u>25,784,849</u>	<u>20,420,995</u>	<u>24,037,093</u>	<u>23,191,828</u>
Annual contribution deficiency (excess)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Covered employee payroll	\$111,127,482	\$97,373,080	\$81,069,095	\$71,924,747	\$66,370,246	\$64,391,195	\$65,509,421	\$70,825,712	\$92,746,558	\$93,703,886
Actual contributions as a percentage of covered employee payroll	36.79%	35.28%	40.56%	45.93%	46.27%	39.71%	39.36%	28.83%	25.92%	24.75%

**Notes to Schedule**

Valuation Date: October 1, 2017

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry Age Normal
Amortization method	Level percent closed
Remaining amortization period	5 to 20 years
Asset valuation method	5-Year Smoothed Market
Inflation	3.50%
Salary increases	4.00 – 8.75%, including inflation
Investment rate of return	7.60%, net of pension plan investment expense, including inflation



**SCHEDULE OF EMPLOYER CONTRIBUTIONS  
STAFF PENSION PLAN**

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Actuarially determined employer contribution	\$233,242	\$247,449	\$269,054	\$291,087	\$291,968	\$219,774	\$226,793	\$164,490	\$132,542	\$159,837
Actual employer contributions	<u>233,242</u>	<u>247,449</u>	<u>269,054</u>	<u>291,087</u>	<u>291,968</u>	<u>219,774</u>	<u>226,793</u>	<u>164,490</u>	<u>133,487</u>	<u>159,837</u>
Annual contribution deficiency (excess)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$945)	\$0
Covered employee payroll	\$280,425	\$225,148	\$172,459	\$164,547	\$298,958	\$354,937	\$735,056	\$842,955	\$738,898	\$632,259
Actual contributions as a percentage of covered employee payroll	83.17%	109.91%	156.01%	176.90%	97.66%	61.92%	30.85%	19.51%	18.07%	25.28%

**Notes to Schedule**

Valuation Date: October 1, 2017

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry Age Normal
Amortization method	Level dollar amounts, closed
Remaining amortization period	1 to 19 years
Asset valuation method	3-Year Smoothed Market
Inflation	3.50%
Salary increases	6.00%, including inflation
Investment rate of return	7.60%, net of pension plan investment expense, including inflation



**SCHEDULE OF EMPLOYER CONTRIBUTIONS**  
**Excess Benefit Plan**

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Actuarially determined employer contribution	\$694,643	\$850,429	\$914,859	\$947,666	\$722,999	\$665,659	\$606,589	\$585,357	\$625,539	\$566,046
Actual employer contributions	<u>587,959</u>	<u>674,572</u>	<u>680,534</u>	<u>648,302</u>	<u>561,805</u>	<u>523,398</u>	<u>514,908</u>	<u>406,243</u>	<u>339,602</u>	<u>464,325</u>
Annual contribution deficiency (excess)	\$106,684	\$175,857	\$234,325	\$299,364	\$161,194	\$142,261	\$91,681	\$179,114	\$285,937	\$101,721
Covered employee payroll	\$111,127,482	\$97,373,080	\$81,069,095	\$71,924,747	\$66,370,246	\$64,391,195	\$65,509,421	\$70,825,712	\$92,746,558	\$93,703,886
Actual contributions as a percentage of covered employee payroll	0.53%	0.69%	0.84%	0.90%	0.85%	0.81%	0.79%	0.57%	0.37%	0.50%

**Notes to Schedule**

Valuation Date: October 1, 2017

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry Age Normal
Amortization method	Level dollar amounts, closed
Remaining amortization period	13 years
Asset valuation method	Not applicable
Inflation	3.50%
Salary increases	4.00 – 8.75%, including inflation
Investment rate of return	7.60%, net of pension plan investment expense, including inflation



Schedule B – General and Sanitation Employees’ Plan Provisions

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**SCHEDULE B**

**SUMMARY OF MAIN BENEFIT AND CONTRIBUTION PROVISIONS**

**City of Miami General Employees and Sanitation Employees  
Plan Specific Benefit Provisions**

**1. Plan Effective Date**

The original plan effective date is July 1, 1956.

**2. Membership**

An employee becomes a member upon employment unless he is a member of any other pension or retirement system supported wholly or in part by the City. An employee ceases to be a member if (i) he is absent from service for more than three years of any five consecutive year period, (ii) he withdraws his contributions, (iii) he becomes a member of any other City sponsored retirement plan, or (iv) he becomes a beneficiary or dies.

**3. Membership Service**

Service as an employee for which contributions were made.

**4. Creditable Service**

Sum of Membership Service, Prior Service, and Military Service.

**5. Compensation**

Employee’s base salary, including pick-up contributions. Compensation for pension purposes does not include the cash payment at retirement for accumulated unused leaves, such as vacation and sick leave.

**6. Member Contributions**

10% of compensation.

**7. Average Final Compensation**

Members Eligible for Retirement (meet Rule of 70 or age 55 and 10 years of service) as of September 30, 2010

Average annual compensation during highest two years of membership service. For members employed before May 24, 1984, Average Final Compensation is average annual compensation during highest one year of membership service.

All Other Members

Average annual compensation during the highest five years of the last 10 years of service. Members retiring between October 1, 2010 and on or before September 30, 2011 will be based on the average of the highest three years of membership service; for members who retire on or after October 1, 2011 and on or before September 20, 2012, it will be based on the average highest four years of membership service; and for members who retire on or after October 1, 2012, the average of the highest five years of the last 10 years of



## Schedule B – General and Sanitation Employees’ Plan Provisions

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service. In no event shall the average final compensation of any member who is employed on September 20, 2010 and retires on or after October 1, 2010 be less than the member’s final average compensation as of September 30, 2010.

### 8. Service Retirement Benefit

#### Members Eligible for Retirement as of September 30, 2010

3% of Average Final Compensation multiplied by Creditable Service.

#### All Other Members

3% of Average Final Compensation multiplied by Creditable Service as of September 30, 2010. For service after September 30, 2010, 2.25% of Average Final Compensation multiplied by Creditable Service up to 15 years; for Creditable Service in excess of 15 years but less than 20 years, 2.5% of Average Final Compensation multiplied by Creditable Service; for Creditable Service in excess of 20, 2.75% of Average Final Compensation multiplied by Creditable Service. The service retirement benefit shall be based on a member’s total Creditable Service and the benefit multiplier in effect at the time the service is earned, multiplied by average final compensation in effect at the time of retirement or separation from employment.

### 9. Normal Retirement

#### Members Eligible for Retirement as of September 30, 2010

- **Age and Service**  
Age 55 and 10 years of continuous Creditable Service.
- **Rule of 70**  
Age plus Service equaling 70 points
- **Benefit Amount**  
The basic retirement benefit.
- **Forms of Payment**

#### Normal Forms of Payment

Option 6a: Lump sum payment of member’s accumulated contributions plus a monthly service retirement benefit equal to 50% of the amount to which he would have been otherwise entitled;

Option 6b: Monthly service retirement benefit for member’s lifetime equal to 105% of the amount to which he would have been otherwise entitled;

Option 6c: Monthly service retirement benefit for member’s lifetime equal to the amount to which he was entitled, provided that, upon his death, 40% of that amount would continue to be paid to his surviving spouse for the lifetime of such spouse.

#### Actuarially Reduced Forms of Payment

Option 2 – Equal Payment Survivor Annuity: Reduced joint and 100% survivor annuity;

Option 3 – One-Half Payment Survivor Annuity: Reduced joint and 50% survivor annuity



## Schedule B – General and Sanitation Employees’ Plan Provisions

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### All Other Members

- **Age and Service**  
Age 55 and 30 years of continuous Creditable Service, or  
Age 60 and 10 years of continuous Creditable Service
- **Rule of 80**  
Age plus Service equaling 80 points
- **Benefit Amount**  
The basic retirement benefit payable as a life annuity.
- **Forms of Payment**  
Actuarially Reduced Forms of Payment  
Option 2 – Equal Payment Survivor Annuity: Reduced joint and 100% survivor annuity;  
Option 3 – One-Half Payment Survivor Annuity: Reduced joint and 50% survivor annuity  
Option 6a: Lump sum payment of member’s accumulated contributions plus a monthly service retirement benefit equal to 50% of the amount to which he would have been otherwise entitled;  
Option 6c: Monthly service retirement benefit for member’s lifetime equal to the amount to which he was entitled, provided that, upon his death, 40% of that amount would continue to be paid to his surviving spouse for the lifetime of such spouse.

### **10. Early Retirement**

- **Age**  
Any age with at least 20 years of Creditable Service.
- **Amount**  
Actuarial equivalent of the basic service retirement benefit that otherwise would have commenced at age 55. For members not eligible for retirement on October 1, 2010 the amount is the actuarial equivalent of the basic service retirement benefit payable at the earliest of the retirement eligibility dates under 9. above.
- **Form of Payment**  
Same as for Normal Retirement.

### **11. Deferred Vested Retirement**

- **Eligibility**  
Completion of 10 years of Creditable Service and provided the member does not withdraw his accumulated contributions.
- **Amount**  
The basic retirement benefit.
- **Form of Payment**  
Same as for Normal Retirement.



## Schedule B – General and Sanitation Employees’ Plan Provisions

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### 12. Ordinary Disability Retirement

- **Eligibility**  
Completion of 10 years of Creditable Service.
- **Condition**  
The member must have become totally incapacitated from the further performance of duty not as a result of an accident in the performance of duty.
- **Amount**  
The greater of 90 percent of the product of the benefit multiplier in effect at the time the service is earned multiplied by the number of years of credited service; or 30 percent of the member’s final average compensation.
- **Form of Payment**  
Life annuity.

### 13. Accidental Service Incurred Disability Retirement

- **Eligibility**  
Any member.
- **Condition**  
The Member must have become totally and permanently incapacitated for duty as a result of an accident occurring while in the performance of his duty.
- **Amount**  
66 2/3% of the greater of Average Final Compensation or final compensation.
- **Form of Payment**  
Life annuity provided that, upon the member’s death, 40% of the benefit would continue to be paid to surviving spouse for the lifetime of such spouse.

### 14. Service Incurred Disability Retirement

- **Eligibility**  
Any member.
- **Condition**  
The member must have become totally and permanently incapacitated for duty as a result of tuberculosis, hypertension, or heart disease (which was not an existing condition at the time of employment).
- **Amount**  
The greater of 90 percent of the product of the benefit multiplier in effect at the time the service is earned multiplied by the number of years of credited service; or 40 percent of the member’s final average compensation.
- **Form of Payment**  
Life annuity.



## Schedule B – General and Sanitation Employees’ Plan Provisions

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### 15. Ordinary Death Benefit

- **Eligibility**  
Completion of 3 years of Creditable Service.
- **Condition**  
The member must have died for a reason other than while in the actual performance of duty.
- **Amount**  
Lump sum payment of accumulated contributions plus 50% of compensation during the year immediately preceding death.

### 16. Surviving Spouse Benefit

- **Eligibility**  
Any member who is eligible for Normal, Early, or Rule of 70 Retirement who dies prior to actual retirement and whose spouse elects not to receive a payment of the member’s accumulated contributions.
- **Amount**  
If the member is eligible for retirement on September 30, 2010, 40% of the sum of the member’s basic retirement benefit calculated as if the member had attained age 55 and retired on date of death. In addition, the surviving spouse will receive 50% of the member’s compensation during the year immediately preceding death. If the member is not eligible for retirement on September 30, 2010, the spousal benefit will be based on the optional form of payment elected by the member. If the member has not elected an optional allowance, the spouse will receive the 40% survivor benefit actuarially reduced.
- **Form of Payment**  
Life annuity.

### 17. Accidental Death Benefit

- **Eligibility**  
Membership in the Plan.
- **Condition**  
The member must have died accidentally while in the actual performance of duty.
- **Amount**  
50% of Average Final Compensation plus a lump sum payment equal to accumulated contributions.
- **Form of Payment**  
Life annuity.

### 18. Minimum Retired Death Benefit

A retired member who dies prior to having received 12 monthly retirement payments and prior to having an optional allowance becoming effective will have a lump sum equal to the excess, if any, of 12 times the monthly payments over the actual payments received paid to his designated beneficiary.





## Schedule B – General and Sanitation Employees’ Plan Provisions

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### **19. Return of Contributions**

A member who terminates employment and is not eligible for any other benefit shall receive a refund of his accumulated contributions. If a member dies in active service, his beneficiary shall receive a refund of his accumulated contributions except as otherwise noted in this section.

### **20. Cost-of-Living Adjustment**

Effective October 1, 1998, the annual cost-of-living benefit will be 4% of the total benefit with minimum increases of \$54 per year and maximum increases of \$400 per year.

### **21. Limitation on Benefits**

Effective September 30, 2012, for members not eligible to retire on that date, member retirement allowances shall not exceed the lesser of 100 percent of the member’s average final compensation or an annual retirement allowance of \$80,000 as of the retirement or DROP entry based on the normal form of benefit in effect on the date of retirement. In no event shall the benefit limitation be less than the member’s accrued benefit on September 30, 2012 based on the normal form of benefit in effect on that date.

### **22. Deferred retirement option program ("DROP"):**

Any employee who is eligible for a service or Rule of 70 retirement is eligible to participate in the DROP. Upon election of participation, a member's creditable service, accrued benefits, and compensation calculation are frozen and the DROP payment is based on the member's average final compensation. The member's contribution and the City contribution to the retirement plan for that member ceases as no further service credit is earned. The member does not acquire additional pension credit for the purposes of the pension plan but may continue City employment for up to a maximum of 48 months. Once the maximum participation has been achieved, the participant must terminate employment.

There are two DROP programs, the Forward Drop and the BACDROP. A member can participate in both programs simultaneously. The Forward DROP is a DROP benefit equal to the regular retirement benefit the member would have received had the member separated from service and commenced the receipt of benefits from the plan. The BACDROP is a DROP benefit actuarially calculated. A member may elect to BACDROP to a date, no further back than the date of the member's retirement eligibility date. The BACDROP period must be in 12 month increments, beginning at the start of a pay period, not to exceed 48 months. The benefits for the BACDROP will then be actuarially calculated to be the equivalent to the benefit earned at the date of retirement.

An individual account is created for each participant. The Board of Trustees of the retirement plan has established, by administrative rule, a series of investment vehicles which may be chosen by the participant. Any losses incurred on account of the option selected by the participant will not be made up by the City or the GESE Trust, and will be borne by the participant only. All interest will be credited to the member's account.



## Schedule B – General and Sanitation Employees’ Plan Provisions

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### **22. Deferred retirement option program ("DROP") continued:**

Upon termination of employment, a participant may receive payment from the DROP account in a lump sum distribution or periodic payments. A participant may elect to roll over the balance to another qualified retirement plan, individual retirement account, an Internal Revenue Code Section 457 Plan, or an annuity. A participant may defer payment until the latest date authorized by Section 401(a)(9) of the Internal Revenue Code. DROP participation will not affect any other death or disability benefit provided under law or applicable collective bargaining agreement. If a participant dies before the account balances are paid out in full, the beneficiary will receive the remaining balance.

### **23. Backdrop option**

A Backdrop benefit option shall be implemented on January 1, 2013. The Backdrop option shall replace the existing DROP program. Employees who have not attained normal retirement eligibility as of January 1, 2013 or were not vested by October 1, 2010, and all employees hired on or after January 1, 2013, will be eligible for the Backdrop option but will not be eligible for the DROP. Anyone eligible for the forward DROP as of January 1, 2013 remains eligible for the forward DROP as it presently exists and anyone eligible for the forward DROP as of January 1, 2013 or vested prior to October 1, 2010, who chooses not to enter the forward DROP, remains eligible for the Backdrop.

Under the Backdrop option a member can receive a lump sum payment in addition to a monthly pension annuity. The employee chooses to take a Backdrop at the end of his employment with the City as long as he or she Backdrops to any date after he/she reaches the Normal Retirement date. If the member elects the Backdrop option, the monthly benefit payable on the member’s actual retirement date (when the member leaves City employment) is based on the benefit the member would have received had he or she left employment and retired on an earlier Normal Retirement (NR) date, referred to as the Backdrop date. In addition, the member will receive a lump sum payment equal to the accumulation of annuity payments he or she would have received during the Backdrop period had he or she elected to receive immediate pension annuity payments starting as of the Backdrop date. Annuity payments would be accumulated at the rate of 3% per year, compounded annually. The member’s Backdrop date can be any date after his or her Normal Retirement Date and the Backdrop period can be as little as one year and as long as 7 years (see below for the eligibility rules). If the member does not elect a Backdrop benefit option, his or her monthly retirement benefit will be calculated using his or her final average final compensation and creditable service as of the member’s actual employment termination date.

#### **Eligibility**

All members are eligible to elect Backdrop after completing one year of service after eligibility for Normal Retirement. A Backdrop election must be made within 10 years after becoming eligible for Normal Retirement. The maximum Backdrop period is 7 years. Members who wish to elect the Backdrop option must provide at least 8 months’ notice to separate, or a lesser period could apply if approved by the City Manager (due to special circumstances).



## Schedule B – General and Sanitation Employees’ Plan Provisions

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### **Distribution Options**

The lump sum portion of this Backdrop benefit option is payable as follows:

- Cash Option
- Rollover to another tax deferred account (e.g. IRA) Option
- Combination Cash and Rollover Option

The annuity portion (as well as the Backdrop annuity accumulation) of this Backdrop benefit option is payable according to the annuity form elected (e.g. Joint and 100% Survivor annuity).



## Schedule B – Staff Pension Plan Provisions

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### **Staff Pension Plan Plan Specific Benefit Provisions**

#### **1. Plan Effective Date**

The original plan effective date is July 1, 2001.

#### **2. Membership**

An administrative staff employee of the City of Miami GESE Retirement Trust becomes a member upon employment unless he/she is a member of any other pension or retirement system supported wholly or in part by the City. An employee ceases to be a member if (i) he/she is absent from service for more than three years of any five consecutive year period, (ii) he/she withdraws his/her contributions, (iii) he/she becomes a member of any other City-sponsored retirement Plan or (iv) he/she becomes a beneficiary or dies.

#### **3. Membership Service**

Service as an employee for which contributions were made.

#### **4. Creditable Service**

Sum of Membership Service, Prior Service, and Military Service.

#### **5. Compensation**

Employee's base salary, including pick-up contributions. Compensation for pension purposes does not include the cash payment at retirement for accumulated unused leaves, such as vacation and sick leave.

#### **6. Member Contributions**

10% of compensation.

#### **7. Average Final Compensation**

Average annual compensation during highest two years of membership service.

#### **8. Basic Retirement Benefit**

3% of Average Final Compensation multiplied by Creditable Service. In addition the benefit is increased by 5% at retirement.



## Schedule B – Staff Pension Plan Provisions

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### 9. Normal Retirement

- **Eligibility**  
10 years of continuous Creditable Service.

- **Benefit Amount**  
The basic retirement benefit.

- **Forms of Payment**

#### Normal Forms of Payment

Option 6(a): Lump sum payment of member's accumulated contributions plus a monthly service retirement benefit equal to 50% of the amount to which he would have been otherwise entitled;

Option 6(b): Monthly service retirement benefit for member's lifetime equal to 105% of the amount to which he would have been otherwise entitled;

Option 6(c): Monthly service retirement benefit for member's lifetime equal to the amount to which he was entitled, provided that, upon his death, 40% of that amount would continue to be paid to his surviving spouse for the lifetime of such spouse.

#### Actuarially Reduced Forms of Payment

Option 2 – Equal Payment Survivor Annuity: Reduced joint and 100% survivor annuity;

Option 3 – One-Half Payment Survivor Annuity: Reduced joint and 50% survivor annuity

### 10. Minimum Retired Death Benefit

A retired member who dies prior to having received 12 monthly retirement payments and prior to having an optional allowance becoming effective will have a lump sum equal to the excess, if any, of 12 times the monthly payments over the actual payments received paid to his designated beneficiary.

### 11. Return of Contributions

A member who terminates employment and is not eligible for any other benefit shall receive a refund of his accumulated contributions. If a member dies in active service, his beneficiary shall receive a refund of his accumulated contributions except as otherwise noted in this section.

### 12. Deferred retirement option program ("DROP"):

Any employee who has 10 or more years of service is eligible to participate in the DROP. Upon election of participation, a member's creditable service, accrued benefits, and compensation calculation are frozen and the DROP payment is based on the member's average final compensation. The member's contribution and the City contribution to the retirement plan for that member ceases as no further service credit is earned. The member does not acquire additional pension credit for the purposes of the pension plan but may continue City employment for up to a maximum of 48 months. Once the maximum participation has been achieved, the participant must terminate employment.



## Schedule B – Staff Pension Plan Provisions

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Upon termination of employment, a participant may receive payment from the DROP account in a lump sum distribution or periodic payments. A participant may elect to roll over the balance to another qualified retirement plan, individual retirement account, an Internal Revenue Code Section 457 Plan, or an annuity. A participant may defer payment until the latest date authorized by Section 401(a)(9) of the Internal Revenue Code. DROP participation will not affect any other death or disability benefit provided under law or applicable collective bargaining agreement. If a participant dies before the account balances are paid out in full, the beneficiary will receive the remaining balance.

### **13. Cost-of-Living Adjustment**

Effective October 1, 2016, the annual cost-of-living benefit will be 4% of the total benefit with minimum increases of \$54 per year and maximum increases of \$400 per year deferred five years from date of retirement or DROP entry date



Schedule B – Excess Benefit Plan Provisions

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**Excess Benefit Plan**  
**Plan Specific Benefit Provisions**

**1. Plan Effective Date**

The original plan effective date is October 1, 2000.

**2. Membership**

All members of the City of Miami General Employees' and Sanitation Employees' (GESE) Retirement Trust.

**3. Member Contributions**

There are no member contributions.

**4. Excess Plan Benefit**

The excess, if any, of the benefit earned under the GESE Retirement Plan without taking into account the Internal Revenue Code (IRC) Section 415 limits over the maximum benefit as limited under IRC Section 415.



## Schedule B – Summary of Plan Changes

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### **Summary of Plan Changes**

The following plan amendments have been adopted within the past few years:

#### **GESE Retirement Trust**

1. Effective October 1, 1991:
  - a) Basic retirement benefit increased from 2.00% to 2.25%.
  - b) Rule of 75 retirement was changed to Rule of 70.
  - c) Cost of COLA was added.
2. Effective October 1, 1995: Early Retirement Incentive Program was implemented.
3. Effective October 1, 1998:
  - a) Basic retirement benefit multiplier is increased from 2.25% to 3.00%.
  - b) The Longevity Supplement ceases to be available.
  - c) The COLA percentage increased from 2% to 4% and the maximum COLA benefit increase of \$200 per year is increased to \$400 per year. In addition, the maximum cumulative COLA benefit on a quarterly basis is eliminated.
4. Effective October 1, 2007: Benefit reduction factors used for optional forms of benefit payment were updated.
5. Effective October 1, 2008:
  - a) The AFSCME bargaining unit members contribute 13% of payroll for fiscal year 2009/2010.
6. Effective September 30, 2010 (the benefit changes do not apply to members eligible to retire (that is, meet Rule of 70 or age 55 and 10 years of creditable service) on that date:
  - a) Normal Retirement Date: Earlier of age 60 with 10 years of service, age 55 with 30 years of service or Rule of 80.
  - b) Benefit Formula: 2.25% per year – first 15 years; 2.50% per year – 16 to 20 years; and 2.75% per year – over 20 years. The new benefit formula applies to all future service. Members as of September 30, 2010 retain the 3% benefit percentage earned up to that date and earn the new percentage (based on years of service) for each year of service after that date.  
Example: current member with 20 years of service (but not eligible for normal retirement) would retain 60% multiplier earned prior to plan change and earn 2.75% for each year of service after the plan change.





## Schedule B – Summary of Plan Changes

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- c) **Maximum Benefit:** Maximum annual benefit at retirement is lesser of 100% of average final compensation benefit and \$100,000 per year. Any member who has accrued a benefit in excess of the maximum benefit as of September 30, 2010 will retain that benefit but will not accrue any additional benefit.
- d) **Normal Benefit Form:** Life annuity. Members may elect actuarially reduced survivor options.
- e) **Average final compensation:** average of highest five consecutive years of the last 10 years of service to be phased in over three years as follows: average final compensation for members who retire between October 1, 2010 and September 30, 2011 will be based on highest 3 consecutive year average; average final compensation for members who retire between October 1, 2011 and September 30, 2012 will be based on highest 4 consecutive year average; and average final compensation for members who retire after September 30, 2013 will be based on the highest 5 consecutive year average of the last 10 years of service. Provided, in no event will the average final compensation of any member be less than the member's average final compensation as of the date of the plan change.
- f) **Contribution rate of 13% of pay** for all members effective October 1, 2010. The 13% contribution rate applies to all members whether or not eligible to retire on September 30, 2010.

### 8. Effective October 1, 2011:

- a) **Maximum Benefit:** Effective September 30, 2012, the maximum annual benefit at retirement is \$80,000 per year. Any member who has accrued a benefit in excess of the maximum benefit as of September 30, 2012 will retain that benefit but will not accrue any additional benefit.
- b) **Contribution rate of 10% of pay** for all members effective October 1, 2012. The 10% contribution rate applies to all members whether or not eligible to retire on September 30, 2010.
- c) **BACKDROP option.** A Backdrop benefit option shall be implemented on January 1, 2013. The Backdrop option shall replace the existing DROP program. Employees who have not attained normal retirement eligibility as of January 1, 2013 or were not vested by October 1, 2010, and all employees hired on or after January 1, 2013, will be eligible for the Backdrop option but will not be eligible for the DROP. Anyone eligible for the forward DROP as of January 1, 2013 remains eligible for the forward DROP as it presently exists and anyone eligible for the forward DROP as of January 1, 2013 or vested prior to October 1, 2010, who chooses not to enter the forward DROP, remains eligible for the Backdrop.



## Schedule B – Summary of Plan Changes

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### **Staff Plan**

Miami GESE Retirement Trust Staff Pension Plan implemented a Deferred Retirement Option Plan (DROP) for any employees having 10 or more years of service, which was approved by the Board of Trustees at its meeting on March 26, 2010.

Miami GESE Retirement Trust Staff Pension Plan approved a cost of living adjustment effective October 1, 2016 equal to 4% of the total benefit with minimum increases of \$54 per year and maximum increases of \$400 per year deferred five years from date of retirement or DROP entry date.



**SCHEDULE C**

**STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

**City of Miami General Employees’ and Sanitation Employees’ Retirement Trust**

**1. Actuarial Cost Method**

The modified individual entry age normal cost method. Under this method, normal costs are determined on the individual entry age normal method. However, if the actuarial value of assets exceeds the entry age accrued liability, the individual entry age normal cost rate for the Plan shall be adjusted by the excess actuarial value of assets divided by the present value of future payroll, in order for the unfunded accrued liability to not be less than zero.

As of October 1, 1997, the unfunded actuarial accrued liability is zero. Currently, changes in actuarial assumptions and methods, plan amendments for actives and actuarial gains and losses are amortized as a level percent of pay over 20 years. Plan amendments for retirees are amortized over 15 years.

**2. Decrements**

• **Pre-Retirement Mortality**

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB  
Male: RP2000 Generational, 50% Combined Healthy White Collar / 50% Combined Healthy Blue Collar, Scale BB

• **Post-Retirement Healthy Mortality**

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB  
Male: RP2000 Generational, 50% Annuitant White Collar / 50% Annuitant Blue Collar, Scale BB

• **Post-Retirement Disabled Mortality**

Female: RP2000, 100% Disabled Female set forward two years, no projection scale  
Male: RP2000, 100% Disabled Male, set back four years, no projection scale

• **Disability**

Representative values of the assumed annual rates of disability among members in active service are set forth in the following table. 90% of disabilities are assumed to be ordinary (non-occupational), and 10% are service incurred. Of the service incurred disabilities, 50% are assumed to be accidental.

Age	Rate	Age	Rate	Age	Rate	Age	Rate
20	0.02%	30	0.05%	40	0.09%	50	0.18%
25	0.02%	35	0.07%	45	0.12%	55	0.26%



Schedule C – Actuarial Assumptions and Methods – GESE Retirement Trust

- Permanent Withdrawal from Active Status**

Representative values of the assumed annual rates of withdrawal among members in active service are set forth in the following table.

Age	Completed Years of Service					
	0	1	2	3	4	5 or more
20	13.0%	12.0%	10.0%	8.0%	7.0%	6.0%
25	13.0%	12.0%	10.0%	8.0%	7.0%	5.3%
30	13.0%	12.0%	10.0%	8.0%	7.0%	4.8%
35	12.5%	11.5%	9.5%	7.7%	7.0%	4.4%
40	11.9%	10.9%	8.9%	7.1%	6.5%	3.4%
45	11.3%	10.3%	8.3%	6.5%	5.7%	2.9%
50	10.7%	9.7%	7.7%	5.9%	4.7%	2.4%
55	10.4%	9.4%	7.4%	5.6%	4.4%	2.0%

- Retirement (non-Backdrop)**

Representative values of the assumed annual rates of retirement among members in active service are set forth in the following table. The rates for ages 45 through 54 are the assumed rates before the age of 55 under the rule of 70.

Age	Rate	Age	Rate	Age	Rate	Age	Rate	Age	Rate
45	8%	50	12%	55	23%	60	18%	65	16%
46	8%	51	12%	56	18%	61	18%	66	16%
47	8%	52	12%	57	18%	62	18%	67	16%
48	8%	53	12%	58	18%	63	18%	68	16%
49	8%	54	12%	59	18%	64	18%	69	16%
								70	100%



Schedule C – Actuarial Assumptions and Methods – GESE Retirement Trust

- **Rates of Backdrop Elections**

The valuation assumes members will elect a five-year Backdrop.

Age	Years of Service								
	10-14	15-20	21	23	25	27	29	30	35
50								15%	
51							15%	15%	
52							15%	10%	
53						15%	10%	10%	
54						15%	10%	10%	
55					18%	10%	10%	10%	25%
56					18%	10%	10%	10%	25%
57				18%	10%	10%	10%	10%	25%
58				18%	10%	10%	10%	10%	25%
59			18%	10%	10%	10%	10%	10%	25%
60	18%	18%	18%	10%	10%	10%	10%	25%	25%
61	10%	10%	10%	10%	10%	10%	25%	25%	25%
62	10%	10%	10%	10%	10%	10%	25%	25%	25%
63	10%	10%	10%	10%	10%	25%	25%	25%	25%
64	10%	10%	10%	10%	10%	25%	25%	25%	25%
65	10%	25%	25%	25%	25%	25%	25%	25%	25%
66	10%	25%	25%	25%	25%	25%	25%	25%	25%
67	10%	25%	25%	25%	25%	25%	25%	25%	16%
68	10%	25%	25%	25%	25%	25%	25%	25%	16%
69	10%	25%	25%	25%	25%	25%	25%	25%	16%
70	100%	100%	100%	100%	100%	100%	100%	100%	100%

**3. Investment Rate of Return and Discount Rate**

The assumed investment rate of return is 7.6%, including inflation.

The assumed discount rate is 7.6% per year.



Schedule C – Actuarial Assumptions and Methods – GESE Retirement Trust

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**4. Salary Increases**

Salaries are assumed to increase at a rate that varies based on years of credited service.

<b>Years of Credited Service</b>	<b>Rate of Increase</b>
<b>Less Than 1</b>	<b>8.75%</b>
<b>1</b>	<b>8.00%</b>
<b>2</b>	<b>6.50%</b>
<b>3</b>	<b>5.50%</b>
<b>4</b>	<b>5.00%</b>
<b>5</b>	<b>5.00%</b>
<b>6</b>	<b>4.50%</b>
<b>7</b>	<b>4.50%</b>
<b>8</b>	<b>4.50%</b>
<b>9</b>	<b>4.50%</b>
<b>10 or more</b>	<b>4.00%</b>

**5. Inflation**

3.5% per annum.

**6. Spouses**

80% of active members are assumed to be married with the husband 3 years older than his wife.

**7. Expenses**

The City shall provide for the non-investment expenses of the Retirement Trust. However, there may be some non-investment expenses during the Plan year which will be reimbursed by the City after the end of the year. An allowance for other expenses is made in that the interest rate assumption is net of investment expenses. The City's normal cost includes an allowance of \$250,000 per year for the payment of custodial/trustee expenses.

**8. Assets**

For purposes of GASB 68 the value of assets is equal to the market value of assets.

To calculate the actuarially determined contribution the actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected market value. The actuarial value of assets cannot be less than 80% or more than 120% of market value.



Schedule C – Actuarial Assumptions and Methods – GESE Retirement Trust

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**9. Funding Period (Pursuant to Chapter 112, Florida Statutes)**

Prior to October 1, 1997, the Gates Agreement amortization payments were paid in accordance with Schedule B of Attachment E of the Gates Agreement. As of October 1, 1997, the payment schedule was replaced. The unfunded actuarial accrued liability as of October 1, 1997 was zero. Beginning October 1, 2011, the following amortization periods apply all as level percent of pay amounts:

Benefit changes for actives	20 years
Benefit changes for retirees	15 years
Actuarial gain/loss	20 years
Change in assumptions and methods	20 years

**10. Maximum Benefit**

The valuation reflects the maximum benefit limits under Internal Revenue Code Section 415, indexed in future years at the 3.5% per year assumed rate of inflation.



Schedule C –Actuarial Assumptions and Methods - Staff Plan

**City of Miami General Employees’ and Sanitation Employees’ Staff Pension Plan**

**1. Actuarial Cost Method**

The modified individual entry age normal cost method. Under this method, normal costs are determined on the individual entry age normal method. However, if the actuarial value of assets exceeds the entry age accrued liability, the individual entry age normal cost rate for the Plan shall be adjusted by the excess actuarial value of assets divided by the present value of future payroll, in order for the unfunded accrued liability to not be less than zero.

**2. Decrements**

- **Pre-Retirement Mortality**  
Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB  
Male: RP2000 Generational, 50% Combined Healthy White Collar / 50% Combined Healthy Blue Collar, Scale BB
- **Post-Retirement Healthy Mortality**  
Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB  
Male: RP2000 Generational, 50% Annuitant White Collar / 50% Annuitant Blue Collar, Scale BB
- **Post-Retirement Disabled Mortality**  
Female: RP2000, 100% Disabled Female set forward two years, no projection scale  
Male: RP2000, 100% Disabled Male, set back four years, no projection scale
- **Disability**  
Representative values of the assumed annual rates of disability among members in active service are set forth in the following table. Disability decrements do not compete with retirement.

Age	Rate	Age	Rate	Age	Rate	Age	Rate
20	0.03%	30	0.04%	40	0.07%	50	0.17%
25	0.03%	35	0.05%	45	0.10%	55	0.25%





Schedule C – Actuarial Assumptions and Methods - Staff Plan

- **Permanent Withdrawal from Active Status**

Representative values of the assumed annual rates of withdrawal among members in active service are set forth in the following table.

Age	Completed Years of Service					
	0	1	2	3	4	5 or more
20	12.0%	10.5%	9.0%	7.2%	6.0%	5.3%
25	12.0%	10.5%	9.0%	7.2%	6.0%	4.6%
30	12.0%	10.5%	9.0%	7.2%	6.0%	4.0%
35	12.0%	10.5%	9.0%	7.2%	6.0%	3.4%
40	11.4%	9.9%	8.4%	6.6%	5.4%	2.6%
45	10.8%	9.3%	7.8%	6.0%	4.8%	2.0%
50	10.2%	8.7%	7.2%	5.4%	4.2%	1.3%
55	9.9%	8.4%	6.9%	5.1%	3.9%	1.0%

- **Retirement**

Representative values of the assumed annual rates of retirement among members in active service are set forth in the following table.

Age	Rate	Age	Rate	Age	Rate	Age	Rate	Age	Rate
45	15%	50	20%	55	30%	60	20%	65	20%
46	15%	51	20%	56	20%	61	20%	66	20%
47	15%	52	20%	57	20%	62	20%	67	20%
48	15%	53	20%	58	20%	63	20%	68	20%
49	15%	54	20%	59	20%	64	20%	69	20%
								70	100%

In addition, 20% is added to the rates in the table when the member first reaches Rule of 70 eligibility.

**3. Investment Rate of Return and Discount Rate**

The assumed investment rate of return is 7.6%, including inflation.

The assumed discount rate is 7.6% per year.



## Schedule C – Actuarial Assumptions and Methods - Staff Plan

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### **4. Salary Increases**

Salaries are assumed to increase at the rate of 6.00% per annum, including inflation. There is no assumed total active member payroll increase.

### **5. Inflation**

3.5% per annum.

### **6. Spouses**

40% of active members are assumed to be married with the husband 3 years older than his wife.

### **7. Expenses**

The City shall provide for the non-investment expenses of the Plan. However, there may be some non-investment expenses during the Plan year which will be reimbursed by the City after the end of the year. An allowance for other expenses is made in that the interest rate assumption is net of investment expenses.

### **8. Assets**

For purposes of GASB 68 the value of assets is equal to the market value of assets.

To calculate the actuarially determined contribution the actuarial value of assets is based on a moving market value averaged over three years. Each year, the actuarial asset value is projected forward at the valuation date based on actual contributions and benefit payments at the assumed interest assumption. One third of the difference between the projected actuarial value and the market value plus prior deferrals is added to the projected actuarial value. The remaining two thirds is deferred to each of the next two years as future adjustments to the actuarial value. The result cannot be greater than 120% of market value or less than 80% of market value.



Schedule C –Actuarial Assumptions and Methods - Excess Plan

**City of Miami General Employees’ and Sanitation Employees’ Excess Benefit Plan**

**1. Actuarial Cost Method**

The entry age normal cost method. Under this method, normal costs are determined on the individual entry age normal method.

For determination of the Annual Required Contribution the City contribution requirement the unfunded actuarial accrued liability is amortized over 30 years from October 1, 2000.

**2. Decrements**

- **Pre-Retirement Mortality**  
Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB  
Male: RP2000 Generational, 50% Combined Healthy White Collar / 50% Combined Healthy Blue Collar, Scale BB
- **Post-Retirement Healthy Mortality**  
Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB  
Male: RP2000 Generational, 50% Annuitant White Collar / 50% Annuitant Blue Collar, Scale BB
- **Post-Retirement Disabled Mortality**  
Female: RP2000, 100% Disabled Female set forward two years, no projection scale  
Male: RP2000, 100% Disabled Male, set back four years, no projection scale
- **Disability**  
Representative values of the assumed annual rates of disability among members in active service are set forth in the following table. 90% of disabilities are assumed to be ordinary (non-occupational), and 10% are service incurred. Of the service incurred disabilities, 50% are assumed to be accidental. Disability and retirement decrements do not compete.

Age	Rate	Age	Rate	Age	Rate	Age	Rate
20	0.02%	30	0.05%	40	0.09%	50	0.18%
25	0.02%	35	0.07%	45	0.12%	55	0.26%



Schedule C –Actuarial Assumptions and Methods - Excess Plan

- **Permanent Withdrawal from Active Status**

Representative values of the assumed annual rates of withdrawal among members in active service are set forth in the following table.

Age	Completed Years of Service					
	0	1	2	3	4	5 or more
20	13.0%	12.0%	10.0%	8.0%	7.0%	6.0%
25	13.0%	12.0%	10.0%	8.0%	7.0%	5.3%
30	13.0%	12.0%	10.0%	8.0%	7.0%	4.8%
35	12.5%	11.5%	9.5%	7.7%	7.0%	4.4%
40	11.9%	10.9%	8.9%	7.1%	6.5%	3.4%
45	11.3%	10.3%	8.3%	6.5%	5.7%	2.9%
50	10.7%	9.7%	7.7%	5.9%	4.7%	2.4%
55	10.4%	9.4%	7.4%	5.6%	4.4%	2.0%

- **Retirement (non-Backdrop)**

Representative values of the assumed annual rates of retirement among members in active service are set forth in the following table. The rates for ages 45 through 54 are the assumed rates before the age of 55 under the rule of 70.

Age	Rate	Age	Rate	Age	Rate	Age	Rate	Age	Rate
45	8%	50	12%	55	23%	60	18%	65	16%
46	8%	51	12%	56	18%	61	18%	66	16%
47	8%	52	12%	57	18%	62	18%	67	16%
48	8%	53	12%	58	18%	63	18%	68	16%
49	8%	54	12%	59	18%	64	18%	69	16%
								70	100%



Schedule C – Actuarial Assumptions and Methods - Excess Plan

- **Rates of Backdrop Elections**

The valuation assumes members will elect a five-year Backdrop.

Age	Years of Service								
	10-14	15-20	21	23	25	27	29	30	35
50								15%	
51							15%	15%	
52							15%	10%	
53						15%	10%	10%	
54						15%	10%	10%	
55					18%	10%	10%	10%	25%
56					18%	10%	10%	10%	25%
57				18%	10%	10%	10%	10%	25%
58				18%	10%	10%	10%	10%	25%
59			18%	10%	10%	10%	10%	10%	25%
60	18%	18%	18%	10%	10%	10%	10%	25%	25%
61	10%	10%	10%	10%	10%	10%	25%	25%	25%
62	10%	10%	10%	10%	10%	10%	25%	25%	25%
63	10%	10%	10%	10%	10%	25%	25%	25%	25%
64	10%	10%	10%	10%	10%	25%	25%	25%	25%
65	10%	25%	25%	25%	25%	25%	25%	25%	25%
66	10%	25%	25%	25%	25%	25%	25%	25%	25%
67	10%	25%	25%	25%	25%	25%	25%	25%	16%
68	10%	25%	25%	25%	25%	25%	25%	25%	16%
69	10%	25%	25%	25%	25%	25%	25%	25%	16%
70	100%	100%	100%	100%	100%	100%	100%	100%	100%

**3. Discount Rate**

The discount rate is 3.57% as of September 30, 2017 and 4.09% as of September 30, 2018 based on the Bond Buyer General Obligation 20-year Municipal Bond Index.



Schedule C –Actuarial Assumptions and Methods - Excess Plan

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**4. Salary Increases**

Salaries are assumed to increase at a rate that varies based on years of credited service:

<b>Years of Credited Service</b>	<b>Rate of Increase</b>
<b>Less Than 1</b>	<b>8.75%</b>
<b>1</b>	<b>8.00%</b>
<b>2</b>	<b>6.50%</b>
<b>3</b>	<b>5.50%</b>
<b>4</b>	<b>5.00%</b>
<b>5</b>	<b>5.00%</b>
<b>6</b>	<b>4.50%</b>
<b>7</b>	<b>4.50%</b>
<b>8</b>	<b>4.50%</b>
<b>9</b>	<b>4.50%</b>
<b>10 or more</b>	<b>4.00%</b>

**5. Inflation**

3.5% per annum.

**6. Spouses**

80% of active members assumed to be married with the husband 3 years older than his wife.

**7. Expenses and Payment of Benefits**

The City shall provide for all the expenses of the Plan and for all the benefit payments.

**8. Assets**

There are no plan assets.

**9. Funding Period (Illustrative City Contribution Requirement)**

The initial unfunded actuarial accrued liability as of October 1, 2000 is amortized over 30 years from that date.



## Schedule C – Actuarial Assumptions and Methods - Excess Plan

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### **10. Maximum Benefit**

The valuation of the excess benefits does not reflect the maximum benefit limits under Internal Revenue Code Section 415.

We have assumed future cost-of-living increases of 3.5% in the IRC Section 415 limits for the benefits payable from the City of Miami GESE Retirement Trust.