Audit Committee Meeting
Friday, July 23, 2021 at 8:00 a.m.
www.glwater.org

Join by Microsoft Teams
Dial-In: 313-771-3116 Conference ID: 868 434 344#
GLWA Audit Committee Meeting

AGENDA

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF AGENDA
4. APPROVAL OF MINUTES
    A. June 21, 2021 (Page 1)
    B. June 25, 2021 (Page 5)
5. PUBLIC PARTICIPATION
6. OLD BUSINESS
7. NEW BUSINESS
    A. Annual Financial Statement Update (Page 9)
    B. General Retirement System Financial Report and Annual Actuarial Valuation for Year End June 30, 2020 (City of Detroit Component II) (Page 11)
8. REPORTS
    A. CFO Report (Verbal)
    B. Monthly Financial Report for April 2021 (Page 211)
    C. Business Inclusion and Diversity Program Update (Page 212)
    D. Quarterly WRAP Report through June 30, 2021 (Page 213)
9. COMMUNICATIONS
    A. *The Procurement Pipeline* for July 2021 (Page 227)
10. LOOK AHEAD
    A. Next Audit Committee Meeting: August 27, 2021 at 8:00 a.m.
11. OTHER MATTERS
12. ADJOURNMENT

Great Lakes Water Authority

735 Randolph Street
Detroit, Michigan 48226
glwater.legistar.com

Meeting Minutes - Draft

Audit Committee

Monday, June 21, 2021	8:00 AM	Telephonic Meeting

Telephonic Meeting

Special Meeting Rescheduled from June 18, 2021, 8:00 a.m. to June 21, 2021, 8:00 a.m.

Call-In Number: 1-313-771-3116 Conference ID: 868 434 344#

1. Call To Order

Chairperson Baker called the Special Audit Committee meeting to order at 8:02 a.m.

2. Quorum Call

Present: 3 - Chairperson Brian Baker, Director Gary Brown, and Director Jaye Quadrozzi

Committee Members' Attendance Location:

Chairperson Baker (Clinton Township, Michigan)

Director Brown (Detroit, Michigan)

Director Quadrozzi (Wolcott, Wayne County, New York)

3. Approval of Agenda

Chairperson Baker requested a Motion to Approve the Agenda.

Motion By: Gary Brown
Support By: Jaye Quadrozzi
Action: Approved
The motion carried by a unanimous vote.

4. Approval of Minutes

None

5. Public Comment

There were no public comments.

6. Old Business

None

7. New Business

A. 2021-233 FY 2021 Yearend Budget Amendments

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: 7A FY 2021 Fourth Quarter Budget Amendment Report
7A1 Analysis of FY 2021 Personnel Costs

Motion By: Jaye Quadrozzi
Support By: Gary Brown
Action: Recommended for Approval to the Board of Directors
Agenda of June 23, 2021
The motion carried by a unanimous vote.

B. 2021-234 Resolution to Adopt the 96-inch Water Transmission Main (WTM) Relocation Project FY 2022 Drinking Water Revolving Fund Project Plan

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: 7B Resolution to Adopt the 96-inch WTM Relocation Project FY 2022 DWRF Project Plan

Motion By: Gary Brown
Support By: Jaye Quadrozz
Action: Recommended for Approval to the Board of Directors
Agenda of June 23, 2021
The motion carried by a unanimous vote.

C. 2021-235 Resolution to Adopt the Downriver Transmission Main Loop Project FY 2022 Drinking Water Revolving Fund Project Plan

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: 7C Resolution to Adopt the Downriver Transmission Main Loop Project FY 2022 DWRF Project Plan

Motion By: Gary Brown
Support By: Jaye Quadrozzi
Action: Recommended for Approval to the Board of Directors
Agenda of June 23, 2021
The motion carried by a unanimous vote.

D. 2021-236 Resolution to Adopt the Ypsilanti Pumping Station Improvements Project FY 2022 Drinking Water Revolving Fund Project Plan

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: 7D Resolution to Adopt the Ypsilanti Pumping Station Improvements Project FY 2022 DWRF Project Plan

Motion By: Jaye Quadrozzi
Support By: Gary Brown
Action: Recommended for Approval to the Board of Directors
Agenda of June 23, 2021
The motion carried by a unanimous vote.

E. 2021-237 Series Ordinance Authorizing Issuance and Sale of Water Supply System Revenue Bonds

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: 7E Series Ordinance Authorizing Issuance and Sale of Water Supply System Revenue Bonds

Motion By: Gary Brown
Support By: Jaye Quadrozzi
Action: Recommended for Approval to the Board of Directors
Agenda of June 23, 2021
The motion carried by a unanimous vote.

F. 2021-238 Series Ordinance Authorizing Issuance and Sale of Sewage Disposal System Revenue Bonds

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: 7F Series Ordinance Authorizing Issuance and Sale of Sewage Disposal System Revenue Bonds

Motion By: Gary Brown
Support By: Jaye Quadrozzi
Action: Recommended for Approval to the Board of Directors
Agenda of June 23, 2021
The motion carried by a unanimous vote.

G. 2021-239 Proposed Contract Amendment with Wayne Metro Services for the Water Residential Assistance Program Administration

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: 7G Proposed Contract Amendment with Wayne Metro for WRAP Program Administration

Motion By: Gary Brown
Support By: Jaye Quadrozzi
Action: Recommended for Approval to the Board of Directors Agenda of June 23, 2021
The motion carried by a unanimous vote.

8. Reports

None

9. Communications

None

10. Look Ahead

A. The next Audit Committee Meeting is scheduled to be held Friday, June 25, 2021 at 8:00 a.m.

11. Other Matters

There were no other matters.

12. Adjournment

Chairperson Baker requested a Motion to Adjourn.

Motion By: Jaye Quadrozzi
Support By: Gary Brown
Action: Approved
The motion carried by a unanimous vote.

There being no further business, the meeting was adjourned at 9:32 a.m.

Great Lakes Water Authority

735 Randolph Street
Detroit, Michigan 48226
glwater.legistar.com

Meeting Minutes - Draft

Audit Committee

Friday, June 25, 2021	8:00 AM	Telephonic Meeting

Telephonic Meeting

Call-In Number: 1-313-771-3116 Conference ID: 868 434 344#

1. Call To Order

Chairperson Baker called the meeting to order at 8:00 a.m.

2. Roll Call

Present: 3 - Chairperson Brian Baker, Director Gary Brown, and Director Jaye Quadrozzi

Committee Members' Attendance Location:

Chairperson Baker (Clinton Township, MIchigan)

Director Brown (Detroit, Michigan)

Director Quadrozzi (Wolcott, Wayne County, New York)

3. Approval of Agenda

Chairperson Baker requested a Motion to Approve the Agenda.

Motion By: Gary Brown
Support By: Jaye Quadrozzi
Action: Approved
The motion carried by a unanimous vote.

4. Approval of Minutes

2021-232 Approval of Minutes of May 21, 2021

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: 4A May 21, 2021 Audit Committee Meeting Minutes

Chairperson Baker requested a Motion to Approve the May 21, 2021 Audit Committee Meeting Minutes.

Motion By: Jaye Quadrozzi
Support By: Gary Brown
Action: Received and Filed
The motion carried by a unanimous vote.

5. Public Comment

There were no public comments.

6. Old Business

None

7. New Business

A. 2021-263 PFM Financial Advisor Presentation - Municipal Market Update and Refunding Outlook

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: 7A Financial Advisor Presentation Cover Letter
7A1 GLWA Audit Committee Presentation June 2021v8

Motion By: Gary Brown
Support By: Jaye Quadrozzi
Action: Received and Filed
The motion carried by a unanimous vote.

B. 2021-188 Bi-Annual Transformation Report

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: 7B1 Bi-Annual Transformation Report

Motion By: Jaye Quadrozzi
Support By: Gary Brown
Action: Received and Filed
The motion carried by a unanimous vote.

8. Reports

A. CFO Report (verbal)

Nicolette Bateson, Chief Financial Officer/Treasurer, provided a verbal update on the following:

- Thanked Steve Hoover (Financial Reporting Manager) on the Year-End Close and Year-End Audit
- Update on current Auditor's Contract

B. 2021-264 Monthly Financial Report for March 2021

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: 8B March 2021 Financial Report_Tagetik

Motion By: Gary Brown
Support By: Jaye Quadrozzi
Action: Received and Filed
The motion carried by a unanimous vote.

C. 2021-252 Business Inclusion and Diversity Program Update

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: 8C Business Inclusion and Diversity Program Update

Motion By: Jaye Quadrozzi
Support By: Gary Brown
Action: Received and Filed
The motion carried by a unanimous vote.

D. 2021-266 Gifts, Grants & Other Resources Report through May 31, 2021

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: 8D Gifts, Grants & Other Resources Report

Motion By: Gary Brown
Support By: Jaye Quadrozzi
Action: Received and Filed
The motion carried by a unanimous vote.

E. 2021-268 Quarterly CWIP Report FY 2021 Q3

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: 8G Quarterly CWIP Report FY 2021 Q3

Motion By: Jaye Quadrozzi
Support By: Gary Brown
Action: Received and Filed
The motion carried by a unanimous vote.

9. Communications

A. 2021-269 The Procurement Pipeline for June 2021

Sponsors: Nicolette Bateson

Indexes: Finance

Attachments: 9A The Procurement Pipeline for June 2021

Motion By: Gary Brown
Support By: Jaye Quadrozzi
Action: Received and Filed
The motion carried by a unanimous vote.

10. Look Ahead

A. The next Audit Committee Meeting is scheduled to be held Friday, July 23, 2021 at 8:00 a.m.

11. Other Matters

There were no other matters.

12. Adjournment

Chairperson Baker requested a Motion to Adjourn.

Motion By: Gary Brown
Support By: Jaye Quadrozzi
Action: Approved
The motion carried by a unanimous vote.

There being no further business, the meeting was adjourned at 9:49 a.m.

AGENDA ITEM #7A

Financial Services
Audit Committee Communication

Date: July 23, 2021

To: Great Lakes Water Authority Audit Committee

From: Steve Hoover, CPA, Financial Reporting Manager

Re: Annual Financial Audit Update

Background: Each year, the Great Lakes Water Authority (GLWA) prepares an Annual Comprehensive Financial Report (ACFR) and Schedule of Expenditures of Federal Awards (SEFA) in accordance with financial accounting standards and federal guidelines. Baker Tilly Virchow Krause LLP (Baker Tilly) has been engaged to perform the GLWA annual financial audit and issue an opinion as to whether the financial statements are fairly stated in accordance with accounting standards for fiscal years ending 2019, 2020 and 2021.

Analysis: GLWA Financial Services area has been preparing for the audit by reviewing internal control walkthrough documents, reviewing vendor statements, preparing a tentative schedule for the audit, and working to tentatively close the June 2021 reporting period. Please see the attached communication from Baker Tilly related to the timing for the release of this year's audit report.

Proposed Action: Receive and file this report.

bakertilly

Memo

To:	Great Lakes Water Authority Audit Committee
From:	Gwen Zech, Manager (Baker Tilly)
c.c.	Jodi Dobson, Partner (Baker Tilly)
Date:	July 23, 2021
Subject:	Great Lakes Water Authority Audit Status and Annual Comprehensive Financial Report (ACFR)

We have prepared this memo to communicate to the audit committee our expectations regarding the timing of fieldwork, review, draft reports and issuance of the ACFR. The schedule below summarizes expected milestone dates to meet a deadline of issuance on December 17, 2021.

	Due Date **Friday, December 17, 2021**
All audit workpapers uploaded to portal for audit	**Friday, October 1, 2021**
End of Fieldwork (Including first review)	**Friday, October 15, 2021**
Manager level financial statement review	**Friday, October 22, 2021**
Draft to Jodi Dobson, Partner	**Monday, October 25, 2021**
Draft to concurring partner for technical review	**Tuesday, October 26, 2021**
Comments returned from GLWA management to Baker Tilly*	**Friday, November 5, 2021**
Draft back from detail check by Baker Tilly	**Wednesday, November 10, 2021**
Presentation of draft to Audit Committee	**Friday, November 19, 2021**
Preparation of separate ACFRs'	**Friday, December 3, 2021**
Presentation of draft to full Board of Directors	**Thursday, December 16, 2021**
Issuance of the ACFRs'	**Friday, December 17, 2021**

* - Comments should include everyone on team in addition to various third parties (i.e. attorneys, bond advisors, etc.). Ideally, all changes would be accumulated into one file and given to us.

AGENDA ITEM #7B

Financial Services
Audit Committee Communication

Date: July 23, 2021

To: Great Lakes Water Authority Audit Committee

From: Kim Garland, CPA, Reporting & Compliance Manager

Re: General Retirement System Financial Report and Annual Actuarial Valuation for Year End June 30, 2020 (City of Detroit Component II)

Background: The Great Lakes Water Authority (GLWA) assumed financial responsibility for a portion of the legacy City of Detroit General Retirement System (GRS) pension pool assigned to the Detroit Water & Sewerage Department (DWSD) pursuant to the terms of the regional water and sewer system leases. For this reason, GLWA monitors activity related to the GRS and factors that impact that liability. While there are two plans managed by GRS, GLWA is impacted by only the Component II plan. Component II was closed as of June 30, 2014 under the City of Detroit bankruptcy plan of adjustment and is commonly referred to as the 'legacy plan'.

The following reports have been recently presented to the GRS Board and are attached.

1. Letter from the GRS external audit firm to those charged with governance for the General Retirement System of the City of Detroit for the year ending June 30, 2020
2. Audited Financial Report for the General Retirement System of the City of Detroit (dated December 7, 2020)
3. GASB Statement No. 67 and 68 Accounting and Financial Reporting of Financial Plans of Component II June 30, 2019 (dated November 18, 2020)
4. Annual Actuarial Valuation as of June 30, 2020 (dated April 8, 2021)

While the external auditor letter (#1 above) to those charged with governance did highlight areas for improvement, the overall financial audit for the GRS combined plans received an unqualified opinion for the year ending June 30, 2020. The balance of this discussion will focus on the remaining reports: the results of the Audited Financial Report (#2 above) and GASB Statement No. 67 and 68 Report (#3 above) which are based on prior year actuarial results and serve as the basis for the DWSD and GLWA pension expense and liability to be reported in FY 2021. Finally, we will address the most recent June 30, 2020 Actuarial Valuation Report (#4 above) which provides insight into future pension expense and liability expectations.

Analysis: As reported in the GASB Statement No. 67 and 68 Accounting and Financial Report, and shown below in Table 1, the June 30, 2020 Component II Net Pension Liability increased from $934.7 million to $1,102.3 million as of June 30, 2019 (approximately 18%).

Table 1: GASB Statement No. 67 and 68 Report - Executive Summary

Executive Summary
as of June 30, 2020

Actuarial Valuation Date	June 30, 2019
Measurement Date of the Net Pension Liability	June 30, 2020
Employer's Fiscal Year Ending Date (GASB No. 68 Reporting Date)	June 30, 2021
Membership	
Number of	
- Retirees and Beneficiaries	11,557
- Inactive, Nonretired Members^	2,779
- Active Members	2,793
- Total	17,129
Covered Payroll	$ 142,215,060
Net Pension Liability	
Total Pension Liability	$ 2,698,450,060
Plan Fiduciary Net Position	1,596,101,989
Net Pension Liability	$ 1,102,348,071
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	59.15%
Net Pension Liability as a Percentage of Covered Payroll	775.13%
Development of the Single Discount Rate	
Single Discount Rate	7.06%
Long-Term Expected Rate of Investment Return	7.06%
Long-Term Municipal Bond Rate*	2.45%
Last year ending June 30 in the 2021 to 2120 projection period for which projected benefit payments are fully funded	2120
Total Pension Expense	$ 134,638,261

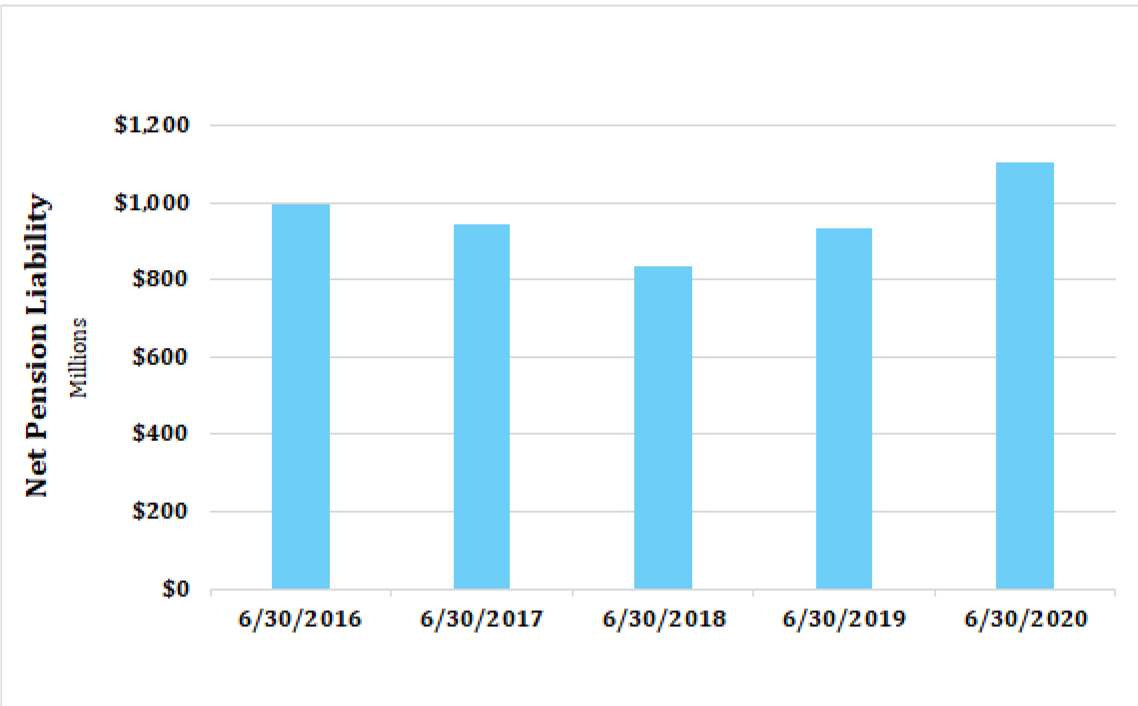
Source: GASB Statement Nos. 67 and 68 Accounting and Financial Reporting for Pension Plans of Component II, June 30, 2020 (dated November 18, 2020), p 1.

The June 30, 2020 pension liability increase is largely attributed to the decline in the actual net investment return which was -0.78% as compared to June 30, 2019 long-term expected rate of investment return of 7.38% and to the June 30, 2020 long-term expected rate of return of 7.06%. One positive outcome during the year ended June 30, 2020, was that the Annuity Saving Fund interest credits were expected to add approximately $4.1 million to the liability for 2020 fiscal year and added only $1.2 million - down significantly from the $9.0 million added in 2019.

GLWA Great Lakes Water Authority

The GASB Statement No. 67 and 68 Accounting and Financial Report also provides a breakdown by unit as shown below in Table 2. The DWSD unit reflects the combined DWSD and GLWA pension obligation. On June 30, 2020, the DWSD Net Pension Liability increased from $189.1 million to $205.3 million as of June 30, 2019 (approximately 8.6%). This increase is a result of benefit payments and net investment losses exceeding contributions. Chart 1 below highlights the increasing trend of the overall net pension liability since GLWA was formed in 2016.

Chart 1: General Retirement System Net Pension Liability Trend



Source: GASB Statement Nos. 67 and 68 Accounting and Financial Reporting for GRS Pension Plans of Component II. Multiple Years.

Table 2: GASB Statement No. 67 and 68 Report - DWSD Changes in Net Pension Liability

Schedule of Changes in Net Pension Liability and Related Ratios Current Period Fiscal Year Ended June 30, 2020*

A. Total Pension Liability	General	DOT	DWSD	Library	Total
1. Service Cost	$ -	$ -	$ -	$ -	$ -
2. Interest on the Total Pension Liability	104,816,536	29,873,108	51,613,228	6,585,373	192,888,245
3. Changes of benefit terms	-	-	-	-	-
4. Difference between expected and actual experience of the Total Pension Liability	(30,326,230)	(7,081,563)	(14,601,904)	(3,827,052)	(55,836,749)
5. Changes of assumptions	36,247,728	10,660,029	18,638,831	2,130,947	67,677,535
6. Benefit payments, including refunds of employee contributions	(132,654,182)	(36,085,474)	(64,151,306)	(6,990,690)	(239,881,652)
7. Net change in Total Pension Liability	$ (21,916,148)	$ (2,633,900)	$ (8,501,151)	$ (2,101,422)	$ (35,152,621)
8. Total Pension Liability – Beginning	1,486,605,353	422,827,398	731,441,884	92,728,046	2,733,602,681
9. Total Pension Liability – Ending	**$ 1,464,689,205**	**$ 420,193,498**	**$ 722,940,733**	**$ 90,626,624**	**$ 2,698,450,060**
B. Plan Fiduciary Net Position					
1. Contributions – employer	$ 2,765,012	$ 109,988	$ 42,900,000	$ 2,500,000	$ 48,275,000
2. Contributions – employee	-	-	-	-	-
3. Net investment income	(8,166,686)	(263,790)	(5,140,956)	(430,679)	(14,002,111)
4. Benefit payments, including refunds of employee contributions	(132,654,182)	(36,085,474)	(64,151,306)	(6,990,690)	(239,881,652)
5. Pension Plan Administrative Expense	(2,015,612)	(229,941)	-	(105,720)	(2,351,273)
6. Other	2,515,215	812,432	1,681,568	145,983	5,155,198
7. Net change in Plan Fiduciary Net Position	$ (137,556,253)	$ (35,656,785)	$ (24,710,694)	$ (4,881,106)	$ (202,804,838)
8. Plan Fiduciary Net Position – Beginning	999,718,654	175,923,049	542,380,874	80,884,250	1,798,906,827
9. Plan Fiduciary Net Position – Ending	**$ 862,162,401**	**$ 140,266,264**	**$ 517,670,180**	**$ 76,003,144**	**$ 1,596,101,989**
C. Net Pension Liability	**$ 602,526,804**	**$ 279,927,234**	**$ 205,270,553**	**$ 14,623,480**	**$ 1,102,348,071**
D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability	**58.86%**	**33.38%**	**71.61%**	**83.86%**	**59.15%**
E. Covered-employee payroll	**$ 91,411,851**	**$ 21,445,920**	**$ 18,517,661**	**$ 10,839,628**	**$ 142,215,060**
F. Net Pension Liability as a percentage of covered-employee payroll	**659.13%**	**1305.27%**	**1108.51%**	**134.91%**	**775.13%**

**Totals may not add due to rounding.*

Source: GASB Statement Nos. 67 and 68 Accounting and Financial Reporting for Pension Plans of Component II, June 30, 2020 (dated November 18, 2020), p 22.

On January 24, 2017, under a pension reporting agreement, the parties agreed that 70.3 percent of the liability allocated to the DWSD unit in Table 2 above was attributable to GLWA regional operations and 29.7 percent to DWSD. This is the basis of allocation for future pension contributions with additional breakdowns within each entity between Water and Sewer funds summarized as follows in Table 3 below and applied to the current June 30, 2020 liability.

Table 3: Liability Allocation Between GLWA and DWSD as of June 30, 2020

Entity	Percent	Liability Allocation	
DWSD - Water	17.80%	$	36,538,158
DWSD - Sewer	11.90%	$	24,427,196
GLWA - Water	25.20%	$	51,728,179
GLWA - Sewer	45.10%	$	92,577,019
	100.00%	**$**	**205,270,553**

Through June 30, 2023, as part of the City of Detroit bankruptcy plan of adjustment (POA), GLWA and DWSD contribute $2.5 million annually towards administrative expenses for the combined plan. GRS allocates 60% of overall administrative expenses to Component II and 40% to Component I. A breakdown of overall pension administrative expense is provided in the GRS Annual Financial Report Statement of Changes in Fiduciary Net Position by Division shown in Table 4 below.

Table 4: Statement of Changes in Fiduciary Net Position by Division

Combined Plan for the General Retirement System of the City of Detroit

Statement of Changes in Fiduciary Net Position by Division - Legacy Defined Benefit Plan

For the Year Ended June 30, 2020

	DWSD Subdivisions			General Retirement System - Divisions			
	GLWA	DWSD-R	DWSD - Division Total (all DWSD Subdivisions)	General Division	DOT	Library	Total - General Retirement System (all Divisions)
Beginning Net Position - July 1, 2019	$ 381,293,752	$ 161,087,122	$ 542,380,874	$ 999,718,653	$ 175,923,050	$ 80,884,250	$ 1,798,906,827
Additions:							
Investment income:							
Interest and dividends	12,739,986	5,382,327	18,122,313	33,575,031	6,230,743	2,783,425	60,711,512
Net decrease in fair value of investments	(14,703,837)	(6,212,005)	(20,915,842)	(37,529,688)	(5,839,188)	(2,889,779)	(67,174,497)
Net unrealized loss on collateralized securities	(26,031)	(10,997)	(37,028)	(66,441)	(10,337)	(5,116)	(118,922)
Investment related expenses	(1,624,211)	(686,188)	(2,310,399)	(4,145,588)	(645,008)	(319,209)	(7,420,204)
Net investment loss	(3,614,093)	(1,526,863)	(5,140,956)	(8,166,686)	(263,790)	(430,679)	(14,002,111)
Contributions:							
Employer contributions:							
Originating from DWSD:							
Regular pension contribution	30,158,700	12,741,300	42,900,000	-	-	-	42,900,000
Contribution for administrative expenses	1,757,500	742,500	2,500,000	-	-	-	2,500,000
DWSD transfer to General Division for administrative expenses	(1,757,500)	(742,500)	(2,500,000)	2,500,000	-	-	-
Total contributions originating from DWSD	30,158,700	12,741,300	42,900,000	2,500,000	-	-	45,400,000
Contributions from other divisions	-	-	-	-	-	2,500,000	2,500,000
Total employer contributions	30,158,700	12,741,300	42,900,000	2,500,000	-	2,500,000	47,900,000
Foundation for Detroit's Future	-	-	-	265,012	109,988	-	375,000
Total contributions	30,158,700	12,741,300	42,900,000	2,765,012	109,988	2,500,000	48,275,000
ASF recoupment interest	1,232,489	520,696	1,753,185	3,206,507	1,120,576	134,275	6,214,543
Other income	401,684	169,702	571,386	1,025,721	156,559	75,876	1,829,542
Total additions - net	28,178,780	11,904,835	40,083,615	(1,169,446)	1,123,333	2,279,472	42,316,974
Deductions:							
Member refunds and withdrawals	929,164	392,549	1,321,713	3,742,539	4,100,326	179,477	9,344,055
Retirees' pension and annuity benefits	44,169,204	18,660,389	62,829,593	128,911,643	31,985,148	6,811,213	230,537,597
General and administrative expenses	498,373	210,550	708,923	1,306,689	229,941	105,720	2,351,273
ASF Recoupment Write-off	202,316	85,474	287,790	1,062,282	349,489	11,196	1,710,757
Transfer of general and administrative expenses to General Division	(498,373)	(210,550)	(708,923)	708,923	-	-	-
Transfer to Component I (Transition Cost)	249,715	105,498	355,213	654,730	115,215	52,972	1,178,130
Total deductions	45,550,399	19,243,910	64,794,309	136,386,806	36,780,119	7,160,578	245,121,812
Net Decrease in Net Position Held in Trust	(17,371,619)	(7,339,075)	(24,710,694)	(137,556,252)	(35,656,786)	(4,881,106)	(202,804,838)
End of Year Net Position Restricted for Pensions - June 30, 2020	$ 363,922,133	$ 153,748,047	$ 517,670,180	$ 862,162,401	$ 140,266,264	$ 76,003,144	$ 1,596,101,989

Source: Audited Financial Report for the General Retirement System of the City of Detroit (dated December 7, 2020), p 40.

Of the $2.5 million paid by GLWA and DWSD, $709 thousand is attributable to the current year and is transferred to the General Division. The remainder is recorded as a prepaid toward future administrative expenses after June 30, 2024 summarized in Table 5 below.

Table 5: Schedule of DWSD/GLWA Contributions Toward Administrative Expenses

Combined Plan for the General Retirement System of the City of Detroit

Schedule of DWSD/GLWA Contributions Toward Administrative Expenses as Compared to Actual DWSD/GLWA Allocable Administrative Expenses

For the Year Ended June 30, 2020

	DWSD Division Total	
	GLWA	DWSD-R
Amount Paid in Excess of Administrative Expenses Otherwise Allocable - June 30, 2019	$ 4,371,116	$ 1,846,691
DWSD/GLWA contribution for administrative expenses in accordance with plan of adjustment and bankruptcy order	1,757,500	742,500
Administrative expenses otherwise allocable to DWSD/GLWA	(498,373)	(210,550)
Cumulative Amount Paid in Excess of Administrative Expenses Otherwise Allocable - June 30, 2020	**$ 5,630,243**	**$ 2,378,641**

Source: Audited Financial Report for the General Retirement System of the City of Detroit (dated December 7, 2020), p 41.

Under the POA, GLWA and DWSD make combined, Component II annual pension payments of $45.4 million, of which $2.5 million is specific to administrative expenses discussed previously. Shifting focus to the current June 30, 2020 Actuarial Valuation, those fixed payments are reduced after June 30, 2023 per the POA into what is referred to as a tail liability. The actual amount of this remaining, unfunded liability will vary based upon plan performance and forecasts of the outstanding liability at that time.

The June 30, 2020 Actuarial Report estimates the **total** Component II unfunded actuarial accrued liability (UAAL) for June 30, 2021 to be $1,147.8 million with $184.1 million as the DWSD-GLWA share of that liability.

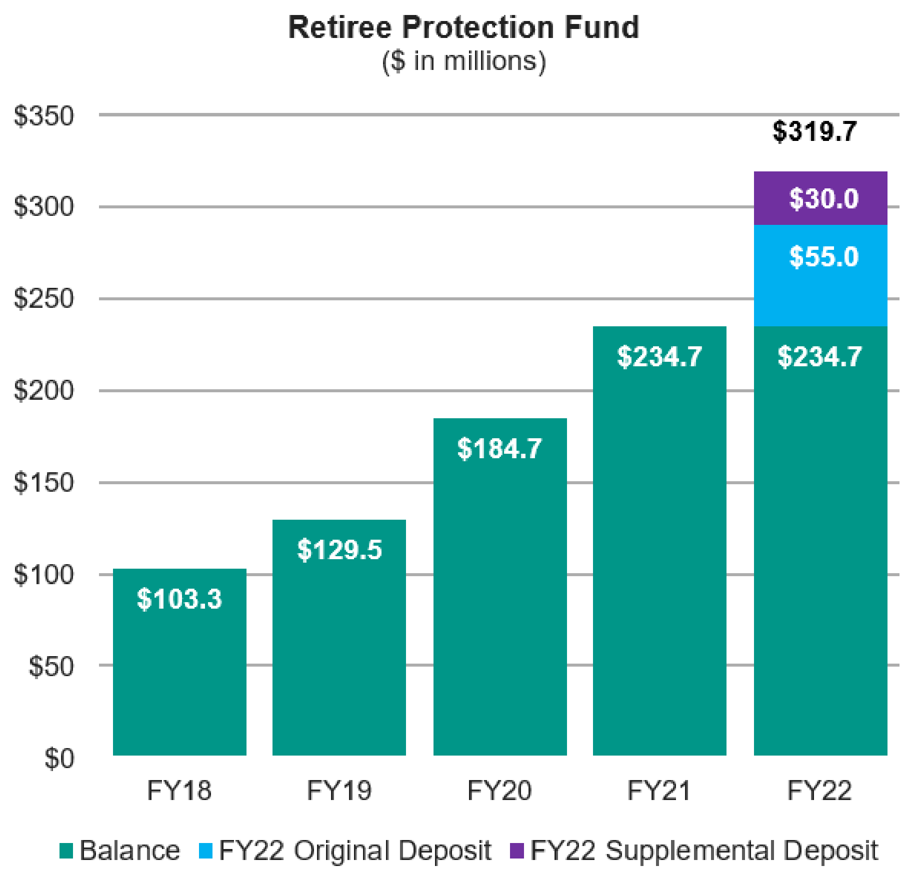
The City of Detroit is not making current contributions to the pension but rather to a Retiree Protection Fund (RPF). The City of Detroit Bankruptcy Plan of Adjustment provided a 10-year deferment of City pension contributions to allow for investments in the City and to improve City Services. The settlement of pension matters during the bankruptcy, known as the "Grand Bargain" provided for pension contributions from several sources. Pursuant to meeting requirements of the Plan of Adjustment, the City of Detroit created an irrevocable Internal Revenue Code Section 115 trust fund exclusively for the purpose of satisfying its legacy pension obligations and adopted a funding strategy for its frozen legacy pension plan obligations to set aside $335 million in funding by FY 2023. The City identified specific goals of the trust to:

- Buildup RPF assets plus investment earnings to be used to partially offset annual required legacy pension contributions that resume in FY 2024.
- Allow the City to begin gradually building up its budget capacity now to meet the annual required contributions in the future.
- Review the funding plan annually based on updated information and revise if needed during the annual budget and planning process. *

**Cited from the FY 2020 Long-Term Forecast Report, March 29, 2019*

A breakdown of the balance in the RPF by year is shown in Chart 2 below. The chart was taken directly from the Adopted FY 2021-2022 Budget created by the State of Michigan's Financial Review Commission and confirms the current value of that fund as of June 28, 2021.

Chart 2: City of Detroit Retiree Protection Fund Balance



Source: Financial Review Commission FY 2022 Budget, June 28, 2021.
https://detroitmi.gov/sites/detroitmi.localhost/files/migrated_docs/financial-reports/FY2022MayorBudgetPresentationtoCouncil03052021FINAL.pdf

Funded ratio is a metric used to measure a plan's ability to cover future obligations based on projected contributions. The Component II funded ratio for the period ending June 30, 2020 is 58.76% down from 62.77% the prior year with best practice benchmarks being a 75% minimum and 100% maximum funded ratio. This declining ratio implies investment earnings and contributions are not keeping pace with distributions.

As noted above, the POA established a funding policy for GLWA and DWSD. Adoption of a funding policy by the City of Detroit is necessary to reduce the UAAL moving forward. Two funding options available to the City are proposed in the Actuarial Report which ultimately impact the amount of the tail liability that GLWA and DWSD will be responsible for beginning in FY 2024. Table 6 below summarizes this UAAL by unit and provides a range for annual contribution requirements beginning in FY 2024.

Table 6: Unfunded Actuarial Accrued Liability (UAAL)

Unfunded Actuarial Accrued Liability (UAAL)

	($ Millions)				
	General City	D.O.T.	DWSD	Library	System Total
UAAL as of June 30, 2020	$ 608.6	$ 282.4	$ 212.6	$ 16.7	$ 1,120.4
Anticipated POA Contribution (EOY)	2.8	0.1	42.9	2.5	48.3
Anticipated Expenses@	-	-	-	-	-
Interest at 6.75%	41.1	19.1	14.4	1.1	75.6
Projected UAAL as of June 30, 2021	$ 646.9	$ 301.4	$ 184.1	$ 15.4	$ 1,147.8
Anticipated POA Contributions for FY 2022	**2.8**	**0.1**	**42.9**	**2.5**	**48.3**
Estimated Employer Contributions for FY 2024 #!					
Alternate 1:Level Principal	**$ 73.8**	**$ 34.6**	**$ 12.2**	**$ 1.2**	**$ 121.8**
Alternate 2:Level Dollar##	**$ 57.5**	**$ 27.0**	**$ 9.5**	**$ 1.0**	**$ 94.9**

Totals may not add due to rounding.

@ In accordance with the Plan Document, the mandated 6.75% rate of return is net of investment and administrative expenses.

 # Assuming the POA contributions through 2023 and a 30-year closed amortization thereafter. When determining the Fiscal Year 2024 illustrative amounts, only the total contributions and the DWSD contributions are stipulated in the POA. The remaining amounts were allocated to the other groups as described on page 2. A different allocation would result in different results by group.

! Total employer contributions, including amounts paid by employer but funded from other sources as required by POA.

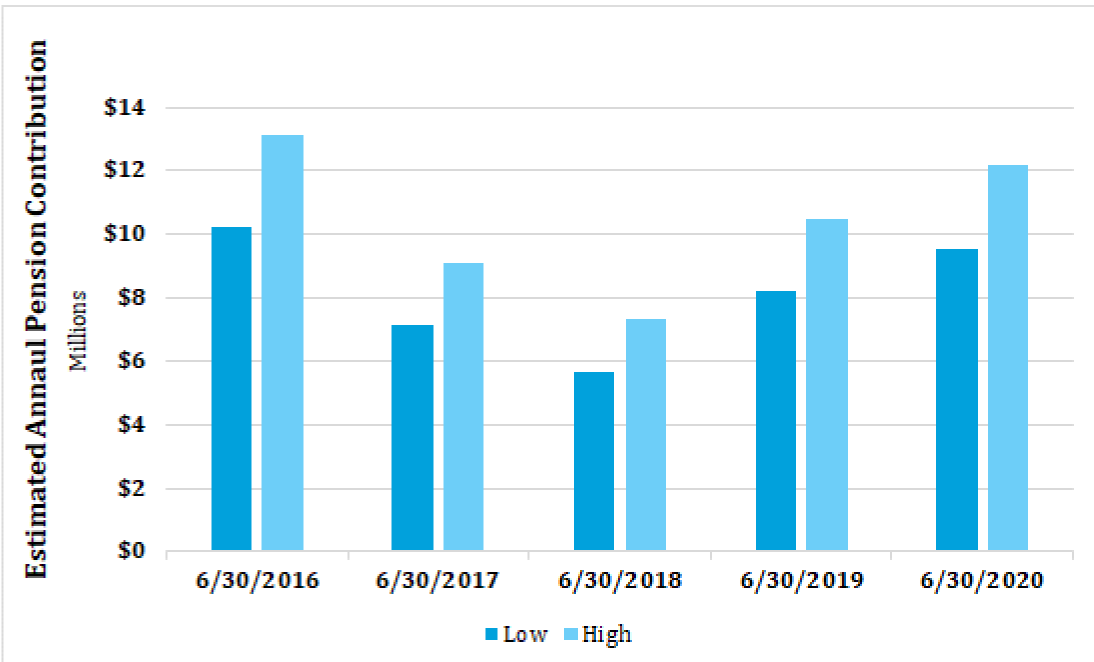
Contributions at this level may not be sufficient to prevent fund depletion prior to satisfaction of all benefit payments. This scenario is included at System's request (see page 5).

Source: Annual Actuarial Valuation of Component II, June 30, 2020 (dated April 8, 2021), p 3.

GLWA
Great Lakes Water Authority

Budget Impact: Based on the funding policy ultimately adopted by the City of Detroit, the annual contribution for GLWA and DWSD tail liability combined ranges from $9.5 million to $12.2 million. The prior year actuarial placed that range between $8.2 and $10.5 million for the fiscal years beginning July 1, 2023. Until that time, GLWA and DWSD will continue to make the combined $42.9 million contribution per year plus an additional $2.5 million per year in administrative expenses as stipulated in the POA and discussed in the analysis section of this report. The upward trend in this tail liability is highlighted in Chart 3 below.

Chart 3: GLWA and DWSD Fiscal Year 2023 and Beyond – Projected Pension Tail Liability



Source: Annual Actuarial Valuation of Component II, June 30, 2020 (dated April 8, 2021), p 3.

GLWA will continue to monitor and report on Component II activity, specifically as it relates to funding policy actions taken by the City of Detroit. GLWA has also engaged an independent actuarial firm to review the current valuation and the impacts of any funding policy actions taken by the City and GRS. The firm and GLWA staff will report to the GLWA Audit Committee on these findings when they become available. In addition, GLWA staff continues to attend the monthly GRS Board meetings to monitor and report on the current events and impact on the Plan's investment assets.

Proposed Action: Receive and file this report.

Plante & Moran, PLLC
27400 Northwestern Highway
P.O. Box 307
Southfield, MI 48037-0307
Tel: 248.352.2500
Fax: 248.352.0018
plantemoran.com

December 7, 2020

To the Board of Trustees and the
Investment Committee
General Retirement System
of the City of Detroit

We have audited the financial statements of the Combined Plan for the General Retirement System of the City of Detroit (the "Combined Plan") as of and for the year ended June 30, 2020 and have issued our report thereon dated December 7, 2020. Professional standards require that we provide you with the following information related to our audit, which is divided into the following sections:

Section I - Internal Control Related Matters Identified in an Audit. This includes any deficiencies we observed in the Combined Plan's accounting principles or internal control that we believe are significant. Current auditing standards require us to formally communicate on an annual basis matters we note about the Combined Plan's accounting policies and internal control. The Combined Plan has been diligent in its efforts to remedy many of the previously identified internal control deficiencies. Due to its efforts, the condition of the accounting records at the start of the audit continues to improve.

Section II - Required Communications with Those Charged with Governance. This includes information that current auditing standards require independent auditors to communicate to those individuals charged with governance. We will report this information annually to the board of trustees and the investment committee of the Combined Plan.

Section III - Other Recommendations and Related Information. This presents recommendations related to internal control, procedures, and other matters noted during our current year audit. These comments are offered in the interest of helping the Combined Plan in its efforts toward continuous improvement, not just in the areas of internal control and accounting procedures, but also in operational or administrative efficiency and effectiveness.

We would like to take this opportunity to thank the Combined Plan's staff for the cooperation and courtesy extended to us during our audit. The assistance and professionalism of the Combined Plan's staff is invaluable and greatly appreciated.

This report is intended solely for the use of the board of trustees, the investment committee, and management of the General Retirement System of the City of Detroit and is not intended to be and should not be used by anyone other than these specified parties.

To the Board of Trustees and the
Investment Committee
General Retirement System
of the City of Detroit

December 7, 2020

We welcome any questions you may have regarding the following communications, and we would be willing to discuss these or any other questions that you might have at your convenience.

Very truly yours,

Plante & Moran, PLLC

Michelle Watterworth

Michelle M. Watterworth, CPA

Ali Hijazi

Ali H. Hijazi, CPA

Spencer Tawa, CPA

Section I - Internal Control Related Matters Identified in an Audit

In planning and performing our audit of the financial statements of the Combined Plan as of and for the year ended June 30, 2020, in accordance with auditing standards generally accepted in the United States of America, we considered the Combined Plan's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Combined Plan's internal control. Accordingly, we do not express an opinion on the effectiveness of the Combined Plan's internal control.

Our consideration of internal control was for the limited purpose described in the preceding paragraph and was not designed to identify all deficiencies in internal control that might be significant deficiencies or material weaknesses, and, therefore, material weaknesses or significant deficiencies may exist that were not identified. However, as discussed below, we identified certain deficiencies in internal control that we consider to be material weaknesses.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis.

A material weakness is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis.

We consider the following deficiencies in the Combined Plan's internal control to be material weaknesses:

Controls Over the Combined Plan's Census Data and Actuarial Valuation Process (Repeat Finding)

Background: The Combined Plan has to accumulate and transmit voluminous member data to the actuary. The Combined Plan accumulates member data based on information from the City of Detroit, Michigan (the "City"), as well as data the Combined Plan independently obtains. The Combined Plan relies on data it extracts from the City of Detroit, Michigan's databases primarily for active and deferred members. The Combined Plan is responsible for data on retirees, as it will obtain additional information when a member commences retirement.

The actuary then uses this information to prepare the actuarial valuation, which impacts the calculation of the annual required contribution (ARC) and the actuarial accrued liability (AAL) for funding purposes and, under GASB Statement No. 67, impacts the total pension liability disclosed in the Combined Plan's financial statements.

It is key that the information provided to the actuary is complete and accurate in order to ensure that the funding levels, AAL, and disclosures under GASB Statement No. 67, including the total pension liability, also are accurate.

Section I - Internal Control Related Matters Identified in an Audit (Continued)

Issues and recommendations:

The Combined Plan has had issues with the accuracy of the member data for many years. That said, this year, while the types of errors and number of samples with errors were similar to last year, the magnitude of those errors rose significantly. The two areas where we noticed the most significant issues, and, therefore, where the Combined Plan should likely prioritize its efforts, are with active pay and the Combined Plan's procedures surrounding the death audits.

Issue	Recommendation
Active Pay Amount (Component I) - The actuary uses an active member's current pay in its calculation of determining a member's estimated future benefit. Based on our testing, we noted discrepancies in almost every sample we tested between the pay information provided to the actuary and pay information from the City. The discrepancies ranged from 8 - 56 percent of pay, with the majority having more significant differences. Given Component I is a relatively new plan, the impact on the total pension liability due to these significant differences, while not material today, will only increase as Component I continues to grow. Therefore, if the Combined Plan doesn't address these issues going forward, it is possible that the impact will become material.	• Continue to work with the City to obtain the proper payroll data. • Consider performing sample testing on the data.
Death Audit (Components I and II) - During the year, based on previous audit comments, the Combined Plan performed a death audit on the deferred members list sent to the actuary; however, due to a miscommunication, this list of individuals who have passed away was not reflected in the actuarial data, despite containing over 400 names of individuals who should no longer be factored into the valuation. After this error was discovered during the audit process, the actuary revised the calculation of the net pension liability, resulting in a decrease in this figure of $33.2 million.	• Ensure data obtained in the death audits is properly utilized to update the census data.

In addition to the two issues above, we identified a number of other errors with the census data, all of which continue to recur from previous years, as follows:

- Inaccuracies with the average final compensation (AFC) and service years being used in the calculation of frozen accrued benefits (Component II only)
- Missing census data
- Improper exclusion or inclusion of members within the census data
- Incorrect classification of members between the three categories: active, deferred, retired

Section I - Internal Control Related Matters Identified in an Audit (Continued)

We do acknowledge that both the Combined Plan and the actuary perform certain tests and cleanup work on the data before it is utilized in the valuations. Unfortunately, the magnitude of the issues identified during our testing is still extremely significant and, if not corrected in the coming years, may cause issues with being able to conclude that the data utilized in the valuations is accurate enough not to materially misstate financial data.

Controls Over the Combined Plan's Information Technology Processes (Repeat Finding)

The Combined Plan has complex modifiable information technology that integrates with the City of Detroit, Michigan's various payroll databases. The Combined Plan's IT department is independent of the City and the Combined Plan's other departments. The security provided by the IT system is important to the validity and the accuracy of the data maintained, including the census information provided to the actuary.

Although the Combined Plan is currently in the process of modifying the information technology system, we offer the following, which the Combined Plan should keep in mind as it continues to fully implement the new ERP system:

- Use of automated logs - The Combined Plan uses customized software for a majority of the Combined Plan's needs, which includes maintaining the census data and benefits calculation application, which are managed internally by the Combined Plan's IT personnel and can be modified by the IT department. For all changes to that software, there should be an automated log maintained listing those changes, and no single individual should be able to effect a change without proper authorization. Currently, the Combined Plan does have a process to review, authorize, and track changes, but it is not automated; therefore, it is subject to human error and possible circumvention.

- Master file changes - Additionally, it is recommended that the Combined Plan implement processes to ensure that master file changes are documented, authorized, and reviewed. The lack of this documentation could result in unauthorized and undocumented changes that go undetected by the Combined Plan.

- Segregation of duties - Segregation of duty controls provide a separation of users with access to program source code and users with the ability to make or implement changes into the production environment. The ability to make or implement program source code changes should be limited to individuals who cannot access and edit source code. The lack of this control could result in inaccurate or unauthorized changes.

Section II - Required Communications with Those Charged with Governance

Our Responsibility Under U.S. Generally Accepted Auditing Standards

As stated in our engagement letter dated May 14, 2020, our responsibility, as described by professional standards, is to express an opinion about whether the financial statements prepared by management with your oversight are fairly presented, in all material respects, in conformity with U.S. generally accepted accounting principles. Our audit of the financial statements does not relieve you or management of your responsibilities. Our responsibility is to plan and perform the audit to obtain reasonable, but not absolute, assurance that the financial statements are free of material misstatement.

As part of our audit, we considered the internal control of the Combined Plan. Such considerations were solely for the purpose of determining our audit procedures and not to provide any assurance concerning such internal control.

We are responsible for communicating significant matters related to the audit that are, in our professional judgment, relevant to your responsibilities in overseeing the financial reporting process. However, we are not required to design procedures specifically to identify such matters.

Planned Scope and Timing of the Audit

We performed the audit according to the planned scope and timing previously communicated to you in our letter about planning matters dated August 3, 2020.

Significant Audit Findings

Qualitative Aspects of Accounting Practices

Management is responsible for the selection and use of appropriate accounting policies. In accordance with the terms of our engagement letter, we will advise management about the appropriateness of accounting policies and their application. The significant accounting policies used by the Combined Plan are described in Note 1 to the financial statements. No new accounting policies were adopted, and the application of existing policies was not changed during year.

We noted no transactions entered into by the Combined Plan during the year for which there is a lack of authoritative guidance or consensus.

There are no significant transactions that have been recognized in the financial statements in a different period than when the transaction occurred.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected.

The financial statements include investments valued at approximately $53,200,000 (3 percent of net position) at June 30, 2020, whose fair values have been estimated by management in the absence of readily determinable market values.

Section II - Required Communications with Those Charged with Governance (Continued)

The valuation of alternative investments constitutes a very sensitive and significant estimate affecting the financial statements. Management uses various means to value the investments, including utilizing a third-party valuation firm, confirmations from the investment managers, periodic appraisals, guidance from real estate advisors, etc. These estimates are very subjective and highly sensitive to change. Management also expanded the review and analysis of the valuation of these investments to focus on COVID-19 potential impacts. We believe management's estimates are in accordance with GAAP.

The financial statement disclosures and required supplemental information schedules contain information about the Combined Plan’s total pension liability. In order to determine the total pension liability, the actuary must apply certain assumptions that are highly sensitive to estimation. The most sensitive estimates used in the valuation were as follows:

- Assumed long-term rate of return - For the purpose of GASB Statement No. 67, as of June 30, 2020, the Combined Plan is currently using 7.06 percent for the assumed long-term expected rate of return based on information provided by the Combined Plan’s investment advisor combined with calculations performed by the Combined Plan. This assumed rate of return of 7.06 percent was also the single discount rate used at the beginning of the year. Nationally, this long-term rate of return assumption has garnered significant public attention, with many being critical of the average return assumption used by plans across the United States, which, according to a February 2020 National Association of State Retirement Administrators (NASRA) study, was 7.20 percent. Nationally, the trend continues to show a continued decline in this assumption, and we believe that trend will continue. We encourage the Combined Plan to continue to be critical of this significant assumption, watch the trends nationally, and reevaluate the return assumption annually with a critical eye. Please note that this assumption related to the long-term assumed rate of return is for financial reporting purposes only; the Plan of Adjustment requires that the projected rate of return for funding purposes be 6.75 percent.

- Single discount rate calculation - The calculation of the single discount rate under GASB Statement No. 67, which is calculated using the long-term assumed rate of return as one of many assumptions, is highly sensitive to estimates the actuary makes about future contributions and future benefit payments. Inherent in those assumptions is some subjectivity surrounding the projection of future contributions, since the Combined Plan does not have an explicit written funding policy dictating contributions after 2023, although we understand that the Combined Plan and the City are working on defining such a policy. The assumption made in these calculations is that the actuarially assumed contributions will be made at rates sufficient to fund the benefits by amortizing the unfunded liability over a closed 30-year period.

- Mortality assumptions - The assumptions about mortality were estimated by the actuary based on the results of an experience study issued in February 2015. Generally, the actuary used the RP-2014 Blue Collar Annuitant Table for males and females, projected on a fully generational basis. In early 2019, the Society of Actuaries published new mortality tables called the Pub-2010 tables. These were the first mortality tables issued based solely on United States public sector employees (public safety, teachers, and general employment categories). Given the applicability of these tables to the public sector, it will be likely the Combined Plan will need to consider these tables when the next experience study is performed.

Section II - Required Communications with Those Charged with Governance (Continued)

- Other assumptions - All other assumptions in the actuarial valuation are based on an experience study for the period from 2002-2007. We are aware the Combined Plan has decided to wait and perform the next experience study for the period from July 1, 2015 through June 30, 2020 in order to avoid any results that could be skewed due to the City's bankruptcy.

We evaluated the key factors and assumptions used to develop the estimates above and determined that they are reasonable in relation to the financial statements taken as a whole.

Disclosure of these assumptions and resultant sensitivity of the discount rate can be found in Notes 7 and 8 to the financial statements.

The disclosures in the financial statements are neutral, consistent, and clear. Certain financial statement disclosures are particularly sensitive because of their significance to financial statement and schedule users. The most sensitive disclosures affecting the financial statements and the schedules are the disclosures related to GASB Statement No. 67, including the actuarial valuation results.

Difficulties Encountered in Performing the Audit

We are required to inform those charged with governance of any serious difficulties encountered in dealing with management related to the performance of the audit. We encountered no significant difficulties in dealing with management in performing and completing our audit.

Disagreements with Management

For the purpose of this letter, professional standards define a disagreement with management as a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

Corrected and Uncorrected Misstatements

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are trivial, and communicate them to the appropriate level of management. None of the misstatements detected as a result of audit procedures and corrected by management were material, either individually or in the aggregate, to the financial statements taken as a whole. The attached schedule summarizes uncorrected misstatements of the financial statements. Management has determined that their effects are immaterial, both individually and in the aggregate, to the financial statements taken as a whole.

Significant Findings or Issues

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, business conditions affecting the Combined Plan, and business plans and strategies that may affect the risks of material misstatement, with management each year prior to our retention as the Combined Plan's auditors. However, these discussions occurred in the normal course of our professional relationship, and our responses were not a condition of our retention.

Section II - Required Communications with Those Charged with Governance (Continued)

Management Representations

We have requested certain representations from management that are included in the management representation letter dated December 7, 2020.

Management Consultations with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a second opinion on certain situations. If a consultation involves application of an accounting principle to the Combined Plan's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Attachment

Client: **Combined Plan for the General Retirement System of the City of Detroit**
Opinion Unit: **Combined Plan**
Y/E: **6/30/2020**

SUMMARY OF UNRECORDED POSSIBLE ADJUSTMENTS

The effect of misstatements and classification errors identified would be to increase (decrease) the reported amounts in the financial statement categories identified below:

Ref. #	Description of Misstatement	Current Assets	Long-term Assets	Current Liabilities	Long-term Liabilities	Equity	Additions	Deductions	Net Income Statement Impact
FACTUAL MISSTATEMENTS:									
A1	None								
JUDGMENTAL ADJUSTMENTS:									
B1	None								
PROJECTED ADJUSTMENTS:									
C1	None								
		$ -	$ -	$ -	$ -	$ -	-	$ -	$ -
	Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

PASSED DISCLOSURES AND FINANCIAL STATEMENT PRESENTATION ISSUES:

D1	Money-weighted rate of return, net of investment expenses - The Combined Plan calculated return is -0.78 percent. We are unable to audit this rate of return.
D2	The total pension liability, as calculated by the actuary, is based on census information that is either incomplete or inaccurate. The total pension liability would be different had accurate and complete information been provided to the actuary.

Section III - Other Recommendations and Related Information

During our audit, we noted areas where we believe there are opportunities for the Combined Plan to further strengthen internal control or to increase operating efficiencies. Our observations on those areas are presented below for your consideration:

Investment Distributions

- The Combined Plan receives investment cash distributions for interest, dividends, return of capital, and other investment-type income. While the majority of the distributions are received by the Combined Plan's custodian, Bank of New York, there are distributions that also run through the passive investments. The controls over these distributions are critical to ensuring that all distributions that should go to the Combined Plan ultimately end up there.

  When the Combined Plan sets up a new alternative investment, such as private equity and hedge funds, subscription agreements are signed by authorized individuals of the Combined Plan (i.e., trustees and executive director). The agreements may also assign the chief investment officer (CIO) to be the authorized agent on behalf of the Combined Plan, include a list of individuals that the investment fund should include in some of their correspondences, and indicate the Bank of New York banking information where future distributions are to be sent.

  As an authorized agent, the CIO is able to change the wire instructions after they are initially established. As a detective control to ensure inappropriate changes are not made, when a distribution is sent, in most cases the investment funds send distribution letters to other individuals at the Combined Plan in addition to the CIO. This control is imperative to ensure distribution wire instructions are correct and funds are being received properly by the designated Bank of New York account.

  As there are some investments initially funded many years ago, the correspondence list and contact information may need to be updated given personnel changes at the Combined Plan. In addition, as these distribution notices and wire instructions are being received by others outside of the CIO, the Combined Plan should ensure its controls include review of these distribution notices to verify the banking information and follow-up procedures to verify that all current distributions are ultimately received.

- The Combined Plan's components of investment income are separated in the general ledger and in the financial statements between (a) interest income, dividend income, and other income and (b) net increase (decrease) in fair value of investments (which includes realized and unrealized gains and losses). The plan's current processes and controls do not always result in an accurate allocation between these two components of investment income.

  For investments where Bank of New York is the custodian of the Combined Plan's investments, the accounting department records the activity using the individual investment reports as the source document. The Combined Plan appropriately performs a monthly reconciliation of these amounts.

Section III - Other Recommendations and Related Information (Continued)

For investments in which Bank of New York is not the custodian, the accounting department uses information obtained for each distribution to determine the classification of the funds received. While the Combined Plan's processes and controls have improved significantly in this reporting from prior years, there were some identified adjustments between the classification of investment income. To be clear, this does not have an effect on the Combined Plan's end of year net position but is merely a reclassification between these two types of income accounts; however, proper accounting is critical to ensure the plan's accounting supports the underlying transactions that are occurring.

As distribution notices and capital statement formats differ between investment funds, we recommend the Combined Plan's accounting department continue to work with the chief investment officer on any uncertain distributions to properly classify the distribution.

Annuity Savings Fund Recoupment Receivable

During our audit procedures on the annuity savings fund (ASF) recoupment receivable, we identified two minor errors:

- An individual was improperly removed from the receivable balance, while his recoupment deductions were suspended.
- An individual who began receiving a pension recoupment deduction was not previously accounted for as part of the receivable list for the deferred vested individuals.

For the latter item, this is part of a more global issue, as there are deferred vested members with a recoupment balance currently not included in the receivable list maintained by accounting. This is due to the existence of parallel systems being used to track these recoupment balances. In addition to the recoupment receivable listing maintained by accounting, there is separate independent record-keeping maintained within the IT system. No reconciliation of the two parallel systems is being performed. We recommend the Combined Plan reconcile the accounting records with the IT records to ensure the completeness of the accounting records and the accuracy of the related amounts recorded.

Benefit Payment Classification

The Combined Plan processes monthly benefit payments for each retiree that are summarized and journalized in a monthly entry. These monthly payroll entries are based on the plan to which (Component II or I) each retiree is coded. During testing, it was identified that some individuals' pensions are incorrectly classified between Component I and Component II. While the number of individuals incorrectly classified was insignificant, we recommend the Combined Plan implement a control to ensure proper classification of members in the IT system.

Information Technology Processes

- Currently, there is no formal process to fill out a production release form. Usually a member of the IT department will inform Ray Tchou to review a production change. Ray is the only individual with the ability to release a production change. We recommend the Combined Plan have a formal policy for individuals to submit a production release form to document change requests.

Section III - Other Recommendations and Related Information (Continued)

- It was noted there are administrative user profiles that remained in the Combined Plan for users no longer employed at the Combined Plan. These profiles have remained active, as staff need to access old files. In addition, we noted duplicate administrative user profiles for current employees. We recommend the Combined Plan perform a user profile review and allow only one user profile for each current employee.

Benefit Payment Calculations

Pension factors are used in calculating an individual's pension payment based on age and option selected. Currently, the pension factor used in the calculation of benefit payments is using an old mortality table (1984 table) and a 7.5 percent rate of return. Pension factors should get updated with a newer mortality table (RP-2014 Mortality Table is currently being used in the actuarial valuations) and rate of return of 6.75 percent (current rate of return used for funding purposes, as stipulated by the Plan of Adjustment). Our understanding is the Combined Plan will update these amounts once the benefit calculation software is implemented.

Expense Allocation

The Combined Plan allocates expenses between Component II, Component I and the Income Stabilization Fund (ISF). For ISF, only investment-related expenses are allocated, as no significant administrative functions are performed for the fund. Investment related expenses are unitized based on the net position for each plan. For administrative expenses, a split of 60/40 is used. This allocation has been relatively the same since the inception of Component I and ISF, with the Combined Plan reviewing this allocation annually. As the Combined Plan gets further from the implementation of these new plans, we recommend the Combined Plan continue to monitor this allocation methodology as time and resources dedicated to each plan change.

Combined Plan for the General Retirement System of the City of Detroit

Financial Report
with Supplemental Information
June 30, 2020

Combined Plan for the General Retirement System of the City of Detroit

Contents

Plante & Moran, PLLC
27400 Northwestern Highway
P.O. Box 307
Southfield, MI 48037-0307
Tel: 248.352.2500
Fax: 248.352.0018
plantemoran.com

Independent Auditor's Report

To the Board of Trustees
Combined Plan for the General Retirement
System of the City of Detroit

Report on the Financial Statements

We have audited the accompanying financial statements of the Combined Plan for the General Retirement System of the City of Detroit (the "Combined Plan") as of and for the year ended June 30, 2020 and the related notes to the financial statements, which collectively comprise the Combined Plan's basic financial statements, as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of the Combined Plan for the General Retirement System of the City of Detroit as of June 30, 2020 and the changes in its fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

To the Board of Trustees
Combined Plan for the General Retirement
System of the City of Detroit

Other Matters

Required Supplemental Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and other required supplemental information, as identified in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, which considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplemental information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Supplemental Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Combined Plan for the General Retirement System of the City of Detroit's basic financial statements. The other supplemental information, as identified in the table of contents, is presented for the purpose of additional analysis and is not a required part of the basic financial statements.

The other supplemental information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the other supplemental information is fairly stated in all material respects in relation to the basic financial statements as a whole.

Report on Summarized Comparative Information

We have previously audited the Combined Plan for the General Retirement System of the City of Detroit's June 30, 2019 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated November 26, 2019. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2019 is consistent, in all material respects, with the audited financial statements from which it has been derived.

Plante & Moran, PLLC

December 7, 2020

Combined Plan for the General Retirement System of the City of Detroit

Management's Discussion and Analysis

As management of the General Retirement System of the City of Detroit (DGRS or the "System"), we offer readers this narrative overview and analysis of the financial activities for the year ended June 30, 2020.

Using This Annual Report

This annual report consists of three parts: (1) management's discussion and analysis (this section), (2) the basic financial statements, and (3) the required supplemental information. The financial statements also include notes that explain some of the information in the financial statements and provide more detailed data. The financial statements are followed by sections of required supplemental information that further explain and support the information in the financial statements.

Financial Highlights

- The coronavirus pandemic has had a major impact on the lives of many people, companies, and industries throughout the world. The System has not been exempt from those effects. However, while learning to adjust to this new environment, we have managed to maintain relatively smooth operations. With the safety and well-being of our staff in mind, coupled with the goal of providing excellent service to our members, we quickly made the changes that we believed to be necessary. We almost seamlessly moved most of our staff to a remote work environment, with only essential employees on-site. We also moved our board meetings to a virtual platform, as required by the executive order issued by the governor of the State of Michigan. This transition encouraged us to make additional worthwhile investments in technology to ensure that those employees who were required to work remotely could do so successfully.

  The pandemic has posed financial constraints on the local city government and the U.S. economy at large. Many of the System's employees went on furlough in the spring. The employees who are required to furlough take one unpaid day off per week. This is an additional measure that will reduce the outflow of the System's financial resources, which were affected by the decline in the global markets. We are continuing to exercise prudence in our management of the System's resources while going above and beyond to meet the needs of our members.

- The new ERP system is expected to go live in the year ahead. We are looking to continue providing ease and convenience for member through technology. The new system will allow members access to numerous online self-service features, such as payroll deduction updates, direct deposit changes, address changes, annuity balance lookup, and pension benefit estimates.

Condensed Financial Information

The tables below compare key financial information in a condensed format between the current year and the prior year:

	2020	2019
Assets	$ 1,836,829,539	$ 2,042,715,457
Liabilities	76,467,270	101,162,439
Fiduciary Net Position Restricted for Pensions	**$ 1,760,362,269**	**$ 1,941,553,018**

	2020	2019
Additions		
Net investment (loss) income	$ (16,654,059)	$ 50,262,545
Securities lending income	322,235	521,092
Contributions:		
Employer	60,415,861	80,105,699
Employee	15,929,752	15,570,185
Foundation	375,000	375,000
Total contributions	76,720,613	96,050,884
ASF recoupment interest	6,214,543	6,437,967
Transfer from Component II to Component I	1,178,130	9,015,677
Other income	1,889,540	496,101
Total additions	69,671,002	162,784,266
Deductions		
Retirees' pension and annuity benefits	231,838,550	236,271,384
Member refunds and withdrawals	12,242,608	16,657,103
Transfer to Component I from Component II	1,178,130	9,015,677
General and administrative expenses	3,891,706	4,966,003
ASF recoupment write-off	1,710,757	3,214,754
Total deductions	250,861,751	270,124,921
Net Decrease in Net Position Held in Trust	**$ (181,190,749)**	**$ (107,340,655)**

Fund Overview, Membership, and Governance

The General Retirement System of the City of Detroit consists of defined benefit pension plans and defined contribution plans for the nonuniformed employees of the City of Detroit, Michigan (the “City”), composed of Component I and Component II, which are memorialized in a document titled the Combined Plan for the General Retirement System of the City of Detroit, Michigan, made effective July 1, 2014, as amended and restated December 8, 2014 (the “Combined Plan”). This discussion and its accompanying financial statements are primarily concerned primarily with Component I, a new pension plan created by the City effective July 1, 2014 for active nonuniformed employees of the City to earn pension benefits on and after that date (also referred to as the “Hybrid Plan”), and Component II, the legacy pension plan where benefits were earned through June 30, 2014 (the "Legacy Plan").

As discussed in greater detail below, at the conclusion of the 2014 fiscal year, the City froze Component II. The freeze of Component II, which was the pension plan that existed as of June 30, 2014, means that no further benefit accruals occurred after that date, and no new employees are allowed to participate as members.

DGRS exists to pay benefits to its members. Members of the System include active nonuniformed city employees, retirees, and their beneficiaries. Active members still employed with the City on and after July 1, 2014 earn service credit that entitles them to receive benefits in the future in Component I, but not in Component II, which, as noted above, has been frozen. Both the employer and municipal plan sponsor for the System, the City, and actively employed members have historically contributed to the System (the employee contributions were voluntary prior to July 1, 2014). Retirees, their beneficiaries, and disabled members are those currently receiving benefits, though the City elected in fiscal year 2015 to transition new disability claims from the benefit program administered by the System to one administered by a third-party insurance carrier.

Component I of DGRS is a newly created plan (effective July 1, 2014), with more active members earning service credit than members eligible to receive or receiving benefits. As of June 30, 2019, there were 5,794 active members, with 314 retirees and 961 terminated plan members entitled to but not yet receiving benefits.

Component II of DGRS is a relatively mature plan in that there are more members receiving current benefits than active members. As of June 30, 2019, in Component II there were 2,793 active members, with 11,557 members receiving benefits and 3,209 terminated plan members entitled to but not yet receiving benefits. On June 30, 2014, the emergency manager of the City of Detroit, Michigan issued Order No. 30, which froze Component II. After that date, no new employees were allowed to participate in Component II, and benefit accruals for members with respect to service rendered prior to July 1, 2014 were frozen based on the member's years of service, average final compensation, and the pension multiplier formula as of the freeze date. Employees working after July 1, 2014 are now earning service credit in the Hybrid Plan, or Component I.

By way of background, a brief review of the City's migration from the Legacy Plan to the Hybrid Plan is appropriate. On June 30, 2014, the emergency manager of the City of Detroit, Michigan issued Order No. 30, which froze Component II. After that date, no new employees were allowed to participate in Component II, and benefit accruals for members with respect to service rendered prior to July 1, 2014 were frozen based on the member's years of service, average final compensation, and the pension multiplier formula as of the freeze date. Employees working after July 1, 2014 are now earning service credit in the Hybrid Plan, or Component I. On July 1, 2014, the City first published the Combined Plan with the city clerk. By August 1, 2014, the City completed the payroll information systems project transitions required to allow the now mandatory employee contributions to be contributed to Component I.

On October 19, 2014, the emergency manager issued Order No. 43, which amended and restated the Combined Plan. On December 8, 2014, before leaving office, the emergency manager issued Order No. 44, which again amended and restated the Combined Plan. According to Order No. 44, the latest amendments and restatements to the Combined Plan conformed the combined plan terms to the requirements of the City's bankruptcy plan and made clarifying modifications. The Combined Plan is available at DGRS's website, www.rscd.org.

In December 2014, DGRS governance was modified as part of the City's bankruptcy plan. DGRS is governed by a board of trustees (the "Board"). Although DGRS' investment management is now the ultimate responsibility of a seven-member investment committee (the "Investment Committee"), the Board maintains its role as the governing board vested with responsibility for the general administration, management, and operation of the System, with which the Investment Committee assists, pursuant to Michigan law.

The Board is composed of 10 members. Five members are elected by the active membership to serve six-year terms. A sixth member is elected by the retiree membership to serve a two-year term. A seventh member is appointed by the mayor of the City of Detroit, Michigan from the citizens of the City to serve a six-year term. The three remaining members serve ex officio, these members being the mayor of the City (or designee), the city treasurer, and one representative from the Detroit City Council. Expirations of terms of elected trustees are staggered, while the remaining trustees serve in accordance with their office or as a designee of an office.

The Investment Committee has five independent members appointed to initial terms with staggered expirations, which terms will all eventually become six years. Two additional members, one active and one retired, serve on the Investment Committee based on appointment by the Board. The Investment Committee will be in place through at least December 2034.

Contributions to the System

Historically, both the City and active employees have made regular contributions to the System, with employee contributions being optional in Component II, essentially before July 1, 2014, though there was a period of transition due to the City's aging information technology infrastructure, which meant that voluntary employee contributions to Component II continued through July 2014, and mandatory employee contributions to Component I from active payroll were implemented as of August 1, 2014.

Basic pension and disability benefits in Component II had been funded through employer contributions plus investment earnings on those contributions, but employee contributions are mandatory in Component I. The required employer contributions had been determined by the System's actuaries using the entry age normal cost method, which is still the case. Assumptions used by the actuaries are subject to experience testing every five years, which is also still the case. Effective December 10, 2014, as part of the resolution of the Chapter 9 case, the investment return assumption and discount rate used by the System's actuary for the purpose of determining the System's assets and liabilities for funding purposes was fixed at 6.75 percent through the period ending June 30, 2023. This applies to both Component I and Component II.

The obligations for contributions to support Component II of the System through 2023 are determined as fixed amounts by the provisions in the Plan of Adjustment. Pursuant to the Plan of Adjustment, the System is expected to receive contributions totaling $718.6 million through fiscal year 2023. The Plan of Adjustment calls for the System to receive $98.8 million from the State of Michigan; $428.5 million from the Detroit Water and Sewer Department (DWSD); $31.7 million from UTGO settlement proceeds; the present value equivalent or actual contribution of $50 million from the Detroit Institute of Arts (DIA) and its foundation donors during a 10-year period ending in 2024; the present value equivalent or actual contribution of $18.3 million per year from 2025 through 2034 from certain foundations; and $114.6 million from the other city-related employer contribution sources, such as the General Fund, Detroit Library Commission, and COBO Authority, over a 10-year period covering fiscal year 2014 through fiscal year 2023. After 2023, the City and various other employer constituents, such as the library, DWSD, and COBO Authority, will retain responsibility for the full funding obligations of Component II of the System, consistent with Michigan law.

The Plan of Adjustment allows for certain of the Legacy Plan's funding obligations to DGRS through 2034 to be met by prepayment of the present value equivalent using a discount rate of 6.75 percent. In the fiscal year ended June 30, 2016, a portion of the DIA obligation to make annual $5 million contributions over 10 years ending in 2034 was prepaid. This present value prepayment resulted in DGRS receiving $32,511,827 on June 30, 2016 from the DIA, which represents the present value, using a 6.75 percent discount rate, of $4,625,000 per year for the 9 years remaining on that annual $5,000,000 commitment ending in 2024. Pursuant to the Plan of Adjustment, DGRS still expects to receive the equivalent or actual remaining $375,000 per year from the DIA for that 10-year period ending in 2024 and also did receive, on June 30, 2016, the amount of $375,000 in satisfaction of the fiscal year 2016 obligation from the DIA that was not prepaid.

In addition, the City was to remit payments on the UTGO Stub Bonds to the Combined Plan through 2028. In fiscal year 2017, the City of Detroit, Michigan refunded all of its outstanding UTGO Stub Bonds. Upon refunding, the payments to the Combined Plan were accelerated, with a majority of the outstanding balance paid to the Combined Plan in fiscal year 2017; as a result, the Combined Plan received approximately $7.7 million in the ISP and $18.3 million in Component II related to this transaction.

With respect to Component I, the Hybrid Plan, nonuniformed employees who are members of DGRS are now required to make mandatory contributions of 4 percent of pay toward their defined benefit pensions earned with the City, and the City contributes an additional 5 percent of pay. The City no longer counts overtime in the calculation of its employer contribution.

The City is also setting aside an additional 0.75 percent of payroll to meet the premium payments required for the disability insurance established with a third-party carrier. DGRS is not administering those disability benefits managed by the third-party carrier.

On June 30, 2020, the City met its obligation for Component I employer contributions by contributing $12,515,861 to DGRS.

Impact of City of Detroit, Michigan Collective Bargaining and Bankruptcy Pension Adjustments

Pursuant to Emergency Manager Order No. 30, the existing Component II defined contribution plan and defined benefit plan were frozen, preventing any future accruals or new members in Component II effective June 30, 2014.

The following changes became effective July 1, 2014, with the advent of Component I:

- The Hybrid Plan's defined benefit plan commenced with mandatory contributions of 4 percent of base pay. The City contributes 5 percent of employee base pay, not including overtime.
- A new Hybrid Plan defined contribution plan commenced for the annuity savings fund. Employees may make voluntary annuity savings fund contributions of up to 7 percent of total after-tax pay. Interest will be credited at the actual net investment rate of return of DGRS, but in no event will it be lower than 0 percent or higher than 5.25 percent.
- The Hybrid Plan provides that future duty disability and nonduty disability retirement allowances for members who become disabled after July 1, 2014 move to a commercial insurance program through the City.

Benefit Payments

The System exists to pay the benefits that its members have earned pursuant to benefits promised by the City, subject to the Chapter 9 case benefit adjustments going forward in the Legacy Plan and the new promises in the Hybrid Plan. Benefits are paid monthly. In fiscal year 2020, DGRS paid out $244 million in benefits, consisting of $231.8 million in benefits to retirees and beneficiaries plus $12.2 million in refunds of annuity savings fund balances and mandatory contributions. The benefits and refunds represent approximately 14 percent of the net position of the System as of June 30, 2020. Employer, foundation, and employee contributions were $76.7 million, or 4 percent of the net position of the System. The excess of benefits over contributions of $167.3 million is funded through investment income. The public capital markets represent the primary source of opportunities to earn investment income.

Asset Allocation

The Board and the Investment Committee of DGRS believe that the principal determinant of total fund investment performance over long periods of time is asset allocation. DGRS' asset allocation is built upon the foundation that the obligations of the System to pay the benefits promised to its members are very long-term obligations. Accordingly, the Board and the Investment Committee must make investment decisions that they believe will be the most beneficial to the System over many years, not just one or two years.

DGRS has established asset allocation policies that are expected to deliver investment income over a very long period of time to satisfy the obligations to pay the benefits promised to the members of the System. The following is a summary of the DGRS asset allocation policy as of June 30, 2020:

Asset Class	Target Allocation
Global equity	37.00 %
Global fixed income	27.00
Real estate/Real assets	15.00
Private equity	8.00
Hedge funds	5.00
Diversifying strategies	8.00

DGRS' asset allocation policies comply with Michigan law.

Investment Results

DGRS calculates investment results on a time-weighted Global Investment Performance Standard (GIPS) basis unless explicitly stated otherwise. All returns for periods of one year or greater have been annualized.

Total Fund Composite

DGRS' total fund composite return for the year was (0.96) percent, net of fees and expenses using a time-weighted methodology. The fund returned 2.9 percent, 4.8 percent, and 7.09 percent for its 3-year, 5-year, and 10-year annualized returns, respectively, net of fees and expenses.

During fiscal year 2020, growth and risk asset returns (predominantly equity and equity-linked assets) performed well below expectations due almost entirely to a steep decline in DGRS' third quarter (January through March) related to the global coronavirus pandemic. Many markets rebounded significantly in DGRS' fourth quarter (April through June). The COVID-19 pandemic had an unprecedented impact on global markets. The economic impact to the System will likely be felt for a long time. The volatility and uncertainty in the financial markets will persist until this public health crisis is resolved.

As part of the resolution of the City of Detroit, Michigan's Chapter 9 bankruptcy case, the discount rate assumption used to meet current and future benefit obligations was set at 6.75 percent through the period ending June 30, 2023. This discount rate assumption provided in the Chapter 9 case does not purport to establish an investment return assumption or discount rate for purposes of, or in accordance with, generally accepted accounting principles. Although the fund's return for this year fell below this assumption, the fund's longer-term return expectation, which this assumption is intended to characterize, still exceeds this assumption.

Total plan returns, net of fees and expenses, for the recent prior fiscal years ended June 30 are shown below:

2019	3.40 %
2018	6.50
2017	14.10
2016	1.40
2015	2.60
2014	14.50
2013	11.70
2012	0.10
2011	19.70

Money-weighted Rate of Return

GASB Statement No. 67 requires the disclosure of the annual money-weighted rate of return. A money-weighted rate of return (as opposed to the time-weighted rate of return discussed in the previous section) considers both the size and timing of cash flows over the course of the year to determine an internal rate of return (sometimes referred to as IRR). This return is calculated net of expenses and uses cash flows determined on a monthly basis. The DGRS money-weighted rate of return for the year using month-end cash flows was (0.78) percent.

Requests for Further Information

This financial report is intended to provide a general overview of the System's finances and investment results in relation to actuarial projections. It shows the System's accountability for the money it receives from employer and employee contributions. If you have questions about this report or need additional information, we welcome you to contact the System's office or visit its website at www.rscd.org.

Combined Plan for the General Retirement System of the City of Detroit

Statement of Fiduciary Net Position

June 30, 2020

	Component II Plan (Legacy)		Component I Plan (Hybrid)	
	Defined Benefit Fund	Income Stabilization Fund	Defined Benefit Fund	Total Combined Plan
Assets				
Cash and cash equivalents (Note 3)	$ 26,869,408	$ 1,881,222	$ 63,276,170	$ 92,026,800
Investments: (Notes 3 and 4)				
Global equities	699,835,373	4,299,973	22,052,122	726,187,468
Global fixed income	259,167,339	1,782,395	17,676,395	278,626,129
Real estate	238,020,869	1,752,076	21,730,976	261,503,921
Private equity	103,848,597	764,432	9,481,234	114,094,263
Diversifying strategies	163,654,635	1,204,664	14,941,442	179,800,741
Receivables:				
Investment income	1,632,939	10,722	88,413	1,732,074
Contributions (Note 1)	-	-	2,682,035	2,682,035
Other receivables	169,695	470	2	170,167
ASF recoupment receivable (Note 1)	99,368,970	-	-	99,368,970
Notes receivable from participants	3,423,874	-	-	3,423,874
Receivables from investment sales	2,240,426	16,090	184,954	2,441,470
Cash and investments held as collateral for securities lending: (Note 3)				
Commercial paper	8,325,680	61,286	760,123	9,147,089
Money market funds	10,239,750	75,375	934,875	11,250,000
Certificate of deposit	8,536,735	62,839	779,392	9,378,966
Asset-backed securities	10,345,543	76,154	944,534	11,366,231
Repurchase agreements	2,685,299	19,767	245,164	2,950,230
U.S. corporate floating rate	25,130,748	184,988	2,294,402	27,610,138
Capital assets - Net (Note 1)	1,849,037	-	1,219,936	3,068,973
Total assets	1,665,344,917	12,192,453	159,292,169	1,836,829,539
Liabilities				
Accrued expenses	2,372,025	5,267	737,448	3,114,740
Payables for investment purchases	2,058,350	13,127	109,000	2,180,477
Due to the City of Detroit, Michigan	353,573	-	-	353,573
Amounts due to broker under securities lending agreements (Note 3)	64,458,980	474,484	5,885,016	70,818,480
Total liabilities	69,242,928	492,878	6,731,464	76,467,270
Net Position - Restricted for pensions	**$ 1,596,101,989**	**$ 11,699,575**	**$ 152,560,705**	**$ 1,760,362,269**

See notes to financial statements.

Combined Plan for the General Retirement System of the City of Detroit

Statement of Changes in Fiduciary Net Position

Year Ended June 30, 2020
(with comparative totals for the year ended June 30, 2019)

	Component II Plan (Legacy)		Component I Plan (Hybrid)		
	Defined Benefit Fund	Income Stabilization Fund	Defined Benefit Fund	Total Combined Plan 2020	2019
Additions					
Investment income (loss):					
Interest, dividends, and other income	$ 60,294,369	$ 417,886	$ 4,333,132	$ 65,045,387	$ 36,378,319
Net (decrease) increase in fair value of investments	(67,174,497)	(481,088)	(5,965,876)	(73,621,461)	23,749,673
Investment-related expenses	(7,420,204)	(52,410)	(605,371)	(8,077,985)	(9,865,447)
Net investment (loss) income	(14,300,332)	(115,612)	(2,238,115)	(16,654,059)	50,262,545
Securities lending income (loss):					
Interest and dividends	417,143	2,941	32,805	452,889	506,851
Net (loss) gain on collateralized securities	(118,922)	(875)	(10,857)	(130,654)	14,241
Net securities lending income	298,221	2,066	21,948	322,235	521,092
Contributions: (Note 2)					
Employer	47,900,000	-	12,515,861	60,415,861	80,105,699
Employee	-	-	15,929,752	15,929,752	15,570,185
Foundation	375,000	-	-	375,000	375,000
Total contributions	48,275,000	-	28,445,613	76,720,613	96,050,884
ASF recoupment interest (Note 1)	6,214,543	-	-	6,214,543	6,437,967
Transfer from Component II to Component I (Note 9)	-	-	1,178,130	1,178,130	9,015,677
Other income	1,829,542	515	59,483	1,889,540	496,101
Total additions - Net	42,316,974	(113,031)	27,467,059	69,671,002	162,784,266
Deductions					
Retirees' pension and annuity benefits	230,537,597	569,673	731,280	231,838,550	236,271,384
Member refunds and withdrawals	9,344,055	-	2,898,553	12,242,608	16,657,103
Transfer to Component I from Component II (Note 9)	1,178,130	-	-	1,178,130	9,015,677
General and administrative expenses	2,351,273	-	1,540,433	3,891,706	4,966,003
ASF recoupment write-off	1,710,757	-	-	1,710,757	3,214,754
Total deductions	245,121,812	569,673	5,170,266	250,861,751	270,124,921
Net (Decrease) Increase in Net Position Held in Trust	(202,804,838)	(682,704)	22,296,793	(181,190,749)	(107,340,655)
Net Position Restricted for Pensions - Beginning of year	1,798,906,827	12,382,279	130,263,912	1,941,553,018	2,048,893,673
Net Position Restricted for Pensions - End of year	**$ 1,596,101,989**	**$ 11,699,575**	**$ 152,560,705**	**$ 1,760,362,269**	**$ 1,941,553,018**

See notes to financial statements.

Note 1 - Significant Accounting Policies

Reporting Entity

The City of Detroit, Michigan (the "City") sponsors the Combined Plan for the General Retirement System of the City of Detroit (the "Combined Plan"), which consists of two single-employer retirement plans, as described below.

Component II

This is the legacy plan (the "Legacy Plan") that is the original defined benefit plan, which includes a defined benefit component and a defined contribution component. Component II generally applies to benefits accrued by members prior to July 1, 2014. On June 30, 2014, as a result of negotiations between the City and the public employee unions, the existing plan benefit formulas were frozen, and no employees were allowed to earn benefits under the existing plan. The emergency manager issued Order No. 30 (General Retirement System of the City of Detroit) on June 30, 2014, which put these changes into effect. Except as specifically provided in the Combined Plan, benefits provided under Component II are frozen effective June 30, 2014.

Component II also includes the Income Stabilization Fund. The fund, which is part of Component II only and established as a special plan of adjustment provision, was established for the sole purpose of paying the Income Stabilization Benefits and Income Stabilization Benefits Plus to eligible pensioners. A portion of the funds received by the Combined Plan from UTGO Stub Bonds tax proceeds is credited to the Income Stabilization Fund. The allocation is based on the aggregate payments to plan assignees included in the Eighth Amended Plan for the Adjustment of Debts of the City of Detroit (the "Plan of Adjustment" or the "POA"). After 2022, the Investment Committee may recommend to the Board that a portion or all of the assets that exceed income stabilization benefits (including Income Stabilization Benefits Plus) to be paid in the future be used to fund regular pension payments.

Nonemployer Contributing Entity within Component II

On September 9, 2014, a memorandum of understanding (the "MOU") was entered into by the emergency manager and mayor of the City of Detroit, Michigan; the county executive of each of the charter counties of Wayne and Macomb, Michigan; the County of Oakland, Michigan; and the governor of the State of Michigan. The purpose of the MOU was to establish a framework for the creation of a regional authority (known as Great Lakes Water Authority, or GLWA) pursuant to Act 233 of 1955 to operate, control, and improve the regional assets of the water supply system and the sewage disposal system owned by the City.

Pursuant to the MOU, the City of Detroit, Michigan and GLWA entered into two lease agreements: the Regional Water Supply System Lease dated June 12, 2015 and the Regional Sewage Supply System Lease dated June 12, 2015. Under the provisions of the lease agreements, GLWA leases the regional assets of the City for a period of at least 40 years.

Pursuant to the lease agreements, on December 1, 2015, a triparty agreement between the City of Detroit, Michigan; the General Retirement System of the City of Detroit (DGRS); and GLWA was signed. Per the POA and Section 4.3 of the lease agreements, GLWA is required to pay a portion of the pension obligation that will be allocable to the Detroit Water and Sewer Department (DWSD). The purpose of the pension reporting agreement is to set forth determining the funding status for the DWSD pension pool and for DGRS to agree to provide GLWA with certain actuarial and other reports to enable GLWA to properly manage and pay its portion of the pension obligation that is allocable to DWSD.

Note 1 - Significant Accounting Policies (Continued)

Effective January 1, 2016, GLWA was launched. Accordingly, the prior DWSD division was split into two - one representing the ongoing DWSD department, now referenced as DWSD-Retail (DWSD-R), and another to represent Great Lakes Water Authority. In accordance with the pension reporting agreement, the net position and liabilities of DWSD were allocated to DWSD-R and GLWA in accordance with written directions received from DWSD-R and GLWA. Per written directions, GLWA is to be allocated 70.3 percent of the net position and liabilities of DWSD. Because GLWA has no employees or retirees in the Combined Plan, GLWA is considered a nonemployer contributing entity in accordance with GASB Statement No. 67.

The financial statements of the Combined Plan reflect the net position and pension liabilities of the plan as a whole, which includes the portion allocable to GLWA. GLWA's portion of the total Component II net pension liability of $1,102,348,071 at June 30, 2020 was $144,305,198, with the remainder allocable to the City of Detroit, Michigan and related entities.

Component I

As of July 1, 2014, all current and future employees participate in the new hybrid pension plan (the "Hybrid Plan"), or Component I. Active city employees who participated in the Legacy Plan will receive the benefits they have earned under the plan through June 30, 2014 plus an additional benefit under the new hybrid plan formula, assuming all vesting requirements are met.

Combined Plan Reporting

The Combined Plan is a separate and independent trust qualified under applicable provisions of the Internal Revenue Code; it is an independent entity (separate and distinct from the employer/plan sponsor) as required by (1) state law and (2) Internal Revenue Code provisions setting forth qualified plan status. The trustees of the Combined Plan have a fiduciary obligation and legal liability for any violations of fiduciary duties as independent trustees. The Combined Plan provides retirement, disability, and survivor benefits to plan members and beneficiaries.

The financial statements for the Combined Plan are also reported in the financial statements of the City of Detroit, Michigan as a pension trust fund. The assets of the pension trust funds include no securities of or loans to the City or other related parties.

These financial statements include comparative columns for 2019. Such information is not meant to be a complete presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with the plan's financial statements for the year ended June 30, 2019.

Plan Sponsor Financial Condition - Impact on the Combined Plan

In the past, the City of Detroit, Michigan (the "plan sponsor") has experienced significant financial difficulty and liquidity concerns. As of June 2013, the City had defaulted on approximately $36 million of pension contributions due to the Combined Plan. During fiscal year 2014, the City did not pay any employer contributions into the Combined Plan, despite the fact that there were actuarially required contributions.

In February 2013, the governor appointed a financial review team, which determined that a local government financial emergency existed in the City. This culminated in bankruptcy proceedings, which the City initiated in July 2013. Part of the federal court's ruling in December 2013 indicated that the bankruptcy status usurped whatever protections may be offered to governmental pensions under the Michigan Constitution. On December 10, 2014, the City exited from bankruptcy through confirmation of the Eighth Amended Plan for the Adjustment of Debts of the City of Detroit. The POA specifies certain provisions pertinent to the legacy and hybrid plans, including contributions and benefits.

In fiscal year 2020, the contributions received by the Combined Plan were made in accordance with the provisions of the POA. See Note 10 for significant changes that were implemented by the Combined Plan under the POA.

Note 1 - Significant Accounting Policies (Continued)

Summary of Significant Accounting Policies

The following is a summary of the significant accounting policies used by the Combined Plan for the General Retirement System of the City of Detroit.

Accounting and Reporting Principles

The Combined Plan follows accounting principles generally accepted in the United States of America (GAAP), as applicable to governmental units. Accounting and financial reporting pronouncements are promulgated by the Governmental Accounting Standards Board.

Basis of Accounting

The Combined Plan uses the economic resources measurement focus and the full accrual basis of accounting. Revenue is recorded when earned, and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. Plan member contributions are recognized in the period in which the contributions are due. Employer contributions are recognized when due pursuant to legal requirements. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

Specific Balances and Transactions

Cash and Cash Equivalents

The Combined Plan considers cash on hand, demand deposits, and short-term investments with an original maturity of three months or less when purchased to be cash equivalents.

Investments

Investments are reported at fair value or estimated fair value. Short-term investments are reported at cost, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sale price at current exchange rates. Mortgages are valued on the basis of future principal and interest payments. The fair value of real estate investments is based on periodic appraisals, as well as the judgment of independent real estate advisors and management. Investments that do not have an established market value are reported at estimated fair value determined by the Combined Plan's management.

Approximately $874,379,000, or 50 percent, of the Combined Plan's net position as of June 30, 2020 does not have a readily determinable market value. Of this balance, approximately $53,159,000 has been estimated by management. The remaining $821,220,000 is valued based on valuations performed by the investee company management, which is subject to annual audits (generally as of December 31).

Investments for which market quotations are readily available are generally priced by the custodian using nationally recognized pricing services and practices. For investments that do not have readily observable market prices, including but not limited to private equity, public and private real estate, alternatives, and direct loans, management’s estimate of their fair value is based on information provided by investment managers, general partners, real estate advisors, and other means. These sources are held to a standard of reasonable care in verifying that the valuations presented reasonably reflect the underlying fair value of the investments. A variety of factors is considered in the valuation process, including the nature of the investment, local market conditions, trading values on public exchanges for comparable investments, and current and projected operating performance. However, due to the inherent uncertainty and the degree of judgment involved in determining fair value for such investments, the values reflected in the financial statements may differ significantly from values that would have been used had a readily determinable market value for the investments existed, and the difference could be material.

Note 1 - Significant Accounting Policies (Continued)

Contributions Receivable

At June 30, 2020, there was $2,682,035 in employer contributions receivable. This amount relates to fiscal year 2020 Component I contributions and was paid in July 2020.

ASF Recoupment Receivable - Component II (Legacy)

For members who elected to make employee contributions into the defined contributions-style program, referred to as the annuity savings fund (ASF), between July 1, 2003 and June 30, 2013, the POA called for recoupment of amounts that the City calculated were excess interest credited to individual ASF accounts. In 2011, the City Council adopted an ordinance that limited ASF interest credits to the plan's actual net investment return, with a cap of 7.9 percent and a floor of 0 percent. The POA calculation of excess interest applies the interest formula in the 2011 ordinance to the July 1, 2003 - June 30, 2013 recoupment period, recouping all interest paid in excess of the lower of 7.9 percent or the plan's actual return for that year, with a cap on the recoupment amount of 20 percent of the highest ASF balance in this period. The recoupment amount is also capped at 15.5 percent of the retiree's monthly pension check. The City offered a limited lump sum or a monthly payment option. Repayment of these excess interest amounts is not optional. As of June 30, 2020, the Combined Plan has approximately $99.4 million to be collected. The receivable will be collected, with 6.75 percent interest, as a reduction to monthly pension benefits for those with recoupment balances outstanding.

Receivable/Payable from Investment Sales/Purchases

The Combined Plan liquidated investments prior to year end and reported a receivable from investment sales at June 30, 2020 in the amount of $2,441,470. The proceeds from the sales were received subsequent to year end. In addition, the Combined Plan purchased investments prior to year end and reported a payable from investment purchases at June 30, 2020 in the amount of $2,180,477. This amount was paid subsequent to year end.

Notes Receivable from Participants

In Component II (Legacy), any active general employee who is or has been a participant in the 1973 defined contribution plan (annuity savings fund) may be eligible for the employee loan program. The minimum amount of the loan was established at $1,000. The maximum loan is the lesser of 50 percent of the member's account balance in the annuity savings fund or $10,000. Members can borrow as either a general purpose loan payable in 1 to 5 years or a residential loan payable in 1 to 15 years. A member can have only two outstanding loans. The balance of these loans for the year ended June 30, 2020 was $3,423,874. The balance is measured at the unpaid principal balance plus any accrued but unpaid interest. Participant notes receivable are written off when deemed uncollectible.

Although Component I (Hybrid) allows participant loans, there are none outstanding at June 30, 2020.

Note 1 - Significant Accounting Policies (Continued)

Capital Assets

Capital assets for the Combined Plan include software, office equipment, and furniture. Depreciation expense is calculated by allocating the net cost of the assets over their estimated useful lives.

Risks and Uncertainties

On March 11, 2020, the World Health Organization declared the outbreak of a respiratory disease caused by a new coronavirus a pandemic. First identified in late 2019 and now known as COVID-19, the large-scale pandemic has significantly impacted the global economy. As a result, the Combined Plan's investment portfolio incurred a decline in fair value, consistent with the general decline in financial markets. The continued effect on the financial performance of the Combined Plan's investments will depend on future developments, including the duration and spread of the outbreak and related restrictions. In addition, the City of Detroit, Michigan’s financial position has a significant effect on the ability of the City to make the required contribution payments to the Combined Plan. The City made all required Component I contribution payments for the fiscal year ended June 30, 2020. As disclosed in Note 11, while the City is not required to make pension contributions for Component II until fiscal year 2024, it began setting aside funds in 2016 to partially offset future required contributions. Due to the significant uncertainty and fluidity surrounding the pandemic, the extent of the impact cannot be reasonably estimated at this time.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the Unites States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions during the reporting period. Actual results could differ from those estimates.

Note 2 - Pension Plan Description

Component II (Legacy Plan) and Component I (Hybrid Plan)

Plan Administration

The Combined Plan's governance was modified in December 2014 as part of the City's bankruptcy plan. The Combined Plan's board of trustees and the Investment Committee administer the Combined Plan for the General Retirement System of the City of Detroit Pension Plan - a single-employer defined benefit and defined contribution plan that provides retirement benefits, as well as survivor and disability benefits, for plan members and beneficiaries. Plan members include active employees, retirees, and beneficiaries from various departments within the City of Detroit, Michigan. Benefit terms have been established by contractual agreements between the Combined Plan and the employees' collective bargaining unit, as modified by the POA. Future amendments are subject to the same process. However, pursuant to the POA, pension benefit terms presently expressed in the Combined Plan are not subject to amendment before June 30, 2023, unless an amendment is required to maintain the tax-qualified status of the Combined Plan. The obligation to contribute to and maintain the Combined Plan was established by the city charter and negotiations with the employees' collective bargaining units.

The board is composed of 10 members. Five members of the board are elected by the active membership to serve six-year terms. One member is elected by the retiree membership to serve a two-year term. One member is appointed by the mayor of the City of Detroit, Michigan from the citizens of the City to serve a six-year term. Three members serve ex officio, these members being the mayor of the City (or designee), the city treasurer, and one representative from the Detroit City Council. Expirations of terms of elected trustees are staggered.

Note 2 - Pension Plan Description (Continued)

The Investment Committee has five independent members appointed to initial terms with staggered expirations, which terms will all eventually become six years. Two additional members, one active and one retired, serve on the Investment Committee based on appointment by the Board. The Investment Committee will be in place through at least December 2034.

Benefits Provided

The Combined Plan provides retirement, disability, and death benefits. Benefit terms had been established by negotiations between the City Council and the employees' collective bargaining unit and subject to amendment by the City Council. Further changes to benefits were provided for under the POA.

Employees Covered by Benefit Terms

The following members were covered by the benefit terms:

	Component II (Legacy Plan)	Component I (Hybrid Plan)
Date of member count	June 30, 2019	June 30, 2019
Inactive plan members or beneficiaries currently receiving benefits	11,557	314
Inactive plan members entitled to but not yet receiving benefits	3,209	961
Active plan members	2,793	5,794
Total employees covered by the plan	17,559	7,069

As of June 30, 2014, Component II has been frozen. As of that date, no new participants were allowed to enter the plan, and no new benefit accruals were allowed for existing participants.

After July 1, 2014, active members will retain existing service credit in the Legacy Plan but will only earn existing service credit in the new Hybrid Plan.

Contributions

Article 9, Section 24 of the State of Michigan Constitution requires that financial benefits arising on account of employee service rendered in each year be funded during that year. Accordingly, in the past, the Combined Plan had retained an independent actuary to determine the annual contribution. The actuarially determined rate was the estimated amount necessary to finance the costs of benefits earned by plan members during the year, with an additional amount to finance any unfunded accrued liability. However, until 2024, contributions are based on specific provisions in accordance with the Plan of Adjustment.

Employer and Nonemployer Contributing Entity Contributions

Component II

For Component II, during fiscal year 2020, employer contributions are not actuarially determined, but rather are determined by the provisions of the POA detailed under Exhibit II.B.3.r.ii.A of the POA. Included within contributions for fiscal year 2020 in Component II are contributions from the Foundation for Detroit's Future (the "Foundation") in the amount of $375,000 and $47.9 million of contributions from the city-related entities and GLWA.

Note 2 - Pension Plan Description (Continued)

Component I

For Component I, during fiscal year 2020, employer contributions are not actuarially determined, but rather are determined by the provisions of the Combined Plan detailed under Section 9.3 of Component I. Per Section 9.3, commencing on July 1, 2014 and ending on June 30, 2023, the City is required to contribute 5 percent of compensation of active members. A portion of the employer's annual contribution for each plan year, as determined by the City, shall be credited to the rate stabilization fund reserve, with the remainder allocated to the pension accumulation fund reserve. During fiscal year 2020, the City and related entities contributed $12,515,861 into the Hybrid Plan. Beginning in 2024, the employer contributions will be actuarially determined based on the amount necessary to fund the plan on an actuarial basis.

Because there were no actuarially determined contributions for Component I, there is no required schedule of city contributions included within these financial statements.

Employee Contributions

Component II

Contribution requirements of plan members historically were established and amended by the board of trustees in accordance with the city charter, union contracts, and plan provisions. For the year ended June 30, 2020, there were no employee contributions into Component II, as the plan was frozen as of June 30, 2014.

Component I

Contribution requirements of plan members are established in Sections 9.3 and 10.1 of Component I of the Combined Plan. For the year ended June 30, 2020, the required active member contribution rate for employees was 4.0 percent of annual pay. Additionally, employees can make voluntary contributions of 3 percent, 5 percent, or 7 percent of annual pay. During fiscal year 2020, the plan received mandatory and voluntary employee contributions of $15,929,752.

Fiscal Responsibility Provision

To safeguard the long-term actuarial and financial integrity of the Combined Plan, in the event the funding level of Component I projected over a five-year period falls below 100 percent, certain remedial actions are required, as set forth in Section 9.5 of Component I of the Combined Plan, including elimination of COLA, transfers from the rate stabilization fund reserve to the pension accumulation fund reserve, and increases in mandatory employee contributions from 4 percent to 5 percent.

In the event the funding level of Component I is projected to fall below 80 percent, additional remedial actions are required, including further increasing the mandatory employee contributions to 6 percent and the potential for reducing the retirement allowance.

As of June 30, 2020, the enactment of the remedial actions has not been required based on actuarial projections of the funding levels.

Note 3 - Deposits and Investments

The Combined Plan is authorized by Michigan Public Act 314 of 1965, as amended, to invest in certain reverse repurchase agreements, stocks, diversified investment companies, annuity investment contracts, real estate leased to public entities, mortgages, real estate, debt or equity of certain small businesses, certain state and local government obligations, and certain other specified investment vehicles.

The investment policy adopted by the Board is in accordance with Public Act 196 of 1997 and has authorized investments according to Michigan Public Act 314 of 1965, as amended. The Combined Plan's deposits and investment policies are in accordance with statutory authority.

Note 3 - Deposits and Investments (Continued)

The Combined Plan invests in various investment securities. Investment securities are exposed to various risks, such as interest rate, market, credit risks, and overall market volatility. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term, and such changes could materially affect the amounts reported on the statement of changes in fiduciary net position.

The Combined Plan's cash and investments are subject to several types of risk, which are examined in more detail below:

Custodial Credit Risk of Bank Deposits

Custodial credit risk is the risk that, in the event of a bank failure, the Combined Plan's deposits may not be returned to it. The Combined Plan does not have a deposit policy for custodial credit risk. Approximately $3 million of the Combined Plan's checking account balances was uninsured and uncollateralized at June 30, 2020. The Combined Plan believes that, due to the dollar amounts of cash deposits and the limits of FDIC insurance, it is impractical to insure all deposits. As a result, the Combined Plan evaluates each financial institution with which it deposits funds and assesses the level of risk of each institution; only those institutions with an acceptable estimated risk level are used as depositories.

Interest Rate Risk

Interest rate risk is the risk that the value of investments will decrease as a result of a rise in interest rates. The Combined Plan's investment policy does not restrict investment maturities.

At year end, the Combined Plan had the following investments and maturities:

Investment (in Thousands)	Fair Value (in Thousands)	Less Than 1 Year	1-5 Years	6-10 Years	More Than 10 Years
Corporate bonds	$ 138,592	$ 5,196	$ 94,957	$ 32,344	$ 6,095
U.S. government mortgage-backed securities	8,404	1,695	5,960	-	749

Not all fixed-income securities are subject to interest rate risk. For the Combined Plan's mutual funds, valued at $31.591 million, the effective duration was 3 years.

Credit Risk

State law limits investments in commercial paper to the top two ratings issued by nationally recognized statistical rating organizations. The Combined Plan has no investment policy that would further limit its investment choices.

At June 30, 2020, the credit quality ratings of debt securities (other than those guaranteed by the U.S. government), as rated by Standard & Poor's, are as follows:

Investment (in Thousands)	AA	A	BBB	BB	B	CCC	NR
Corporate bonds	$ -	$ 14,041	$ 11,674	$ 38,993	$ 19,508	$ 2,126	$ 52,250
U.S. government mortgage-backed securities	8,404	-	-	-	-	-	-
Mutual funds	-	-	-	-	-	-	31,591
Total	$ 8,404	$ 14,041	$ 11,674	$ 38,993	$ 19,508	$ 2,126	$ 83,841

Note 3 - Deposits and Investments (Continued)

Foreign Currency Risk

Foreign currency risk is the risk that an investment denominated in the currency of a foreign country could reduce its U.S. dollar value as a result of changes in foreign currency exchange rates. The Combined Plan does not restrict the amount of investments in foreign currency.

The following securities are subject to foreign currency risk:

Currency (in Thousands)	Equity	Cash	Forward Contracts, including Payable	Net Investment (Payable) Receivable
Australian dollar	$ -	$ 5	$ -	$ -
Brazil real	1,439	-	-	-
British pound sterling	3,152	-	-	-
Canadian dollar	2,368	6	-	(46)
Czech koruna	-	11	-	-
Eurocurrency unit	15,086	225	(21)	21
Hong Kong dollar	1,825	-	-	-
Japanese yen	5,467	61	-	-
Mexican peso	925	-	-	-
New Taiwan dollar	1,865	-	-	-
Norwegian krone	1,889	43	-	-
Singapore dollar	871	-	-	-
South Korean won	906	-	-	-
Swiss franc	1,406	132	-	-
Ukraine hryvana	1	-	-	-
Total	$ 37,200	$ 483	$ (21)	$ (25)

Securities Lending

As permitted by state statutes and under the provisions of a securities lending authorization agreement, the Combined Plan lends securities to broker-dealers and banks for collateral that will be returned for the same securities in the future. The Combined Plan's custodial bank manages the securities lending program and receives cash, government securities, or irrevocable bank letters of credit as collateral. The custodial bank does not have the ability to pledge or sell collateral securities unless the borrower defaults. Borrowers are required to deliver collateral for each loan equal to not less than 102 percent of the market value of the loaned securities.

As of June 30, 2020, the collateral provided was 101.67 percent of the market value of the loaned securities, which is less than the required 102 percent.

The Combined Plan did not impose any restrictions during the fiscal year on the amount of loans made on its behalf by the custodial bank. There were no failures by any borrowers to return loaned securities or pay distributions thereon during the fiscal year. Moreover, there were no losses during the fiscal year resulting from a default of the borrowers or custodial bank.

The Combined Plan and the borrower maintain the right to terminate all securities lending transactions on demand. The cash collateral received on each loan was invested, together with the cash collateral of other lenders, in an investment pool. The average duration of such investment pool as of June 30, 2020 was 28 days. Because the loans are terminable on demand, their duration did not generally match the duration of the investments made with cash collateral. On June 30, 2020, the Combined Plan had no credit risk exposure to borrowers. The collateral held (at cost) and the fair market value of the underlying securities on loans for the Combined Plan as of June 30, 2020 were $70,818,480 and $69,658,375, respectively.

Note 3 - Deposits and Investments (Continued)

The following represents the balances relating to the securities lending transactions as of June 30, 2020; investments are reported at fair value:

Securities Lent	Underlying Securities
U.S. corporate fixed income	$ 27,347,000
U.S. equities	40,199,022
Non-U.S. equities	2,112,353
Total	$ 69,658,375

The fair market value of the collateral pool related to securities lending at June 30, 2020 was $71,702,654. The investments were in asset-backed securities, floating-rate notes, commercial paper, certificates of deposit, money funds, and repurchase agreements. Approximately 88 percent of these securities had a duration of less than 1 year, 8 percent had a duration between 1 and 3 years, and 4 percent had a duration over 15 years.

The credit ratings of the securities lending collateral pool held at June 30, 2020, as rated by S&P, are as follows:

Ratings	Amount
AAA	$ 8,436,032
AA	9,922,356
A	16,762,759
A-1	18,526,055
CC	1,988,657
D	922,510
NR	15,144,285
Total	$ 71,702,654

Note 4 - Fair Value Measurements

In accordance with GASB Statement No. 72, *Fair Value Measurement and Application*, the notes to the financial statements now include enhanced disclosures about fair value measurement, the level of fair value hierarchy, and valuation techniques.

The Combined Plan categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets, Level 2 inputs are significant other observable inputs, and Level 3 inputs are significant unobservable inputs. Investments that are measured at fair value using net asset value per share (NAV) (or its equivalent) as a practical expedient are not classified in the fair value hierarchy below.

In instances where inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The Combined Plan's assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset.

Note 4 - Fair Value Measurements (Continued)

The Combined Plan has the following recurring fair value measurements as of June 30, 2020:

	Assets Measured at Fair Value on a Recurring Basis at June 30, 2020			
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Balance at June 30, 2020
Fixed income:				
U.S. government mortgage-backed	$ -	$ 8,403,650	$ -	$ 8,403,650
Corporate bonds	-	138,591,799	-	138,591,799
Asset-backed securities	-	11,366,231	-	11,366,231
Corporate floating rate notes	-	27,610,138	-	27,610,138
Certificate of deposit	-	9,378,966	-	9,378,966
Commercial paper	-	9,147,089	-	9,147,089
Mutual funds	-	31,590,991	-	31,590,991
Total fixed income	-	236,088,864	-	236,088,864
Equity:				
Common stock	498,102,695	-	-	498,102,695
Preferred stock	4,695,012	4,449,781	-	9,144,793
Total equity	502,797,707	4,449,781	-	507,247,488
Private equity funds	-	-	2,800,000	2,800,000
Partnership investments	-	-	3,464,000	3,464,000
Real estate private equity funds	-	-	6,000,000	6,000,000
Real estate-related investments	-	-	40,894,699	40,894,699
Total	$ 502,797,707	$ 240,538,645	$ 53,158,699	796,495,051
Investments measured at NAV:				
International equity funds				247,614,288
Fixed-income funds				91,095,415
Hedge funds				179,800,741
Real estate funds				194,879,188
Private equity funds				107,830,263
Total investments measured at NAV				821,219,895
Total investments measured at fair value				$ 1,617,714,946

A total of $14,200,230 of money market funds and repurchase agreements recorded at amortized cost is not included in the fair value table above.

Equity securities and mutual funds classified in Level 1 are valued using prices quoted in active markets for those securities.

The fair value of preferred stock and fixed-income securities (other than mutual funds) at June 30, 2020 was determined primarily based on Level 2 inputs. The Combined Plan estimates the fair value of these investments using other inputs, such as interest rates and yield curves, that are observable at commonly quoted intervals for identical or similar assets.

Note 4 - Fair Value Measurements (Continued)

The fair value of the remaining investments at June 30, 2020 was determined primarily based on Level 3 inputs. The Combined Plan estimates the fair value of these investments using the Combined Plan's own pricing estimate methodology, pricing models, discounted cash flow methodologies, or similar techniques taking into account the characteristics of the asset.

The valuation method for investments measured at net asset value per share (or its equivalent) is presented in the table below.

Investments in Entities that Calculate Net Asset Value per Share

The Combined Plan holds shares or interests in investment companies where the fair value of the investments is measured on a recurring basis using net asset value per share (or its equivalent) of the investment companies as a practical expedient.

As of June 30, 2020, the fair value, unfunded commitments, and redemption rules of those investments are as follows:

	Fair Value	Unfunded Commitments	Redemption Frequency, if Eligible	Redemption Notice Period
International equity funds	$ 247,614,288	$ -	Monthly	Up to 30 days
Fixed-income funds	91,095,415	-	Daily	10 business days
Hedge funds	179,800,741	-	Quarterly	100 days
Real estate funds	194,879,188	635,461	Quarterly	90 days
Private equity funds	107,830,263	50,807,344	N/A	N/A
Total investments measured at NAV	$ 821,219,895	$ 51,442,805		

Multiple funds are held in each category. For reporting purposes, the redemption frequency and redemption notice period provided are the most restrictive of any of the funds in the category.

The international equity funds class includes investments in funds that invest in predominantly equity securities of non-U.S. companies. The funds invest in developed and emerging market countries and utilize investments across the capitalization spectrum from large to small companies. The fair values of the investments in this class have been estimated using net asset value per share of the investments.

The fixed-income funds class includes investments in funds that invest in predominantly fixed-income instruments in the U.S. and developed and emerging market countries. The funds invest across a diverse group of security types, including government, corporate, and mortgage-backed debt, and across the credit quality spectrum of investment grade and high yield. The fair values of the investments in this class have been estimated using net asset value per share of the investments.

The hedge funds class includes investments in funds that achieve capital appreciation through multimanager and/or multistrategy investments. Within this group of funds, there is exposure to investment strategies, including, but not limited to, credit, event-driven, equity, and relative value. The funds have the ability to invest across all markets and across all asset classes to implement their various strategies. The fair values of the investments in this class have been estimated using net asset value per share of the investments. Approximately 1 percent of the value of the investments in the hedge fund class above is in the process of being liquidated by the fund manager. Distributions from each fund will be received as the underlying investments of the fund are liquidated. It is estimated that the underlying investments of the fund will be liquidated over the next 12 to 18 months.

Note 4 - Fair Value Measurements (Continued)

The real estate funds class includes investments in funds whose objective is to operate a core portfolio of real estate investments predominantly located in the U.S. The funds acquire ownership in underlying investments either through direct real estate ownership or ownership in real estate companies or the equity of real estate investment trusts. The funds predominantly target purchases in office, industrial, retail, or multifamily real estate classes. The fair values of the investments in this class have been estimated using net asset value per share of the investments (or its equivalent).

The private equity funds class is an alternative investment class and consists of investments in companies that are not listed on a public exchange. The General Retirement System of the City of Detroit maintains a diversified portfolio of private equity investments by both style (buyout, turnaround, venture capital, etc.) and vintage year exposure. With its private equity allocation, the General Retirement System of the City of Detroit seeks to take advantage of the illiquidity premium associated with these private equity investments. The fair values of the investments in this class have been estimated using net asset value per share of the investments (or its equivalent).

Note 5 - Pension Plan Investments - Policy and Rate of Return

Component II (Legacy Plan) and Component I (Hybrid Plan)

Investment Policy

The assets of Component II and I are commingled and invested together, as allowed by the POA. The Combined Plan's policy in regard to the allocation of invested assets is established and may be amended by governance by a majority vote of its members. It is the policy of the governance to pursue an investment strategy that manages risk through the prudent diversification of the portfolio across a broad selection of distinct asset classes. The Combined Plan’s investment policy discourages the use of cash equivalents, except for liquidity purposes, and aims to refrain from dramatically shifting asset class allocations over short time spans. The following was the governance’s adopted asset allocation policy as of June 30, 2020:

Asset Class	Target Allocation
Global equity	37.00 %
Global fixed income	27.00
Real estate/Real assets	15.00
Private equity	8.00
Hedge funds	5.00
Diversifying strategies	8.00
Total	100.00 %

Rate of Return

For the year ended June 30, 2020, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was (0.78) percent. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Note 6 - Pension Plan Reserves

Component II (Legacy Plan)

In accordance with the Combined Plan for the General Retirement System of the City of Detroit and state law, the following reserves are required to be set aside within the Component II (Legacy) pension plan:

The annuity reserve fund is an accumulation of transfers that is made from the annuity savings fund when an employee retires, becomes disabled, or if a surviving spouse elects an annuity rather than a lump-sum payout of accumulated employee contributions.

The pension reserve fund represents funded pension benefits available for retired members and is funded by actuarially determined transfers from the pension accumulation fund. The transfers from the pension accumulation fund to the pension reserve fund for fiscal year 2020 retirements have not yet been determined.

The employee reserve (annuity savings fund or ASF) is credited as employee contributions are received throughout the year; the ASF maintains a record of the amount contributed by each employee and credits interest annually at a rate approved by the Board. During fiscal year 2020, the Board approved the interest rate at 5.25 percent. Eligible active members may elect to withdraw their accumulated (annuity) contributions plus investment earnings. Upon retirement, a member can elect to annuitize or receive a lump sum of their accumulated contribution and interest earnings. When an employee retires, becomes disabled, or if a surviving spouse elects an annuity rather than a lump-sum payout of accumulated employee contributions, the balance is transferred to the annuity reserve fund. See Note 10 for disclosure of significant changes to the ASF going forward.

The pension accumulation fund is the fund that will accumulate reserves for the pensions and other benefits payable from the contributions made by the City, including various departments thereof, and certain third parties pursuant to the POA and from which pensions and other benefits will be paid on account of members with prior service credit and transfers, as provided in Section E-18. Contributions to the pension accumulation fund from the effective date of the POA through fiscal year 2023 shall be made only in the amounts and from the sources identified in the POA.

The expense fund is the fund that will be credited with all money provided by the City to pay the administrative expenses of the Combined Plan and from which all the expenses necessary in connection with the administration and operation of the Combined Plan will be paid. At year end, this reserve balance is zero, as all employer contributions were credited to the pension accumulation fund.

The income fund shall be the fund to which all interest, dividends, and other income derived from the investments of Component II of the Combined Plan will be credited. Transfers from the income fund will be made to credit earnings and losses to various reserves of the Combined Plan in accordance with the provisions of Component II of the combined plan document. Amounts credited to the income fund in excess of amounts needed to credit earnings and losses of the Combined Plan, as provided in Component II, for any plan year shall be transferred to the pension accumulation fund and used to pay retirement allowances and other benefits on account of members. During fiscal year 2020, the income fund reserve was not utilized, and all investment income was credited to the pension accumulation fund.

The balances of the reserve accounts for Component II (excluding the Income Stabilization Fund) as of June 30, 2020 are included in the table below. The reserve balances as of June 30, 2020 shown below do not include the current year transfer amount related to fiscal year 2020 retirements for amounts that are transferred from the pension accumulation fund to the pension reserve fund.

Note 6 - Pension Plan Reserves (Continued)

The balances of the reserve accounts at June 30, 2020 are as follows:

	Required Reserve	Amount Funded
Annuity savings fund	$ 114,225,043	$ 114,225,043
Pension reserve fund	2,091,442,091	1,481,876,946
Annuity reserve fund	-	-
Pension accumulation fund	N/A	-

Component I (Hybrid Plan)

In accordance with the Combined Plan for the General Retirement System of the City of Detroit and state law, the following reserves are required to be set aside within the Component I (Hybrid) pension plan:

The accumulated mandatory employee contribution fund shall be the fund in which shall be accumulated the contributions of members to provide their retirement allowances. Upon the retirement, termination, or death of a member with a vested retirement allowance, the member's accumulated mandatory employee contributions shall be deemed to be part of the pension reserve that shall be used to pay the member's retirement allowance.

The accumulated voluntary employee contribution fund shall be the fund in which shall be accumulated the voluntary after-tax contributions of members together with earnings thereon.

The pension accumulation fund shall be the fund in which shall be accumulated reserves for the retirement allowances and other benefits payable from that portion of the employer's annual contribution that is not credited to the rate stabilization fund and amounts transferred to Component I and from which shall be paid retirement allowances and other benefits on account of members. During fiscal year 2020, all employer contributions were directed by the City into the pension accumulation fund, and no amounts were credited to the rate stabilization fund.

The rate stabilization fund shall be the fund that shall be credited with the employer's annual contributions in excess of the amount of the employer's contribution that is credited to the pension accumulation fund and amounts transferred to Component I, as provided in Section E-16(C) of Component II. See Note 9 for details on the transfer provisions related to transfers between Component II and Component I. During fiscal year 2020, no amounts were credited to the rate stabilization fund. Therefore, this reserve balance is zero.

The medical benefit fund shall be the fund that will be credited with contributions made for the purpose of funding medical benefits. During the year, no such contributions were made, and, therefore, this reserve balance is zero.

The expense fund shall be the fund to which will be credited any money provided by the employers to pay the administrative expenses of the Combined Plan and from which certain expenses incurred in connection with the administration and operation of the Combined Plan will be paid. At year end, this reserve balance is zero, as all employer contributions were credited to the pension accumulation fund.

The income fund shall be the fund to which all interest, dividends, and other income derived from the investments of Component I of the Combined Plan will be credited. Transfers from the income fund will be made to credit earnings and losses to various reserves of the Combined Plan in accordance with the provisions of Component I of the combined plan document. Amounts credited to the income fund in excess of amounts needed to credit earnings and losses of the Combined Plan, as provided in Component I, for any plan year shall be transferred to the pension accumulation fund. During fiscal year 2020, investment income was transferred to other reserve funds, and, therefore, this reserve balance at June 30, 2020 remains unfunded.

Note 6 - Pension Plan Reserves (Continued)

The balances of the reserve accounts for Component I as of June 30, 2020 are included in the table below. As of June 30, 2020, not all transfers from the accumulated mandatory employee contribution fund to the pension accumulation fund for retirements have occurred.

The balances of the above reserves for Component I that were funded as of June 30, 2020 are as follows:

	Required Reserve	Amount Funded
Accumulated mandatory employee contribution fund	$ 45,578,064	$ 45,578,064
Accumulated voluntary employee contribution fund	29,508,796	29,508,797
Pension accumulation fund	-	77,473,844

Note 7 - Net Pension Liability for Component II (Legacy Plan)

The net pension liability has been measured as of June 30, 2020 and is composed of the following:

Total pension liability	$ 2,698,450,060
Plan fiduciary net position	1,596,101,989
City's pension liability	$ 1,102,348,071
Plan fiduciary net position as a percentage of the total pension liability	59.15 %

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of June 30, 2019, which used update procedures to roll forward the estimated liability to June 30, 2020. The valuation used the following actuarial assumptions applied to all periods included in the measurement:

Inflation	N/A	
Salary increases	N/A	No inflation assumption or salary increases due to plan freeze as of June 30, 2014
Investment rate of return	7.06%	Net of pension plan investment expense, including inflation

Note that the long-term assumed rate of return used for the purpose of the GASB Statement No. 67 valuations were determined in accordance with generally accepted accounting principles. This should not be confused with the provisions in the Plan of Adjustment, which established a 6.75 percent assumed rate of return for the purpose of the various provisions within the plan; the Plan of Adjustment did not attempt to dictate the long-term rate of return to be used for accounting purposes.

Based on an experience study from 2008-2013 issued in February 2015, the mortality table assumption was based on the RP-2014 Blue Collar Annuitant Table for males and females. The tables are projected to be fully generational based on the two-dimensional sex-distinct mortality scale MP-2014.

The actuarial assumptions, other than mortality and the investment rate of return, used in the June 30, 2019 valuation to calculate the total pension liability as of June 30, 2020 were based on the results of an actuarial experience study for the period from 2002-2007. While the Combined Plan routinely has an experience study performed by an actuary every five years, the last experience study for the period from July 1, 2007 through June 30, 2012 was started but not completed due to the City's bankruptcy. To avoid any distortions from the bankruptcy period, the Combined Plan has chosen to have the next experience study performed for the period from July 1, 2015 through June 30, 2020.

June 30, 2020

Note 7 - Net Pension Liability for Component II (Legacy Plan) (Continued)

Attribution Period

As addressed more fully in Note 10, as of June 30, 2014, the plan was frozen such that no new benefit accruals were allowed, and no new members could join. Starting on July 1, 2014, the participants in the Legacy Plan (Component II) will now be earning benefits under a newly created defined benefit plan (Component I). GASB Statement No. 67 requires that the service costs of all pensions be attributed through all assumed exit ages through retirement. Neither GASB Statement No. 67 nor any other GASB standard has set forth guidance specifically related to frozen plans with successor plans in place. Absent any guidance to the contrary, due to the status as a frozen plan combined with the fact that individuals are now earning service in a new defined benefit pension plan, the retirement date for the purpose of attribution was assumed to be June 30, 2014 for all members. Therefore, the total pension liability at June 30, 2020 is equal to the present value of projected benefit payments.

Discount Rate

The discount rate used to measure the total pension liability as of June 30, 2020 was 7.06 percent; however, the single discount rate used at the beginning of the year was 7.38 percent. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and that city contributions will be made at rates equal to the difference between actuarially determined contribution rates and the employee rate.

Projected Cash Flows

Based on the above assumptions, the pension plan’s fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees at both the beginning of the year and the end of the year. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate. Contributions to the Combined Plan are projected to be at the minimum amounts required by the Plan of Adjustment through 2023, followed by actuarially determined contributions beginning in 2024. While no funding policy has been adopted by the City of Detroit, Michigan, the projection of cash flows assumes full funding of contributions such that the plan's net position will be sufficient to make all benefit payments. The Combined Plan believes that the funding practice adopted by the City will be consistent with the underlying objective used in the projection to develop the single discount rate.

The long-term expected rate of return on pension plan investments was determined using a building-block method 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. Best estimates of arithmetic real rates of return as of June 30, 2020 for each major asset class included in the pension plan's target asset allocation, as disclosed in the investment footnote, are summarized in the following table:

Asset Class	Long-term Expected Real Rate of Return
Global equity	6.37 %
Global fixed income	3.02
Real estate/Real assets	5.39
Private equity	10.57
Hedge funds	3.69
Diversifying strategies	2.38

Note 7 - Net Pension Liability for Component II (Legacy Plan) (Continued)

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability, calculated using the discount rate of 7.06 percent, as well as what the net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.06 percent) or 1 percentage point higher (8.06 percent) than the current rate:

	1 Percentage Point Decrease (6.06%)	Current Discount Rate (7.06%)	1 Percentage Point Increase (8.06%)
Net pension liability	$ 1,337,170,340	$ 1,102,348,071	$ 901,292,510

Note 8 - Net Pension Liability of the City for Component I (Hybrid Plan)

The net pension liability of the City has been measured as of June 30, 2020 based on benefits in force as of that date and is composed of the following:

Total pension liability	$ 168,354,404
Plan fiduciary net position	152,560,705
City's net pension liability	$ 15,793,699
Plan fiduciary net position as a percentage of the total pension liability	90.62 %

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of June 30, 2019, which used update procedures to roll forward the estimated liability to June 30, 2020. The following are the significant assumptions:

Wage inflation assumption was 2 percent for five years, 2.5 percent for the next five years, and 3 percent thereafter.

The investment rate of return (net of pension plan investment expense, including inflation) applied to the beginning of year total pension liability was 7.38 percent as compared to 7.06 percent, which was the assumed long-term rate of return as of the end of year. The rates were determined in accordance with generally accepted accounting principles. This should not be confused with the provisions in the Plan of Adjustment, which established a 6.75 percent assumed rate of return for the purpose of the various provisions within the plan; the Plan of Adjustment did not attempt to dictate the long-term rate of return to be used for accounting purposes.

Based on an experience study from 2008-2013 issued in February 2015, the mortality table assumption was based on the RP-2014 Blue Collar Annuitant Table for males and females. The tables are projected to be fully generational based on the two-dimensional sex-distinct mortality scale MP-2014. While the Combined Plan routinely has an experience study performed by an actuary every five years, to avoid any distortions from the bankruptcy period, the Combined Plan has chosen to have the next experience study performed for the period from July 1, 2015 through June 30, 2020.

Cost of living adjustments (COLA): This plan has a postretirement COLA feature known as the Variable Pension Improvement Factor (VPIF) of a 2 percent simple COLA. It can be granted beginning on July 1, 2018 only if the five-year projection shows the plan's funded status at 100 percent based upon 6.75 percent future investment return. For the purpose of the total pension liability, the actuary assumed a 0.50 percent simple COLA beginning on July 1, 2020 to model the potential average COLA over time. Had no COLA been assumed, the net pension liability would have been $10,204,991. Had the full 2 percent COLA been assumed, the net pension liability would have been $32,561,114.

There were no changes in benefit provisions during the year affecting the total pension liability.

Note 8 - Net Pension Liability of the City for Component I (Hybrid Plan) (Continued)

Other than mortality and the investment rate of return, the actuarial assumptions used in the June 30, 2019 valuation to calculate the total pension liability as of June 30, 2020 were based on the results of an actuarial experience study for the period from 2002-2007, modified as necessary to account for the difference in eligibility of this new plan.

Discount Rate

The discount rate used to measure the total pension liability as of June 30, 2020 was 7.06 percent; however, the single discount rate used at the beginning of the year was 7.38 percent. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and that city contributions will be made at rates equal to the difference between actuarially determined contribution rates and the employee rate.

Projected Cash Flows

Based on those assumptions, the pension plan’s fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees at both the beginning of the year and the end of the year. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate. Contributions to the Combined Plan are projected to be at the minimum amounts required by the Plan of Adjustment through 2023, followed by actuarially determined contributions beginning in 2024. While no funding policy has been adopted by the City of Detroit, Michigan, the projection of cash flows assumes full funding of contributions such that the plan's net position will be sufficient to make all benefit payments. The Combined Plan believes that the funding practice adopted by the City will be consistent with the underlying objective used in the projection to develop the single discount rate.

The long-term expected rate of return on future pension plan investments is the same as Component II given that the assets are commingled (see Note 7).

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of the City, calculated using the discount rate of 7.06 percent, as well as what the City's net pension liability (asset) would be if it were calculated using a discount rate that is 1 percentage point lower (6.06 percent) or 1 percentage point higher (8.06 percent) than the current rate:

	1 Percentage Point Decrease (6.06%)	Current Discount Rate (7.06%)	1 Percentage Point Increase (8.06%)
Net pension liability (asset) of the City	$ 39,344,149	$ 15,793,699	$ (3,268,972)

Note 9 - Commitments

When the Combined Plan enters into various investments, it may not completely fund the entire investment at the beginning. Rather, it enters into commitments to fund remaining capital amounts at certain points in time. At June 30, 2020, the remaining capital funding commitment for the Combined Plan is approximately $51 million.

Note 9 - Commitments (Continued)

In addition, the Combined Plan document setting forth the Legacy Plan (Component II) contains a provision for the transfer of certain excess investment returns to the new Hybrid Plan (Component I). In any plan year during the period beginning on or after July 1, 2014 and ending on June 30, 2023, if the annual rate of return credited to member annuity savings fund accounts is less than the actual rate of return net of expenses of the plan's invested assets for the second plan year preceding the plan year in which the annual rate of return is credited, the excess earned shall be transferred to the pension accumulation fund maintained under Component I of the Combined Plan and will be used to fund transition costs related to Component I. The transition cost is a measure of the liability that Component I of the Combined Plan has at its inception due to the fact that members in Component I receive vesting and eligibility credit under Component I for service that was earned prior to July 1, 2014 and is otherwise credited to members under Component II. Such transition costs have been calculated by the plan's actuary. Yearly transfers to fund these costs are required in the second year following the year in which the return is earned based on a two-year look-back; therefore, as an example, any transfers based on the plan year ended June 30, 2018 will be calculated and transferred during the plan year ended June 30, 2020.

Based on these provisions, $1,178,130 and $9,015,677 was transferred from Component II to Component I toward the transition costs in fiscal years ended June 30, 2020 and 2019, respectively.

Note 10 - City of Detroit's Chapter 9 Bankruptcy Plan of Adjustment and Continuing Impact on the Plan

In March 2013, after enduring years of financial difficulty, the City of Detroit, Michigan filed for bankruptcy protection. The Eighth Amended Plan for Adjustment of Debts of the City of Detroit was filed with the Bankruptcy Court on October 22, 2014. In November 2014, after a confirmation hearing lasting several weeks, the Bankruptcy Court confirmed the Plan of Adjustment, which became effective December 10, 2014.

Legacy Plan (Component II)

The pension settlement, as part of the Plan of Adjustment, compromised pension claims and provided funding support for legacy pension benefit obligations under the General Retirement System of the City of Detroit Component II from the State of Michigan, the Detroit Institute of Arts, and certain foundation donors. The Plan of Adjustment also required certain governance changes for DGRS. Those governance changes included establishment of the Investment Committee effective December 10, 2014, which officially marked the beginning of implementation of the Plan of Adjustment, although DGRS had for months already undertaken contingency planning for all of the pension adjustments. In addition to governance changes, the POA requires of the System, through its board of trustees and the Investment Committee, certain periodic and interim reporting obligations to the City, the Foundation for Detroit's Future, and the State of Michigan. Although there were some delays in meeting certain obligations because of new actuarial reporting requirements for governmental systems, which in turn impacted the preparation of the System's audited financial statements, the System believes it has ultimately met its special reporting obligations in fiscal year 2016 and continued to do so in fiscal years 2017, 2018, 2019, and 2020.

For DGRS, with respect to Component II benefit adjustments, the pension settlement (for which benefit levels were and are contingent on other factors, including receipt of outside contributions) provided for the following:

- A loss of cost of living adjustments, or escalators, paid after July 1, 2014
- A 4.5 percent cut to the remaining accrued pension benefit after the COLA loss

Note 10 - City of Detroit's Chapter 9 Bankruptcy Plan of Adjustment and Continuing Impact on the Plan (Continued)

- For DGRS members who participated in the annuity savings fund plan between 2003 and 2013, subject to certain caps, recoupment of certain amounts of interest deemed by the City to be in excess of that which should have been credited to individual ASF accounts, referred to as "ASF Recoupment." ASF Recoupment, like other provisions of the pension settlement, was not optional. Most members will pay their ASF Recoupment by a monthly deduction from their future pension benefits for a set term of months, including interest calculated at 6.75 percent. All members were offered a lump-sum cash option, which was limited in the aggregate to $30 million in member recoupment. In fiscal year 2016, the Bankruptcy Court approved certain additional members whose application submissions were not timely received to participate in the lump-sum cash option.

- The possibility of restoration of certain pension benefit cuts, based on a program for the most financially vulnerable pensioners and beneficiaries through the State of Michigan Treasury Department, as well as a new feature of Component II allowing restoration depending on the System's funding level over time

- An Income Stabilization Program (the "ISF Program") was established as part of the State Contribution Agreement, another facet of the pension settlement. The ISF Program, supported by city funds arising from an unlimited tax general obligation bonds settlement, is intended to ensure that the most financially vulnerable retirees and beneficiaries do not fall below the poverty line as a result of bankruptcy-related pension changes. Beginning on March 1, 2015, certain DGRS members also received benefit pension cut restoration under the ISF Program administered by DGRS, pursuant to the State Contribution Agreement, based on eligibility and benefit payments calculated by the State of Michigan. Following the close of the fiscal year ended June 30, 2016 and pursuant to Component II of the Combined Plan and the State Contribution Agreement, the System implemented the first annual ISF Program benefit adjustments effective July 1, 2016.

- The POA also discusses a restoration plan. Terms of the pension restoration are contained in Exhibit II.B.3.r.ii.C of the POA, and the terms govern how accrued pensions, including COLA benefits that were reduced as a part of the POA, may be restored over the 30-year period following the confirmation order. The Investment Committee will supervise the restoration process in accordance with the restoration plan. The restoration plan shall be deemed a part of Component II. The funding levels have not been attained as of June 30, 2020 for the restoration process to initiate.

Going forward, the obligations for contributions to support Component II of the System through 2023 are determined as fixed amounts by the provisions in the Plan of Adjustment. Pursuant to the Plan of Adjustment, the System is expected to receive contributions totaling $718.6 million through fiscal year 2023. The Plan of Adjustment calls for the System to receive $98.8 million from the State of Michigan; $428.5 million from DWSD; $31.7 million from UTGO settlement proceeds; the actual or present value equivalent of $50 million from the DIA and its foundation donors; and $114.6 million from the other city-related employer contribution sources, such as the General Fund, Detroit Library Commission, and COBO Authority, over a 10-year period covering fiscal year 2014 through fiscal year 2023. Between 2025 and 2034, DGRS will receive $18.3 million per year from certain foundation donors. After 2023, the City, and various other employer constituents, such as the Library, DWSD, and COBO Authority, will retain responsibility for the full funding obligations of Component I of the System, consistent with Michigan law.

Note 10 - City of Detroit's Chapter 9 Bankruptcy Plan of Adjustment and Continuing Impact on the Plan (Continued)

In fiscal year 2017, DGRS received from the City, its employer-related contribution sources, and the DIA and its foundation donors all contributions required by the Plan of Adjustment. The City was to remit payments on the UTGO Stub Bonds to the Combined Plan through 2028. In fiscal year 2017, the City of Detroit, Michigan refunded all of its outstanding UTGO Stub Bonds. Upon refunding, the payments to the Combined Plan were accelerated, with a majority of the outstanding balance paid to the Combined Plan in fiscal year 2017; as a result, the Combined Plan received approximately $9.4 million in the ISF and $18.3 million in the Component II Defined Benefit Fund related to this transaction.

DGRS continues to implement the POA, which includes ongoing compliance and additional reporting requirements by the Board and the Investment Committee, annual review of benefit levels, and essentially provides for a 40-year plan to close the DGRS Legacy Component II underfunded liability. ASF Recoupment, in particular, is a notable facet of the Plan of Adjustment that will continue to be implemented as members apply for Component II pension benefits over time.

Note 11 - City of Detroit Commitment to Future Funding

In anticipation of significant actuarially required contributions commencing in fiscal year 2024, the City, independent of the Combined Plan, has established a Retiree Protection Trust Fund (the "Trust"). The Trust, a permanent irrevocable trust under Sections 115 and 414(d) of the Internal Revenue Code, is to receive, maintain, and invest city funds restricted for future deposits to the General Retirement System Plan and the Police and Fire Retirement System Plan as part of an effort to manage and stabilize future required city contributions to the plans. The City has set aside approximately $185 million for this Trust as of June 30, 2020 for future contributions to the General Retirement System Plan and the Police and Fire Retirement System Plan. Contributions to the Combined Plan will be recognized as the City makes distributions from this independent trust to the Combined Plan.

Required Supplemental Information

Combined Plan for the General Retirement System of the City of Detroit

Required Supplemental Information
Schedule of Changes in the Net Pension Liability and Related Ratios (Legacy Plan)

Last Seven Fiscal Years

	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability							
Service cost	$ -	$ -	$ -	$ -	$ -	$ -	$ 32,736,019
Interest	192,888,245	195,489,643	192,359,745	201,919,236	214,011,164	263,007,329	242,611,073
Changes in benefit terms	-	-	-	-	-	(731,824,895)	(113,311,571)
Differences between expected and actual experience	(55,836,749)	13,596,902	34,154,327	(27,508,380)	(43,719,112)	24,644,530	-
Changes in assumptions	67,677,535	-	(110,274,515)	76,925,957	90,034,927	(101,559,893)	(271,190,194)
Benefit payments, including refunds	(239,881,652)	(248,790,017)	(253,442,630)	(267,249,539)	(292,282,179)	(297,538,990)	(397,733,807)
Net Change in Total Pension Liability	(35,152,621)	(39,703,472)	(137,203,073)	(15,912,726)	(31,955,200)	(843,271,919)	(506,888,480)
Total Pension Liability - Beginning of year	2,733,602,681	2,773,306,153	2,910,509,226	2,926,421,952	2,958,377,152	3,801,649,071	4,308,537,551
Total Pension Liability - End of year	**$ 2,698,450,060**	**$ 2,733,602,681**	**$ 2,773,306,153**	**$ 2,910,509,226**	**$ 2,926,421,952**	**$ 2,958,377,152**	**$ 3,801,649,071**
Plan Fiduciary Net Position							
Contributions - Employer, state, and foundation	$ 48,275,000	$ 68,275,000	$ 68,275,000	$ 91,238,402	$ 104,792,657	$ 189,282,094	$ 25,126,131
Contributions - Employee	-	-	-	-	-	609,073	10,241,761
Net investment (loss) income	(14,002,111)	47,170,004	155,423,193	206,896,568	(12,450,547)	93,054,981	289,789,607
Administrative expenses	(2,351,273)	(3,023,939)	(3,313,418)	(6,021,837)	(3,742,618)	(4,617,194)	(11,237,767)
Benefit payments, including refunds	(239,881,652)	(248,790,017)	(253,442,630)	(267,249,539)	(292,282,179)	(297,538,991)	(397,733,807)
Other (includes ASF recoupment)	5,155,198	(5,347,863)	6,952,522	8,324,074	5,945,783	135,280,369	-
Net Change in Plan Fiduciary Net Position	(202,804,838)	(141,716,815)	(26,105,333)	33,187,668	(197,736,904)	116,070,332	(83,814,075)
Plan Fiduciary Net Position - Beginning of year	1,798,906,827	1,940,623,642	1,966,728,975	1,933,541,307	2,131,278,211	2,015,207,879	2,099,021,954
Plan Fiduciary Net Position - End of year	**$ 1,596,101,989**	**$ 1,798,906,827**	**$ 1,940,623,642**	**$ 1,966,728,975**	**$ 1,933,541,307**	**$ 2,131,278,211**	**$ 2,015,207,879**
Net Pension Liability - Ending	**$ 1,102,348,071**	**$ 934,695,854**	**$ 832,682,511**	**$ 943,780,251**	**$ 992,880,645**	**$ 827,098,941**	**$ 1,786,441,192**
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	59.15 %	65.81 %	69.98 %	67.57 %	66.07 %	72.04 %	53.01 %
Covered Payroll	$ 149,373,313	$ 141,646,750	$ 149,373,313	$ 141,454,717	$ 185,147,364	$ 188,210,536	$ 238,669,871
Net Pension Liability as a Percentage of Covered Payroll	737.98 %	659.88 %	557.45 %	667.20 %	536.27 %	439.45 %	748.50 %

GASB Statement No. 67 was implemented on June 30, 2014 and does not require retroactive implementation. Data will be added as information is available until 10 years of such information is available.

See notes to required supplemental information schedules.

Combined Plan for the General Retirement System of the City of Detroit

Required Supplemental Information
Schedule of Investment Returns (Legacy and Hybrid Plans)

Last Seven Fiscal Years

Years Ended June 30

	2020	2019	2018	2017	2016	2015	2014*
Annual money-weighted rate of return - Net of investment expense	(0.78)%	3.28 %	6.70 %	12.60 %	1.10 %	2.40 %	16.30 %

*GASB Statement No. 67 was implemented on June 30, 2014 and does not require retroactive implementation. Data will be added as information is available until 10 years of such information is available.

Fiscal years 2014 and 2015 do not include information related to the Hybrid Plan. The Hybrid Plan was effective July 1, 2014, and for the first year (fiscal year 2015) it did not invest in anything other than cash and cash equivalents.

See notes to required supplemental information schedules.

Combined Plan for the General Retirement System of the City of Detroit

Required Supplemental Information
Schedule of Pension Contributions (Legacy Plan)

Last Ten Fiscal Years

Years Ended June 30

	2020*	2019*	2018*	2017*	2016*	2015*	2014	2013	2012	2011
Actuarially determined contribution	$ -	$ -	$ -	$ -	$ -	$ -	$ 72,643,307	$ 62,297,432	$ 64,065,214	$ 55,138,011
Contributions in relation to the actuarially determined contribution	-	-	-	-	-	-	25,126,131	26,515,782	64,065,214	55,138,011
Contribution Deficiency	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (47,517,176)**	**$ (35,781,650)**	**$ -**	**$ -**
Covered Payroll	$ -	$ -	$ -	$ -	$ -	$ -	$ 238,669,871	$ 213,291,089	$ 257,992,240	$ 303,379,482
Contributions as a Percentage of Covered Payroll	- %	- %	- %	- %	- %	- %	10.53 %	12.43 %	24.83 %	18.17 %

*The contributions starting with fiscal year 2015 were determined by the provisions of the POA; the contributions were not actuarially determined and, therefore, not subject to disclosure within this schedule in accordance with GASB Statement No. 67.

Notes to Schedule of Pension Contributions (Legacy Plan)

Actuarial valuation information relative to the determination of contributions:

N/A - Starting in fiscal year 2015, contributions are not actuarially determined.

See notes to required supplemental information schedules.

Combined Plan for the General Retirement System of the City of Detroit

Required Supplemental Information
Schedule of Changes in the City's Net Pension Liability and Related Ratios (Hybrid Plan)

Last Six Fiscal Years

	2020	2019	2018	2017	2016	2015
Total Pension Liability						
Service cost	$ 22,532,002	$ 20,171,596	$ 17,056,732	$ 18,417,036	$ 18,302,706	$ 19,318,576
Interest	10,270,622	7,531,400	5,438,061	4,084,390	2,495,896	695,469
Differences between expected and actual experience	(7,464,424)	7,556,858	4,546,865	(4,667,487)	(1,263,760)	(1,202,108)
Changes in assumptions	6,518,200	-	(5,758,189)	2,780,462	2,111,451	-
Voluntary employee contributions	5,723,982	5,804,274	5,302,650	5,043,347	5,213,744	5,775,885
Benefit payments, including refunds	(3,629,833)	(3,539,384)	(2,390,592)	(2,134,809)	(2,287,214)	-
Net Change in Total Pension Liability	33,950,549	37,524,744	24,195,527	23,522,939	24,572,823	24,587,822
Total Pension Liability - Beginning of year	134,403,855	96,879,111	72,683,584	49,160,645	24,587,822	-
Total Pension Liability - End of year	**$ 168,354,404**	**$ 134,403,855**	**$ 96,879,111**	**$ 72,683,584**	**$ 49,160,645**	**$ 24,587,822**
Plan Fiduciary Net Position						
Contributions - Employer	$ 12,515,861	$ 12,205,699	$ 14,673,644	$ 9,484,992	$ 9,048,831	$ 8,811,369
Mandatory employee contributions	10,205,770	9,765,911	8,837,967	7,752,058	7,345,515	6,970,544
Net investment (loss) income	(2,216,167)	3,270,862	8,445,590	9,109,732	(76,608)	20,690
Administrative expenses	(1,540,433)	(1,942,064)	(2,171,693)	(2,648,385)	(3,094,197)	(1,481,590)
Voluntary employee contributions	5,723,982	5,804,274	5,302,650	5,043,347	5,213,744	5,786,488
Benefit payments, including refunds of mandatory contributions	(2,048,198)	(1,920,550)	(1,308,550)	(1,021,847)	(1,031,060)	(10,603)
Refunds based on voluntary contributions	(1,581,635)	(1,618,834)	(1,082,042)	(1,112,962)	(1,256,154)	-
Other	1,237,613	9,066,288	12,436	61,834	6,586	-
Net Change in Plan Fiduciary Net Position	22,296,793	34,631,586	32,710,002	26,668,769	16,156,657	20,096,898
Plan Fiduciary Net Position - Beginning of year	130,263,912	95,632,326	62,922,324	36,253,555	20,096,898	-
Plan Fiduciary Net Position - End of year	**$ 152,560,705**	**$ 130,263,912**	**$ 95,632,326**	**$ 62,922,324**	**$ 36,253,555**	**$ 20,096,898**
City's Net Pension Liability - Ending	**$ 15,793,699**	**$ 4,139,943**	**$ 1,246,785**	**$ 9,761,260**	**$ 12,907,090**	**$ 4,490,924**
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	90.62 %	96.92 %	98.71 %	86.57 %	73.75 %	81.74 %
Covered Payroll	$ 245,732,111	$ 224,726,503	$ 246,173,916	$ 199,307,987	$ 185,147,364	$ 180,069,852
City's Net Pension Liability as a Percentage of Covered Payroll	6.43 %	1.84 %	0.51 %	4.90 %	6.97 %	2.49 %

See notes to required supplemental information schedules.

Benefit Changes

<u>Legacy Plan</u>

In 2014, the pension plan was frozen. No new employees are allowed to participate in the plan. All benefits for actives were frozen as of June 30, 2014 based on service and average final compensation accrued as of that date.

In 2015, benefits were reduced by 4.5 percent, and the cost of living adjustments were eliminated.

Changes in Assumptions

<u>Legacy Plan</u>

In 2014, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 5.88 percent to 7.2 percent and updating the mortality tables from RP-2000 Combined Table to RP-2014 Blue Collar Mortality Table, and adjustments for longevity and unused sick leave were eliminated.

<u>Legacy and Hybrid Plan</u>

In 2015, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 7.2 to 7.61 percent.

In 2016, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 7.61 to 7.23 percent.

In 2017, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 7.23 to 6.91 percent.

In 2018, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 6.91 to 7.38 percent.

In 2020, amounts reported as changes of assumptions resulted from adjustment of the discount rate from 7.38 to 7.06 percent.

Other Supplemental Information

Combined Plan for the General Retirement System of the City of Detroit

Statement of Changes in Fiduciary Net Position by Division - Legacy Defined Benefit Plan

For the Year Ended June 30, 2020

	DWSD Subdivisions		General Retirement System - Divisions				
	GLWA	DWSD-R	DWSD - Division Total (all DWSD Subdivisions)	General Division	DOT	Library	Total - General Retirement System (all Divisions)
Beginning Net Position - July 1, 2019	$ 381,293,752	$ 161,087,122	$ 542,380,874	$ 999,718,653	$ 175,923,050	$ 80,884,250	$ 1,798,906,827
Additions:							
Investment income:							
Interest and dividends	12,739,986	5,382,327	18,122,313	33,575,031	6,230,743	2,783,425	60,711,512
Net decrease in fair value of investments	(14,703,837)	(6,212,005)	(20,915,842)	(37,529,688)	(5,839,188)	(2,889,779)	(67,174,497)
Net unrealized loss on collateralized securities	(26,031)	(10,997)	(37,028)	(66,441)	(10,337)	(5,116)	(118,922)
Investment related expenses	(1,624,211)	(686,188)	(2,310,399)	(4,145,588)	(645,008)	(319,209)	(7,420,204)
Net investment loss	(3,614,093)	(1,526,863)	(5,140,956)	(8,166,686)	(263,790)	(430,679)	(14,002,111)
Contributions:							
Employer contributions:							
Originating from DWSD:							
Regular pension contribution	30,158,700	12,741,300	42,900,000	-	-	-	42,900,000
Contribution for administrative expenses	1,757,500	742,500	2,500,000	-	-	-	2,500,000
DWSD transfer to General Division for administrative expenses	(1,757,500)	(742,500)	(2,500,000)	2,500,000	-	-	-
Total contributions originating from DWSD	30,158,700	12,741,300	42,900,000	2,500,000	-	-	45,400,000
Contributions from other divisions	-	-	-	-	-	2,500,000	2,500,000
Total employer contributions	30,158,700	12,741,300	42,900,000	2,500,000	-	2,500,000	47,900,000
Foundation for Detroit's Future	-	-	-	265,012	109,988	-	375,000
Total contributions	30,158,700	12,741,300	42,900,000	2,765,012	109,988	2,500,000	48,275,000
ASF recoupment interest	1,232,489	520,696	1,753,185	3,206,507	1,120,576	134,275	6,214,543
Other income	401,684	169,702	571,386	1,025,721	156,559	75,876	1,829,542
Total additions - net	28,178,780	11,904,835	40,083,615	(1,169,446)	1,123,333	2,279,472	42,316,974
Deductions:							
Member refunds and withdrawals	929,164	392,549	1,321,713	3,742,539	4,100,326	179,477	9,344,055
Retirees' pension and annuity benefits	44,169,204	18,660,389	62,829,593	128,911,643	31,985,148	6,811,213	230,537,597
General and administrative expenses	498,373	210,550	708,923	1,306,689	229,941	105,720	2,351,273
ASF Recoupment Write-off	202,316	85,474	287,790	1,062,282	349,489	11,196	1,710,757
Transfer of general and administrative expenses to General Division	(498,373)	(210,550)	(708,923)	708,923	-	-	-
Transfer to Component I (Transition Cost)	249,715	105,498	355,213	654,730	115,215	52,972	1,178,130
Total deductions	45,550,399	19,243,910	64,794,309	136,386,806	36,780,119	7,160,578	245,121,812
Net Decrease in Net Position Held in Trust	(17,371,619)	(7,339,075)	(24,710,694)	(137,556,252)	(35,656,786)	(4,881,106)	(202,804,838)
End of Year Net Position Restricted for Pensions - June 30, 2020	**$ 363,922,133**	**$ 153,748,047**	**$ 517,670,180**	**$ 862,162,401**	**$ 140,266,264**	**$ 76,003,144**	**$ 1,596,101,989**

Combined Plan for the General Retirement System of the City of Detroit

Schedule of DWSD/GLWA Contributions Toward Administrative Expenses as Compared to Actual DWSD/GLWA Allocable Administrative Expenses

For the Year Ended June 30, 2020

	DWSD Division Total	
	GLWA	DWSD-R
Amount Paid in Excess of Administrative Expenses Otherwise Allocable - June 30, 2019	$ 4,371,116	$ 1,846,691
DWSD/GLWA contribution for administrative expenses in accordance with plan of adjustment and bankruptcy order	1,757,500	742,500
Administrative expenses otherwise allocable to DWSD/GLWA	(498,373)	(210,550)
Cumulative Amount Paid in Excess of Administrative Expenses Otherwise Allocable - June 30, 2020	**$ 5,630,243**	**$ 2,378,641**

Allocation Between Divisions

The Combined Plan's allocation methodology to allocate fiscal year 2020 activity between the four main divisions (General Division, DOT, DWSD, and Library) is dependent upon each revenue or expense type. Below is a description of the allocation methodology used by the Combined Plan. Where applicable, the allocation methodology outlined in the pension reporting agreement was utilized.

Investment Income - Investment income (including income from securities lending activity) and investment expenses were allocated to the divisions, with the exception of the allocation between DWSD-R and GLWA, based on the net position of each division compared to total net position (excluding the Annuity Savings Fund) as of fiscal year ended June 30, 2019. The investment income and expenses allocated were after adjusting for interest credited to the Annuity Savings Fund.

Administrative Expenses - In accordance with Section 2.3 of the pension reporting agreement, DWSD-R and GLWA's collective allocable share of administrative expenses of approximately $709,000 has been allocated to the general division. Correspondingly, the expenses transferred to the general division are offset by a $2.5 million contribution made by DWSD-R and GLWA, collectively, for administrative expenses, which was credited to the general division. This will occur until 2023, at which point the City and GLWA will mutually determine and resolve whether any aggregate over- or underpayment will impact the obligation of DWSD-R and GLWA to make payments to GRS under the pension reporting agreement.

Contributions - In fiscal year 2020, the Plan received contributions from the divisions and the Foundation for Detroit's Future. The employer contributions were allocated between the divisions according to which division the contribution was received from, with the exception of DWSD-R and GLWA's collective payments of $45,400,00, which were allocated as outlined in the POA and/or the pension reporting agreement (see below). Of the total payment of $45,400,000, $2,500,000 reflects DWSD-R and GLWA's agreed-upon share of administrative expenses which, per the pension reporting agreement, is to be transferred to the credit of the general division. The payment from the Foundation was allocated based on a common understanding from the bankruptcy proceedings, which was ultimately determined by the City of Detroit and agreed to by the other divisions. The Foundation proceeds were allocated solely to the general division and DOT in proportion to their respective net pension liability as determined by the City's actuary as of June 30, 2019.

ASF Recoupment - Revenue from the ASF recoupment was allocated between the divisions, other than between DWSD-R and GLWA, according to the division under which the individual's ASF earnings were originally accumulated and paid out.

Member Refunds, Withdrawals, Retirees' Pension, and Annuity Benefits - These deductions were allocated, other than the allocation between DWSD-R and GLWA, based on the original division from which benefits were being provided and withdrawals were being made.

Transfer to Component I (Transition Cost) - The transfer amount to Component I for transition costs were allocated to the divisions, with the exception of the allocation between DWSD-R and GLWA, based on the Annuity Savings Fund balance of each division compared to total Annuity Savings Fund as of fiscal year ended June 30, 2018.

Allocation between DWSD-R and GLWA - Once the above activity was allocated to the divisions, the DWSD division was further subdivided between DWSD-R and GLWA in accordance with the pension reporting agreement, which stipulated such allocation would be dictated to the Plan by DWSD-R and GLWA. Per those instructions, the Plan allocated the DWSD activity between GLWA (70.3 percent) and DWSD-R (29.7 percent).

Plante & Moran, PLLC
27400 Northwestern Highway
P.O. Box 307
Southfield, MI 48037-0307
Tel: 248.352.2500
Fax: 248.352.0018
plantemoran.com

December 7, 2020

To the Board of Trustees and the
Investment Committee
General Retirement System
of the City of Detroit

We have audited the financial statements of the Combined Plan for the General Retirement System of the City of Detroit (the "Combined Plan") as of and for the year ended June 30, 2020 and have issued our report thereon dated December 7, 2020. Professional standards require that we provide you with the following information related to our audit, which is divided into the following sections:

Section I - Internal Control Related Matters Identified in an Audit. This includes any deficiencies we observed in the Combined Plan's accounting principles or internal control that we believe are significant. Current auditing standards require us to formally communicate on an annual basis matters we note about the Combined Plan's accounting policies and internal control. The Combined Plan has been diligent in its efforts to remedy many of the previously identified internal control deficiencies. Due to its efforts, the condition of the accounting records at the start of the audit continues to improve.

Section II - Required Communications with Those Charged with Governance. This includes information that current auditing standards require independent auditors to communicate to those individuals charged with governance. We will report this information annually to the board of trustees and the investment committee of the Combined Plan.

Section III - Other Recommendations and Related Information. This presents recommendations related to internal control, procedures, and other matters noted during our current year audit. These comments are offered in the interest of helping the Combined Plan in its efforts toward continuous improvement, not just in the areas of internal control and accounting procedures, but also in operational or administrative efficiency and effectiveness.

We would like to take this opportunity to thank the Combined Plan's staff for the cooperation and courtesy extended to us during our audit. The assistance and professionalism of the Combined Plan's staff is invaluable and greatly appreciated.

This report is intended solely for the use of the board of trustees, the investment committee, and management of the General Retirement System of the City of Detroit and is not intended to be and should not be used by anyone other than these specified parties.

To the Board of Trustees and the
Investment Committee
General Retirement System
of the City of Detroit

December 7, 2020

We welcome any questions you may have regarding the following communications, and we would be willing to discuss these or any other questions that you might have at your convenience.

Very truly yours,

Plante & Moran, PLLC

Michelle Watterworth

Michelle M. Watterworth, CPA

Ali Hijazi

Ali H. Hijazi, CPA

Spencer Tawa, CPA

Section I - Internal Control Related Matters Identified in an Audit

In planning and performing our audit of the financial statements of the Combined Plan as of and for the year ended June 30, 2020, in accordance with auditing standards generally accepted in the United States of America, we considered the Combined Plan's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Combined Plan's internal control. Accordingly, we do not express an opinion on the effectiveness of the Combined Plan's internal control.

Our consideration of internal control was for the limited purpose described in the preceding paragraph and was not designed to identify all deficiencies in internal control that might be significant deficiencies or material weaknesses, and, therefore, material weaknesses or significant deficiencies may exist that were not identified. However, as discussed below, we identified certain deficiencies in internal control that we consider to be material weaknesses.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis.

A material weakness is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis.

We consider the following deficiencies in the Combined Plan's internal control to be material weaknesses:

Controls Over the Combined Plan's Census Data and Actuarial Valuation Process (Repeat Finding)

Background: The Combined Plan has to accumulate and transmit voluminous member data to the actuary. The Combined Plan accumulates member data based on information from the City of Detroit, Michigan (the "City"), as well as data the Combined Plan independently obtains. The Combined Plan relies on data it extracts from the City of Detroit, Michigan's databases primarily for active and deferred members. The Combined Plan is responsible for data on retirees, as it will obtain additional information when a member commences retirement.

The actuary then uses this information to prepare the actuarial valuation, which impacts the calculation of the annual required contribution (ARC) and the actuarial accrued liability (AAL) for funding purposes and, under GASB Statement No. 67, impacts the total pension liability disclosed in the Combined Plan's financial statements.

It is key that the information provided to the actuary is complete and accurate in order to ensure that the funding levels, AAL, and disclosures under GASB Statement No. 67, including the total pension liability, also are accurate.

Section I - Internal Control Related Matters Identified in an Audit (Continued)

Issues and recommendations:

The Combined Plan has had issues with the accuracy of the member data for many years. That said, this year, while the types of errors and number of samples with errors were similar to last year, the magnitude of those errors rose significantly. The two areas where we noticed the most significant issues, and, therefore, where the Combined Plan should likely prioritize its efforts, are with active pay and the Combined Plan's procedures surrounding the death audits.

Issue	Recommendation
Active Pay Amount (Component I) - The actuary uses an active member's current pay in its calculation of determining a member's estimated future benefit. Based on our testing, we noted discrepancies in almost every sample we tested between the pay information provided to the actuary and pay information from the City. The discrepancies ranged from 8 - 56 percent of pay, with the majority having more significant differences. Given Component I is a relatively new plan, the impact on the total pension liability due to these significant differences, while not material today, will only increase as Component I continues to grow. Therefore, if the Combined Plan doesn't address these issues going forward, it is possible that the impact will become material.	• Continue to work with the City to obtain the proper payroll data. • Consider performing sample testing on the data.
Death Audit (Components I and II) - During the year, based on previous audit comments, the Combined Plan performed a death audit on the deferred members list sent to the actuary; however, due to a miscommunication, this list of individuals who have passed away was not reflected in the actuarial data, despite containing over 400 names of individuals who should no longer be factored into the valuation. After this error was discovered during the audit process, the actuary revised the calculation of the net pension liability, resulting in a decrease in this figure of $33.2 million.	• Ensure data obtained in the death audits is properly utilized to update the census data.

In addition to the two issues above, we identified a number of other errors with the census data, all of which continue to recur from previous years, as follows:

- Inaccuracies with the average final compensation (AFC) and service years being used in the calculation of frozen accrued benefits (Component II only)
- Missing census data
- Improper exclusion or inclusion of members within the census data
- Incorrect classification of members between the three categories: active, deferred, retired

Section I - Internal Control Related Matters Identified in an Audit (Continued)

We do acknowledge that both the Combined Plan and the actuary perform certain tests and cleanup work on the data before it is utilized in the valuations. Unfortunately, the magnitude of the issues identified during our testing is still extremely significant and, if not corrected in the coming years, may cause issues with being able to conclude that the data utilized in the valuations is accurate enough not to materially misstate financial data.

Controls Over the Combined Plan's Information Technology Processes (Repeat Finding)

The Combined Plan has complex modifiable information technology that integrates with the City of Detroit, Michigan's various payroll databases. The Combined Plan's IT department is independent of the City and the Combined Plan's other departments. The security provided by the IT system is important to the validity and the accuracy of the data maintained, including the census information provided to the actuary.

Although the Combined Plan is currently in the process of modifying the information technology system, we offer the following, which the Combined Plan should keep in mind as it continues to fully implement the new ERP system:

- Use of automated logs - The Combined Plan uses customized software for a majority of the Combined Plan's needs, which includes maintaining the census data and benefits calculation application, which are managed internally by the Combined Plan's IT personnel and can be modified by the IT department. For all changes to that software, there should be an automated log maintained listing those changes, and no single individual should be able to effect a change without proper authorization. Currently, the Combined Plan does have a process to review, authorize, and track changes, but it is not automated; therefore, it is subject to human error and possible circumvention.

- Master file changes - Additionally, it is recommended that the Combined Plan implement processes to ensure that master file changes are documented, authorized, and reviewed. The lack of this documentation could result in unauthorized and undocumented changes that go undetected by the Combined Plan.

- Segregation of duties - Segregation of duty controls provide a separation of users with access to program source code and users with the ability to make or implement changes into the production environment. The ability to make or implement program source code changes should be limited to individuals who cannot access and edit source code. The lack of this control could result in inaccurate or unauthorized changes.

Section II - Required Communications with Those Charged with Governance

Our Responsibility Under U.S. Generally Accepted Auditing Standards

As stated in our engagement letter dated May 14, 2020, our responsibility, as described by professional standards, is to express an opinion about whether the financial statements prepared by management with your oversight are fairly presented, in all material respects, in conformity with U.S. generally accepted accounting principles. Our audit of the financial statements does not relieve you or management of your responsibilities. Our responsibility is to plan and perform the audit to obtain reasonable, but not absolute, assurance that the financial statements are free of material misstatement.

As part of our audit, we considered the internal control of the Combined Plan. Such considerations were solely for the purpose of determining our audit procedures and not to provide any assurance concerning such internal control.

We are responsible for communicating significant matters related to the audit that are, in our professional judgment, relevant to your responsibilities in overseeing the financial reporting process. However, we are not required to design procedures specifically to identify such matters.

Planned Scope and Timing of the Audit

We performed the audit according to the planned scope and timing previously communicated to you in our letter about planning matters dated August 3, 2020.

Significant Audit Findings

Qualitative Aspects of Accounting Practices

Management is responsible for the selection and use of appropriate accounting policies. In accordance with the terms of our engagement letter, we will advise management about the appropriateness of accounting policies and their application. The significant accounting policies used by the Combined Plan are described in Note 1 to the financial statements. No new accounting policies were adopted, and the application of existing policies was not changed during year.

We noted no transactions entered into by the Combined Plan during the year for which there is a lack of authoritative guidance or consensus.

There are no significant transactions that have been recognized in the financial statements in a different period than when the transaction occurred.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected.

The financial statements include investments valued at approximately $53,200,000 (3 percent of net position) at June 30, 2020, whose fair values have been estimated by management in the absence of readily determinable market values.

Section II - Required Communications with Those Charged with Governance (Continued)

The valuation of alternative investments constitutes a very sensitive and significant estimate affecting the financial statements. Management uses various means to value the investments, including utilizing a third-party valuation firm, confirmations from the investment managers, periodic appraisals, guidance from real estate advisors, etc. These estimates are very subjective and highly sensitive to change. Management also expanded the review and analysis of the valuation of these investments to focus on COVID-19 potential impacts. We believe management's estimates are in accordance with GAAP.

The financial statement disclosures and required supplemental information schedules contain information about the Combined Plan's total pension liability. In order to determine the total pension liability, the actuary must apply certain assumptions that are highly sensitive to estimation. The most sensitive estimates used in the valuation were as follows:

- Assumed long-term rate of return - For the purpose of GASB Statement No. 67, as of June 30, 2020, the Combined Plan is currently using 7.06 percent for the assumed long-term expected rate of return based on information provided by the Combined Plan's investment advisor combined with calculations performed by the Combined Plan. This assumed rate of return of 7.06 percent was also the single discount rate used at the beginning of the year. Nationally, this long-term rate of return assumption has garnered significant public attention, with many being critical of the average return assumption used by plans across the United States, which, according to a February 2020 National Association of State Retirement Administrators (NASRA) study, was 7.20 percent. Nationally, the trend continues to show a continued decline in this assumption, and we believe that trend will continue. We encourage the Combined Plan to continue to be critical of this significant assumption, watch the trends nationally, and reevaluate the return assumption annually with a critical eye. Please note that this assumption related to the long-term assumed rate of return is for financial reporting purposes only; the Plan of Adjustment requires that the projected rate of return for funding purposes be 6.75 percent.

- Single discount rate calculation - The calculation of the single discount rate under GASB Statement No. 67, which is calculated using the long-term assumed rate of return as one of many assumptions, is highly sensitive to estimates the actuary makes about future contributions and future benefit payments. Inherent in those assumptions is some subjectivity surrounding the projection of future contributions, since the Combined Plan does not have an explicit written funding policy dictating contributions after 2023, although we understand that the Combined Plan and the City are working on defining such a policy. The assumption made in these calculations is that the actuarially assumed contributions will be made at rates sufficient to fund the benefits by amortizing the unfunded liability over a closed 30-year period.

- Mortality assumptions - The assumptions about mortality were estimated by the actuary based on the results of an experience study issued in February 2015. Generally, the actuary used the RP-2014 Blue Collar Annuitant Table for males and females, projected on a fully generational basis. In early 2019, the Society of Actuaries published new mortality tables called the Pub-2010 tables. These were the first mortality tables issued based solely on United States public sector employees (public safety, teachers, and general employment categories). Given the applicability of these tables to the public sector, it will be likely the Combined Plan will need to consider these tables when the next experience study is performed.

Section II - Required Communications with Those Charged with Governance (Continued)

- Other assumptions - All other assumptions in the actuarial valuation are based on an experience study for the period from 2002-2007. We are aware the Combined Plan has decided to wait and perform the next experience study for the period from July 1, 2015 through June 30, 2020 in order to avoid any results that could be skewed due to the City's bankruptcy.

We evaluated the key factors and assumptions used to develop the estimates above and determined that they are reasonable in relation to the financial statements taken as a whole.

Disclosure of these assumptions and resultant sensitivity of the discount rate can be found in Notes 7 and 8 to the financial statements.

The disclosures in the financial statements are neutral, consistent, and clear. Certain financial statement disclosures are particularly sensitive because of their significance to financial statement and schedule users. The most sensitive disclosures affecting the financial statements and the schedules are the disclosures related to GASB Statement No. 67, including the actuarial valuation results.

Difficulties Encountered in Performing the Audit

We are required to inform those charged with governance of any serious difficulties encountered in dealing with management related to the performance of the audit. We encountered no significant difficulties in dealing with management in performing and completing our audit.

Disagreements with Management

For the purpose of this letter, professional standards define a disagreement with management as a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

Corrected and Uncorrected Misstatements

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are trivial, and communicate them to the appropriate level of management. None of the misstatements detected as a result of audit procedures and corrected by management were material, either individually or in the aggregate, to the financial statements taken as a whole. The attached schedule summarizes uncorrected misstatements of the financial statements. Management has determined that their effects are immaterial, both individually and in the aggregate, to the financial statements taken as a whole.

Significant Findings or Issues

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, business conditions affecting the Combined Plan, and business plans and strategies that may affect the risks of material misstatement, with management each year prior to our retention as the Combined Plan's auditors. However, these discussions occurred in the normal course of our professional relationship, and our responses were not a condition of our retention.

Section II - Required Communications with Those Charged with Governance (Continued)

Management Representations

We have requested certain representations from management that are included in the management representation letter dated December 7, 2020.

Management Consultations with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a second opinion on certain situations. If a consultation involves application of an accounting principle to the Combined Plan's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Attachment

Client: **Combined Plan for the General Retirement System of the City of Detroit**
Opinion Unit: **Combined Plan**
Y/E: **6/30/2020**

SUMMARY OF UNRECORDED POSSIBLE ADJUSTMENTS

The effect of misstatements and classification errors identified would be to increase (decrease) the reported amounts in the financial statement categories identified below:

Ref. #	Description of Misstatement	Current Assets	Long-term Assets	Current Liabilities	Long-term Liabilities	Equity	Additions	Deductions	Net Income Statement Impact
FACTUAL MISSTATEMENTS:									
A1	None								
JUDGMENTAL ADJUSTMENTS:									
B1	None								
PROJECTED ADJUSTMENTS:									
C1	None								
		$ -	$ -	$ -	$ -	$ -	-	$ -	$ -
	Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

PASSED DISCLOSURES AND FINANCIAL STATEMENT PRESENTATION ISSUES:

Ref. #	Description
D1	Money-weighted rate of return, net of investment expenses - The Combined Plan calculated return is -0.78 percent. We are unable to audit this rate of return.
D2	The total pension liability, as calculated by the actuary, is based on census information that is either incomplete or inaccurate. The total pension liability would be different had accurate and complete information been provided to the actuary.

Section III - Other Recommendations and Related Information

During our audit, we noted areas where we believe there are opportunities for the Combined Plan to further strengthen internal control or to increase operating efficiencies. Our observations on those areas are presented below for your consideration:

Investment Distributions

- The Combined Plan receives investment cash distributions for interest, dividends, return of capital, and other investment-type income. While the majority of the distributions are received by the Combined Plan's custodian, Bank of New York, there are distributions that also run through the passive investments. The controls over these distributions are critical to ensuring that all distributions that should go to the Combined Plan ultimately end up there.

  When the Combined Plan sets up a new alternative investment, such as private equity and hedge funds, subscription agreements are signed by authorized individuals of the Combined Plan (i.e., trustees and executive director). The agreements may also assign the chief investment officer (CIO) to be the authorized agent on behalf of the Combined Plan, include a list of individuals that the investment fund should include in some of their correspondences, and indicate the Bank of New York banking information where future distributions are to be sent.

  As an authorized agent, the CIO is able to change the wire instructions after they are initially established. As a detective control to ensure inappropriate changes are not made, when a distribution is sent, in most cases the investment funds send distribution letters to other individuals at the Combined Plan in addition to the CIO. This control is imperative to ensure distribution wire instructions are correct and funds are being received properly by the designated Bank of New York account.

  As there are some investments initially funded many years ago, the correspondence list and contact information may need to be updated given personnel changes at the Combined Plan. In addition, as these distribution notices and wire instructions are being received by others outside of the CIO, the Combined Plan should ensure its controls include review of these distribution notices to verify the banking information and follow-up procedures to verify that all current distributions are ultimately received.

- The Combined Plan's components of investment income are separated in the general ledger and in the financial statements between (a) interest income, dividend income, and other income and (b) net increase (decrease) in fair value of investments (which includes realized and unrealized gains and losses). The plan's current processes and controls do not always result in an accurate allocation between these two components of investment income.

  For investments where Bank of New York is the custodian of the Combined Plan's investments, the accounting department records the activity using the individual investment reports as the source document. The Combined Plan appropriately performs a monthly reconciliation of these amounts.

Section III - Other Recommendations and Related Information (Continued)

For investments in which Bank of New York is not the custodian, the accounting department uses information obtained for each distribution to determine the classification of the funds received. While the Combined Plan's processes and controls have improved significantly in this reporting from prior years, there were some identified adjustments between the classification of investment income. To be clear, this does not have an effect on the Combined Plan's end of year net position but is merely a reclassification between these two types of income accounts; however, proper accounting is critical to ensure the plan's accounting supports the underlying transactions that are occurring.

As distribution notices and capital statement formats differ between investment funds, we recommend the Combined Plan's accounting department continue to work with the chief investment officer on any uncertain distributions to properly classify the distribution.

Annuity Savings Fund Recoupment Receivable

During our audit procedures on the annuity savings fund (ASF) recoupment receivable, we identified two minor errors:

- An individual was improperly removed from the receivable balance, while his recoupment deductions were suspended.
- An individual who began receiving a pension recoupment deduction was not previously accounted for as part of the receivable list for the deferred vested individuals.

For the latter item, this is part of a more global issue, as there are deferred vested members with a recoupment balance currently not included in the receivable list maintained by accounting. This is due to the existence of parallel systems being used to track these recoupment balances. In addition to the recoupment receivable listing maintained by accounting, there is separate independent record-keeping maintained within the IT system. No reconciliation of the two parallel systems is being performed. We recommend the Combined Plan reconcile the accounting records with the IT records to ensure the completeness of the accounting records and the accuracy of the related amounts recorded.

Benefit Payment Classification

The Combined Plan processes monthly benefit payments for each retiree that are summarized and journalized in a monthly entry. These monthly payroll entries are based on the plan to which (Component II or I) each retiree is coded. During testing, it was identified that some individuals' pensions are incorrectly classified between Component I and Component II. While the number of individuals incorrectly classified was insignificant, we recommend the Combined Plan implement a control to ensure proper classification of members in the IT system.

Information Technology Processes

- Currently, there is no formal process to fill out a production release form. Usually a member of the IT department will inform Ray Tchou to review a production change. Ray is the only individual with the ability to release a production change. We recommend the Combined Plan have a formal policy for individuals to submit a production release form to document change requests.

Section III - Other Recommendations and Related Information (Continued)

- It was noted there are administrative user profiles that remained in the Combined Plan for users no longer employed at the Combined Plan. These profiles have remained active, as staff need to access old files. In addition, we noted duplicate administrative user profiles for current employees. We recommend the Combined Plan perform a user profile review and allow only one user profile for each current employee.

Benefit Payment Calculations

Pension factors are used in calculating an individual's pension payment based on age and option selected. Currently, the pension factor used in the calculation of benefit payments is using an old mortality table (1984 table) and a 7.5 percent rate of return. Pension factors should get updated with a newer mortality table (RP-2014 Mortality Table is currently being used in the actuarial valuations) and rate of return of 6.75 percent (current rate of return used for funding purposes, as stipulated by the Plan of Adjustment). Our understanding is the Combined Plan will update these amounts once the benefit calculation software is implemented.

Expense Allocation

The Combined Plan allocates expenses between Component II, Component I and the Income Stabilization Fund (ISF). For ISF, only investment-related expenses are allocated, as no significant administrative functions are performed for the fund. Investment related expenses are unitized based on the net position for each plan. For administrative expenses, a split of 60/40 is used. This allocation has been relatively the same since the inception of Component I and ISF, with the Combined Plan reviewing this allocation annually. As the Combined Plan gets further from the implementation of these new plans, we recommend the Combined Plan continue to monitor this allocation methodology as time and resources dedicated to each plan change.

The General Retirement System of the City of Detroit

GASB Statement Nos. 67 and 68 Accounting and Financial Reporting for Pension Plans of Component II

June 30, 2020

800.521.0498 | P: 248.799.9000 | www.grsconsulting.com

November 18, 2020

Board of Trustees
The General Retirement System of the City of Detroit

Dear Board Members:

This report provides information required for the General Retirement System of the City of Detroit in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 "Financial Reporting for Pension Plans" and Statement No. 68 "Employer Reporting for Pension Plans." These calculations have been made on a basis that is consistent with our understanding of this Statement. This information is subject to a review by the System's Auditor. Please let us know if the System's Auditor recommends any changes.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement Nos. 67 and 68. The calculation of the plan's liability for this report is not applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. In particular, this is not a funding report and nothing in this report should be construed as a funding recommendation. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The Appendix of this report also provides some of the information necessary to complete the reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form No. 5572). This information is not required to be included in your financial statements. The calculations in the Appendix are based on assumptions that satisfy the Uniform Assumptions criteria published by the Michigan Treasury for Fiscal Year 2020 reporting requirements.

This report is based upon information, furnished to us by System staff, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. This report is based on the valuation date of June 30, 2019. The total pension liability was rolled-forward from the valuation date to the plan year ending June 30, 2020 using generally accepted actuarial principles. The asset information as of June 30, 2020 was provided by the System. This information was checked for internal consistency, but it was not audited by Gabriel, Roeder, Smith & Company. A description of the adjustments made to the data is incorporated in this report (either directly or by reference). GRS is not responsible for the accuracy of the data provided by the Retirement System. This report is based upon estimates of frozen accrued benefits. Future measurements based on final calculation of benefit amounts will differ.

One Towne Square | Suite 800 | Southfield, Michigan 48076-3723

At the direction of the System and approval of the System's Auditor, the long-term expected return on assets used to determine the discount rate is 7.06%, net of investment expenses, as of June 30, 2020 down from 7.38% as of June 30, 2019. We have reviewed this assumption based on the System's asset allocation and have determined it does not significantly conflict with what, in our professional judgement, would be reasonable for purposes of the measurement.

The benefit provisions reflected in this valuation for the development of the end of year Total Pension Liability (TPL) are those in effect for Component II as of the end of the plan year on June 30, 2020. We understand that Component I is a separate plan for GASB Statement Nos. 67 and 68 purposes and will, therefore, be disclosed in a separate report.

To the best of our knowledge, the information contained within this report is accurate and fairly represents the actuarial position of the System on the measurement date for purposes of GASB Statement Nos. 67 and 68 reporting. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation. We performed tests to ensure that the model reasonably represents that which is intended to be modeled. We are relying on the GRS actuaries and Internal Software, Training, and Processes Team who developed and maintain the model.

The signing individuals are independent of the plan sponsor.

David T. Kausch and Judith A. Kermans are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,

David T. Kausch

David T. Kausch, FSA, EA, FCA, MAAA, PhD
Senior Consultant and Chief Actuary

Judith A. Kermans

Judith A. Kermans, EA, FCA, MAAA
Senior Consultant and President

Kenneth G. Alberts

Kenneth G. Alberts
Consultant

DTK/JAK/KGA:rmn

GRS

Table of Contents

SECTION A

EXECUTIVE SUMMARY

Executive Summary
as of June 30, 2020

Actuarial Valuation Date	June 30, 2019
Measurement Date of the Net Pension Liability	June 30, 2020
Employer's Fiscal Year Ending Date (GASB No. 68 Reporting Date)	June 30, 2021
Membership	
Number of	
- Retirees and Beneficiaries	11,557
- Inactive, Nonretired Members^	2,779
- Active Members	2,793
- Total	17,129
Covered Payroll	$ 142,215,060
Net Pension Liability	
Total Pension Liability	$ 2,698,450,060
Plan Fiduciary Net Position	1,596,101,989
Net Pension Liability	$ 1,102,348,071
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	59.15%
Net Pension Liability as a Percentage of Covered Payroll	775.13%
Development of the Single Discount Rate	
Single Discount Rate	7.06%
Long-Term Expected Rate of Investment Return	7.06%
Long-Term Municipal Bond Rate*	2.45%
Last year ending June 30 in the 2021 to 2120 projection period for which projected benefit payments are fully funded	2120
Total Pension Expense	$ 134,638,261

Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	$ -	$ -
Changes in assumptions	-	-
Net difference between projected and actual earnings on pension plan investments	165,282,550	24,993,829
Total	$ 165,282,550	$ 24,993,829

**Source: Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2020. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax-exempt securities.*

^ Net of 430 deferred members who were reported on the deferred rolls for the June 30, 2019 funding valuation and subsequently reported as having died prior to June 30, 2019 (see System Data Audit comment).

Discussion

Changes Compared to Funding Valuation

For purposes of determining the Total Pension Liability (TPL) as of June 30, 2020, we note the following differences from the assumptions used in the June 30, 2019 funding valuation:

- At the direction of the System and approval of the System's Auditor, the long-term expected return on assets was 7.06% net of investment expenses, as of June 30, 2020. It was 6.75% net of investment and administrative expenses, in the June 30, 2019 funding valuation, as required by the Plan of Adjustment.
- The June 30, 2019 funding valuation included approximately $4.1 million in liabilities to account for an anticipated excess ASF earnings transfer to Component I expected to occur in the future as a result of FY 2018 investment performance. We have discussed this additional liability with the Plan's auditor who indicated that the excess earnings transfer should not be included as a liability in the GASB Statement Nos. 67/68 reports until it actually occurs. As such, the excess earnings transfer is not included as a liability in this report. Please see the funding valuation for more details.
- Administrative expenses are assumed to be shared 60% with Component II and 40% with Component I. This was reflected in our modeling, where appropriate.
- Liabilities were removed for 430 deferred members who were reported on the deferred rolls for the June 30, 2019 funding valuation and subsequently reported as having died prior to June 30, 2019 (see System Data Audit comment).

All other actuarial assumptions were the same as those used in the June 30, 2019 actuarial valuation (the funding valuation).

Changes Compared to Prior Year's GASB Report

The changes in actuarial assumptions compared to the June 30, 2019 GASB No. 68 reporting was:

- The long-term expected rate of investment return and single discount rate decreased from 7.38% to 7.06%.

This change increased the TPL by $68 million resulting in a new deferred outflow for recognition in the pension expense.

System Data Audit

Between the June 30, 2019 funding valuation and this (GASB) valuation the System provided information to us indicating that 430 participants that were reported as deferred for the June 30, 2019 funding valuation were, in fact, deceased (as determined in a data audit performed by the System). There were approximately $33.2 million in liabilities included in the June 30, 2019 funding valuation associated with these 430 participants. In accordance with our discussions with the System's auditor, that $33.2 million of liabilities was excluded from this GASB valuation.

Data Approximations and Assumptions

A description of the data approximations and assumptions used in completing this report are included in the June 30, 2019 funding valuation report.

Discussion

Administrative Expenses

We allocated 60% of the expenses to Component II and 40% to Component I, consistent with this year's allocation as shown in the assets.

Development of Employer Proportionate Shares

As instructed, we have developed the proportionate employer shares as follows:

- General, DOT, DWSD, and Library have contribution rates assessed on separate relationships and are therefore accounted for separately under Paragraph 49 of GASB Statement No. 68.
- The component units in the General Division were 1) General City; 2) Parking; and 3) Airport.
- Proportionate shares in the General Division were determined by prorating based on the Total Pension Liability.

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

Financial Statements

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to the General Retirement System of the City of Detroit subsequent to the measurement date of June 30, 2020.

Discussion

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the certain changes in the liability and investment experience.

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The *statement of fiduciary net position* presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The *statement of changes in fiduciary net position* presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows and inflows of resources related to pensions.

GASB Statement Nos. 67 and 68 require the notes of the financial statements for the employers and pension plans to include certain additional information. The list of disclosure items should include:

- A description of benefits provided by the plan;
- The type of employees and number of members covered by the pension plan;
- A description of the plan's funding policy, which includes member and employer contribution requirements;
- The pension plan's investment policies;
- The pension plan's fiduciary net position and the net pension liability;
- The net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes;
- Significant assumptions and methods used to calculate the total pension liability;
- Inputs to the discount rates; and
- Certain information about mortality assumptions and the dates of experience studies.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with GASB Statement No. 67. This information includes:

- The composition of the pension plan's Board and the authority under which benefit terms may be amended;
- A description of how fair value is determined;
- Information regarding certain reserves and investments, which include concentrations of investments greater than or equal to 5%, receivables, and insurance contracts excluded from plan assets; and
- Annual money-weighted rate of return.

Discussion

Required Supplementary Information

GASB Statement No. 67 requires a 10-year fiscal history of:

- Sources of changes in the net pension liability;
- Information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- A comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2019, rolled to the plan year end of June 30, 2020.

Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.06%; the municipal bond rate is 2.45% (based on the daily rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"); and the resulting Single Discount Rate is 7.06%.

The expected rate of return was provided by the Retirement System and approved by the System's auditor.

Discussion

Limitation of Assets as a Percent of Total Pension Liability Measurements

This report includes a measure of the plan fiduciary net position as a percent of total pension liability (59.15% as of June 30, 2020). Unless otherwise indicated, with regard to any such measurements presented in this report:

(1) This measurement is not intended to be a funded ratio or a measure of funded progress.
(2) This measurement is inappropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations.
(3) The measurement is inappropriate for assessing the need for or amount of future employer contributions.

Limitations of Project Scope

Actuarial Standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entities to make required contributions when due. Such an evaluation was not within the scope of this project and is not within our area of expertise. Consequently, we have not made such an evaluation.

ASF Recoupments

The reported June 30, 2020 assets included a receivable, computed by the System's auditor, that accounts for future ASF recoupments. We understand this amount was originally determined as of June 30, 2015 and updated to June 30, 2020 in accordance with GAAP accounting.

SECTION B

FINANCIAL STATEMENTS

This information is subject to the System's Auditor's review. Please let us know if the System's Auditor recommends any changes.

Statement of Fiduciary Net Position
as of June 30, 2020

Assets	
Cash and Cash Equivalents	$ 26,869,406
Receivables	106,835,905
Investments at Fair Value	1,464,526,814
Cash and Investments held as collateral for securities lending	65,263,754
Capital Assets - Net	1,849,036
Total Assets	$ 1,665,344,915
Liabilities	
Accounts Payable	$ 69,242,926
Total Liabilities	$ 69,242,926
Net Position Restricted for Pensions	$ 1,596,101,989
ASF Reserve	$ 114,225,043
Other Reserves	1,481,876,946
Plan Fiduciary Net Position	$ 1,596,101,989

Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2020

Additions		
Contributions		
Employer	$	47,900,000
Employee		-
Foundation Contribution		375,000
Total Contributions	$	48,275,000
Investment Income		
Investment Income	$	(14,002,111)
Net Investment Income	$	(14,002,111)
Other Income (Including ASF Interest)^	$	8,044,086
Total Additions	$	42,316,975
Deductions		
Benefit Payments, including Refunds of Employee Contributions	$	239,881,652
Pension Plan Administrative Expense		2,351,273
Other (including ASF write-offs and transfers to Comp I)		2,888,888
Total Deductions	$	245,121,813
Net Increase in Net Position	$	(202,804,838)
Net Position Restricted for Pensions		
Beginning of Year	$	1,798,906,827
End of Year	$	1,596,101,989

^ *Following discussions with the auditor, we understand that for purposes of determining the Pension Expense for GASB Statement No. 68, ASF Interest should be treated as Other Changes in Plan Fiduciary Net Position and recognized immediately.*

Statement of Pension Expense Under GASB Statement No. 68
Fiscal Year Ended June 30, 2020*

A. Expense	General	DOT	DWSD	Library	Total
1. Service Cost	$ -	$ -	$ -	$ -	$ -
2. Interest on the Total Pension Liability	104,816,536	29,873,108	51,613,228	6,585,373	192,888,245
3. Current-Period Benefit Changes	-	-	-	-	-
4. Employee Contributions (made negative for addition here)	-	-	-	-	-
5. Projected Earnings on Plan Investments (made negative for addition here)	(69,004,761)	(11,677,120)	(39,305,585)	(5,805,037)	(125,792,503)
6. Pension Plan Administrative Expense	2,015,612	229,941	-	105,720	2,351,273
7. Other Changes in Plan Fiduciary Net Position	(2,515,215)	(812,432)	(1,681,568)	(145,983)	(5,155,198)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	5,921,498	3,578,466	4,036,927	(1,696,105)	11,840,786
9. Recognition of Outflow (Inflow) of Resources due to Assets	32,576,608	5,906,868	17,382,460	2,639,722	58,505,658
10. Total Pension Expense	**$ 73,810,278**	**$ 27,098,831**	**$ 32,045,462**	**$ 1,683,690**	**$ 134,638,261**

**Totals may not add due to rounding.*

Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2020*

A. Outflows (Inflows) of Resources due to Liabilities	General	DOT	DWSD	Library	Total
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	$ (30,326,230)	$ (7,081,563)	$ (14,601,904)	$ (3,827,052)	$ (55,836,749)
2. Assumption Changes (gains) or losses	$ 36,247,728	$ 10,660,029	$ 18,638,831	$ 2,130,947	$ 67,677,535
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	1.0000	1.0000	1.0000	1.0000	1.0000
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the difference between expected and actual experience of the Total Pension Liability	$ (30,326,230)	$ (7,081,563)	$ (14,601,904)	$ (3,827,052)	$ (55,836,749)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	$ 36,247,728	$ 10,660,029	$ 18,638,831	$ 2,130,947	$ 67,677,535
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	$ 5,921,498	$ 3,578,466	$ 4,036,927	$ (1,696,105)	$ 11,840,786
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability	$ -	$ -	$ -	$ -	$ -
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	$ -	$ -	$ -	$ -	$ -
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	$ -	$ -	$ -	$ -	$ -
B. Outflows (Inflows) of Resources due to Assets					
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	$ 77,171,447	$ 11,940,910	$ 44,446,541	$ 6,235,716	$ 139,794,614
2. Recognition period for Assets {in years}	5.0000	5.0000	5.0000	5.0000	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	$ 15,434,289	$ 2,388,182	$ 8,889,308	$ 1,247,143	$ 27,958,923
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	$ 61,737,158	$ 9,552,728	$ 35,557,233	$ 4,988,573	$ 111,835,691

**Totals may not add due to rounding.*

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods
Fiscal Year Ended June 30
General

A. Outflows and Inflows of Resources Due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	$ 36,247,728	$ 30,326,230	$ 5,921,498
2. Due to Assets	$ 44,340,436	11,763,828	32,576,608
3. Total	$ 80,588,164	$ 42,090,058	$ 38,498,106

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	$ -	$ 30,326,230	$ (30,326,230)
2. Assumption Changes	$ 36,247,728	-	36,247,728
3. Net Difference between projected and actual earnings on pension plan investments	$ 44,340,436	11,763,828	32,576,608
4. Total	$ 80,588,164	$ 42,090,058	$ 38,498,106

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	$ -	$ -	$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	$ 91,716,642	14,915,737	76,800,905
4. Total	$ 91,716,642	$ 14,915,737	$ 76,800,905

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending June 30	Net Deferred Outflows of Resources General Total
2021	$ 13,663,623
2022	22,275,542
2023	25,427,449
2024	15,434,291
2025	-
Thereafter	-
Total	$ 76,800,905

Recognition of Deferred Outflows and Inflows of Resources
Fiscal Year Ended June 30, 2020
General

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities					
2016	$ (29,429,615)	1.0000	$ -	$ -	0.0000
2017	(23,006,975)	1.0000	-	-	0.0000
2018	3,041,504	1.0000	-	-	0.0000
2019	10,605,505	1.0000	-	-	0.0000
2020	(30,326,230)	1.0000	(30,326,230)	-	0.0000
Total			**$ (30,326,230)**	**$ -**	
Deferred Outflow (Inflow) due to Assumption Changes					
2016	$ 49,169,719	1.0000	$ -	$ -	0.0000
2017	41,844,061	1.0000	-	-	0.0000
2018	(59,163,587)	1.0000	-	-	0.0000
2019	-	1.0000	-	-	0.0000
2020	36,247,728	1.0000	36,247,728	-	0.0000
Total			**$ 36,247,728**	**$ -**	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2016	$ 94,564,921	5.0000	$ 18,912,985	$ -	0.0000
2017	(43,059,585)	5.0000	(8,611,917)	(8,611,917)	1.0000
2018	(15,759,553)	5.0000	(3,151,911)	(6,303,820)	2.0000
2019	49,965,808	5.0000	9,993,162	29,979,484	3.0000
2020	77,171,447	5.0000	15,434,289	61,737,158	4.0000
Total			**$ 32,576,608**	**$ 76,800,905**	

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods
Fiscal Year Ended June 30
DOT

A. Outflows and Inflows of Resources Due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	$ 10,660,029	$ 7,081,563	$ 3,578,466
2. Due to Assets	$ 7,897,599	1,990,731	5,906,868
3. Total	$ 18,557,628	$ 9,072,294	$ 9,485,334

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	$ -	$ 7,081,563	$ (7,081,563)
2. Assumption Changes	$ 10,660,029	-	10,660,029
3. Net Difference between projected and actual earnings on pension plan investments	$ 7,897,599	1,990,731	5,906,868
4. Total	$ 18,557,628	$ 9,072,294	$ 9,485,334

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	$ -	$ -	$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	$ 14,581,486	2,407,162	12,174,324
4. Total	$ 14,581,486	$ 2,407,162	$ 12,174,324

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending June 30	Net Deferred Outflows of Resources
2021	$ 2,073,704
2022	3,648,002
2023	4,064,436
2024	2,388,182
2025	-
Thereafter	-
Total	$ 12,174,324

Recognition of Deferred Outflows and Inflows of Resources
Fiscal Year Ended June 30, 2020
DOT

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities					
2016	$ (3,435,546)	1.0000	$ -	$ -	0.0000
2017	(5,802,247)	1.0000	-	-	0.0000
2018	32,573,900	1.0000	-	-	0.0000
2019	(1,582,543)	1.0000	-	-	0.0000
2020	(7,081,563)	1.0000	(7,081,563)	-	0.0000
Total			**$ (7,081,563)**	**$ -**	
Deferred Outflow (Inflow) due to Assumption Changes					
2016	$ 12,849,218	1.0000	$ -	$ -	0.0000
2017	11,022,689	1.0000	-	-	0.0000
2018	(17,236,637)	1.0000	-	-	0.0000
2019	-	1.0000	-	-	0.0000
2020	10,660,029	1.0000	10,660,029	-	0.0000
Total			**$ 10,660,029**	**$ -**	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2016	$ 19,165,833	5.0000	$ 3,833,165	$ -	0.0000
2017	(7,871,494)	5.0000	(1,574,299)	(1,574,298)	1.0000
2018	(2,082,160)	5.0000	(416,432)	(832,864)	2.0000
2019	8,381,262	5.0000	1,676,252	5,028,758	3.0000
2020	11,940,910	5.0000	2,388,182	9,552,728	4.0000
Total			**$ 5,906,868**	**$ 12,174,324**	

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods
Fiscal Year Ended June 30
DWSD

A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	$ 18,638,831	$ 14,601,904	$ 4,036,927
2. Due to Assets	$ 22,764,263	5,381,803	17,382,460
3. Total	$ 41,403,094	$ 19,983,707	$ 21,419,387

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	$ -	$ 14,601,904	$ (14,601,904)
2. Assumption Changes	$ 18,638,831	-	18,638,831
3. Net Difference between projected and actual earnings on pension plan investments	$ 22,764,263	5,381,803	17,382,460
4. Total	$ 41,403,094	$ 19,983,707	$ 21,419,387

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	$ -	$ -	$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	$ 51,666,074	6,817,489	44,848,585
4. Total	$ 51,666,074	$ 6,817,489	$ 44,848,585

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending June 30	Net Deferred Outflows of Resources
2021	$ 8,877,119
2022	12,823,234
2023	14,258,923
2024	8,889,309
2025	-
Thereafter	-
Total	$ 44,848,585

Recognition of Deferred Outflows and Inflows of Resources
Fiscal Year Ended June 30, 2020
DWSD

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities					
2016	$ (7,203,304)	1.0000	$ -	$ -	0.0000
2017	3,370,105	1.0000	-	-	0.0000
2018	(456,059)	1.0000	-	-	0.0000
2019	4,924,609	1.0000	-	-	0.0000
2020	(14,601,904)	1.0000	(14,601,904)	-	0.0000
Total			**$ (14,601,904)**	**$ -**	
Deferred Outflow (Inflow) due to Assumption Changes					
2016	$ 25,074,531	1.0000	$ -	$ -	0.0000
2017	21,554,914	1.0000	-	-	0.0000
2018	(30,363,241)	1.0000	-	-	0.0000
2019	-	1.0000	-	-	0.0000
2020	18,638,831	1.0000	18,638,831	-	0.0000
Total			**$ 18,638,831**	**$ -**	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2016	$ 42,526,710	5.0000	$ 8,505,342	$ -	0.0000
2017	(19,730,574)	5.0000	(3,946,115)	(3,946,114)	1.0000
2018	(7,178,439)	5.0000	(1,435,688)	(2,871,375)	2.0000
2019	26,848,067	5.0000	5,369,613	16,108,841	3.0000
2020	44,446,541	5.0000	8,889,308	35,557,233	4.0000
Total			**$ 17,382,460**	**$ 44,848,585**	

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods
Fiscal Year Ended June 30
Library

A. Outflows and Inflows of Resources Due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	$ 2,130,947	$ 3,827,052	$ (1,696,105)
2. Due to Assets	$ 3,338,389	698,667	2,639,722
3. Total	$ 5,469,336	$ 4,525,719	$ 943,617

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	$ -	$ 3,827,052	$ (3,827,052)
2. Assumption Changes	$ 2,130,947	-	2,130,947
3. Net Difference between projected and actual earnings on pension plan investments	$ 3,338,389	698,667	2,639,722
4. Total	$ 5,469,336	$ 4,525,719	$ 943,617

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	$ -	$ -	$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	$ 7,318,348	853,441	6,464,907
4. Total	$ 7,318,348	$ 853,441	$ 6,464,907

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending June 30	Net Deferred Outflows of Resources
2021	$ 1,325,068
2022	1,868,959
2023	2,023,736
2024	1,247,144
2025	-
Thereafter	-
Total	$ 6,464,907

Recognition of Deferred Outflows and Inflows of Resources
Fiscal Year Ended June 30, 2020
Library

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities					
2016	$ (3,650,647)	1.0000	$ -	$ -	0.0000
2017	(2,069,263)	1.0000	-	-	0.0000
2018	(1,005,018)	1.0000	-	-	0.0000
2019	(350,671)	1.0000	-	-	0.0000
2020	(3,827,052)	1.0000	(3,827,052)	-	0.0000
Total			**$ (3,827,052)**	**$ -**	
Deferred Outflow (Inflow) due to Assumption Changes					
2016	$ 2,941,459	1.0000	$ -	$ -	0.0000
2017	2,504,293	1.0000	-	-	0.0000
2018	(3,511,050)	1.0000	-	-	0.0000
2019	-	1.0000	-	-	0.0000
2020	2,130,947	1.0000	2,130,947	-	0.0000
Total			**$ 2,130,947**	**$ -**	
Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments					
2016	$ 6,573,279	5.0000	$ 1,314,655	$ -	0.0000
2017	(2,719,454)	5.0000	(543,891)	(543,890)	1.0000
2018	(773,879)	5.0000	(154,776)	(309,551)	2.0000
2019	3,882,957	5.0000	776,591	2,329,775	3.0000
2020	6,235,716	5.0000	1,247,143	4,988,573	4.0000
Total			**$ 2,639,722**	**$ 6,464,907**	

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods
Fiscal Year Ended June 30
Total

A. Outflows and Inflows of Resources Due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	$ 67,677,535	$ 55,836,749	$ 11,840,786
2. Due to Assets	$ 78,340,687	19,835,029	58,505,658
3. Total	$ 146,018,222	$ 75,671,778	$ 70,346,444

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	$ -	$ 55,836,749	$ (55,836,749)
2. Assumption Changes	$ 67,677,535	-	67,677,535
3. Net Difference between projected and actual earnings on pension plan investments	$ 78,340,687	19,835,029	58,505,658
4. Total	$ 146,018,222	$ 75,671,778	$ 70,346,444

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	$ -	$ -	$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	$ 165,282,550	24,993,829	140,288,721
4. Total	$ 165,282,550	$ 24,993,829	$ 140,288,721

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

Year Ending June 30	Net Deferred Outflows of Resources
2021	$ 25,939,514
2022	40,615,737
2023	45,774,544
2024	27,958,926
2025	-
Thereafter	-
Total	$ 140,288,721

Schedule of Proportionate Employer Share for Year Ended June 30, 2020 General Subgroup*

TPL	Employer	Prop. Share	Net Pension Liability	Deferred Outflows of Resources: Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Outflows of Resources
$ 1,439,789,489	General City	98.30%	$ 592,283,848	$ -	$ 90,157,459	$ -	$ -	$ 90,157,459
21,677,400	Parking	1.48%	8,917,397	-	1,357,406	-	-	1,357,406
3,222,316	Airport	0.22%	1,325,559	-	201,777	-	-	201,777
$ 1,464,689,205	***Total for All Employers***	**100.00%**	**$ 602,526,804**	**$ -**	**$ 91,716,642**	**$ -**	**$ -**	**$ 91,716,642**

Employer	Deferred Inflows of Resources: Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Inflows of Resources	Pension Expense: Prop. Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributins and Proportionate	Total Employer Pension Expense
General City	$ -	$ 14,662,169	$ -	$ -	$ 14,662,169	$ 72,555,503	$ (1,146,785)	$ 71,408,718
Parking	-	220,753	-	-	220,753	1,092,392	1,003,624	2,096,016
Airport	-	32,815	-	-	32,815	162,383	143,161	305,544
Total for All Employers	**$ -**	**$ 14,915,737**	**$ -**	**$ -**	**$ 14,915,737**	**$ 73,810,278**	**$ -**	**$ 73,810,278**

** Totals may not add due to rounding.*

Schedule of Proportionate Employer Share for Year Ended June 30, 2020 General Subgroup*

Employer	Employer Allocation Percentage	2021	2022	2023	2024	2025	Thereafter	Total
		Schedule of Deferred Inflows and Outflows						
General City	98.30%	$ 13,431,341	$ 21,896,858	$ 24,995,183	$ 15,171,908	$ -	$ -	$ 75,495,290
Parking	1.48%	202,222	329,678	376,326	228,428	-	-	1,136,654
Airport	0.22%	30,060	49,006	55,940	33,955	-	-	168,961
TOTAL	100.00%	$ 13,663,623	$ 22,275,542	$ 25,427,449	$ 15,434,291	$ -	$ -	$ 76,800,905

** Totals may not add due to rounding.*

Determination of Employer Contribution Allocation for Year Ended June 30, 2020

Employer	General City	Parking	Airport	General Total	DOT	DWSD	Library	Total
Contributions Before General Breakdown				$ 2,765,012	$ 109,988	$ 42,900,000	$ 2,500,000	$ 48,275,000
General Employer Allocation Percent	100.00%	0.00%	0.00%	100.00%	N/A	N/A	N/A	N/A
Times General Total	2,765,012	2,765,012	2,765,012	2,765,012	N/A	N/A	N/A	N/A
Contribution Allocation Dollar	$ 2,765,012	$ -	$ -	$ 2,765,012	$ 109,988	$ 42,900,000	$ 2,500,000	$ 48,275,000

We understand that the General contributions should be split between the General component units (General City, Parking, and Airport) according to the above schedule. Please let us know if a different allocation should be used.

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in Net Pension Liability and Related Ratios Current Period

Fiscal Year Ended June 30, 2020*

A. Total Pension Liability	General	DOT	DWSD	Library	Total
1. Service Cost	$ -	$ -	$ -	$ -	$ -
2. Interest on the Total Pension Liability	104,816,536	29,873,108	51,613,228	6,585,373	192,888,245
3. Changes of benefit terms	-	-	-	-	-
4. Difference between expected and actual experience of the Total Pension Liability	(30,326,230)	(7,081,563)	(14,601,904)	(3,827,052)	(55,836,749)
5. Changes of assumptions	36,247,728	10,660,029	18,638,831	2,130,947	67,677,535
6. Benefit payments, including refunds of employee contributions	(132,654,182)	(36,085,474)	(64,151,306)	(6,990,690)	(239,881,652)
7. Net change in Total Pension Liability	$ (21,916,148)	$ (2,633,900)	$ (8,501,151)	$ (2,101,422)	$ (35,152,621)
8. Total Pension Liability – Beginning	1,486,605,353	422,827,398	731,441,884	92,728,046	2,733,602,681
9. Total Pension Liability – Ending	**$ 1,464,689,205**	**$ 420,193,498**	**$ 722,940,733**	**$ 90,626,624**	**$ 2,698,450,060**
B. Plan Fiduciary Net Position					
1. Contributions – employer	$ 2,765,012	$ 109,988	$ 42,900,000	$ 2,500,000	$ 48,275,000
2. Contributions – employee	-	-	-	-	-
3. Net investment income	(8,166,686)	(263,790)	(5,140,956)	(430,679)	(14,002,111)
4. Benefit payments, including refunds of employee contributions	(132,654,182)	(36,085,474)	(64,151,306)	(6,990,690)	(239,881,652)
5. Pension Plan Administrative Expense	(2,015,612)	(229,941)	-	(105,720)	(2,351,273)
6. Other	2,515,215	812,432	1,681,568	145,983	5,155,198
7. Net change in Plan Fiduciary Net Position	$ (137,556,253)	$ (35,656,785)	$ (24,710,694)	$ (4,881,106)	$ (202,804,838)
8. Plan Fiduciary Net Position – Beginning	999,718,654	175,923,049	542,380,874	80,884,250	1,798,906,827
9. Plan Fiduciary Net Position – Ending	**$ 862,162,401**	**$ 140,266,264**	**$ 517,670,180**	**$ 76,003,144**	**$ 1,596,101,989**
C. Net Pension Liability	**$ 602,526,804**	**$ 279,927,234**	**$ 205,270,553**	**$ 14,623,480**	**$ 1,102,348,071**
D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability	**58.86%**	**33.38%**	**71.61%**	**83.86%**	**59.15%**
E. Covered-employee payroll	**$ 91,411,851**	**$ 21,445,920**	**$ 18,517,661**	**$ 10,839,628**	**$ 142,215,060**
F. Net Pension Liability as a percentage of covered-employee payroll	**659.13%**	**1305.27%**	**1108.51%**	**134.91%**	**775.13%**

**Totals may not add due to rounding.*

A Special Funding Situation may occur if a non-city entity has a legal obligation to contribute directly to the Retirement System. The Net Pension Liability shown here has not been adjusted for any potential special funding situation.

Schedules of Required Supplementary Information
Schedule of Changes in Net Pension Liability and Related Ratios Multiyear

Ultimately 10 Fiscal Years will be Displayed

Fiscal year ending June 30,	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability							
Service Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ 32,736,019
Interest on the Total Pension Liability	192,888,245	195,489,643	192,359,745	201,919,236	214,011,164	263,007,329	242,611,073
Benefit Changes	-	-	-	-	-	(731,824,895)	(113,311,571)
Difference between Expected and Actual Experience	(55,836,749)	13,596,900	34,154,327	(27,508,380)	(43,719,112)	24,644,530	-
Assumption Changes	67,677,535	-	(110,274,515)	76,925,957	90,034,927	(101,559,893)	(271,190,194)
Benefit Payments	(230,537,598)	(235,153,732)	(239,301,938)	(242,938,006)	(242,470,451)	(253,217,949)	(253,683,194)
Refunds*	(9,344,054)	(13,636,283)	(14,140,692)	(24,311,533)	(49,811,728)	(44,321,041)	(144,050,613)
Net Change in Total Pension Liability	(35,152,621)	(39,703,472)	(137,203,073)	(15,912,726)	(31,955,200)	(843,271,919)	(506,888,480)
Total Pension Liability - Beginning	2,733,602,681	2,773,306,153	2,910,509,226	2,926,421,952	2,958,377,152	3,801,649,071	4,308,537,551
Total Pension Liability - Ending (a)	$ 2,698,450,060	$ 2,733,602,681	$ 2,773,306,153	$ 2,910,509,226	$ 2,926,421,952	$ 2,958,377,152	$ 3,801,649,071
Plan Fiduciary Net Position							
Employer Contributions	$ 47,900,000	$ 67,900,000	$ 68,275,000	$ 91,238,402	$ 104,792,657	$ 189,282,095	$ 25,126,131
Employee Contributions	-	-	-	-	-	609,073	10,241,761
Pension Plan Net Investment Income	(14,002,111)	47,170,007	155,423,193	206,896,567	(7,865,094)	93,054,978	289,789,607
Benefit Payments	(230,537,598)	(235,153,732)	(239,301,938)	(242,938,006)	(242,470,451)	(253,217,949)	(253,683,194)
Refunds*	(9,344,054)	(13,636,283)	(14,140,692)	(24,311,533)	(49,811,728)	(44,321,041)	(144,050,613)
Pension Plan Administrative Expense	(2,351,273)	(3,023,943)	(3,313,418)	(6,021,837)	(3,742,618)	(7,556,822)	(11,237,767)
Other	5,530,198	(4,972,864)	6,952,522	8,324,075	1,360,330	138,219,998	-
Net Change in Plan Fiduciary Net Position	(202,804,838)	(141,716,815)	(26,105,333)	33,187,668	(197,736,904)	116,070,332	(83,814,075)
Plan Fiduciary Net Position - Beginning	1,798,906,827	1,940,623,642	1,966,728,975	1,933,541,307	2,131,278,211	2,015,207,879	2,099,021,954
Plan Fiduciary Net Position - Ending (b)	$ 1,596,101,989	$ 1,798,906,827	$ 1,940,623,642	$ 1,966,728,975	$ 1,933,541,307	$ 2,131,278,211	$ 2,015,207,879
Net Pension Liability - Ending (a) - (b)	$ 1,102,348,071	$ 934,695,854	$ 832,682,511	$ 943,780,251	$ 992,880,645	$ 827,098,941	$ 1,786,441,192
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	59.15 %	65.81 %	69.98 %	67.57 %	66.07 %	72.04 %	53.01 %
Covered-Employee Payroll	$ 142,215,060	$ 149,373,313	$ 141,454,717	$ 143,882,722	$ 200,722,197	$ 203,507,079	$ 213,291,083
Net Pension Liability as a Percentage of Covered-Employee Payroll	775.13 %	625.74 %	588.66 %	655.94 %	494.65 %	406.42 %	837.56 %
Notes to Schedule:	N/A	N/A	N/A	N/A	N/A	N/A	N/A

** For FY 2017, includes approximately $2.9 million of adjusted loan balances that were treated as refunds of ASF contributions.*

A Special Funding Situation may occur if a non-city entity has a legal obligation to contribute directly to the Retirement System. The Net Pension Liability shown here has not been adjusted for any potential funding situation. Our understanding is that the City makes all the employer contributions into the fund, even though the City may receive monies from other entities as a result of the POA.

Schedules of Required Supplementary Information
Schedule of the Net Pension Liability Multiyear

Ultimately 10 Fiscal Years will be Displayed

FY Ending June 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll*	Net Pension Liability as a % of Covered Payroll
2014	$ 3,801,649,071	$ 2,015,207,879	$ 1,786,441,192	53.01%	$ 213,291,083	837.56%
2015	2,958,377,152	2,131,278,211	827,098,941	72.04%	203,507,079	406.42%
2016	2,926,421,952	1,933,541,307	992,880,645	66.07%	200,722,197	494.65%
2017	2,910,509,226	1,966,728,975	943,780,251	67.57%	143,882,722	655.94%
2018	2,773,306,153	1,940,623,642	832,682,511	69.98%	141,454,717	588.66%
2019	2,733,602,681	1,798,906,827	934,695,854	65.81%	149,373,313	625.74%
2020	2,698,450,060	1,596,101,989	1,102,348,071	59.15%	142,215,060	775.13%

** Covered payroll shown is the reported payroll on the actuarial valuation date (census date). Actual covered payroll paid during the year was unavailable.*

Schedule of Contributions Multiyear

Ultimately 10 Fiscal Years will be Displayed

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll*	Actual Contribution as a % of Covered Payroll
2014	$80,627,791	$ 25,126,131	$55,501,660	$213,291,083	11.78%
2015	N/A	189,282,095	N/A	203,507,079	93.01%
2016	N/A	104,792,657	N/A	200,722,197	52.21%
2017	N/A	91,238,402	N/A	143,882,722	63.41%
2018	N/A	68,275,000	N/A	141,454,717	48.27%
2019	N/A	68,275,000	N/A	149,373,313	45.71%
2020	N/A	48,275,000	N/A	142,215,060	33.95%

** Covered payroll shown is the reported payroll from the actuarial valuation date (census date). Actual covered payroll paid during the year was unavailable.*

Notes to Schedule of Contributions

Contribution Requirement: Required contributions to the Plan through FY 2023 are provided in the POA. Certain agreements (as allowed for in the POA) have resulted in some of the contributions being accelerated. The schedule below details our understanding of the remaining contributions required by the POA.

Contribution Source

	For DWSD		For Other Liabilities					
Fiscal Year	DWSD	Transfers	UTGO	State	DIA	Other	Transfers from DWSD	Total
2021	45.4	(2.5)	-	-	0.4	2.5	2.5	48.3
2022	45.4	(2.5)	-	-	0.4	2.5	2.5	48.3
2023	45.4	(2.5)	-	-	0.4	2.5	2.5	48.3

We have assumed the contributions outlined above as called for in the POA (with adjustments) will not change. An estimate of the probability of those payments being made was outside the scope of this project, not required by Actuarial Standards, and was not made.

Beginning with Fiscal Year 2024, employer contributions will be actuarially determined.

Schedule of Investment Returns

This information should be provided by the plan's investment consultant.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Single Discount Rate

A Single Discount Rate of 7.06%, net of investment expenses, was used to measure the total pension liability as of June 30, 2020. This Single Discount Rate was based on the expected rate of return on pension plan investments of 7.06% as directed by the System and approved by the System's Auditor. The projection of cash flows used to determine this Single Discount Rate assumed that plan member contributions ceased as of June 30, 2014, and that employer contributions will be made at rates equal to those set by the final Plan of Adjustment through June 30, 2023 and contributions consistent with PERSIA and the intention to fully fund the System by 2053 as determined in the bankruptcy (POA). Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the Single Discount Rate, the following presents the plan's net pension liability, calculated using a Single Discount Rate of 7.06%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher.

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

	1% Decrease 6.06%	Current Single Discount Rate Assumption 7.06%	1% Increase 8.06%
Total Pension Liability (TPL)	$2,933,272,329	$2,698,450,060	$2,497,394,499
Net Position Restricted for Pensions	1,596,101,989	1,596,101,989	1,596,101,989
Net Pension Liability (NPL)	$1,337,170,340	$1,102,348,071	$ 901,292,510

Users of this report should be aware that, in the actuary's judgement, a discount rate of 8.06% would not be a reasonable assumption for funding purposes.

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	11,557
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2,779
Active Plan Members	2,793
Total Plan Members	17,129

Additional information regarding the plan population may be found in the June 30, 2019 actuarial valuation of the System.

Additional Note

Potential future asset transfers from this Plan to Component I for payment of Transition Costs were not included in this calculation.

SECTION E

SUMMARY OF BENEFITS

Summary of Benefit Provisions Evaluated

Component II Frozen Benefits

All Component II benefits are frozen as of June 30, 2014 based on service and average final compensation accrued as of that date and the provisions of the Detroit General Retirement System as it existed on June 30, 2014. Frozen benefits are further reduced by 4.5% and all future Cost-of-Living Adjustments ("COLAs") were eliminated. Benefits resulting from the Annuity Savings Fund and benefits paid from the Annuity Reserve Fund were subject to a separate reduction described as a "Claw-back." Details of the claw-back provision are complicated and can be found in the Eighth Amended Plan of Adjustment. The benefits evaluated in this report are the frozen reduced benefits after the claw-back. Component II benefits are payable after separation from service, upon meeting the eligibility conditions of the plan as it existed on June 30, 2014, regardless of whether the individual is eligible to receive a Component I benefit at that time.

Our understanding of the June 30, 2014 plan provisions is provided below for completeness. The material below does not have legal standing and is not intended to cover all potential situations that could occur. If there are discrepancies between the description below, and appropriate legal documents, the latter necessarily govern.

Age and Service Pension

Eligibility - Any age (minimum age 55 for non-EMS members hired after 1995) with 30 years of service (25 for EMS members), or age 60 with 10 years of service, or age 65 with 8 years of service.

Annual Amount - **EMS Members:** Sum of a) a basic pension of $12 for each of the first 10 years of service, plus b) a pension equal to 2.0% of AFC multiplied by years of service. Maximum benefit is 90% of AFC.

Other Members: Sum of a) a basic pension of $12 for each of the first 10 years of service, plus b) a pension equal to the first 10 years of service multiplied by 1.6% of AFC, plus 1.8% of AFC for each year of service greater than 10 years up to 20 years, plus 2.0% of AFC for each year of service greater than 20 years up to 25 years, plus 2.2% of AFC for each year of service greater than 25 years. Future benefit accruals for certain active members (depending on bargaining unit) were reduced to 1.5% of final average compensation per year of service.

Type of Average Final Compensation (AFC) - Highest 3 consecutive years out of the last 10. Pension benefits will not be diminished if compensation is reduced because of a fiscal emergency. Effective July 1, 1999, in computing the AFC, a member shall have the option of adding the value of 25% of unused accrued sick leave to the earnings used in computing the AFC. Longevity is added to AFC in accordance with the following schedule: $150 after 5 years, $300 after 10 years, $450 after 15 years, $600 after 20 years, and $750 after 25 years.

Early Retirement

Eligibility - Any age with 25 or more years of service (min. age 55 for members hired after 1995).

Annual Amount - Same as regular retirement but actuarially reduced.

Summary of Benefit Provisions Evaluated (Continued)

Deferred Retirement (Vested Benefit)

Eligibility - Hired prior to 7-1-80: Age 40 with 8 years of service. Hired on or after 7-1-80: Any age with 10 years of service.

Benefit Commencement - APTE hired prior to July 1, 1988: Benefit begins at the age the member would have become eligible for regular retirement if service had continued. ***SAAA, Non-Union and lawyers hired prior to June 30, 1986:*** Benefit begins at the age the member would have become eligible for regular retirement. ***Others:*** Benefits based on service rendered by June 30, 1986 begin at the age the member would have become eligible for regular retirement. Benefits based on service rendered after July 1, 1986 begin at age 62.

Annual Amount - Same as regular retirement but based on average final compensation and service at the time of termination.

Duty Disability Retirement

Eligibility - Service related disability before eligibility for service retirement prior to July 1, 2014. No service requirement.

Annual Amount - An annuity which is the actuarial equivalent of the accumulated contributions at date of disability plus a pension of two-thirds of average final compensation at time of disability. The maximum annual pension is $5,700 ($9,000 for EMS). At the earliest of when the member would have accrued 30 years of service credit (25 for EMS) or age 60, the annuity is recomputed assuming contributions would have continued at a salary level equal to final compensation. The pension is recomputed with additional service credit granted from the date of disability to age 60 (or 30 years of service credit) or June 30, 2014, whichever is earlier. Benefits payable prior to conversion/re-computation, if any, were assumed to be paid outside the trust.

Non-Duty Disability Retirement

Eligibility - Disability from any cause before age 60 with 10 or more years of service prior to July 1, 2014.

Annual Amount - Computed in the same manner as a regular retirement benefit. Maximum annual pension to age 60 is $6,000. Benefit is recomputed at age 60 with no maximum. Benefits payable prior to age 60, if any, were assumed to be paid from outside the trust.

Duty Death Before Retirement

Eligibility - Death from service related causes. No age or service requirements.

Annual Amount - One-third of final compensation as of June 30, 2014 to the surviving spouse for life or until remarriage, plus an equal share of 1/4 of final compensation to each unmarried child under age 18. If there is no eligible spouse, eligible children each receive 1/4 of final compensation; if there are more than 2 such children, each child shares an equal part of 1/2 of final compensation. Maximum total amount for spouse and children is $9,000 annually. If there is no eligible spouse or children, dependent parents each receive 1/6 of deceased's final compensation, to a total maximum of $600 annually.

Summary of Benefit Provisions Evaluated (Concluded)

Non-Duty Death Before Retirement

Eligibility - Death-in-service at any age with 15 years of service; or after age 60 with 10 years of service; or after age 65 with 8 years of service.

Annual Amount - To Surviving Spouse: Computed as a regular retirement benefit but reduced in accordance with a 100% joint and survivor election for members with 20 or more years of service. For members with 15 years of service but less than 20, benefit is reduced in accordance with a 50% joint and survivor election. To Dependent Children if no Surviving Spouse: $9,000 payable to age 19 of the youngest child or for life if child is physically or mentally impaired for members with 20 or more years of service ($6,000 if less than 20 years of service).

Post-Retirement Cost-of-Living Adjustments

Benefit is increased annually by 2.25% of the **original** pension amount at retirement. Post-retirement cost-of-living increases were eliminated on future accruals for certain active members (depending on bargaining unit).

Member Contributions

Members had the option of choosing one of four contribution amounts: (1) 0%; (2) 3.0% of compensation up to the Social Security wage base, plus 5.0% of compensation in excess of the Social Security wage base; (3) 5.0% of total compensation; or (4) 7.0% of total compensation. Member contributions can be paid as a lump sum or annuitized at retirement to provide an annuity in addition to the pension (which is not affected by the level of member contributions).

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SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Summary of Assumptions and Methods Used for GASB Actuarial Valuations Adopted by Board of Trustees

All assumptions are estimates of future experience except as noted. The rationale for the assumptions is based on experience studies where noted.

Economic Assumptions

The investment return rate used in making the valuation was 7.06% per year, compounded annually (net after investment expenses) as of June 30, 2020. This assumption was provided by the Retirement System.

Price inflation is not directly used in the valuation. For purposes of assessing the reasonability of the investment return assumptions, we assumed price inflation of 2.25% per year.

Non-Economic Assumptions

The mortality table used to measure retired life mortality was 100% of the RP-2014 Blue Collar Annuitant Table set-forward 1 year for males and 100% of the RP-2014 Blue Collar Annuitant Table set-forward 1 year for females. Tables were extended below age 50 with a cubic spline to the published Juvenile rates. Pre-retirement mortality is based on the corresponding Employee tables with corresponding set-forward. The tables are projected to be fully generational, based on the 2-dimensional, sex distinct mortality improvement scale MP-2014 (which was published and intended to be used with RP-2014). 75% of all deaths-in-service are assumed to be non-duty related. This table was first used as of June 30, 2014. For disabled members, the same tables are used. The rationale for the mortality assumption is based on the 2008-2013 Mortality Experience Study issued February 4, 2015.

The probabilities of retirement for members eligible to retire are shown on pages 34 and 35. These probabilities were revised for the June 30, 2008 valuation. The rationale is based on the 2002-2007 Experience Study.

The probabilities of separation from service (including *disability)* are shown for sample ages on page 36. These probabilities were revised for the June 30, 2008 valuation. The rationale is based on the 2002-2007 Experience Study.

Single Life Retirement Values
Based on RP-2014 Blue Collar
100% of Male Rates Set-Forward 1 Year
100% of Female Rates Set-Forward 1 Year

Sample Attained Ages in 2019	Future Life Expectancy (years)	
	Men	Women
45	38.73	42.07
50	33.77	37.01
55	29.00	32.10
60	24.45	27.35
65	20.14	22.78
70	16.15	18.46
75	12.52	14.50
80	9.33	10.98

Rationale for assumption is based upon a 2008 to 2013 study of mortality experience dated February 4, 2015.

Probabilities of Age/Service Retirement for Members Eligible to Retire

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year With Unreduced Benefits		
	EMS	D.O.T.	Others
45	25%		
46	25%		
47	25%		
48	22%		
49	20%		
50	18%	55%	50%
51	15%	50%	50%
52	15%	50%	45%
53	15%	50%	45%
54	15%	55%	40%
55	15%	50%	30%
56	15%	50%	30%
57	15%	50%	30%
58	15%	50%	30%
59	15%	55%	40%
60	40%	40%	25%
61	30%	30%	25%
62	30%	30%	25%
63	30%	30%	25%
64	30%	30%	25%
65	30%	30%	35%
66	30%	30%	30%
67	30%	30%	25%
68	30%	50%	25%
69	30%	50%	25%
70	100%	100%	20%
71			20%
72			20%
73			20%
74			20%
75			20%
76			20%
77			20%
78			20%
79			20%
80			100%
Ref	537	1648	1647

Rationale for assumption is 2002 to 2007 Experience Study. Additional retirement rates for Component I (Hybrid Plan) eligibility are not reflected in this valuation due to materiality.

Probabilities of Early Retirement for Members Eligible for Early Retirement

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year With Reduced Benefits
55	7%
56	8%
57	9%
58	10%
59	12%
60	12%
61	12%
62	12%
63	12%
64	12%
Ref	1649

Rationale for assumption is based upon a 2002 to 2007 Experience Study.

Sample Rates of Separation from Active Employment Before Retirement

Sample Ages	Years of Service	% of Active Members Separating Within Next Year — Withdrawal: EMS	D.O.T.	Others: Men	Others: Women
ALL	0	11.00%	18.00%	18.00%	20.00%
	1	10.00%	16.00%	15.00%	16.00%
	2	8.00%	14.00%	13.00%	14.00%
	3	8.00%	11.00%	11.00%	12.00%
	4	7.00%	9.00%	10.00%	10.00%
25	5 & Over	6.70%	8.00%	7.60%	7.60%
30		5.90%	7.60%	7.22%	7.22%
35		5.20%	5.56%	5.28%	5.28%
40		4.40%	4.26%	4.05%	4.05%
45		3.40%	3.69%	3.51%	3.51%
50		2.40%	3.50%	3.33%	3.33%
55		2.00%	3.50%	3.33%	3.33%
60		0.00%	3.50%	3.33%	3.33%
Ref		338 1068	143 212	584 212 x 0.95	188 212 x 0.95

Sample Ages	% of Active Members Becoming Disabled Within Next Year — D.O.T.: Ordinary	D.O.T.: Duty	Others: Ordinary	Others: Duty
25	0.02%	0.03%	0.01%	0.25%
30	0.05%	0.08%	0.04%	0.29%
35	0.14%	0.21%	0.11%	0.34%
40	0.27%	0.42%	0.21%	0.39%
45	0.51%	0.79%	0.40%	0.45%
50	0.66%	1.03%	0.51%	0.52%
55	0.76%	1.18%	0.59%	0.60%
60	0.86%	1.34%	0.67%	0.70%
Ref	23 x 0.45	23 x 0.70	23 x 0.35	423 x 0.90

Rationale for assumption is based upon a 2002 to 2007 Experience Study.

Miscellaneous and Technical Assumptions

Benefit Service	Exact Fractional service is used to determine the amount of benefit payable.
Decrement Operation	Disability and mortality decrements do not operate during the first 5 years of service. Disability and withdrawal also do not operate during retirement eligibility.
Decrement Timing	Decrements of all types are assumed to occur mid-year.
Eligibility Testing	Eligibility for benefits is determined based upon the age nearest birthday and rounded service on the date the decrement is assumed to occur.
Forfeitures	None.
Marriage Assumption	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
Normal Form of Benefit	Straight life is the normal form of benefit. The Board adopted assumptions for Actuarial Equivalence to be an 80%/20% unisex blend of RP-2014 mortality (Male/Female) with Blue Collar Adjustment, set ahead 1 year for males and females, projected 11 years with MP-2014, an interest rate of 6.75, and no COLA for optional forms of payment and early retirement reduction. Assumptions for annuitizing member contributions are the same except for using a 60%/40% unisex blend and a 5.25% assumed rated of interest. Prior to that, actuarial equivalent factors were based on 7.5% interest and 1984 Group Annuity Mortality table.
Service Credit Accruals	Service accruals stop as of June 30, 2014 for measurement of Component II liabilities. However, future service in Component I may be used to satisfy benefit eligibility requirement in Component II. Members who became duty disabled prior to June 30, 2014 are assumed to get projected service from date of disability to conversion date. Members who become disabled after June 30, 2014 are assumed to get their frozen accrued benefit as of June 30, 2014 at date of conversion.
Administrative Expenses	3.00% of Component I payroll. 60% was allocated to Component II and 40% to Component I.
Sick Leave	Sick leave banks as of June 30, 2014 were included in the 2014 data file provided by the System.
Member Contributions	Member contributions to this Component II plan are assumed to have ceased with the bankruptcy.
Pop-Up Benefits	For current retirees with a pop-up benefit, the value of the pop-up was estimated by valuing a non-pop-up option and increasing the associated liabilities by 2%.

Rationale for assumption is based upon a 2002 to 2007 Experience Study, modified as necessary for changes in data or administration.

SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation of the Single Discount Rate at End of Year

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a municipal bond rate is required, as described in the following paragraph.

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.06%; the municipal bond rate is 2.45%; and the resulting Single Discount Rate is 7.06% as of June 30, 2020.

The tables in this section provide background for the development of the Single Discount Rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities). For purposes of determining the discount rate as of June 30, 2020, the employer contributions for the 10-year period ending June 30, 2023 were set by the 8th Amended Plan of Adjustment (POA), as adjusted by subsequent agreements. Subsequent employer contributions were determined by a closed 30-year level principle amortization of any unfunded actuarial accrued liability (as required by State law) using 7.06% interest, net of investment expenses, consistent with the 100% funded target by 2053 in the POA.

Rates of Return: Note that these projections are specifically used to determine the SDR and should not be interpreted as a funding recommendation. The 7.06% rate of return was before administrative expenses. Therefore, the projections assumed that any administrative expenses incurred by the plan will directly increase employer contributions beginning with FY 2024. The rate is net of investment expenses.

Administrative Expenses: For purposes of the projection using a 7.06% rate of return, administrative expenses were assumed to be related to payroll. Payroll was increased by an assumed wage inflation as of June 30, 2014 of 2.00% for 5 years, 2.50% for the next 5 years and 3.00% thereafter. Since benefits are frozen, the wage inflation assumption does not affect anything other than the administrative expenses.

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

Unfunded Actuarial Accrued Liabilities. Actual employer contributions through June 30, 2023 are set by the POA. The amortization period and method after 2023 has not yet been established by the Board.

Calculation of the Single Discount Rate at End of Year

The **Present Values of Projected Benefit Payments** table shows the development of the SDR. It breaks down the benefit payments into present values for funded and unfunded portions (if any) and shows the equivalent total at the SDR. For purposes of determining the discount rate as of June 30, 2020, the benefit payments reflect the plan provisions in force as of June 30, 2020.

Single Discount Rate Development
Projection of Contributions
End of Year

Fiscal Year Ending June 30,	Projected Contributions from Current Employees	Projected Service Cost	Administrative Expense Contributions	Projected UAL Contributions	Projected Total Contributions
2021	$ -	$ -	$ 4,266,975	$ 44,008,025	$ 48,275,000
2022	-	-	3,941,038	44,333,962	48,275,000
2023	-	-	3,695,047	44,579,953	48,275,000
2024	-	-	3,504,583	121,066,708	124,571,291
2025	-	-	3,343,089	118,325,429	121,668,518
2026	-	-	3,202,716	115,584,149	118,786,865
2027	-	-	3,051,728	112,842,870	115,894,598
2028	-	-	2,891,867	110,101,590	112,993,457
2029	-	-	2,728,331	107,360,311	110,088,642
2030	-	-	2,567,873	104,619,031	107,186,904
2031	-	-	2,418,015	101,877,752	104,295,767
2032	-	-	2,276,358	99,136,472	101,412,830
2033	-	-	2,140,850	96,395,193	98,536,043
2034	-	-	2,013,244	93,653,913	95,667,157
2035	-	-	1,894,116	90,912,633	92,806,749
2036	-	-	1,781,338	88,171,354	89,952,692
2037	-	-	1,673,067	85,430,074	87,103,141
2038	-	-	1,571,160	82,688,795	84,259,955
2039	-	-	1,474,799	79,947,515	81,422,314
2040	-	-	1,382,668	77,206,236	78,588,904
2041	-	-	1,295,581	74,464,956	75,760,537
2042	-	-	1,211,938	71,723,677	72,935,615
2043	-	-	1,132,622	68,982,397	70,115,019
2044	-	-	1,055,772	66,241,118	67,296,890
2045	-	-	979,043	63,499,838	64,478,881
2046	-	-	903,670	60,758,558	61,662,228
2047	-	-	828,276	58,017,279	58,845,555
2048	-	-	750,310	55,275,999	56,026,309
2049	-	-	668,521	52,534,720	53,203,241
2050	-	-	585,050	49,793,440	50,378,490
2051	-	-	504,608	47,052,161	47,556,769
2052	-	-	429,182	44,310,881	44,740,063
2053	-	-	360,717	41,569,602	41,930,319
2054	-	-	300,680	-	300,680
2055	-	-	248,342	-	248,342
2056	-	-	202,868	-	202,868
2057	-	-	163,918	-	163,918
2058	-	-	130,496	-	130,496
2059	-	-	102,028	-	102,028
2060	-	-	78,191	-	78,191
2061	-	-	58,534	-	58,534
2062	-	-	42,768	-	42,768
2063	-	-	30,451	-	30,451
2064	-	-	21,422	-	21,422
2065	-	-	15,024	-	15,024
2066	-	-	10,514	-	10,514
2067	-	-	7,320	-	7,320
2068	-	-	5,076	-	5,076
2069	-	-	3,505	-	3,505
2070	-	-	2,417	-	2,417

Employer contributions as shown may differ substantially from those determined by a funding valuation.

Single Discount Rate Development
Projection of Plan Fiduciary Net Position
End of Year

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected ASF Refund	Projected Administrative Expenses	Projected Investment Earnings at 7.06% (5.25% for ASF)	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(a)+(b)-(c)-(d)-(e)+(f)
2021	$ 1,596,101,989	$ 48,275,000	$ 240,371,950	$ 14,594,585	$ 4,266,975	$ 103,425,680	$ 1,488,569,159
2022	1,488,569,159	48,275,000	238,718,710	14,594,585	3,941,038	96,065,001	1,375,654,826
2023	1,375,654,826	48,275,000	236,504,948	14,594,585	3,695,047	88,349,592	1,257,484,838
2024	1,257,484,838	124,571,291	234,049,617	14,594,585	3,504,583	82,925,897	1,212,833,242
2025	1,212,833,242	121,668,518	231,439,846	14,594,585	3,343,089	79,958,351	1,165,082,591
2026	1,165,082,591	118,786,865	228,536,133	14,594,585	3,202,716	76,792,157	1,114,328,180
2027	1,114,328,180	115,894,598	224,992,751	14,594,585	3,051,728	73,446,558	1,061,030,272
2028	1,061,030,272	112,993,457	220,902,336	14,594,585	2,891,867	69,951,386	1,005,586,327
2029	1,005,586,327	110,088,642	216,244,957	14,594,585	2,728,331	66,335,971	948,443,067
2030	948,443,067	107,186,904	211,376,196	14,594,585	2,567,873	62,620,121	889,711,439
2031	889,711,439	104,295,767	206,199,225	-	2,418,015	59,193,879	844,583,844
2032	844,583,844	101,412,830	200,825,972	-	2,276,358	56,099,195	798,993,539
2033	798,993,539	98,536,043	195,137,646	-	2,140,850	52,982,776	753,233,861
2034	753,233,861	95,667,157	189,012,000	-	2,013,244	49,869,573	707,745,347
2035	707,745,347	92,806,749	182,428,997	-	1,894,116	46,791,385	663,020,369
2036	663,020,369	89,952,692	175,614,203	-	1,781,338	43,775,144	619,352,664
2037	619,352,664	87,103,141	168,549,215	-	1,673,067	40,842,228	577,075,751
2038	577,075,751	84,259,955	161,368,979	-	1,571,160	38,011,501	536,407,068
2039	536,407,068	81,422,314	153,934,023	-	1,474,799	35,303,153	497,723,714
2040	497,723,714	78,588,904	146,330,716	-	1,382,668	32,740,811	461,340,044
2041	461,340,044	75,760,537	138,665,580	-	1,295,581	30,342,972	427,482,393
2042	427,482,393	72,935,615	130,930,021	-	1,211,938	28,125,914	396,401,962
2043	396,401,962	70,115,019	123,203,446	-	1,132,622	26,104,615	368,285,528
2044	368,285,528	67,296,890	115,527,275	-	1,055,772	24,290,826	343,290,197
2045	343,290,197	64,478,881	107,885,320	-	979,043	22,696,199	321,600,914
2046	321,600,914	61,662,228	100,347,736	-	903,670	21,331,358	303,343,095
2047	303,343,095	58,845,555	92,987,004	-	828,276	20,202,642	288,576,012
2048	288,576,012	56,026,309	85,836,805	-	750,310	19,313,067	277,328,274
2049	277,328,274	53,203,241	78,935,026	-	668,521	18,663,338	269,591,305
2050	269,591,305	50,378,490	72,313,416	-	585,050	18,251,747	265,323,077
2051	265,323,077	47,556,769	65,995,409	-	504,608	18,074,516	264,454,344
2052	264,454,344	44,740,063	59,998,070	-	429,182	18,126,162	266,893,317
2053	266,893,317	41,930,319	54,335,757	-	360,717	18,399,708	272,526,870
2054	272,526,870	300,680	49,019,940	-	300,680	17,539,502	241,046,432
2055	241,046,432	248,342	44,054,314	-	248,342	15,489,280	212,481,398
2056	212,481,398	202,868	39,442,073	-	202,868	13,632,625	186,671,950
2057	186,671,950	163,918	35,179,732	-	163,918	11,958,372	163,450,590
2058	163,450,590	130,496	31,260,508	-	130,496	10,454,934	142,645,016
2059	142,645,016	102,028	27,675,289	-	102,028	9,110,460	124,080,188
2060	124,080,188	78,191	24,411,934	-	78,191	7,913,015	107,581,269
2061	107,581,269	58,534	21,455,802	-	58,534	6,850,764	92,976,230
2062	92,976,230	42,768	18,790,655	-	42,768	5,912,123	80,097,699
2063	80,097,699	30,451	16,398,984	-	30,451	5,085,885	68,784,600
2064	68,784,600	21,422	14,262,466	-	21,422	4,361,313	58,883,448
2065	58,883,448	15,024	12,362,297	-	15,024	3,728,224	50,249,375
2066	50,249,375	10,514	10,679,427	-	10,514	3,177,051	42,746,999
2067	42,746,999	7,320	9,194,985	-	7,320	2,698,890	36,250,903
2068	36,250,903	5,076	7,890,676	-	5,076	2,285,523	30,645,751
2069	30,645,751	3,505	6,749,029	-	3,505	1,929,412	25,826,134
2070	25,826,134	2,417	5,753,588	-	2,417	1,623,687	21,696,233

Employer contributions as shown may differ substantially from those determined by a funding valuation.

Single Discount Rate Development
Projection of Plan Fiduciary Net Position
End of Year (Concluded)

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected ASF Refund	Projected Administrative Expenses	Projected Investment Earnings at 7.06% (5.25% for ASF)	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(a)+(b)-(c)-(d)-(e)+(f)
2071	$ 21,696,233	$ 1,658	$ 4,888,928	$ -	$ 1,658	$ 1,362,118	$ 18,169,422
2072	18,169,422	1,134	4,140,650	-	1,134	1,139,089	15,167,861
2073	15,167,861	770	3,495,461	-	770	949,565	12,621,966
2074	12,621,966	518	2,941,181	-	518	789,058	10,469,842
2075	10,469,842	344	2,466,696	-	344	653,581	8,656,728
2076	8,656,728	222	2,061,918	-	222	539,621	7,134,431
2077	7,134,431	141	1,717,778	-	141	444,087	5,860,740
2078	5,860,740	84	1,426,163	-	84	364,283	4,798,860
2079	4,798,860	45	1,179,893	-	45	297,860	3,916,826
2080	3,916,826	19	972,650	-	19	242,779	3,186,954
2081	3,186,954	4	798,904	-	4	197,279	2,585,329
2082	2,585,329	1	653,834	-	1	159,837	2,091,332
2083	2,091,332	-	533,254	-	-	129,145	1,687,224
2084	1,687,224	-	433,479	-	-	104,077	1,357,822
2085	1,357,822	-	351,272	-	-	83,674	1,090,224
2086	1,090,224	-	283,811	-	-	67,122	873,535
2087	873,535	-	228,656	-	-	53,738	698,616
2088	698,616	-	183,717	-	-	42,948	557,846
2089	557,846	-	147,222	-	-	34,276	444,900
2090	444,900	-	117,680	-	-	27,327	354,547
2091	354,547	-	93,842	-	-	21,775	282,479
2092	282,479	-	74,673	-	-	17,352	225,158
2093	225,158	-	59,315	-	-	13,838	179,681
2094	179,681	-	47,054	-	-	11,053	143,680
2095	143,680	-	37,308	-	-	8,849	115,221
2096	115,221	-	29,601	-	-	7,108	92,728
2097	92,728	-	23,536	-	-	5,730	74,922
2098	74,922	-	18,779	-	-	4,638	60,781
2099	60,781	-	15,061	-	-	3,769	49,489
2100	49,489	-	12,162	-	-	3,072	40,399
2101	40,399	-	9,897	-	-	2,509	33,011
2102	33,011	-	8,118	-	-	2,049	26,942
2103	26,942	-	6,706	-	-	1,669	21,905
2104	21,905	-	5,567	-	-	1,353	17,691
2105	17,691	-	4,627	-	-	1,088	14,153
2106	14,153	-	3,835	-	-	866	11,184
2107	11,184	-	3,157	-	-	680	8,706
2108	8,706	-	2,572	-	-	525	6,660
2109	6,660	-	2,066	-	-	398	4,992
2110	4,992	-	1,631	-	-	296	3,657
2111	3,657	-	1,260	-	-	214	2,612
2112	2,612	-	951	-	-	151	1,812
2113	1,812	-	700	-	-	104	1,215
2114	1,215	-	501	-	-	68	783
2115	783	-	346	-	-	43	480
2116	480	-	231	-	-	26	275
2117	275	-	149	-	-	14	140
2118	140	-	93	-	-	7	54
2119	54	-	56	-	-	2	-
2120	-	-	-	-	-	0	0

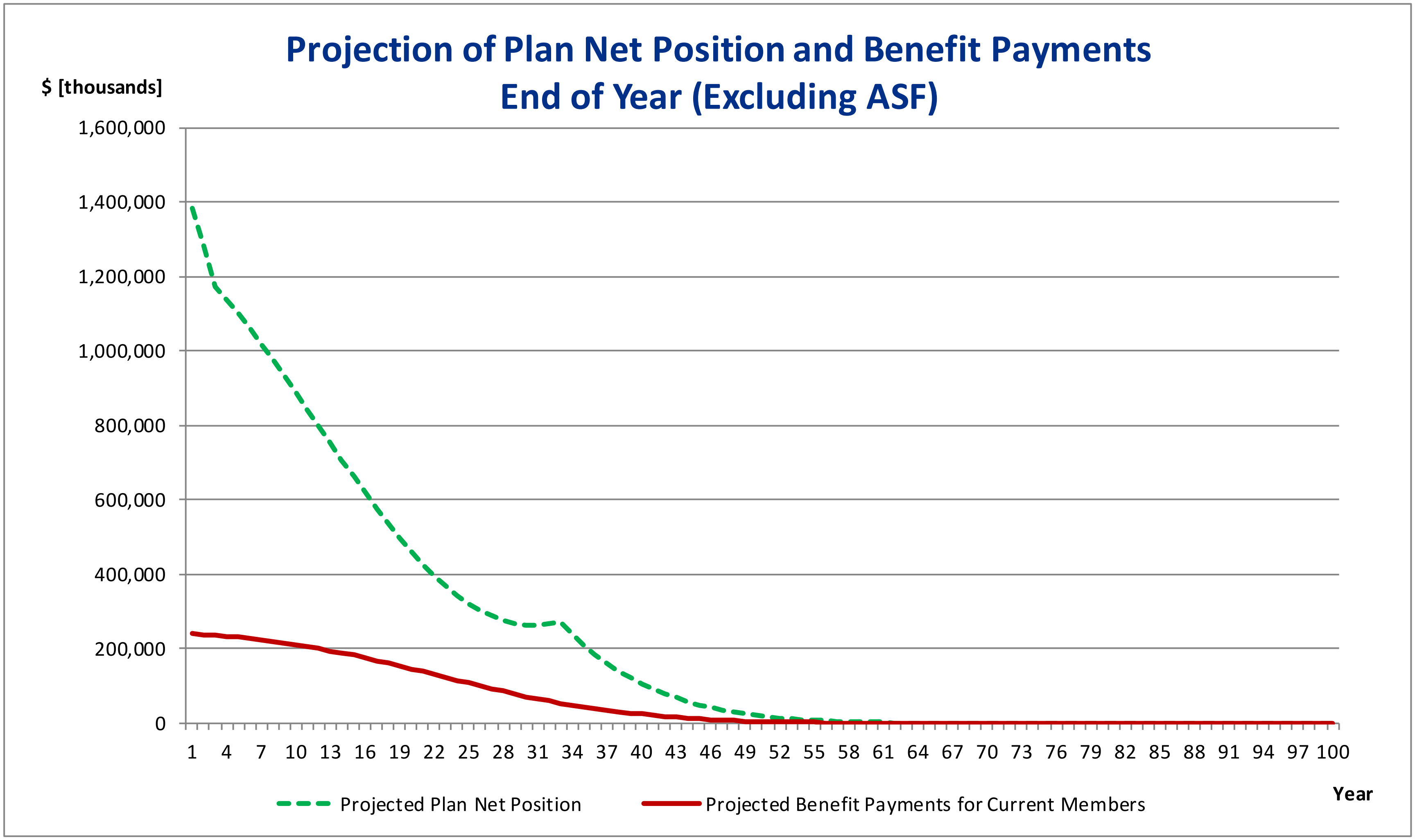
Employer contributions as shown may differ substantially from those determined by a funding valuation.

Single Discount Rate Development
Present Values of Projected Benefits
End of Year
(Excluding ASF)

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf ^((a)-.5)	(h)=(c)/(1+sdr)^(a-.5)
2021	$ 1,481,876,946	$ 240,371,950	$ 240,371,950	$ -	$ 232,311,210	$ -	$ 232,311,210
2022	1,383,320,093	238,718,710	238,718,710	-	215,499,169	-	215,499,169
2023	1,279,852,977	236,504,948	236,504,948	-	199,421,571	-	199,421,571
2024	1,171,626,184	234,049,617	234,049,617	-	184,337,036	-	184,337,036
2025	1,137,439,800	231,439,846	231,439,846	-	170,261,147	-	170,261,147
2026	1,100,703,787	228,536,133	228,536,133	-	157,038,110	-	157,038,110
2027	1,061,542,280	224,992,751	224,992,751	-	144,408,073	-	144,408,073
2028	1,020,445,904	220,902,336	220,902,336	-	132,432,938	-	132,432,938
2029	977,844,073	216,244,957	216,244,957	-	121,091,722	-	121,091,722
2030	934,217,136	211,376,196	211,376,196	-	110,559,816	-	110,559,816
2031	889,711,439	206,199,225	206,199,225	-	100,739,785	-	100,739,785
2032	844,583,844	200,825,972	200,825,972	-	91,644,547	-	91,644,547
2033	798,993,539	195,137,646	195,137,646	-	83,176,487	-	83,176,487
2034	753,233,861	189,012,000	189,012,000	-	75,252,625	-	75,252,625
2035	707,745,347	182,428,997	182,428,997	-	67,842,041	-	67,842,041
2036	663,020,369	175,614,203	175,614,203	-	61,001,067	-	61,001,067
2037	619,352,664	168,549,215	168,549,215	-	54,686,143	-	54,686,143
2038	577,075,751	161,368,979	161,368,979	-	48,903,886	-	48,903,886
2039	536,407,068	153,934,023	153,934,023	-	43,574,328	-	43,574,328
2040	497,723,714	146,330,716	146,330,716	-	38,690,500	-	38,690,500
2041	461,340,044	138,665,580	138,665,580	-	34,246,033	-	34,246,033
2042	427,482,393	130,930,021	130,930,021	-	30,203,245	-	30,203,245
2043	396,401,962	123,203,446	123,203,446	-	26,546,666	-	26,546,666
2044	368,285,528	115,527,275	115,527,275	-	23,251,149	-	23,251,149
2045	343,290,197	107,885,320	107,885,320	-	20,281,263	-	20,281,263
2046	321,600,914	100,347,736	100,347,736	-	17,620,287	-	17,620,287
2047	303,343,095	92,987,004	92,987,004	-	15,251,074	-	15,251,074
2048	288,576,012	85,836,805	85,836,805	-	13,149,961	-	13,149,961
2049	277,328,274	78,935,026	78,935,026	-	11,295,188	-	11,295,188
2050	269,591,305	72,313,416	72,313,416	-	9,665,300	-	9,665,300
2051	265,323,077	65,995,409	65,995,409	-	8,239,160	-	8,239,160
2052	264,454,344	59,998,070	59,998,070	-	6,996,474	-	6,996,474
2053	266,893,317	54,335,757	54,335,757	-	5,918,347	-	5,918,347
2054	272,526,870	49,019,940	49,019,940	-	4,987,240	-	4,987,240
2055	241,046,432	44,054,314	44,054,314	-	4,186,477	-	4,186,477
2056	212,481,398	39,442,073	39,442,073	-	3,501,005	-	3,501,005
2057	186,671,950	35,179,732	35,179,732	-	2,916,744	-	2,916,744
2058	163,450,590	31,260,508	31,260,508	-	2,420,887	-	2,420,887
2059	142,645,016	27,675,289	27,675,289	-	2,001,905	-	2,001,905
2060	124,080,188	24,411,934	24,411,934	-	1,649,401	-	1,649,401
2061	107,581,269	21,455,802	21,455,802	-	1,354,071	-	1,354,071
2062	92,976,230	18,790,655	18,790,655	-	1,107,673	-	1,107,673
2063	80,097,699	16,398,984	16,398,984	-	902,941	-	902,941
2064	68,784,600	14,262,466	14,262,466	-	733,516	-	733,516
2065	58,883,448	12,362,297	12,362,297	-	593,864	-	593,864
2066	50,249,375	10,679,427	10,679,427	-	479,191	-	479,191
2067	42,746,999	9,194,985	9,194,985	-	385,376	-	385,376
2068	36,250,903	7,890,676	7,890,676	-	308,902	-	308,902
2069	30,645,751	6,749,029	6,749,029	-	246,786	-	246,786
2070	25,826,134	5,753,588	5,753,588	-	196,513	-	196,513

Single Discount Rate Development
Present Values of Projected Benefits
End of Year
(Excluding ASF) (Concluded)

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf ^((a)-.5)	(h)=(c)/(1+sdr)^(a-.5)
2071	$ 21,696,233	$ 4,888,928	$ 4,888,928	$ -	$ 155,969	$ -	$ 155,969
2072	18,169,422	4,140,650	4,140,650	-	123,386	-	123,386
2073	15,167,861	3,495,461	3,495,461	-	97,291	-	97,291
2074	12,621,966	2,941,181	2,941,181	-	76,465	-	76,465
2075	10,469,842	2,466,696	2,466,696	-	59,901	-	59,901
2076	8,656,728	2,061,918	2,061,918	-	46,769	-	46,769
2077	7,134,431	1,717,778	1,717,778	-	36,394	-	36,394
2078	5,860,740	1,426,163	1,426,163	-	28,223	-	28,223
2079	4,798,860	1,179,893	1,179,893	-	21,810	-	21,810
2080	3,916,826	972,650	972,650	-	16,793	-	16,793
2081	3,186,954	798,904	798,904	-	12,884	-	12,884
2082	2,585,329	653,834	653,834	-	9,849	-	9,849
2083	2,091,332	533,254	533,254	-	7,503	-	7,503
2084	1,687,224	433,479	433,479	-	5,697	-	5,697
2085	1,357,822	351,272	351,272	-	4,312	-	4,312
2086	1,090,224	283,811	283,811	-	3,254	-	3,254
2087	873,535	228,656	228,656	-	2,449	-	2,449
2088	698,616	183,717	183,717	-	1,838	-	1,838
2089	557,846	147,222	147,222	-	1,376	-	1,376
2090	444,900	117,680	117,680	-	1,027	-	1,027
2091	354,547	93,842	93,842	-	765	-	765
2092	282,479	74,673	74,673	-	569	-	569
2093	225,158	59,315	59,315	-	422	-	422
2094	179,681	47,054	47,054	-	313	-	313
2095	143,680	37,308	37,308	-	232	-	232
2096	115,221	29,601	29,601	-	172	-	172
2097	92,728	23,536	23,536	-	127	-	127
2098	74,922	18,779	18,779	-	95	-	95
2099	60,781	15,061	15,061	-	71	-	71
2100	49,489	12,162	12,162	-	54	-	54
2101	40,399	9,897	9,897	-	41	-	41
2102	33,011	8,118	8,118	-	31	-	31
2103	26,942	6,706	6,706	-	24	-	24
2104	21,905	5,567	5,567	-	19	-	19
2105	17,691	4,627	4,627	-	15	-	15
2106	14,153	3,835	3,835	-	11	-	11
2107	11,184	3,157	3,157	-	9	-	9
2108	8,706	2,572	2,572	-	7	-	7
2109	6,660	2,066	2,066	-	5	-	5
2110	4,992	1,631	1,631	-	4	-	4
2111	3,657	1,260	1,260	-	3	-	3
2112	2,612	951	951	-	2	-	2
2113	1,812	700	700	-	1	-	1
2114	1,215	501	501	-	1	-	1
2115	783	346	346	-	1	-	1
2116	480	231	231	-	0	-	0
2117	275	149	149	-	0	-	0
2118	140	93	93	-	0	-	0
2119	54	56	56	-	0	-	0
2120	0	-	-	-	-	-	-
				Totals	$ 2,584,225,017	$ -	$ 2,584,225,017


Projection of Plan Net Position and Benefit Payments
End of Year (Excluding ASF)
$ [thousands]
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
1 4 7 10 13 16 19 22 25 28 31 34 37 40 43 46 49 52 55 58 61 64 67 70 73 76 79 82 85 88 91 94 97 100
Year
Projected Plan Net Position
Projected Benefit Payments for Current Members

SECTION H

GLOSSARY OF TERMS

Glossary of Terms

Actuarial Accrued Liability (AAL)	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."
Actuarial Assumptions	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
Accrued Service	Service credited under the system which was rendered before the date of the actuarial valuation.
Actuarial Equivalent	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
Actuarial Cost Method	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
Actuarial Gain (Loss)	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
Actuarial Present Value (APV)	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
Actuarial Valuation	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically, the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

Glossary of Terms

AFC	Average Final Compensation.
Amortization Payment	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
Amortization Method	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be “open” (meaning, reset each year) or “closed” (the number of years remaining will decline each year).
APTE	Association of Professional and Technical Employees.
ASF	Annuity Savings Fund.
Cost-of-Living Adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered-Employee Payroll	The payroll of covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.
Deferred Inflows and Outflows	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
DIA	Detroit Institute of Art.
Discount Rate	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: 1. The benefit payments to be made while the pension plans’ fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and 2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

Glossary of Terms

D.O.T.	Department of Transportation.
DWSD	Detroit Water and Sewerage Department.
EMS	Emergency Medical Service.
Entry Age Actuarial Cost Method (EAN)	The EAN is a funding method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit age(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
GASB	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
GLWA	Great Lakes Water Authority.
Fiduciary Net Position	The fiduciary net position is the value of the assets of the trust.
Long-Term Expected Rate of Return	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
Money-Weighted Rate of Return	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
Multiple-Employer Defined Benefit Pension Plan	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Municipal Bond Rate	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
Net Pension Liability (NPL)	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.

Glossary of Terms

Non-Employer Contribution Entities	Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB Accounting statement plan members are not considered non-employer contribution entities.
Normal Cost	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method. Also known as service cost.
POA	The 8th Amended Plan for the Adjustment of the Debt of the City of Detroit.
SAAA	Senior Accountants, Analysts, and Appraisers Association.
UTGO	Unlimited Tax General Obligation.

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APPENDIX

MICHIGAN PUBLIC ACT 202

State Reporting Assumptions for Fiscal Year 2020
Calculations as of June 30, 2019

The Protecting Local Government Retirement and Benefits Act, Public Act 202 of 2017, was put into law effective December 20, 2017. One outcome of the law is the requirement for the local unit of government to provide select reporting disclosures to the State. Sec. 5(1) of the Act provides the State treasurer with the authority to annually establish uniform actuarial assumptions for purposes of developing the requisite disclosures. Below you will find information which may be used to assist the local unit of government with required reporting.

Uniform Assumptions, as applicable to the measurement and the required disclosures under uniform assumptions, are denoted below. Additional discussion of PA 202 and uniform assumptions may be found on the State website in the *Public Act 202: Selection of the Uniform Assumptions for Fiscal Year 2020* memo dated October 21, 2019.

	Assumptions used for GASB	Uniform Assumptions used for Fiscal Year 2020
Investment Rate of Return Discount Rate	7.38%	**7.00%^**
Salary Increase	N/A	N/A
Mortality	A version of RP-2014. First used for the September 30, 2014 valuation.	**Pub-2010, Amount Weighted, General tables with fully generational projection using Scale MP-2018. The corresponding Disabled Retiree and Employee tables are used for disability and pre-retirement mortality, respectively.**
Amortization of the Unfunded Accrued Actuarial Liability: Period	N/A	**19 years**
Method	Other	**Level Dollar**

^ *A blended rate calculated using GASB Statement No. 68 methodology. For periods in which projected plan assets are sufficient to make projected benefit payments – maximum of 7.00%; for periods in which projected plan assets are NOT sufficient to make projected benefit payments – 3.50%.*

With the exception of the assumptions and methods listed above, all other assumptions and methods are the same as those listed in the June 30, 2020 GASB report.

State Reporting for Fiscal Year 2020
Calculations as of June 30, 2019

The following information has been prepared to provide some of the information necessary to complete the pension reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form 5572). The local unit of government is required to complete/develop all of the remaining reporting requirements necessary for Form 5572. Additional resources are available on the State website.

Line	Descriptive Information	
18	**Actuarial Assumptions**	
19	Actuarial assumed Rate of Investment Return	6.75%
20	Amortization method utilized for funding the system's unfunded actuarial accrued liability, if any	Other
21	Amortization period utilized for funding the system's unfunded actuarial accrued liability, if any	N/A
22	Is each division within the system closed to new employees? ~	yes
23	**Uniform Assumptions^**	
24	Enter retirement pension system's actuarial value of assets using uniform assumptions+	$ 1,798,906,827.00
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	$ 2,847,387,349.00
26	Funded ratio using uniform assumptions	63.2%
27	Actuarially Determined Contribution (ADC) using uniform assumptions	$ 101,443,652.00
28	All systems combined ADC/Governmental fund revenues	Auto*

^ *Information on lines 23-28 is based on the Uniform Assumptions used, listed on the prior page, as of the most recent valuation date, June 30, 2019.*

+ *The actuarial value of assets is equal to the market value of assets as of the June 30, 2019.*

* *Automatically calculated by State of Michigan Form 5572.*

~ *This Component II plan is closed to new employees. The Component I plan is open to new employees and its PA 202 information is in the Component I GASB Statement No. 68 report*

800.521.0498 | P: 248.799.9000 | www.grsconsulting.com

November 18, 2020

Mr. David Cetlinski, Executive Director
The General Retirement System of the City of Detroit
One Detroit Center
500 Woodward Avenue, Suite 3000
Detroit, Michigan 48226

Dear Mr. Cetlinski:

Please find enclosed 30 copies of the GASB Statement Nos. 67 and 68 report of the General Retirement System of the City of Detroit Component II.

Sincerely,

Kenneth G. Alberts

KGA:rmn
Enclosures

cc: David T. Kausch, GRS
Judith A. Kermans, GRS
Gail Oxendine
Kelly Tapper
Ryan Bigalow

One Towne Square | Suite 800 | Southfield, Michigan 48076-3723

The General Retirement System of the City of Detroit

Annual Actuarial Valuation of Component II

June 30, 2020

800.521.0498 | P: 248.799.9000 | www.grsconsulting.com

April 8, 2021

Board of Trustees
The General Retirement System of the City of Detroit

Dear Board Members:

This report provides key results from the **Annual Actuarial Valuation** of the annuity and pension liabilities of the General Retirement System of the City of Detroit – Component II benefits. The date of the valuation was **June 30, 2020.**

The City of Detroit filed for bankruptcy on July 18, 2013. A final Plan of Adjustment ("POA") was confirmed on November 7, 2014 and the official exit from bankruptcy was on December 10, 2014. In connection with the POA, very significant changes were made to the benefits that the General Retirement System provides and to the contributions that it will receive. In particular, the benefits provided by the Retirement System were divided into two separate plans, referred to as "Component I" and "Component II." The benefits provided in each component are effective July 1, 2014 and are described in detail in Emergency Manager Order No. 44, dated December 8, 2014. In very general terms, Component I provides benefits for service rendered on and after July 1, 2014 and Component II provides benefits for service rendered prior to July 1, 2014.

The results provided herein relate solely to the Component II benefits. Component I benefits will be the subject of a separate report. The purposes of the valuation are:

1) To measure the funding progress of Component II in accordance with the terms of the POA;
2) To provide illustrative actuarially determined contribution amounts for FY 2021;
3) To compare the illustrative actuarially determined contributions to the POA mandated contributions; and
4) To estimate the FY 2024 actuarially determined contributions (the first year the employer will be required to make actuarially determined contributions adopted by the Board and Investment Committee) under possible funding policies amounts.

The results of the valuation are not applicable for other purposes. In particular, the information provided in this report is not suitable for financial reporting in connection with GASB Statement No. 67. Such information is provided in a separate report. Information regarding potential benefit restoration as allowed for in the POA will also be provided in a separate report, at the Board's request.

The contribution amounts on page 5 include POA mandated contributions plus two illustrative contribution amounts from potential alternate funding policies. Users of this report should be aware that contributions made at these amounts do not guarantee benefit security.

One Towne Square | Suite 800 | Southfield, Michigan 48076-3723

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic and 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. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

The valuation was based upon records maintained and furnished by the Retirement System staff concerning active members, retirees and beneficiaries, and financial accounts as of the valuation date. Data was checked for year-to-year consistency, but was not audited by the actuary. We are not responsible for the completeness or accuracy of the data. Certain necessary data was not available in time to be considered in this report and, therefore, it was necessary for us to use approximations. Please see related discussion in the Comments section as well as the Data section of this report.

The assumptions used in the valuations concerning future experience are summarized in Section D of this report. Except for the assumed rate of investment return, the actuarial assumptions used for the valuation are set by the Board based upon advice of the actuary and other parties. The assumed rate of investment return was set to 6.75% in the POA and is, therefore, a "prescribed assumption set by another party" as discussed in Actuarial Standard of Practice No. 4. In our judgement, all of the actuarial assumptions used for the valuation are reasonable for purposes of the measurement being made.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled. We are relying on the GRS actuaries and Internal Software, Training, and Processes Team who developed and maintain the model.

This report has been prepared by individuals who have substantial experience valuing public sector retirement systems. To the best of our knowledge, this report is complete and accurate and was made in accordance with Actuarial Standards of Practice promulgated by the Actuarial Standards Board.

The signing individuals are independent of the plan sponsor.

David T. Kausch, Judith A. Kermans and Jamal Adora are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

This report does not evaluate the plan sponsor's ability or willingness to make contributions to the Retirement System. Given the funded level of Component II, plan sponsor contributions are critical if further benefit reductions are to be avoided. Indeed, the employer contributions set forth in the POA have and are expected to continue to lead to a decrease in the funded status through June 30, 2023 (as contemplated by the POA), even if all assumptions are met.

Respectfully submitted,

David T Kausch

David T. Kausch, FSA, EA, FCA, MAAA, PhD

Judith A. Kermans

Judith A. Kermans, EA, FCA, MAAA

Kenneth G. Alberts

Kenneth G. Alberts

Jamal Adora, ASA, EA, MAAA

DTK/JAK/KGA:rmn

Table of Contents

SECTION A

VALUATION RESULTS

Executive Summary

($ in Millions)

Valuation Date	June 30, 2020	June 30, 2019
Contributions For Fiscal Year Ending	June 30, 2022	June 30, 2021
POA Mandated Employer Contributions	$ 48.3	$ 48.3
Membership		
Number of:		
Active Members	2,403	2,793
Retirees and Beneficiaries	11,220	11,557
Inactive, Nonretired Members	2,728	3,209
Total	16,351	17,559
Valuation Payroll	$ 111.1	$ 142.2
Assets		
Market Value (1)	$ 1,596.1	$ 1,798.9
Return on Market Value (net of all expenses)	(0.60)%	2.64 %
Actuarial Information		
Actuarial Accrued Liability (2)	$ 2,716.5	$ 2,866.1
Unfunded Actuarial Accrued Liability: (2) - (1)	1,120.4	1,067.2
Funded Ratio: (1) / (2)	58.76 %	62.77 %
Risk Metrics		
Actuarial Accrued Liability Divided by Payroll	24.4	20.2
Market Value of Assets Divided by Payroll	14.4	12.6

Valuation Results

Required contributions to the Plan through FY 2023 are provided in the POA. The schedule below details our understanding of the remaining contributions required by the POA.

Contribution Source
($ Millions)

	For DWSD Liabilities		For Other Liabilities					
Fiscal Year	**DWSD**	**Transfers**	**UTGO**	**State**	**DIA**	**Other**	**Transfers from DWSD**	**Total**
2021	$ 45.4	$ (2.5)	$ -	$ -	$ 0.4	$ 2.5	$ 2.5	$ 48.3
2022	45.4	(2.5)	-	-	0.4	2.5	2.5	48.3
2023	45.4	(2.5)	-	-	0.4	2.5	2.5	48.3

We have assumed the contributions outlined above as called for in the POA (with adjustments) will not change. An estimate of the probability of those payments being made was outside the scope of this project, not required by Actuarial Standards, and was not made.

In order to develop divisional valuation results in accordance with POA provisions, we allocated the above contributions to the various divisions as instructed by the Retirement System staff. This was done by allocating DWSD transfer amounts to the General City division and remaining DWSD contributions to the DWSD division; allocating $2.5 million per year to the Library; and allocating remaining contributions to DOT and General in proportion to their unfunded liabilities as of June 30, 2020.

The chart below shows this allocation.

	General	**D.O.T.**	**Subtotal**	**Library**	**DWSD**	**Totals**
	$ Thousands					
Unfunded Liabilities (6/30/2020)	$ 608,600	$ 282,422	$ 891,022	$ 16,744	$ 212,633	$1,120,399
% of Subtotal	68.3%	31.7%	100.0%	N/A	N/A	
FY 2021 Contributions	$ 256	$ 119	$ 375	$ 2,500	$ 45,400	$ 48,275
Transfers	$ 2,500	$ -	$ 2,500	$ -	$ (2,500)	$ -
FY 2021 UAAL Contributions	**$ 2,756**	**$ 119**	**$ 2,875**	**$ 2,500**	**$ 42,900**	**$ 48,275**

A different allocation procedure would produce different results. If a different allocation procedure should be used, please let us know and we will revise this report.

Valuation Results (Continued)

Unfunded Actuarial Accrued Liability (UAAL)

	($ Millions)				
	General City	D.O.T.	DWSD	Library	System Total
UAAL as of June 30, 2020	$ 608.6	$ 282.4	$ 212.6	$ 16.7	$ 1,120.4
Anticipated POA Contribution (EOY)	2.8	0.1	42.9	2.5	48.3
Anticipated Expenses@	-	-	-	-	-
Interest at 6.75%	41.1	19.1	14.4	1.1	75.6
Projected UAAL as of June 30, 2021	$ 646.9	$ 301.4	$ 184.1	$ 15.4	$ 1,147.8
Anticipated POA Contributions for FY 2022	**2.8**	**0.1**	**42.9**	**2.5**	**48.3**
Estimated Employer Contributions for FY 2024 #!					
Alternate 1:Level Principal	**$ 73.8**	**$ 34.6**	**$ 12.2**	**$ 1.2**	**$ 121.8**
Alternate 2:Level Dollar##	**$ 57.5**	**$ 27.0**	**$ 9.5**	**$ 1.0**	**$ 94.9**

Totals may not add due to rounding.

@ *In accordance with the Plan Document, the mandated 6.75% rate of return is net of investment and administrative expenses.*

\# *Assuming the POA contributions through 2023 and a 30-year closed amortization thereafter. When determining the Fiscal Year 2024 illustrative amounts, only the total contributions and the DWSD contributions are stipulated in the POA. The remaining amounts were allocated to the other groups as described on page 2. A different allocation would result in different results by group.*

! *Total employer contributions, including amounts paid by employer but funded from other sources as required by POA.*

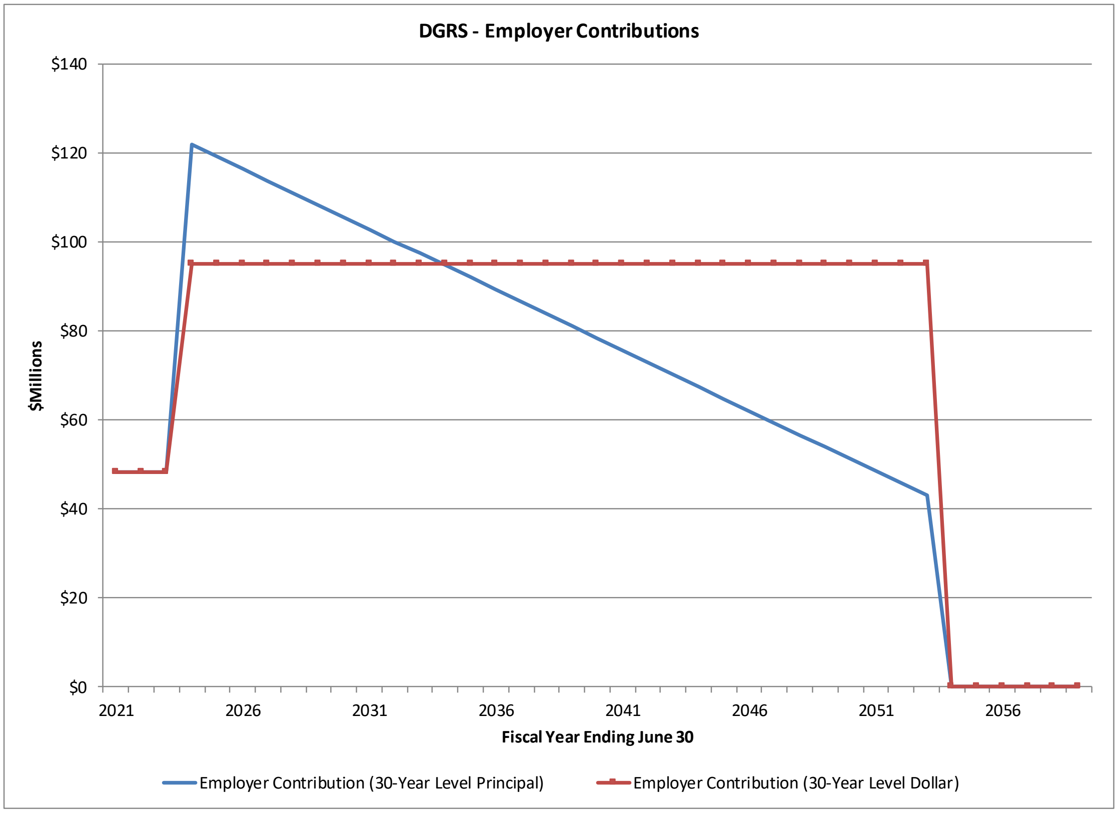
***Contributions at this level may not be sufficient to prevent fund depletion prior to satisfaction of all benefit payments. This scenario is included at System's request (see page 5).***

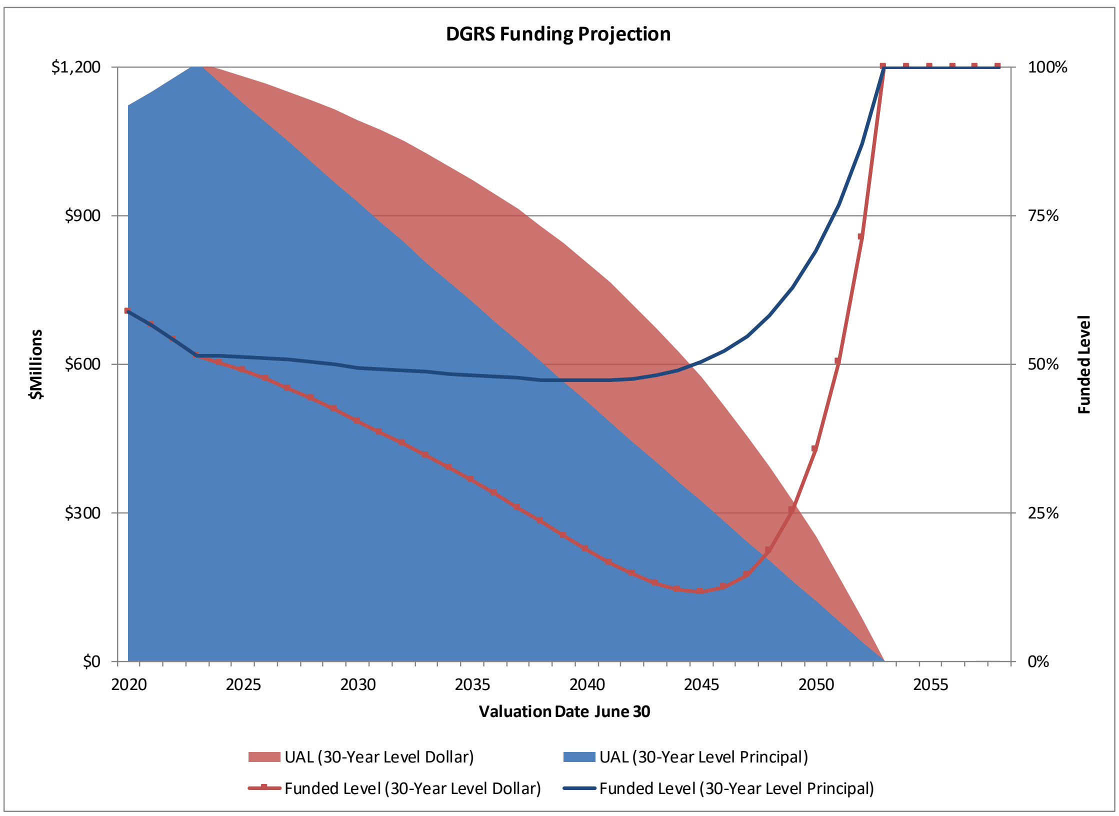
The POA contributions are well below actuarially determined amounts and, as such, result in a defunding of the plan between now and June 30, 2023, which was contemplated by the POA. In fact, the anticipated POA contributions are not expected to result in benefit restoration even if all assumptions are met (including the POA mandated assumed rate of return of 6.75%).

Also, the FY 2021 to 2023 contributions are less than the amount of nominal interest that accrues on the UAAL.

The Estimated Employer Contribution for FY 2024 is based on a projection of results assuming only the POA contributions are made and all future experience between the valuation date and FY 2024 is as assumed. Actual experience will result in changes to this estimate and the final result (from the June 30, 2022 actuarial valuation) could be materially different than shown above.

We understand that the City has set aside additional money in a side fund to be contributed to the pension plans in the future. This potential additional contribution has not been considered in this valuation.





Notes: 30-year amortization periods are assumed to begin in FY 2024.
30-year level dollar may result in fund depletion and pay-as-you-go funding before the end of the 30-year period. **Under this scenario, the Plan is only 12% funded in 2045.**

Valuation Results (Continued)

We have recommended that the Board establish a funding policy for the contribution determinations on and after fiscal year 2024. The Board has begun the process. Once that process has been completed we will incorporate the adopted policy into future valuation reports. Until that process is completed, we will continue to show the following two possible policies.

In the chart below, the first policy funds the UAAL over the expected remaining active service life of this group. The second policy is similar to the Board's pre-bankruptcy policy, but with accelerated principle payments of the UAAL to prevent insolvency prior to the end of the funding period. The illustrations are intended to show that there are a broad range of possible funding policies, but are not intended to provide a specific recommendation or a minimum or maximum level of contributions.

Funding Policy 1 is based on amortizing the UAAL over the average remaining service life of active members (6 years for General; 5 years for DOT; 6 years for DWSD; and 6 years for Library) using level dollar amortization.

Funding Policy 2 is based on amortizing the UAAL with level principal payments over a closed 30-year period plus interest. This method is also known as level principal declining interest amortization.

Illustrative Contribution Shortfall

	($ Millions)				
	General City	D.O.T.	DWSD	Library	System Total
(1) Illustrative Contribution for FY 2022 (Funding Policy 1)	$ 134.7	$ 73.0	$ 38.3	$ 3.2	$ 249.2
(2) Illustrative Contribution for FY 2022 (Funding Policy 2)	65.2	30.4	18.6	1.6	115.7
(3) Actual Contributions for FY 2022 (POA)	2.8	0.1	42.9	2.5	48.3
Fiscal Year 2022 Shortfall - Funding Policy 1: (1) - (3)	$ 131.9	$ 72.9	$ (4.6)	$ 0.7	$ 200.9
Fiscal Year 2022 Shortfall - Funding Policy 2: (2) - (3)	$ 62.4	$ 30.3	$ (24.3)	$ (0.9)	$ 67.4

We understand the Employer continues to set aside money in a separate side fund account to contribute to the Pension Plans in the future. Since the account is outside of the trust fund and the portion of the fund this Plan will receive (vs. the Police and Fire Plan) has not been determined, we have not taken those assets into account in our calculations. We commend the Employer for taking proactive steps to manage the estimated increase in funding requirements beginning in FY 2024 from a budgeting perspective. In the meantime, we recommend continued consideration of increasing contributions actually deposited into the trust.

In addition, as the Board works through the funding policy, we would suggest considering a funding period less than 30 years. Given the fact that not all of the retiree liabilities are funded, a period of 15 years or less should be considered.

Valuation Results (Concluded)

Present Value	June 30, 2020	June 30, 2019
Accrued Pension Liabilities (Employer Financed)		
Retirees and beneficiaries	$2,022,510,702	$2,091,442,091
Inactive members future deferred pensions	223,061,249	256,076,056
Active members	256,033,419	292,534,990
Total accrued pensions	2,501,605,370	2,640,053,137
Pension fund balances	1,500,667,694	1,689,006,631
Unfunded accrued pension liabilities	$ 1,000,937,676	$ 951,046,506
Accrued Annuity Liabilities (Member Financed)		
Retirees and beneficiaries Future annuities	$ 100,671,026	$ 105,757,686
Member annuities & future refunds	114,225,043	120,248,768
Total accrued annuity liabilities	214,896,069	226,006,454
Annuity fund balances	95,434,295	109,900,196
Unfunded accrued annuity liabilities*	$ 119,461,774	$ 116,106,258
Totals		
Actuarial Accrued Liabilities (AAL)	**$2,716,501,439**	**$2,866,059,591**
Market Value of Assets (MVA)	**1,596,101,989**	**1,798,906,827**
Unfunded Actuarial Accrued Liabilities (UAAL)	**$1,120,399,450**	**$ 1,067,152,764**
POA Funded Status	**58.8%**	**62.8%**

* *Liabilities are gross before accounting for ASF claw-back. Assets currently include a receivable of approximately $99.4 million related to the ASF claw-back. We believe the receivable is included in the Pension fund balances.*

Historical Results ($ Millions)

	2018	2017	2016	2015	2014
Total AAL	$2,929.1	$2,995.8	$3,032.3	$3,139.1	$3,222.4
MVA	1,940.6	1,966.7	1,933.5	2,131.3	2,015.2
UAAL	988.4	1,029.1	1,098.8	1,007.8	1,207.1
POA Funded Status	66.3%	65.6%	63.8%	67.9%	62.5%

Funded Ratio - POA

		Defined Benefit	ASF	Total
A	Actuarial Accrued Liability (AAL)	$2,602,276,396	$114,225,043	$2,716,501,439
B	Market Value of Assets	$1,481,876,946	$114,225,043	$1,596,101,989
C	Unfunded Actuarial Accrued Liability (A-B)	$1,120,399,450	$ 0	$1,120,399,450
D	Funded Ratio (B/A)	56.9%	100.0%	58.8%

The POA Funded Ratio measurement above is an expected return-based measurement of the pension obligation. It is based upon the mandated 6.75% interest rate assumption (assumption prescribed by the POA). It determines an amount (AAL) that will be sufficient to provide benefits if the portfolio earns the expected 6.75% return on assets and all other assumptions are met. This measure is appropriate for assessing the need for or amount of future contributions (if all assumptions are met). This measure is not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligation, in other words, of transferring the obligation to a third party in a market value type transaction.

Funded Ratio - Solvency

		Defined Benefit	ASF	Total
A	Market-Based Liability (MBL)	$4,032,971,790	$114,225,043	$4,147,196,833
B	Market Value of Assets	$1,481,876,946	$114,225,043	$1,596,101,989
C	Unfunded Market-Based Liability (A-B)	$2,551,094,844	$ 0	$2,551,094,844
D	Funded Ratio (B/A)	36.7%	100.0%	38.5%

The Solvency Funded Ratio is a market-based measurement of the pension obligation. It estimates the amount (MBL) the plan would need to invest in low risk securities to provide the benefits with greater certainty. For this purpose, the MBL is computed at 2.45% interest as of June 30, 2020, based on the long-term municipal bond rate ("20-Year Municipal GO AA Index" rate from the Fidelity Index as of June 30, 2020). We are not able to assess the credit quality of the plan sponsor and, as such, no adjustment has been made for the credit quality of the plan sponsor. This measure may not be appropriate for assessing the need for or amount of future contributions. This measure may not be appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligation.

The difference between the two measures (POA and Solvency) is one illustration of the savings the sponsor anticipates by taking on the risk in a diversified portfolio.

Comments

Experience

Experience was less favorable than assumed during the year ending June 30, 2020. The chart below shows the estimated gain by division.

Development of Actuarial Gain/(Loss)

	($ Millions)				
	General City	D.O.T.	DWSD	Library	System Total
(1) UAAL as of June 30, 2019 (BOY)	$ 558.2	$ 268.4	$ 226.2	$ 14.3	$ 1,067.2
(2) Actual POA Contribution (EOY)	2.8	0.1	42.9	2.5	48.3
(3) Interest at 6.75%	37.7	18.1	15.3	1.0	72.0
(4) Projected UAAL* as of June 30, 2020	$ 593.1	$ 286.4	$ 198.6	$ 12.8	$ 1,090.9
(5) Actual UAAL* as of June 30, 2020	608.6	282.4	212.6	16.7	1,120.4
Gain (Loss): (4) - (5)	$ (15.5)	$ 4.0	$ (14.0)	$ (4.0)	$ (29.5)
Gain (Loss) from Investments	$ (70.0)	$ (10.2)	$ (37.5)	$ (5.6)	$ (123.3)
Gain (Loss) from ASF Audit Transfers	$ -	$ -	$ -	$ -	$ -
Gain (Loss) from Excess Interest Transfers (Inc. FY 2020)	$ 1.6	$ 1.0	$ 0.4	$ 0.3	$ 3.2
Gain (Loss) from Liabilities	$ 52.9	$ 13.2	$ 23.2	$ 1.3	$ 90.6

* *Unfunded actuarial accrued liability.*

Source of Actuarial Gain/(Loss)

	Gain (Loss) in Period	
Type of Risk Area	Totals ($ in Millions)	Percent of Liabilities
Data Improvements^	41.3	1.4 %
ASF Transfers	0.0	0.0 %
Excess Interest Transfers (Inc. FY 2019)	3.2	0.1 %
Risks Related to Experience		
Economic Risk Areas:		
Investment Return	(123.3)	(4.3)%
Demographic Risk Areas:		
Full and Reduced Service Retirements	13.4	0.5 %
Death Benefits	0.1	0.0 %
Disability Benefits	(0.2)	0.0 %
Other Terminations	10.6	0.4 %
Post-Retirement Mortality	25.4	0.9 %
Total Gain (or Loss) Related to Experience	(74.0)	(2.6)%
Total Gain (or Loss) During Period	(29.5)	(1.0)%
Beginning of Year Accrued Liabilities	2,866.1	100.0 %

^ *See comment regarding Terminated Vested Data Audit on page 11.*

Comments (Continued)

Experience (Continued)

The estimated FY 2024 contributions are very sensitive to changes in year-to-year experience. The chart below reconciles our estimate from the June 30, 2019 valuation to our estimate from this valuation (June 30, 2020).

The June 30, 2020 loss, primarily due to investments, decreased the funded percent more than expected and puts additional strain on the plan. For example, the projected funded level decreases to a minimum of about 12% funded in 2045 under the 30-year, level dollar contribution scenario, down from 16% based on the 2019 valuation. This means that the 30-year, level dollar scenario has an increased risk of the assets being depleted.

Reconciliation of Projected June 30, 2024 Contributions – Level Principal

	($ Millions)				
	General City	D.O.T.	DWSD	Library	System Total*
Estimated FY 2024 Employer Contribution (Level Principal) from 6/30/19 Valuation	$ 71.8	$ 35.1	$ 10.5	$ 0.8	$ 118.2
Gain (Loss) from Investments	8.6	1.3	4.6	0.7	15.1
Gain (Loss) from ASF Audit Transfers	-	-	-	-	-
Gain (Loss) from Excess Interest Transfers (Inc. FY 2020)	(0.2)	(0.1)	-	-	(0.4)
Gain (Loss) from Liabilities	(6.5)	(1.6)	(2.8)	(0.2)	(11.1)
Modified Contributions (see below)	-	-	-	-	-
Actual FY 2020 Contribution above/(below) Expected	-	-	-	-	-
Estimated FY 2024 Employer Contribution (Level Principal) from 6/30/20 Valuation	$ 73.7	$ 34.6	$ 12.2	$ 1.2	$ 121.8

* *Totals may not add due to rounding.*

Reconciliation of Projected June 30, 2024 Contributions – Level Dollar

	($ Millions)				
	General City	D.O.T.	DWSD	Library	System Total*
Estimated FY 2024 Employer Contribution (Level Dollar) from 6/30/19 Valuation	$ 56.0	$ 27.4	$ 8.2	$ 0.6	$ 92.1
Gain (Loss) from Investments	6.7	1.0	3.6	0.5	11.8
Gain (Loss) from ASF Audit Transfers	-	-	-	-	-
Gain (Loss) from Excess Interest Transfers (Inc. FY 2020)	(0.2)	(0.1)	-	-	(0.3)
Gain (Loss) from Liabilities	(5.1)	(1.3)	(2.2)	(0.1)	(8.7)
Modified Contributions (see below)	-	-	-	-	-
Actual FY 2020 Contribution above/(below) Expected	-	-	-	-	-
Estimated FY 2024 Employer Contribution (Level Dollar) from 6/30/20 Valuation	$ 57.4	$ 27.0	$ 9.5	$ 1.0	$ 94.9

* *Totals may not add due to rounding.*

Comments (Continued)

Experience (Continued)

Demographic Experience

	Number Count		
	Actual	Expected	
	A	E	A/E%
Retirement (including early)	80	275	29%
Disability	0	18	0%
Vested Terminations	181	50	362%
Other Terminations (including pre-retirement death)	176	34	512%
Post-Retirement Death	663	439	151%

Member Experience Additional Comments

Retirements were less than one-third the number expected.

Vested Terminations were nearly three times the number expected.

Post Retirement mortality was one and one-half times the number expected.

The year ending June 30, 2020 was unique due to the Covid-19 pandemic as well as the City's response. The pandemic, by itself, appears to have increased retiree mortality. However, the liability gain related to the increase in mortality was less than the number counts would imply. This suggests that the pandemic had a bigger impact on the older, lower liability population of the plan. This valuation is only six months into the pandemic and we expect higher mortality for at least the next six months following the valuation date. Given all the uncertainty regarding this experience, we have not attempted to account for this potential liability risk in this valuation. While we do not have the cause of death in the census data, it is likely that a significant portion of those who died during the year in excess of expectations were as a result of COVID-19. We honor those who have died during the pandemic.

Active member experience this year was also very different from expectations. We believe this is partly due to the pandemic and resulting economic uncertainties as well as the City's response, which was to implement furloughs and a workshare program. Based on some number counts that the System Staff provided, we suspect that a lot of the terminations are actually temporary and related to the furloughs. The System provided information on members participating in the work share program and we have confirmed that the vast majority of those members are included as active members on June 30, 2020. If the furloughed members return to full time active status in the future, this could result in a liability loss in that future year. We have considered setting up a liability reserve for this potential future loss and decided not to include such a reserve for the following reasons:

1) It is unknown how many of the furloughed members will return to active service; and
2) The liability loss in this plan related to those members returning to active status would likely be small, since it would only affect future eligibility service and not the frozen accrued benefit.

Comments (Continued)

Terminated Vested Data Audit

As a result of an improvement of the Terminated Vested member data, we were informed that 493 members reported in the 2019 data were actually deceased as of June 30, 2019. The change this year is included in the "Data Improvements" source of gains/losses on page 8. This improved data has been recognized in this valuation, resulting in a gain of approximately $36.9 million.

New Members

We continue to see active members added to the Legacy data. We have assumed these were either data corrections or re-hires. We have observed this every year since 2014. The change this year is included in the "Data Improvements" source of gains/losses on page 8. This year 47 members were added as active to this plan. This resulted in an increase in accrued liabilities of approximately $1.8 million, after accounting for those members that were known to come from the deferred and retiree rolls.

Annuity Savings Fund (ASF) Claw-Back Data

For the June 30, 2015 valuation, the System's auditors determined a receivable in accordance with GAAP accounting that was included in the reported June 30, 2015 assets. The reported assets for the June 30, 2020 status valuation also included a receivable for the remaining claw-back payments. We have assumed this information, received by the System's auditors, was reasonable. This assumption is in compliance with the Actuarial Standards of Practice.

Annuity Reserve Fund (ARF)

Typically, we would compare the Annuity Reserve Fund (ARF) to the ARF liabilities and recommend a transfer if liabilities exceed assets. However, the annuity claw-back receivable created by the Bankruptcy (which relates to the ARF and the ASF) makes this analysis much more complicated. If the System would like us to perform this calculation, we will need additional information not routinely provided for the valuation. Please let us know if this is needed.

In general, assets were reviewed for reasonableness. During that review, we discovered that the ARF does not appear to have been credited any interest. As a result, we recommend that all the reserve amounts be reviewed.

Plan Provisions

Section B-1 (b) of the plan provides that members who terminate employment and are subsequently rehired before incurring a six-year break in service are eligible to earn additional vesting and eligibility service under the plan. For purposes of this valuation, we have assumed no terminated members will be rehired in the future. Rehires will, therefore, cause a loss when they occur.

Comments (Continued)

Great Lakes Water Authority (GLWA) Members

For the June 30, 2017 valuation we received a separate file indicating the June 30, 2014 DWSD status of members. Any members that were indicated as being DWSD division members on that file were valued under the DWSD for this valuation, regardless of the division reported on the main valuation data (which we understand to be the division as of June 30, 2020 in the Component I plan).

Allocation of Contributions Between General and DOT

Our understanding of the allocation of contributions between General and DOT is discussed on page 2 of this report. Based on the reported assets, a different allocation method appears to have been used in FY 2020. If the System supplies us with this asset allocation method actually used, we can incorporate that method in future valuations.

Annuity Savings Fund (ASF) Interest Credits

The ASF fund is credited with the lesser of 5.25% interest and the total fund earnings. We understand that any earnings in excess of 5.25% (that otherwise would have been credited to the ASF fund if not for the 5.25% cap) will be transferred to Component I assets, to the extent needed, for funding of transition liability. Since ASF liabilities are equal to ASF balances, we did not model any such future excess earnings as part of this valuation. Furthermore, since the fund earned less than 5.25% for both FY 2019 and FY 2020, we do not expect that there will be transfers of excess ASF interest in either FY 2021 or FY 2022. No additional liabilities were included in this report to account for anticipated excess earnings expected to occur as a result of return on assets. We have discussed the potential for additional liability with the Plan's accountants and have been instructed that the excess earnings should not be included as a liability in the GASB 67 and 68 reports.

In FY 2020, approximately $1.2 million was transferred from Component II (Legacy) to Component I (Hybrid) due to excess interest earned in FY 2018. This was the second year of such a transfer. The amount was approximately $3.2 million less than we had estimated in the June 30, 2019 valuation.

We understand that the System has adopted a procedure for computing the ASF interest credits lagging the actual experience of the assets. We have not reviewed or audited this procedure. If the Retirement System can provide the methodology for determining the transfer, we may be able to more accurately reflect it in advance.

Comments (Continued)

Estimated Excess Interest Transfers

				FY 2 Years Prior to Transfer						
Fiscal Year Transfer is Expected (A)	**ASF Balance BOY (B)**	**Assumed ASF Payment (C)**	**ASF Balance EOY (D)**	**Year (E)**	**Estimated Return (F)**	**Investment Return Excess Percent (G) = (F) - 5.25%**	**ASF Return Excess (H) = (G) x (B)**	**Estimated Component I Funded Transition Cost Status (I)**	**Resulting Percent Transfer (J)**	**Assets to be Transferred Out (BOY) (K) = (H) x (J)**
2021	$ 114,225,043	$ 14,594,585	$ 105,249,066	2019	2.64%	0.00%	$ -	<100%	100%	$ -
2022	105,249,066	14,594,585	95,801,849	2020	-0.60%	0.00%	$ -	<100%	100%	$ -

We understand this calculation will be performed by staff and may be different than shown above. The estimates above are used to approximate the effect on UAAL.

Section E-16(c) of the Combined General Plan is shown below:

In any Plan Year during the period beginning on or after July 1, 2014 and ending June 30, 2023 in which the annual rate of return credited to the accounts of members investing in the Annuity Savings Fund as provided in paragraph (b) is less than the actual rate of return net of expenses of the Retirement System's invested assets for the second Plan Year immediately preceding the Plan Year in which the annual rate of return is credited ("ASF Return Excess"), an amount equal to the value of the ASF Return Excess shall be transferred to the Pension Accumulation Fund maintained under Component I of the Combined Plan and shall be used to fund the Transition Cost relating to Component I. The Transition Cost is a measure of the liability that Component I of the Retirement System has at its inception; due to the fact that at its inception, members in Component I of the Retirement System receive vesting and eligibility credit under Component I for service that was earned prior to July 1, 2014 and is otherwise credited to members under Component II of the Retirement System. Transition Cost is calculated by the Plan Actuary. In the event there is an ASF return excess for a Plan Year following the Plan Year in which such transfers have fully funded the Transition Costs relating to Component I, fifty percent (50%) of such ASF Return Excess shall be transferred to the Pension Accumulation Fund maintained under Component II and the remaining fifty percent (50%) of such ASF Return Excess shall be transferred to Component I and credited to the Rate Stabilization Fund maintained under Component I. "Transition Cost" shall be determined by the Plan Actuary.

Page 174

Comments (Continued)

Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

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 due to changing conditions; 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. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. **Investment Risk** – actual investment returns may differ from the expected returns;
2. **Asset/Liability Mismatch** – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. **Contribution Risk** – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. **Salary and Payroll Risk** – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. **Longevity Risk** – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
6. **Other Demographic Risks** – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

Comments (Continued)

Plan Maturity Measures

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	2020	2019
Ratio of the market value of assets to total payroll*	5.9	6.4
Ratio of actuarial accrued liability to payroll*	10.0	10.2
Ratio of actives to retirees and beneficiaries	0.2	0.2
Ratio of net cash flow to market value of assets	-12.1%	-10.5%
Duration of the actuarial accrued liability	8.6	8.7

* *Payroll for this purpose is Component I payroll of $271.4 million for 2020 and $280.1 million for 2019.*

Ratio of Market Value of Assets to Payroll

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

Ratio of Actuarial Accrued Liability to Payroll

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times the payroll, a change in liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

Comments (Continued)

Ratio of Actives to Retirees and Beneficiaries

A young plan with many active members and few retirees will have a high ratio of actives to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

Ratio of Net Cash Flow to Market Value of Assets

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make benefits payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

Duration of Actuarial Accrued Liability

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, a duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

Additional Risk Assessment

The Solvency Liability shown on page 7 may be considered as a risk assessment. Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, and stress tests. We included additional risk assessments in the funding policy discussions based on the 2017 actuarial valuation. We can update those at the Board's request.

Census Data and Approximations

Data was reported separately for Component I and Component II. Additional time was needed to reconcile these two data sets as they came from different source data. Processing time for the valuation could be shortened if data for future valuations is reconciled before being provided to GRS. We would be happy to work with the Retirement System staff to help them provide the information that is needed for the valuation. Additional information about the data approximations and assumptions may be found on page 25.

Actuarial Assumptions

The Retirement System routinely has five-year experience studies in accordance with the City ordinance. The Board has chosen to schedule the next experience study to begin subsequent to the June 30, 2020 valuation.

Comments (Continued)

Restoration

This valuation assumes no future restoration of Component II benefits (consistent with the expectation of the POA). Any future restoration will be reflected beginning in the next valuation after being granted.

DWSD (Water/Sewer) Projections

Based on this valuation, the DWSD (Water/Sewer) division is not expected to be fully funded by 2024. As a result, their contributions will continue to be needed in FY 2024 (see page 3 for estimated FY 2024 contributions) to fund DWSD liabilities.

Future Results

While FY 2021 investment performance is not yet available (since the fiscal year is not over), the S&P 500 and the Dow Jones Industrial Average have so far both returned substantially more than 6.75%, so far, this fiscal year. If the Retirement System's experience is similar and that experience is not overshadowed by a reverse in the last quarter of the fiscal year, then there might be upward pressure on the funded status and downward pressure on the FY 2024 contribution requirements from investment experience during FY 2021. However, the defunding of the Retirement System through the POA mandated contribution levels will continue to put downward pressure on the funded status (the POA mandated contribution levels have already been considered in the FY 2024 contribution estimates).

Recommendation

We recommend that every potential action be taken to increase contributions to the Retirement System. Benefit payments to retirees in the Plan were almost $240 million compared to the FY 2020 contribution of $48.3 million. See benefit projections on page 30.

Prior Recommendation

The Board is currently working on the development of a funding policy for FY 2024 and beyond.

Divisional Results

Divisional results are shown on page 19. One result that stands out is the funded status of the DOT division at 33%. This is much lower than the other divisions. We expect that all of the assets back all of the liabilities. Therefore, if this division runs out of money before all of its benefits are paid, the plan will pay DOT benefits from other divisional assets. In that case, the total plan funded status is a better measure than individual division funded ratios. However, the manner in which divisional contributions have historically been determined treats each division as a standalone plan for the purpose of determining the actuarially determined contribution. Assuming the Board continues this method for Fiscal Year 2024 (the first year actuarially determined contributions are assessed to the employer), this low funded status for the DOT (relative to the other divisions) could result in a higher DOT employer contribution (relative to the other divisions). The Board may also want to consider a more aggressive funding policy for the DOT division if they want to avoid using other divisional assets to pay DOT benefits. Please let us know if the Board would like us to do any special projects related to this situation, such as divisional cash flow projections or divisional funding policy suggestions.

Comments (Concluded)

Conclusion

The funded status of the plan decreased this year from 62.8% to 58.8% as a result of:

- Defunding of the plan due to contributions substantially less than the actuarially determined amounts would have been. This defunding was mandated by the POA; and
- Poor investment experience and negative cash flow resulting in a decrease in plan assets.

Liability by Division - POA

($ Thousands)

	General	D.O.T.	DWSD	Library	Totals
Accrued Pension Liabilities					
Retirees and beneficiaries	$1,098,444	$292,193	$577,270	$ 54,604	$2,022,511
Inactive members future deferred pensions	116,083	32,450	69,258	5,270	223,061
Active members	140,758	60,740	33,678	20,857	256,033
Total accrued pension liabilities	1,355,285	385,383	680,206	80,731	2,501,605
Pension fund balance#	813,797	113,433	504,778	68,660	1,500,668
Unfunded accrued pension liabilities	541,488	271,950	175,428	12,071	1,000,937
Accrued Annuity Liabilities					
Retirees and beneficiaries#	55,440	10,072	31,700	3,459	100,671
Members annuities & future refunds	60,037	27,233	18,397	8,558	114,225
Total accrued annuity liabilities	115,477	37,305	50,097	12,017	214,896
Annuity fund balances	48,365	26,833	12,893	7,343	95,434
Unfunded accrued annuity liabilities#	67,112	10,472	37,204	4,674	119,462
Totals					
Actuarial Accrued Liabilities	1,470,762	422,688	730,303	92,748	2,716,501
Accrued Assets	862,162	140,266	517,671	76,003	1,596,102
Funded Ratio	58.6%	33.2%	70.9%	81.9%	58.8%
Unfunded Actuarial Accrued Liabilities	**$ 608,600**	**$282,422**	**$212,632**	**$ 16,745**	**$1,120,399**

Totals may be off slightly due to rounding.

\# *The pension fund balance includes a receivable of approximately $99.4 million for future claw-back payments. Liabilities are shown gross, before the annuity savings claw-back.*

SECTION B

FUND ASSETS

Statement of Plan Assets
(Reported Assets at Market Value)

Market Value - June 30, 2020	
Cash and Cash Equivalents	$ 26,869,406
Investments at Fair Value	1,464,526,814
Receivables	106,835,905
Cash and Investments held as collateral for securities lending	65,263,754
Capital Assets - Net	1,849,036
Accounts Payable	(69,242,926)
Total Current Assets	**$ 1,596,101,989**

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Market Value of Assets

Reserve Accounts
(Market Value)

Funds	Fund Balances June 30, 2020	Fund Balances June 30, 2019
Annuity Savings	$ 114,225,043	$ 120,248,768
Annuity Reserve	(18,790,748)	(10,348,572)
Pension Accumulation	(370,423,727)	(223,815,149)
Pension Reserve	1,871,091,421	1,912,821,780
Total Fund Balances	**$ 1,596,101,989**	**$1,798,906,827**

Revenues and Expenditures
(Market Value)

	Pension Funds	Annuity Funds	Total Funds
Balance, July 1, 2019	$1,689,006,631	$109,900,196	$1,798,906,827
Prior valuation audit adjustment	0	0	0
Market Value July 1, 2019	$1,689,006,631	$109,900,196	$1,798,906,827
Revenues			
Employer Contributions	47,900,000	0	47,900,000
Employee Contributions	0	0	0
Foundation Contributions	375,000	0	375,000
ASF Recoupment Interest	6,214,544	0	6,214,544
Investment Income (Net of Investment Expenses)	(19,214,790)	5,212,677	(14,002,113)
Other Income	1,978,048	(148,505)	1,829,543
Total	$ 37,252,802	$ 5,064,172	$ 42,316,974
Expenditures			
Benefit Payments	220,351,579	10,186,019	230,537,598
Refund of Member Contributions	0	9,344,054	9,344,054
ASF Recoupment Write Off	1,710,757	0	1,710,757
Transfer to Component I (Transition Cost)	1,178,130	0	1,178,130
Administrative Expenses	2,351,273	0	2,351,273
Total	$ 225,591,739	$ 19,530,073	$ 245,121,812
Market Value June 30, 2020	$1,500,667,694	$95,434,295	$1,596,101,989
Market Value Rate of Return (Net of all expenses)	(1.0)%	5.1%	(0.6)%
Net Cash Flow as Percent of Assets	(10.3)%	(17.8)%	(10.7)%

Rates of return are dollar weighted estimates assuming contributions occur at the end of the year and remaining items are mid-year cash flows. "ASF Recoupment Interest" and "Other" items are treated as investment cash flows.

Note that interest credits to the ASF (and other reserves) are determined by plan provisions and Board policy (including any timing issues) as calculated by Retirement System staff.

Allocation of Assets Used for Valuation by Reserve Account and Division

	June 30, 2019	Adjustment	Contributions	Benefit Payments	Other	Investment Return (Net of All Expenses)	June 30, 2020
Annuity Savings Fund							
General	$ 61,869,974	$ 0	$ 0	$ (3,742,538)	$ (658,917)	$ 2,568,414	$ 60,036,933
D.O.T.	30,004,564	0	0	(4,100,326)	(77,789)	1,406,469	27,232,918
DWSD	19,704,141	0	0	(1,321,713)	(826,993)	841,872	18,397,307
Library	8,670,089	0	0	(179,477)	(328,649)	395,922	8,557,885
Totals	120,248,768	0	0	(9,344,054)	(1,892,348)	5,212,677	114,225,043
Annuity Reserve Fund							
General	(6,554,374)	0	0	(5,702,529)	585,363	0	(11,671,540)
D.O.T.	450,768	0	0	(891,411)	40,906	0	(399,737)
DWSD	(3,144,710)	0	0	(3,162,076)	801,986	0	(5,504,800)
Library	(1,100,256)	0	0	(430,003)	315,588	0	(1,214,671)
Totals	(10,348,572)	0	0	(10,186,019)	1,743,843	0	(18,790,748)
Pension Accumulation Fund							
General	(96,551,027)	(95,742,919)	2,765,012	0	2,588,768	(12,750,711)	(199,690,877)
D.O.T.	(123,804,114)	(30,825,169)	109,988	0	849,315	(1,900,200)	(155,570,180)
DWSD	(25,633,520)	(47,884,037)	42,900,000	0	1,706,575	(5,982,828)	(34,893,810)
Library	22,173,512	(4,169,095)	2,500,000	0	159,046	(932,323)	19,731,140
Totals	(223,815,149)	(178,621,220)	48,275,000	0	5,303,704	(21,566,062)	(370,423,727)
Pension Reserve Fund							
General	1,040,954,081	95,742,919	0	(123,209,115)	0	0	1,013,487,885
D.O.T.	269,271,831	30,825,169	0	(31,093,737)	0	0	269,003,263
DWSD	551,454,963	47,884,037	0	(59,667,517)	0	0	539,671,483
Library	51,140,905	4,169,095	0	(6,381,210)	0	0	48,928,790
Totals	1,912,821,780	178,621,220	0	(220,351,579)	0	0	1,871,091,421
Retirement System Totals	$1,798,906,827	$ 0	$48,275,000	$ (239,881,652)	$ 5,155,199	$ (16,353,385)	$1,596,101,989

SECTION C

PARTICIPANT DATA

Reconciliation of Raw Data

Active Members

A) Count reported in Legacy file	2,597
B) In Legacy file but not in Hybrid file	(16)
C) Hired after plan closed	(115)
D) Non-active Status	(42)
E) Agency "88"	(20)
F) Non-eligible class code & bargaining unit	-
G) No hire date in Hybrid file	-
H) Zero salary in Hybrid file	(1)
I) Number of records to value	2,403

Inactive Vested Members

A) Number of records reported on data file	3,327
B) In Legacy active file but not otherwise in database and not in Hybrid active file	1
C) Valued as inactive in prior year and would not have otherwise been valued in Legacy this year	36
D) Valued as a vested active member in prior year but not in this year's active file and would not have otherwise been valued in Legacy this year	48
E) Deceased^	(493)
F) Less than 8 years of vesting service	(191)
G) Number of records to value	2,728

^ In part, this is the result of an audit.

Retired Members and Beneficiaries

A) Number of records reported on data file	44,412
B) Number of records in P/F plan	(16,642)
C) Records not currently in receipt of benefits based on reported status codes	(16,161)
D) Component I (Hybrid) Records	(389)
E) Number of records valued	11,220

Reconciliation of Year-to-Year Data
as of June 30, 2020

	Active		Term.	Retirees		Totals
	Count	Pay#	Count	Count	Monthly Benefits	Count
2019	**2,793**	**$142,215,060**	**3,209**	**11,557**	**$18,403,344**	**17,559**
Change in Pay/Pensions	N/A	(14,180,217)	N/A	N/A	(82,867)	
Rehired (Not Vested)	38	1,579,212	-			38
Rehired (Vested)	9	413,154	(9)	-	-	-
New Beneficiary				91	97,566	91
Retired	(80)	(3,832,741)	(98)	226	309,279	48
Non-Duty Disabled				-	-	-
Duty Disabled				-	-	-
Assumed Death/Removals			(528)	(663)	(874,828)	(1,191)
Vested Term	(181)	(7,814,068)	153			(28)
Non-Vested Terminated	(176)	(7,256,096)				(176)
Data Adjustment	-	-	1	9	11,365	10
2020	**2,403**	**$111,124,304**	**2,728**	**11,220**	**$17,863,859**	**16,351**

 # This represents current pay and is not used for the Component II (Legacy) valuation.

Data Approximations and Assumptions

As part of our review of the data received from the System, we discussed questionable or missing data with System staff and developed approximations and assumptions in order to perform the valuation. We provided System staff with a letter dated March 22, 2021 with additional information regarding data reconciliation, processing instructions, and assumptions regarding unresolved issues. Note, that letter disclosed our remaining data processing procedures and assumptions and details our reconciliation and final valuation data. System staff has approved the detail and final data disclosed in that letter.

The purpose of this section in this report is to summarize any unresolved concerns about questionable data that are relevant and could have a significant effect on the valuation as disclosed in that letter. This summary also discusses any significant steps we have taken to improve the data due to identifying questionable data values or relationships, significant judgments, or assumptions we have applied to the data.

Active

For active members, frozen AFC amounts and frozen service as of June 30, 2014 was reported. For purposes of this valuation, we matched the June 30, 2020 actives to the active data reported for the June 30, 2014 valuation to check against AFC as of June 30, 2014. In cases where the frozen AFC as reported in the 2020 data file was less than 75% of the AFC as reported on the 2014 data file, the AFC as reported on the 2014 data file was used. This boundary was determined after an analysis of the raw AFC data showed that the AFC for several members was unreasonably low. In cases where AFC was reported in to be $0 in both the current data file and the 2014 data file, the current salary was used in place of the AFC.

Deferred Vested

Data provided for deferred vested members was incomplete. As part of the processing of deferred member data, in cases where AFC was incomplete, we used $30,000 to estimate the AFC. Component II benefit service is not directly provided on the file. The Component II (Legacy) file includes total vesting service and the Component I (Hybrid) file includes Component I benefit service. Since Component II benefit service was frozen as of June 30, 2014 for members that terminated after June 30, 2014, Component II (Legacy) benefit service was determined by subtracting service in the Component I (Hybrid) inactive file from total vesting service in the corresponding Component II (Legacy) inactive file. Members with vesting service of less than 8 years were assumed to be non-vested and were not valued. We estimated the commencement date with the following rules:

- Age 55 if 30 or more years of service and hired before July 1986;
- Age 60 if less than 30 years of service, but more than 10 years of service and hired before 1986; and
- Age 62 for all others.

The entire amount of the deferred benefit was assumed to commence at the same time regardless of the date of hire.

Retired and Beneficiary

It is our understanding that the current pension amount provided in the retiree data includes the 4.5% reduction as mandated in the POA. However, for members that retired prior to July 2015, the other pension amounts provided in the data (original pension amount, equated pension amount, and prior year's pension amount) did not reflect the 4.5% reduction and, as such, were reduced by 4.5% when valuing any related liability. Other adjustments/assumptions include:

- In cases where the benefit is identified to be a joint and survivor benefit and a beneficiary is not listed in the data, it was assumed that male spouses were 3 years older than females;
- Benefits for dependent children are assumed to cease at age 21; and
- For non-converted disabled members, converted benefits are:
  - assumed to commence at age 60; and
  - estimated, based on reported service and projected service from the date of disability to age 60.

Summary of Member Data
June 30, 2020

Active Members

	General	D.O.T.	DWSD	Library	Totals^
Number	1,427	430	336	210	2,403
% Change in active members	(14.4)%	(20.7)%	(6.1)%	(7.1)%	(14.0)%
Annual payroll ($ millions)	$ 72.1	$ 15.8	$ 14.5	$ 8.8	$ 111.2
Average pay	$50,498	$36,705	$43,112	$41,882	$46,244
% Change in average pay	(7.9)%	(7.2)%	(16.7)%	(12.7)%	(9.2)%

^ May not add due to rounding.

Retired Members and Survivor Beneficiaries

	General	D.O.T.	DWSD	Library	Totals
Number	6,604	1,588	2,710	318	11,220
Annual benefits ($ millions) #	$ 125.2	$ 30.7	$ 61.7	$ 6.7	$ 224.3
Average benefits #	$18,965	$19,327	$22,754	$20,981	$19,989
% Change in reported average benefit	0.1 %	(0.1)%	(0.5)%	0.0 %	(0.1)%

 # Includes annuities. Does not include reductions resulting from the annuity claw-backs.

Inactive Vested Members

	General	D.O.T.	DWSD	Library	Totals
Number	1,479	373	791	85	2,728
Average AFC	$40,051	$45,429	$49,515	$33,994	$43,342
Average service	15.4	15.2	15.3	13.8	15.3
Annual benefits ($ millions)	$ 14.8	$ 4.2	$ 9.8	$ 0.7	$ 29.4
Average benefits	$9,997	$11,212	$12,370	$ 8,047	$10,790
% Change in average service	(1.8)%	(0.6)%	(2.2)%	(4.3)%	(1.9)%
% Change in average AFC	2.8 %	8.5 %	2.7 %	3.1 %	3.7 %

Active Members as of June 30, 2020
by Attained Age and Years of Service
Retirement System Totals

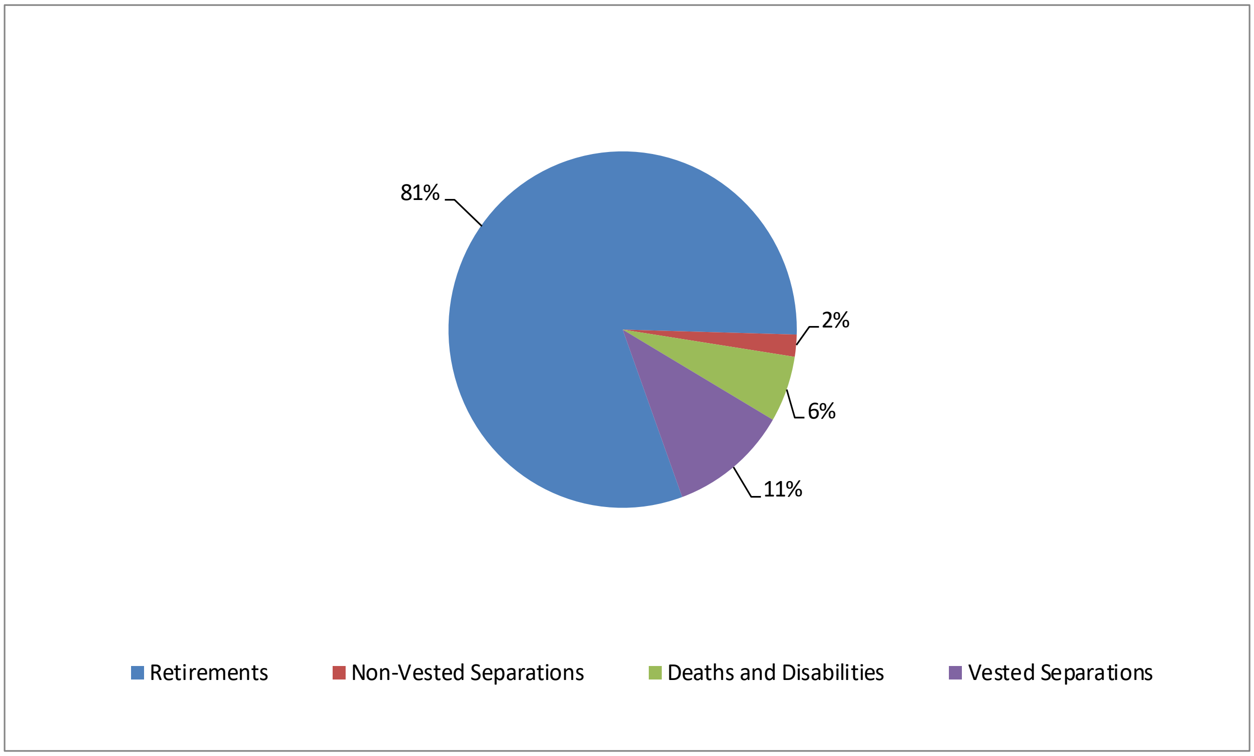
Attained Age	Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
Under 20	0							0	$ 0
20-24	0	0						0	0
25-29	3	1	0					4	126,953
30-34	5	41	10	0				56	2,033,790
35-39	4	35	27	17	4			87	3,523,586
40-44	10	38	42	62	31	3		186	8,018,816
45-49	9	58	49	88	97	27	1	329	15,033,294
50-54	6	31	75	108	193	66	40	519	24,588,723
55-59	8	48	47	91	182	88	154	618	28,508,378
60-64	2	26	30	67	91	71	143	430	20,408,404
65-69	1	24	19	12	23	14	38	131	6,954,147
70-74	0	2	5	9	7	2	3	28	1,266,906
75-79	0	2	2	3	2	1	5	15	661,307
Totals	**48**	**306**	**306**	**457**	**630**	**272**	**384**	**2,403**	**$111,124,304**

Group Averages:

Age: 53.7 years
Benefit Service: 15.1 years
Eligibility Service: 20.4 years
Annual Pay: $46,244

Service shown in this schedule is Legacy Benefit service plus Hybrid Benefit service.

Expected Terminations from Active Employment for Current Active Members



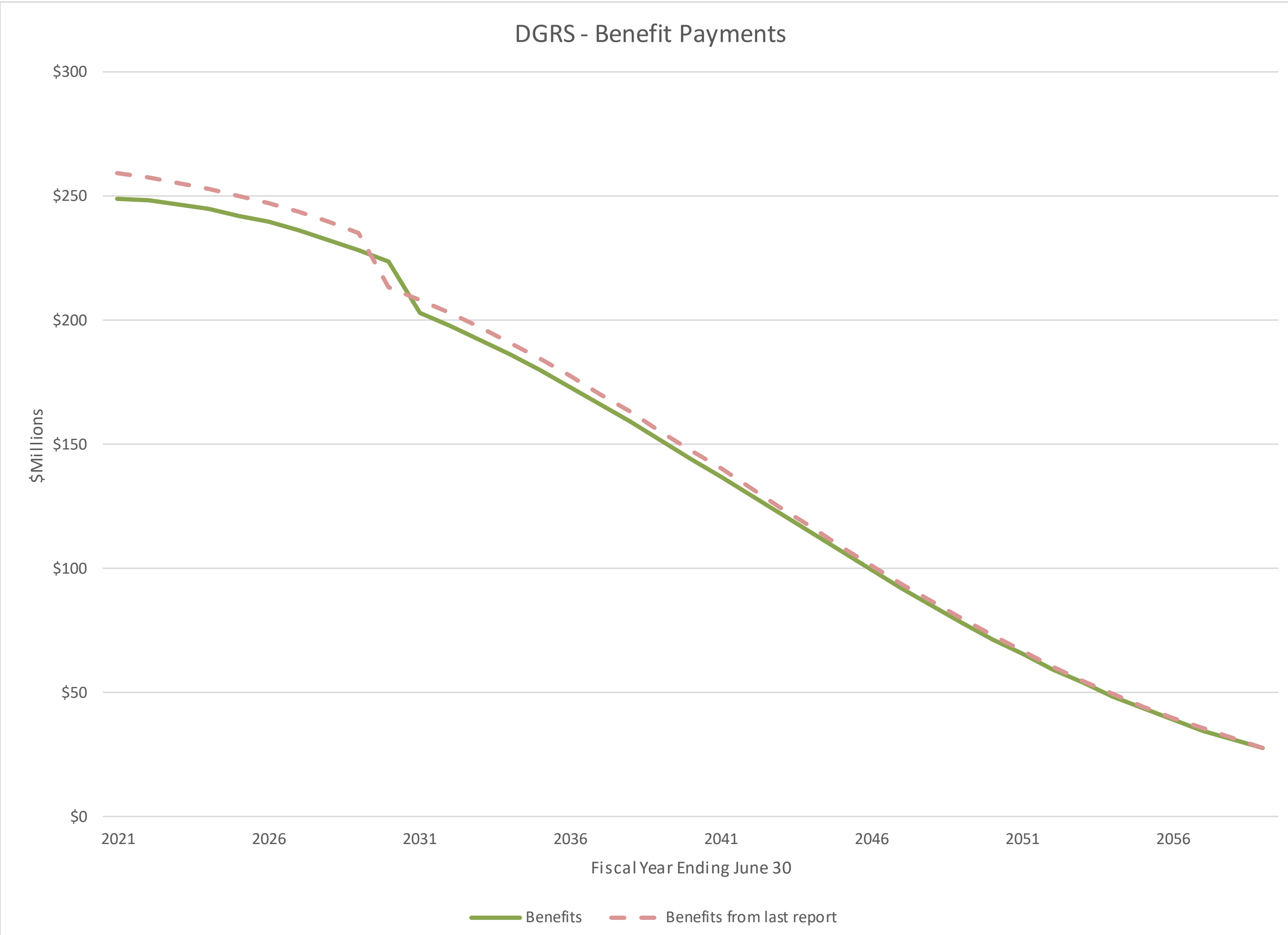
The chart shows the expected future development of the present population in simplified terms. The Retirement System presently covers 2,403 active members. Eventually, 46 people are expected to terminate covered employment prior to retirement and forfeit eligibility for an employer provided benefit. 2,206 people are expected to receive monthly retirement benefits either by retiring directly from active service, or by retiring from vested deferred status. 151 people are expected to become eligible for benefits as a result of death-in-service or disability.

Actual versus expected retirements for the 2020 fiscal year is shown below:

Year Ended June 30,	Expected	Actual
2020	275	80

Expected Benefit Payments

Shown below is a graph of projected benefit payments remaining in the Retirement System.



The graph above shows the projection of future expected benefit payments (solid green line) derived from the June 30, 2020 actuarial valuation data and contrasts that with the corresponding projection from the June 30, 2019 valuation data (red dashed line). The since the assumptions are the same in the two projections, the graph shows the impact that the pandemic has had on the future expected benefit projection, which is lower in the earlier years and nearly unchanged in the later years. In addition, the remaining ASF balances are assumed to be paid out over a rolling 10-year period resulting in a shift of those 10-year payments visible in the graph between last year and this.

Retirees and Beneficiaries June 30, 2020
Tabulated by Attained Ages
Retirement System Totals

Attained Ages	Age & Service# No.	Age & Service# Monthly Allowances	Disability No.	Disability Monthly Allowances	Death-in-Service No.	Death-in-Service Monthly Allowances	Totals No.	Totals Monthly Allowances
Under 20*	8	$ 6,412	0	$ 0	2	$ 1,216	10	$ 7,628
20-24	4	5,382					4	5,382
25-29	2	2,566					2	2,566
30-34	14	9,789	0	0			14	9,789
35-39	17	7,985	0	0	2	2,811	19	10,796
40-44	14	10,464	6	2,896	1	773	21	14,133
45-49	47	40,417	21	14,314	4	1,853	72	56,584
50-54	156	251,433	45	34,632	9	8,739	210	294,804
55-59	529	938,824	106	95,540	17	20,817	652	1,055,181
60-64	1,501	2,799,557	212	279,309	42	50,114	1,755	3,128,980
65-69	2,042	3,557,985	199	233,365	40	51,762	2,281	3,843,112
70-74	2,053	3,708,994	156	178,287	35	63,115	2,244	3,950,396
75-79	1,384	2,334,617	74	75,251	35	44,389	1,493	2,454,257
80-84	903	1,295,258	50	44,217	24	26,663	977	1,366,138
85-89	643	811,018	18	15,214	32	35,345	693	861,577
90-94	477	523,156	19	14,601	32	26,948	528	564,705
95 and Over	220	219,126	7	4,738	18	13,967	245	237,831
Totals	**10,014**	**$16,522,983**	**913**	**$992,364**	**293**	**$348,512**	**11,220**	**$17,863,859**

** May include records with defective birth dates.*
 # Includes survivor beneficiaries of deceased retirees.

Retirees and Beneficiaries June 30, 2020
Tabulated by Year of Retirement

Year of Retirement	No.	Monthly Allowances Total	Monthly Allowances Average
1950 & before	3	$ 5,931	$1,977
1951-1955	3	5,323	1,774
1956-1960	1	329	329
1961-1965	6	2,314	386
1966-1970	19	8,254	434
1971-1975	64	38,558	602
1976-1980	194	143,388	739
1981-1985	413	404,277	979
1986-1990	580	615,331	1,061
1991-1995	1,102	1,356,271	1,231
1996-2000	1,348	2,012,278	1,493
2001-2005	1,841	3,454,115	1,876
2006-2010	2,030	3,800,301	1,872
2011-2015	2,429	4,215,329	1,735
2016	398	700,669	1,760
2017	250	343,777	1,375
2018	236	325,459	1,379
2019	227	309,278	1,362
2020	76	122,677	1,614
Totals	**11,220**	**$17,863,859**	**$1,592**

SECTION D

METHODS AND ASSUMPTIONS

Summary of Assumptions and Methods Used for Actuarial Valuations Adopted by the Board of Trustees

All assumptions are estimates of future experience except as noted. The rationale for the assumptions is based on experience studies where noted.

Economic Assumptions

The investment return rate used in making the valuation was 6.75% per year, compounded annually (net after investment and administrative expenses). This assumption is prescribed by the Eighth Amended Plan for the Adjustment of Debts of the City of Detroit (POA).

Price inflation is not directly used in the valuation. For purposes of assessing the reasonability of the investment return assumptions, we assumed price inflation of 2.50% per year.

Non-Economic Assumptions

The mortality table used to measure retired life mortality was 100% of the RP-2014 Blue Collar Annuitant Table for set-forward 1 year for males and 100% of the RP-2014 Blue Collar Annuitant Table set-forward 1 year for females. Tables were extended below age 50 with a cubic spline to the published Juvenile rates. Pre-retirement mortality is based on the corresponding Employee tables with corresponding set-forward. The tables are projected to be fully generational, based on the 2-dimensional, sex distinct mortality improvement scale MP-2014 (which was published and intended to be used with RP-2014). 75% of all deaths-in-service are assumed to be non-duty related. This table was first used as of June 30, 2014. For disabled members, the same tables are used. The rationale for the mortality assumption is based on the 2008-2013 Mortality Experience Study issued February 4, 2015.

The probabilities of retirement for members eligible to retire are shown on pages 36 and 37. These probabilities were revised for the June 30, 2008 valuation. The rationale is based on the 2002-2007 Experience Study.

The probabilities of separation from service (including *death-in-service* and *disability*) are shown for sample ages on page 38. These probabilities were revised for the June 30, 2008 valuation. The rationale is based on the 2002-2007 Experience Study.

Summary of Assumptions and Methods Used for Actuarial Valuations Adopted by the Board of Trustees (Concluded)

Funding Methods

The unit credit cost method was used in determining age & service pension liabilities, vesting liabilities, and casualty pension liabilities. Under this method, there is no normal cost since benefits are frozen and there are no future accruals and actuarial accrued liability is the present value of each individual's accrued benefit.

Unfunded Actuarial Accrued Liabilities. Actual employer contributions through June 30, 2023 are set by the POA. The amortization period and method after 2023 has not yet been established by the Board.

Employer contribution dollars were assumed to be paid at the end of the employer fiscal year.

Present assets are set equal to the Market Value.

The data about persons now covered and about present assets was furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the Actuary.

Single Life Retirement Values

Based on RP-2014 Blue Collar
100% of Male Rates Set-Forward 1 Year
100% of Female Rates Set-Forward 1 Year

Sample Attained Ages in 2020	Future Life Expectancy (Years)	
	Men	Women
45	38.83	42.17
50	33.87	37.11
55	29.10	32.20
60	24.54	27.44
65	20.23	22.86
70	16.23	18.54
75	12.59	14.57
80	9.39	11.05

Probabilities of Age/Service Retirement for Members Eligible to Retire

Retirement Ages	Percent of Eligible Active Members Retiring within Next Year with Unreduced Benefits		
	EMS	D.O.T.	Others
45	25%		
46	25%		
47	25%		
48	22%		
49	20%		
50	18%	55%	50%
51	15%	50%	50%
52	15%	50%	45%
53	15%	50%	45%
54	15%	55%	40%
55	15%	50%	30%
56	15%	50%	30%
57	15%	50%	30%
58	15%	50%	30%
59	15%	55%	40%
60	40%	40%	25%
61	30%	30%	25%
62	30%	30%	25%
63	30%	30%	25%
64	30%	30%	25%
65	30%	30%	35%
66	30%	30%	30%
67	30%	30%	25%
68	30%	50%	25%
69	30%	50%	25%
70	100%	100%	20%
71			20%
72			20%
73			20%
74			20%
75			20%
76			20%
77			20%
78			20%
79			20%
80			100%
Ref	537	1648	1647

Rationale for assumption is 2002 to 2007 Experience Study. Additional retirement rates for Component I (Hybrid Plan) eligibility are not reflected in this valuation due to materiality.

Probabilities of Early Retirement for Members Eligible for Early Retirement

Retirement Ages	Percent of Eligible Active Members Retiring within Next Year with Reduced Benefits
55	7%
56	8%
57	9%
58	10%
59	12%
60	12%
61	12%
62	12%
63	12%
64	12%
Ref	1649

Rationale for assumption is 2002 to 2007 Experience Study.

Sample Rates of Separation from Active Employment Before Retirement

Sample Ages	Years of Service	% of Active Members Separating within Next Year			
		Withdrawal			
				Others	
		EMS	D.O.T.	Men	Women
ALL	0	11.00%	18.00%	18.00%	20.00%
	1	10.00%	16.00%	15.00%	16.00%
	2	8.00%	14.00%	13.00%	14.00%
	3	8.00%	11.00%	11.00%	12.00%
	4	7.00%	9.00%	10.00%	10.00%
25	5 & Over	6.70%	8.00%	7.60%	7.60%
30		5.90%	7.60%	7.22%	7.22%
35		5.20%	5.56%	5.28%	5.28%
40		4.40%	4.26%	4.05%	4.05%
45		3.40%	3.69%	3.51%	3.51%
50		2.40%	3.50%	3.33%	3.33%
55		2.00%	3.50%	3.33%	3.33%
60		0.00%	3.50%	3.33%	3.33%
Ref		338	143	584	188
		1068	212	212 x 0.95	212 x 0.95

Sample Ages	% of Active Members Becoming Disabled within Next Year			
	D.O.T.		Others	
	Ordinary	Duty	Ordinary	Duty
25	0.02%	0.03%	0.01%	0.25%
30	0.05%	0.08%	0.04%	0.29%
35	0.14%	0.21%	0.11%	0.34%
40	0.27%	0.42%	0.21%	0.39%
45	0.51%	0.79%	0.40%	0.45%
50	0.66%	1.03%	0.51%	0.52%
55	0.76%	1.18%	0.59%	0.60%
60	0.86%	1.34%	0.67%	0.70%
Ref	23 x 0.45	23 x 0.70	23 x 0.35	423 x 0.90

Rationale for assumption is 2002 to 2007 Experience Study.

Miscellaneous and Technical Assumptions

Benefit Service	Exact Fractional service is used to determine the amount of benefit payable.
Decrement Operation	Disability and mortality decrements do not operate during the first five years of service. Disability and withdrawal do not operate during retirement eligibility.
Decrement Timing	Decrements of all types are assumed to occur mid-year.
Eligibility Testing	Eligibility for benefits is determined based upon the age nearest birthday and rounded service on the date the decrement is assumed to occur.
Forfeitures	None.
Incidence of Contributions	Contributions are assumed to be received at the end of the year.
Marriage Assumption	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
Normal Form of Benefit	Straight life is the normal form of benefit. The Board adopted assumptions for Actuarial Equivalence to be an 80%/20% unisex blend of RP-2014 mortality (Male/Female) with Blue Collar Adjustment, set ahead one year for males and females, projected 11 years with MP-2014, an interest rate of 6.75%, and no COLA for optional forms of payment and early retirement reduction. Assumptions for annuitizing member contributions are the same except for using a 60%/40% unisex blend and a 5.25% assumed rate of interest. Prior to the use of these factors, actuarial equivalent factors were based on 7.5% interest and the 1984 Group Annuity Mortality table.
Service Credit Accruals	Service accruals stop as of June 30, 2014 for measurement of Component II liabilities. However, future service in Component I may be used to satisfy benefit eligibility requirement in Component II. Members who became duty disabled prior to June 30, 2014 are assumed to get projected service from date of disability to conversion date. Member who become disabled after June 30, 2014 are assumed to get their frozen accrued benefit as of June 30, 2014 at date of conversion.
Administrative Expenses	The investment return assumption is mandated to be net of investment and administrative expense in the plan document. No other provision for administrative expenses is included in this valuation.
Sick Leave	Sick leave banks as of June 30, 2014 were included in the 2014 data file provided by the System.
Member Contributions	Member contributions to this Component II plan are assumed to have ceased with the bankruptcy.
Pop-Up Benefits	For current retirees with a pop-up benefit, the value of the pop-up was estimated by valuing a non-pop-up option and increasing the associated liabilities by 2%.

Rationale for assumption is 2002 to 2007 Experience Study, modified as necessary for changes in data or administration.

SECTION E

PLAN PROVISIONS

Summary of Benefit Provisions Evaluated

Component II Frozen Benefits

All Component II benefits are frozen as of June 30, 2014 based on service and average final compensation accrued as of that date and the provisions of the Detroit General Retirement System as it existed on June 30, 2014. Frozen benefits are further reduced by 4.5% and all future cost-of-living adjustments ("COLAs") were eliminated. Benefits resulting from the Annuity Savings Fund and benefits paid from the Annuity Reserve Fund were subject to a separate reduction described as a "Claw-back." Details of the claw-back provision are complicated and can be found in the Eighth Amended Plan of Adjustment. The benefits evaluated in this report are the frozen reduced benefits after adjusting the assets for the claw-back. Component II benefits are payable after separation from service, upon meeting the eligibility conditions of the plan as it existed on June 30, 2014, regardless of whether the individual is eligible to receive a Component I benefit at that time.

Our understanding of the June 30, 2014 plan provisions is provided below for completeness. The material below does not have legal standing and is not intended to cover all potential situations that could occur. If there are discrepancies between the description below and appropriate legal documents, the latter necessarily govern.

Age and Service Pension

Eligibility - Any age (minimum age 55 for non-EMS members hired after 1995) with 30 years of service (25 for EMS members), or age 60 with 10 years of service, or age 65 with 8 years of service.

Annual Amount - **EMS Members:** Sum of a) a basic pension of $12 for each of the first 10 years of service, plus b) a pension equal to 2.0% of AFC multiplied by years of service. Maximum benefit is 90% of AFC.

Other Members: Sum of a) a basic pension of $12 for each of the first 10 years of service, plus b) a pension equal to the first 10 years of service multiplied by 1.6% of AFC, plus 1.8% of AFC for each year of service greater than 10 years up to 20 years, plus 2.0% of AFC for each year of service greater than 20 years up to 25 years, plus 2.2% of AFC for each year of service greater than 25 years. Future benefit accruals for certain active members (depending on bargaining unit) were reduced to 1.5% of final average compensation per year of service.

Type of Average Final Compensation (AFC) - Highest 3 consecutive years out of the last 10. Pension benefits will not be diminished if compensation is reduced because of a fiscal emergency. Effective July 1, 1999, in computing the AFC, a member shall have the option of adding the value of 25% of unused accrued sick leave to the earnings used in computing the AFC. Longevity is added to AFC in accordance with the following schedule: $150 after 5 years, $300 after 10 years, $450 after 15 years, $600 after 20 years, and $750 after 25 years.

Early Retirement

Eligibility - Any age with 25 or more years of service (min. age 55 for members hired after 1995).

Annual Amount - Same as regular retirement but actuarially reduced.

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Summary of Benefit Provisions Evaluated (Continued)

Deferred Retirement (Vested Benefit)

Eligibility - Hired prior to 7-1-80: Age 40 with 8 years of service. Hired on or after 7-1-80: Any age with 10 years of service.

Benefit Commencement - APTE hired prior to July 1, 1988: Benefit begins at the age the member would have become eligible for regular retirement if service had continued. ***SAAA, Non-Union and lawyers hired prior to June 30, 1986:*** Benefit begins at the age the member would have become eligible for regular retirement. ***Others:*** Benefits based on service rendered by June 30, 1986 begin at the age the member would have become eligible for regular retirement. Benefits based on service rendered after July 1, 1986 begin at age 62.

Annual Amount - Same as regular retirement but based on average final compensation and service at the time of termination.

Duty Disability Retirement

Eligibility - Service related disability before eligibility for service retirement prior to and July 1, 2014. No service requirement.

Annual Amount - An annuity which is the actuarial equivalent of the accumulated contributions at date of disability plus a pension of two-thirds of average final compensation at time of disability. The maximum annual pension is $5,700 ($9,000 for EMS). At the earliest of when the member would have accrued 30 years of service credit (25 for EMS) or age 60, the annuity is recomputed assuming contributions would have continued at a salary level equal to final compensation. The pension is recomputed with additional service credit granted from the date of disability to age 60 (or 30 years of service credit) or June 30, 2014, whichever is earlier. **Benefits payable prior to conversion/re-computation, if any, were assumed to be paid outside the trust.**

Non-Duty Disability Retirement

Eligibility - Disability from any cause before age 60 with 10 or more years of service prior to July 1, 2014.

Annual Amount - Computed in the same manner as a regular retirement benefit. Maximum annual pension to age 60 is $6,000. Benefit is recomputed at age 60 with no maximum. **Benefits payable prior to age 60, if any, were assumed to be paid from outside the trust.**

Duty Death Before Retirement

Eligibility - Death from service related causes. No age or service requirements.

Annual Amount - One-third of final compensation as of June 30, 2014 to the surviving spouse for life or until remarriage, plus an equal share of 1/4 of final compensation to each unmarried child under age 18. If there is no eligible spouse, eligible children each receive 1/4 of final compensation; if there are more than 2 such children, each child shares an equal part of 1/2 of final compensation. Maximum total amount for spouse and children is $9,000 annually. If there is no eligible spouse or children, dependent parents each receive 1/6 of deceased's final compensation, to a total maximum of $600 annually.

Summary of Benefit Provisions Evaluated (Concluded)

Non-Duty Death Before Retirement

Eligibility - Death-in-service at any age with 15 years of service; or after age 60 with 10 years of service; or after age 65 with 8 years of service.

Annual Amount - To Surviving Spouse: Computed as a regular retirement benefit but reduced in accordance with a 100% joint and survivor election for members with 20 or more years of service. For members with 15 years of service but less than 20, benefit is reduced in accordance with a 50% joint and survivor election. To Dependent Children if no Surviving Spouse: $9,000 payable to age 19 of the youngest child or for life if child is physically or mentally impaired for members with 20 or more years of service ($6,000 if less than 20 years of service).

Post-Retirement Cost-of-Living Adjustments

Benefit is increased annually by 2.25% of the **original** pension amount at retirement. Post-retirement cost-of-living increases were eliminated on future accruals for certain active members (depending on bargaining unit).

Member Contributions

Members have the option of choosing one of four contribution amounts: (1) 0%; (2) 3.0% of compensation up to the Social Security wage base, plus 5.0% of compensation in excess of the Social Security wage base; (3) 5.0% of total compensation; or (4) 7.0% of total compensation. Member contributions can be paid as a lump sum or annuitized at retirement to provide an annuity in addition to the pension (which is not affected by the level of member contributions).

SECTION F

GLOSSARY

Glossary

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

Actuarial Equivalent. A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

AFC. Average Final Compensation.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

APTE. Association of Professional and Technical Employees.

ASF. Annuity Savings Fund

Contribution Budgeting Liability. An expected return-based measure of pension obligation.

DIA. Detroit Institute of Art.

D.O.T. Department of Transportation.

DWSD. Detroit Water and Sewerage Department.

EMS. Emergency Medical Service.

Glossary

Experience Gain (Loss). A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

GASB. The Governmental Accounting Standards Board.

GLWA. Great Lakes Water Authority.

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

PAF. Pension Accumulation Fund.

Plan of Adjustment or POA. The 8th Amended Plan for the Adjustment of the Debt of the City of Detroit.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

SAAA. Senior Accountants, Analysts, and Appraisers Association.

Solvency Liability. A market-based measure of the present value of accrued benefits at a municipal bond discount rate unadjusted for the credit quality of the plan sponsor.

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."

UTGO. Unlimited Tax General Obligation.

Valuation Assets. The value of current plan assets recognized for valuation purposes.

Monthly Financial Report Binder

April 2021

Presented to the
Great Lakes Water Authority
Audit Committee on July 23, 2021

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Key Financial Metrics

The table below provides key report highlights and flags the financial risk of a budget shortfall by year-end as follows:

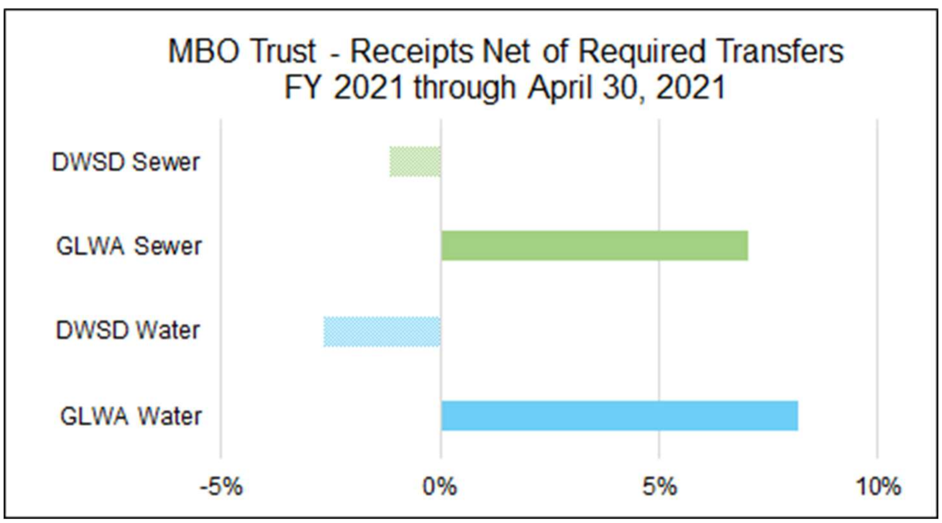
No Risk (green) - Potential (yellow) - Likely (red)

Each variance is monitored by the Great Lakes Water Authority (GLWA) management and, where appropriate, operating and/or budget priorities are re-evaluated. Budget amendments are prepared and presented quarterly based on most current information.

As of April 30, 2021				
Metric	FY 2021 Budget	FY 2021 Actual	Variance from Financial Plan	Report Page Reference
Wholesale Water Billed Revenue ($M)	$261.8	$267.7	2%	47
Wholesale Water Billed Usage (mcf)	11,146,000	11,653,000	5%	
Wholesale Sewer Billed Revenue ($M)	$224.5	$224.5	0%	49
Wholesale Water Operations & Maintenance ($M)	$111.8	$100.8	-10%	6
Wholesale Sewer Operations & Maintenance ($M)	$151.9	$134.4	-12%	
Investment Income ($M)	$5.8	$6.2	8%	37
Water Prorated Capital Spend w/SRA* ($M)	$92.0	$107.0	16%	28
Sewer Prorated Capital Spend w/SRA* ($M)	$69.0	$72.0	4%	29

*SRA refers to the capital spending ratio assumption which allows capital program delivery realities to align with the financial plan.

Master Bond Ordinance (MBO) Trust Net Receipts (page 52)



Net cash flow receipts remain positive for GLWA Water and Sewer. This means that all legal commitments of the MBO Trust and the lease payment are fully funded – and that positive cash flow is available for additional capital program funding in subsequent year(s). DWSD Water and Sewer report shortfalls of $2.2 million and $2.7 million respectively through April 2021. By monitoring collections and expenses, the DWSD management had a plan in place by April 2021 to end FY 2021 with positive net cash flows. As a post-script to this monthly report, the cash flow shortfalls for FY 2020 and FY 2021 were resolved by June 30, 2021.

The current DWSD loan receivable balance for fiscal years 2017 and 2018 is $11.4 million.

Budget to Actual Analysis (page 3)

- The third quarter budget amendments which were approved by the GLWA Board on May 26, 2021 are reflected in the FY 2021 Amended Budget columns on the tables in the April 2021 Budget to Actual report. The fourth quarter budget amendments will be included in the May 2021 report.
- The total Revenue Requirements are on target through April 2021.
- The total Operations & Maintenance expenses are at 74.3% of budget through April 2021 which is reasonably within the pro-rata benchmark of 83.3%.

Basic Financial Statements (page 10)

- The Basic Financial Statements are prepared on a full accrual basis and reflect preliminary, unaudited results.
- Operating income for April 2021 is $81.3 million for the Water fund (28.4% of total revenues) and $131.6 million for the Sewer fund (33.4% of total revenues).
- Water Net Position decreased by $6.7 million, and Sewage Disposal Net Position increased by $32.1 million for the year to date through April 2021.

Capital Improvement Plan Financial Summary (page 27)

- The Water and Sewer system activity are both exceeding the 75% Capital Spend Ratio assumption.

Master Bond Ordinance Transfers (page 30)

- For April, transfers of $12.8 million and $17.6 million were completed for the GLWA Water and Sewer funds, respectively.
- Also for April, transfers of $4.5 million and $8.1 million were completed for the DWSD Water and Sewer funds, respectively.

Cash Balances & Investment Income (page 36)

- Total cash & investments are $508 million in the Water fund and $482 million in the Sewer fund.
- The total combined cumulative investment income for FY 2021 through April is $6.2 million.

DWSD Retail Revenues, Receivables & Collections (page 41)

- Water usage through April 30, 2021 is at 93.40% and revenues at 94.41% of budget.
- Sewer usage through April 30, 2021 is at 95.23% and revenues at 99.49% of budget.
- Combined accounts receivable balances for the water and sewer funds report an increase of $25.7 million over the prior year.
- Past dues over 180 days make up 65.6% of the total accounts receivable balance. The current bad debt allowance covers 100% of past dues over 180 days.

GLWA Wholesale Billing, Receivables & Collections (page 46)

- GLWA accounts receivable past due balance net of Highland Park is less than 4.0% of the total accounts receivable balance.
- The Highland Park past due balance is $47.4 million. It includes $36.1 million for wastewater treatment services, $1.8 million for industrial waste control services, and $9.5 million for water supply services. In FY 2021, Highland Park has made five payments totaling $2.8 million through April 2021.

Questions? Contact the Office of the Chief Financial Officer at CFO@glwater.org

The Monthly Budget to Actual Analysis report includes the following three sections.

1. Revenue Requirement Budget Basis Analysis
2. Operations & Maintenance Budget – Major Budget Categories
3. Alignment of Operations & Maintenance Budget Priorities – Expense Variance Analysis

The FY 2021 information presented in these sections includes the third quarter budget amendments approved by the GLWA Board on May 26, 2021.

The FY 2021 fourth quarter budget amendments, approved by the GLWA Board on June 23, 2021, will be included in the Budget to Actual Analysis report for the month ended May 31, 2021.

Revenue Requirement Budget Basis Analysis

GLWA's annual revenue requirement represents the basis for calculating Member Partner charges and aligns with the Master Bond Ordinance flow of funds categories. The budget basis is not the same as the full accrual basis used for financial reporting although the revenues and operations and maintenance expense are largely reported on an accrual basis. The primary difference between the revenue requirement budget basis to the financial reporting basis is the treatment of debt service, legacy pension obligations, and lease related activities. The Revenue Requirement Basis is foundational to GLWA's daily operations, financial plan, and of most interest to key stakeholders.

Table 1A – Water Revenue Requirement Budget and ***Table 1B – Sewer Revenue Requirement Budget*** presents a year-over-year budget to actual performance report. The revenue requirement budget is accounted for in the operations and maintenance fund for each system. Since this report is for April 2021, the pro-rata benchmark is 83.3% (10 of 12 months of the fiscal year).

Items noted below are highlighted in gold on Tables 1A (Water) and 1B (Sewer).

1. ***Revenues***: For *both* systems, FY 2021 revenues are either at or above target. Detailed schedules related to revenues are provided in the *Wholesale Billings, Collections, and Receivables* section of this financial report binder.

   Water revenues presented in Table 1A differ from those presented in *Table 2 – Statement of Revenues, Expenses and Changes in Net Position* found in the *Basic Financial Statement* section of this report. Water Revenues presented in Table 1A for revenue requirement purposes are reduced by the monthly payment to the City of Flint for a license to raw water rights under the Flint Raw Water Contract as documented in Appendix A-2 of the Flint Water Agreement. Through April 30, 2021 these payments total $5.5 million for FY 2021.

2. ***Investment Earnings:*** For *both* systems, investment earnings are above the pro-rata benchmark for FY 2021; the *water* system is at 94.6%; while the *sewer* system is at 88.4%. The market adjustment, previously reported in this section in FY 2020, has been removed. These annual entries are recorded for financial reporting purposes and are not a part of the revenue requirements reporting. Detailed analysis of investment earnings activity to date can be found in the *Cash & Investment Income* section of this financial report binder.
3. ***Other Revenues:*** These are one-time and unusual items that do not fit an established revenue category. Both the *water* and *sewer* systems actual amount will vary from budget due to the nature of the items recorded in this category.
4. ***Operations & Maintenance Expense:*** Actual expenses[1] for *both* systems have variances from the pro-rata benchmark. The *water* system is less than the pro-rata benchmark for FY 2021 at 75.1%. The *sewer* system O&M expenses, at 73.7%, is also less than the pro-rata benchmark.
5. ***Debt Service:*** *Both* systems are slightly above the pro-rata benchmark for FY 2021; the *water* system is at 84.5%; while the *sewer* system is at 84.4%. The activity is based on the payment schedules adjusted for the State Revolving Fund loans that are still being drawn down.
6. ***Operating Reserve Deposit:*** GLWA has established a target balance in the O&M Fund of 45 days of operating expense which works in tandem with the I&E Funds to provide liquidity to the utility. Adequate funding is in place to meet this requirement; therefore, it is expected that additional transfers to this reserve will not be required in FY 2021. The approved FY 2021 first quarter budget amendment removed the budgeted amount of $877 thousand for the *water* system for this line item.
7. ***DWSD Budget Shortfall Pending:*** To the extent that the local (DWSD) system experiences budgetary shortfalls as defined by the Water & Sewer Services Agreement, the GLWA budget is impacted.[2] Steps to proactively detect, and ideally prevent, this shortfall scenario were put into place with the 2018 Memorandum of Understanding (dated June 27, 2018). For FY 2020, DWSD *sewer* ended the year with a budgetary shortfall through June 30, 2020, of $10.8 million. The DWSD *water* system experienced a $937 thousand budgetary shortfall through June 30, 2020. For FY 2021, the DWSD *water* system has a budgetary shortfall of $2.2 million and the DWSD *sewer* system has a budgetary shortfall of $7.7 million through April 30, 2021. GLWA and DWSD staff are meeting regularly to discuss steps to mitigate any shortfall as outlined in the 2018 MOU.

[1] The tables in this analysis reflect actual amounts spent. If this analysis was on a master bond ordinance (MBO) basis, like that used for calculating debt service coverage, O&M "expense" would equal the pro-rata budget because 1/12 of the O&M budget is transferred monthly outside the MBO trust to an O&M bank account.

[2] As a reminder, the monthly O&M transfer for MBO purposes is at 1/12 of the budget to a DWSD O&M bank account outside the trust. Actual budget may be less than that amount providing an actual positive variance for DWSD.

8. ***Improvement & Extension (I&E) Fund Transfer Pending:*** The contribution to the I&E Fund is for improvements, enlargements, extensions, or betterment of the Water System.
9. ***Other Revenue Requirements:*** The remaining revenue requirements for *both* systems are funded on a 1/12th basis each month in accordance with the Master Bond Ordinance.
10. ***Overall:*** Total revenue requirements for *both* systems are in line with the benchmark.

Table 1A – *Water* Revenue Requirement Budget (year-over-year) – ($000)

Water System	FY2020 AMENDED BUDGET	FY 2020 THRU 4/30/2020	Percent Year-to-Date	FY 2021 BOARD ADOPTED BUDGET	FY 2021 AMENDED BUDGET	FY 2021 THRU 4/30/2021	Percent Year-to-Date
Revenues							
Suburban Wholesale Customer Charges	$ 304,634	$ 252,214	82.8%	$ 314,252	$ 313,134	$ 262,033	83.7%
Retail Service Charges	21,296	17,746	83.3%	22,555	21,926	18,403	83.9%
Investment Earnings	8,084	7,806	96.6%	4,834	3,956	3,740	94.6%
Other Revenues	2	43	1783.3%	-	229	228	99.7%
Total Revenues	$ 334,016	$ 277,809	83.2%	$ 341,642	$ 339,244	$ 284,404	83.8%
Revenue Requirements							
Operations & Maintenance Expense	$ 126,840	$ 106,789	84.2%	$ 137,127	$ 134,127	$ 100,753	75.1%
General Retirement System Legacy Pension	6,048	5,040	83.3%	6,048	6,048	5,040	83.3%
Debt Service	135,999	110,872	81.5%	143,190	137,436	116,139	84.5%
General Retirement System Accelerated Pension	6,268	5,224	83.3%	6,268	6,268	5,224	83.3%
Extraordinary Repair & Replacement Deposit	-	-	0.0%	-	-	-	0.0%
Water Residential Assistance Program Contribution	1,698	1,415	83.3%	1,669	1,669	1,391	83.3%
Lease Payment	22,500	18,750	83.3%	22,500	22,500	18,750	83.3%
Operating Reserve Deposit	3,976	-	0.0%	877	-	-	0.0%
DWSD Budget Shortfall/(Surplus) Pending	1,230	1,132	92.0%	-	-	2,167	0.0%
Improvement & Extension Fund Transfer Pending	29,456	24,547	83.3%	23,963	31,195	25,316	81.2%
Total Revenue Requirements	$ 334,016	$ 273,769	82.0%	$ 341,642	$ 339,244	$ 274,779	81.0%
Net Difference		$ 4,041				$ 9,625	
Recap of Net Positive Variance							
Revenue Variance		$ (538)				$ 1,701	
Revenue Requirement Variance		4,578				7,924	
Overall Variance		$ 4,041				$ 9,625	

Table 1B – *Sewer* Revenue Requirement Budget (year-over-year) – ($000)

Sewer System	FY 2020 AMENDED BUDGET	FY 2020 THRU 4/30/2020	Percent Year-to-Date	FY 2021 BOARD ADOPTED BUDGET	FY 2021 AMENDED BUDGET	FY 2021 THRU 4/30/2021	Percent Year-to-Date
Revenues							
Suburban Wholesale Customer Charges	$ 272,324	$ 223,910	82.2%	$ 277,012	$ 274,054	$ 225,120	82.1%
Retail Service Charges	185,807	154,839	83.3%	190,112	187,960	157,081	83.6%
Industrial Waste Control Charges	7,834	6,837	87.3%	8,775	8,683	6,656	76.7%
Pollutant Surcharges	5,910	5,072	85.8%	5,263	5,208	5,268	101.2%
Investment Earnings	7,731	6,535	84.5%	5,589	2,778	2,456	88.4%
Other Revenues	400	385	96.3%	-	574	388	67.5%
Total Revenues	$ 480,005	$ 397,578	82.8%	$ 486,751	$ 479,256	$ 396,969	82.8%
Revenue Requirements							
Operations & Maintenance Expense	$ 181,926	$ 139,771	76.8%	$ 184,946	$ 182,296	$ 134,382	73.7%
General Retirement System Legacy Pension	10,824	9,020	83.3%	10,824	10,824	9,020	83.3%
Debt Service	214,691	176,306	82.1%	209,740	201,780	170,270	84.4%
General Retirement System Accelerated Pension	11,621	9,684	83.3%	11,621	11,621	9,684	83.3%
Extraordinary Repair & Replacement Deposit	-	-	0.0%	-	-	-	0.0%
Water Residential Assistance Program Contribution	2,403	2,003	83.3%	2,415	2,415	2,013	83.3%
Lease Payment	27,500	22,917	83.3%	27,500	27,500	22,917	83.3%
Operating Reserve Deposit	-	-	0.0%	-	-	-	0.0%
DWSD Budget Shortfall/(Surplus) Pending	10,244	10,749	104.9%	-	-	7,695	0.0%
Improvement & Extension Fund Transfer Pending	20,798	17,331	83.3%	39,706	42,820	35,048	81.9%
Total Revenue Requirements	$ 480,005	$ 387,781	80.8%	$ 486,751	$ 479,256	$ 391,028	81.6%
Net Difference		$ 9,797				$ 5,941	
Recap of Net Positive Variance							
Revenue Variance		$ (2,427)				$ (2,411)	
Revenue Requirement Variance		12,224				8,352	
Overall Variance		$ 9,797				$ 5,941	

Operations & Maintenance Budget – Major Budget Categories

The year-over-year benchmark ratio as of April 30, 2021, is 83.3% (ten months). When comparing FY 2021 to FY 2020 in ***Table 2 – Operations & Maintenance Budget – Major Budget Categories***, it appears that overall spending is consistent.

In addition to the four major budget categories, an internal charge cost center for employee benefits is shown in the table below. If the number is positive, it indicates that the internal cost allocation rate charges to other cost centers is not sufficient. A negative number indicates a surplus in the internal cost center. A moderate surplus is preferred as it provides a hedge for mid-year benefit program cost adjustments (premiums adjust on January 1 each year) as well as managing risk as the program is partially self-insured.

Table 2 – Operations & Maintenance Budget – Major Budget Categories **– ($000)**

Major Budget Categories	FY 2020 AMENDED BUDGET	FY 2020 ACTIVITY THRU 4/30/2020	Percent Year-to-Date	FY 2021 BOARD ADOPTED BUDGET	FY 2021 AMENDED BUDGET	FY 2021 ACTIVITY THRU 4/30/2021	Percent Year-to-Date
Water	$ 66,021	$ 57,238	86.7%	$ 71,966	$ 70,820	$ 55,197	77.9%
Sewer	115,985	87,823	75.7%	115,676	114,975	85,660	74.5%
Centralized	97,731	77,475	79.3%	102,721	100,338	71,839	71.6%
Administrative	29,028	23,151	79.8%	31,709	30,290	22,440	74.1%
Employee Benefits	-	873	0.0%	-	-	-	0.0%
Total O&M Budget	$ 308,766	$ 246,560	79.9%	$ 322,073	$ 316,423	$ 235,135	74.3%

Alignment of Operations & Maintenance Budget Priorities – Expense Variance Analysis

The purpose of ***Table 3 – Operations & Maintenance Expense Variance Analysis*** is to evaluate whether the actual spend rate within a natural cost category is in alignment with the budget. Given the effort to develop an accurate budget, a variance is a red flag of a *potential* budget amendment or misalignment of priorities.

Total: In total, the O&M expenses are at 74.3% which is reasonably within the pro-rata benchmark of 83.3% given the expected trend of relatively higher fourth quarter expenses due to the seasonality of certain expenses and some year-end accruals which are based on actual versus estimated amounts. This positive variance equates to a dollar amount of $28.6 million. The expense category commentary is provided below for items highlighted on Table 3.

Personnel Costs: The overall category is on target with the pro-rata benchmark; coming in at 82.6% through April 2021.

Utilities: The overall category is on target with the pro-rata benchmark; coming in at 82.6% through April 2021. Variances within this category, when they occur, are not unexpected as usage varies throughout the year.

- **Electric** is higher than the benchmark, coming in at 87.8%. The first three months of GLWA's fiscal year (July, August, and September) are typically peak months for the usage of electricity. June, the last month of GLWA's fiscal year, is typically a peak month as well.
- **Gas** is coming in at 72.6% which is lower than the benchmark of 83.3%. A review of the accounts has confirmed that the usage is variable throughout the year. The gas consumption at the Wastewater Recovery Facility (WRRF) is less than budget due to a) operational changes and b) the fire that occurred in September which took Complex II offline for several weeks.
- **Sewage service** is lower than the benchmark, coming in at 72.3%. A review of this category is being conducted, however, bills for a meter for a large line at the WRRF are being estimated due to a reported fault with the meter. This issue is being addressed.
- **Water service** is lower than the benchmark, coming in at 52.9%. While usage does vary throughout the year, a review of the accounts has shown that the water service bills are coming in lower for Wastewater Operations. Utilization of the new chemical building has required changes to the operational processes which has resulted in the reduction of the use of potable water.

Chemicals: This category is higher than the pro-rate benchmark; coming in at 86.6% through April 2021. Variances within this category are not unexpected as usage varies throughout the year. While this category is being reviewed, this variance is not a concern at this time.

Supplies & Other: This category is lower than the benchmark; coming in at 61.8% through April 2021. The items in this category are subject to one-time expenses that do not occur evenly throughout the year, with an increase in usage being projected for the fourth quarter. A review of this category is being conducted and budget amendments will be processed for the fourth quarter if needed.

Contractual Services: The overall category is lower than the pro-rata benchmark; coming in at 69.3% through April 2021. Variances in this category, when they occur, are not unexpected as the usage of contracts varies throughout the year (projects scheduled to begin during the latter half of the year as well as contracts that are on an as needed basis). Budget amendments will be processed for those projects in which the actual start dates have been delayed from that in which they were budgeted.

Capital Program Allocation: This category is lower than the benchmark; coming in at 77.6% through April 2021. The amount in the Capital Program Allocation account is shown as negative as this is a "contra" account which represents an offset to the Personnel Costs section of the Operations & Maintenance (O&M) budget.

Shared Services: This category is on target with the pro-rata benchmark; coming in at 83.7% through April 2021. The shared services reimbursement is comprised of both labor (tracked via BigTime) and expenses, such as annual fees for software licensing. Staff from both GLWA and DWSD have been working together to evaluate and refine the budget for the shared services agreements. Based on these evaluations, adjustments have been made to both the billings and accounting accruals to reflect the forecasted activity more accurately for FY 2021. In addition, it is important to note that some of the shared services agreements are not billed at a monthly rate of 1/12 of the annual budgeted amount.

Table 3 –Operations & Maintenance Expense Variance Analysis – ($000)

Expense Categories Entity-wide	FY 2020 AMENDED BUDGET	FY 2020 ACTIVITY THRU 4/30/2020	Percent Year-to-Date at 4/30/2020	FY 2020 ACTIVITY THRU 6/30/2020	Percent Year-to-Date at 6/30/2020	FY 2021 AMENDED BUDGET	FY 2021 PRORATED AMENDED BUDGET (10 MONTHS)	FY 2021 ACTIVITY THRU 4/30/2021	Percent Year-to-Date	FY 2021 PRORATED BUDGET LESS FY 2021
Salaries & Wages	$ 64,703	$ 53,332	82.4%	$ 64,189	83.1%	$ 69,829	$ 58,191	$ 54,161	77.6%	$ 4,030
Workforce Development	1,271	973	76.6%	1,252	77.7%	948	790	695	73.3%	95
Overtime	7,191	6,263	87.1%	7,494	83.6%	7,063	5,886	6,194	87.7%	(309)
Employee Benefits	22,465	20,089	89.4%	25,001	80.4%	24,182	20,151	21,879	90.5%	(1,728)
Transition Services	5,872	5,342	91.0%	6,330	84.4%	6,660	5,550	6,857	103.0%	(1,307)
Employee Benefits Fund	-	873	0.0%		0.0%	-	-	-	0.0%	-
Personnel Costs	*101,503*	*86,873*	*85.6%*	*104,267*	83.3%	*108,682*	*90,569*	*89,787*	*82.6%*	*782*
Electric	39,549	33,583	84.9%	40,669	82.6%	39,240	32,700	34,444	87.8%	(1,744)
Gas	5,332	4,398	82.5%	5,196	84.7%	6,629	5,524	4,813	72.6%	711
Sewage Service	1,988	1,859	93.5%	2,109	88.1%	2,120	1,767	1,532	72.3%	235
Water Service	3,662	2,966	81.0%	3,179	93.3%	3,948	3,290	2,090	52.9%	1,200
Utilities	*50,531*	*42,806*	*84.7%*	*51,153*	83.7%	*51,937*	*43,281*	*42,879*	*82.6%*	*402*
Chemicals	14,019	11,822	84.3%	14,242	83.0%	13,420	11,183	11,627	86.6%	(443)
Supplies & Other	34,124	26,676	78.2%	35,402	75.4%	37,500	31,250	23,166	61.8%	8,084
Contractual Services	103,975	85,393	82.1%	106,372	80.3%	106,787	88,990	74,043	69.3%	14,947
Capital Program Allocation	(3,122)	(2,676)	85.7%	(3,347)	79.9%	(3,320)	(2,767)	(2,575)	77.6%	(192)
Shared Services	(4,995)	(4,334)	86.8%	(1,734)	250.0%	(4,530)	(3,775)	(3,790)	83.7%	15
Unallocated Reserve	12,731	-	0.0%	-	0.0%	5,948	4,956	-	0.0%	4,956
Total Expenses	$ 308,766	$ 246,560	79.9%	$ 306,354	80.5%	$ 316,423	$ 263,686	$ 235,135	74.3%	$ 28,551

The Basic Financial Statements report includes the following four tables.

1. Statement of Net Position - All Funds Combined
2. Statement of Revenues, Expenses and Changes in Net Position – All Funds Combined
3. Supplemental Schedule of Operations & Maintenance Expenses -All Funds Combined
4. Supplemental Schedule of Nonoperating Expenses – All Funds Combined

At a macro level GLWA has two primary funds for financial reporting purposes: *Water Fund* and *Sewage Disposal Fund*. These funds represent the combined total of four sub-funds for each system that are used internally to properly account for sources and uses of funds. Those sub-funds for each system are: *Operations & Maintenance Fund*, *Improvement & Extension Fund*, *Construction Fund, and Capital Asset Fund*.

The June 2020 comparative values shown in the tables below are presented based on final audited figures.

Statement of Net Position – All Funds Combined

Explanatory notes follow the Statement of Net Position shown in Table 1 below.

Table 1 – Statement of Net Position - All Funds Combined
As of April 30, 2021
($000)

	Water	Sewage Disposal	Total Business-type Activities	Comparative June 30, 2020
Assets				
Cash - unrestricted (a)	$ 152,390	$ 174,987	$ 327,377	$ 208,357
Cash - restricted (a)	34,590	42,471	77,061	114,415
Investments - unrestricted (a)	205,700	130,801	336,500	473,549
Investments - restricted (a)	101,007	144,372	245,379	157,786
Accounts Receivable	84,263	64,734	148,997	193,719
Due from (to) Other Funds (b)	(272)	272	-	-
Other Assets (c)	687,752	434,017	1,121,769	1,114,230
Cash Held FBO DWSD Advance (d)	-	12,890	12,890	-
Capital Assets, net of Depreciation	1,319,452	2,232,619	3,552,072	3,689,047
Land	293,157	124,354	417,511	416,645
Construction Work in Process (e)	207,485	192,152	399,637	303,220
Total assets	3,085,523	3,553,669	6,639,192	6,670,969
Deferred Outflows (f)	55,133	137,903	193,036	217,097
Liabilities				
Liabilities - Short-Term (g)	158,371	172,027	330,398	305,598
Due to (from) Other Funds (b)	-	-	-	-
Other Liabilities (h)	2,846	6,704	9,550	9,179
Cash Held FBO DWSD (d)	(921)	-	(921)	1,250
Liabilities - Long-Term (i)	3,031,855	3,563,676	6,595,531	6,683,741
Total liabilities	3,192,151	3,742,407	6,934,559	6,999,768
Deferred Inflows (f)	51,633	42,220	93,853	109,876
Total net position (j)	$ (103,128)	$ (93,056)	$ (196,184)	$ (221,578)

Totals may be off due to rounding

In general, the Statement of Net Position reflects a mature organization with no unexpected trends.

An ongoing challenge is the Net Position Deficit. The underlying causes took years to build (largely heavy use of debt to finance capital asset investment versus a strategic blend of debt, state revolving funds, and cash). The effect is reflected in GLWA's high debt interest expense. The GLWA is regularly updating the FY 2030 forecast which helps to provide a pathway to a positive Net Position in the future.

Footnotes to Statement of Net Position

a. *Cash and Investments* are reported at book value. Investments at June 30, 2020 are reported at market value. The April 30, 2021 values differ from the Cash and Investment section of this Financial Report Binder due to timing of certain items recognized on a cash versus accrual basis.
b. *Due from Other Funds* and *Due to Other Funds* are shown at gross for sub-fund activity.
c. *Other Assets* primarily consists of the contractual obligation receivable from DWSD related to reimbursement of bonded indebtedness for local system improvements.
d. *Cash Held FBO Advance (for benefit of) DWSD* and *Cash Held FBO DWSD* represents the net difference between DWSD retail cash received from customers and net financial commitments as outlined in the Master Bond Ordinance.
e. *Construction Work in Process* represents the beginning balance of CWIP plus any construction spending during the fiscal year. The balance will fluctuate based on the level of spend less any capitalizations or write-offs.
f. *Deferred Inflow* and *Deferred Outflow* relate mainly to financing activity and GLWA's share of the legacy General Retirement System (GRS) pension obligation.
g. *Liabilities - Short-term* include accounts payable, retainage payable, and certain accrued liabilities. Some items, such as compensated absences and worker's compensation, are reviewed periodically but only adjusted in the interim if there is a material change.
h. *Other Liabilities* account for the cash receipts set aside for the Budget Stabilization Fund and the Water Residential Assistance Program.
i. *Liabilities – Long-term* include bonds payable, lease payable, and legacy General Retirement System pension liabilities.
j. *Net Position Deficit* is defined by accounting standards as the residual of all other elements presented in a statement of financial position. It is the difference between (a) assets and deferred outflows of resources and (b) liabilities and deferred inflows of resources. A net deficit occurs when the liabilities and deferred inflows exceed assets and deferred outflows. GLWA's net deficit is largely driven by an increase in depreciation expense because of the increase in the acquisition valuation approach for recording capital asset values in the opening Statement of Net Position on January 2016. Efforts are underway to evaluate the net operating effect of this matter over the long term.

Statement of Revenues, Expenses and Changes in Net Position – All Funds Combined

This statement, shown in Table 2, is presented in summary format. The accrual basis of revenues and operations and maintenance expense vary from the revenue requirement basis presented in the *Budget to Actual Analysis* and the *Wholesale Billings, Receivables & Collections* sections of the April 2021 Financial Report Binder. Prior year ending balances are provided in the June 30, 2020 column as a reference for comparative purposes. Explanatory notes follow this statement.

Water revenues presented below in Table 2 differ from those presented in *Table 1A – Water Revenue Requirement Budget* found in the *Budget to Actual Analysis* section of this report because water revenues presented in Table 1A for revenue requirement purposes are reduced by the monthly payment to the City of Flint for a license to raw water rights.

Table 2 – Statement of Revenues, Expenses and Changes in Net Position – All Funds Combined
For the Ten Months ended April 30, 2021
($000)

	Water	Percent of Revenue	Sewage Disposal	Percent of Revenue	Total Business-Type Activities	Comparative June 30, 2020
Revenue						
Wholesale customer charges	$ 267,577	93.5%	$ 225,120	57.1%	$ 492,697	$ 578,705
Local system charges	18,403	6.4%	157,081	39.8%	175,484	207,103
Industrial waste charges		0.0%	6,656	1.7%	6,656	7,855
Pollutant surcharges		0.0%	5,268	1.3%	5,268	6,449
Other revenues	228	0.1%	388	0.1%	616	778
Total Revenues	**286,208**	**100.0%**	**394,513**	**100.0%**	**680,721**	**800,889**
Operating expenses						
Operations and Maintenance	102,203	35.7%	138,251	35.0%	240,454	309,482
Depreciation	102,656	35.9%	124,619	31.6%	227,275	280,104
Total operating expenses	**204,859**	**71.6%**	**262,870**	**66.6%**	**467,729**	**589,586**
Operating Income	81,348	28.4%	131,644	33.4%	212,992	211,303
Total Nonoperating (revenue) expense	88,067	30.8%	99,531	25.2%	187,598	232,056
Increase/(Decrease) in Net Position	**(6,718)**	**-2.3%**	**32,112**	**8.1%**	**25,394**	**(20,753)**
Net Position (deficit), beginning of year	(96,410)		(125,168)		(221,578)	(200,825)
Net position (deficit), end of year	$ (103,128)		$ (93,056)		$ (196,184)	$ (221,578)

Totals may be off due to rounding

Water Fund

- ✓ The decrease in Water Fund Net Position is $6.7 million.
- ✓ Wholesale water customer charges of $267.6 million account for 93.5% of Water System revenues.
- ✓ Operating expenses of $204.9 million represent 71.6% of total operating revenue. Depreciation is the largest operating expense at $102.7 million or 50.1% of operating expense.
- ✓ Operating income after operating expenses (including depreciation) equals $81.3 million or 28.4% of operating revenue.
- ✓ The largest category within nonoperating activities is bonded debt interest expense of $69.5 million (this equates to the bonded debt interest expense less the offset from DWSD contractual obligation income).

Sewage Disposal Fund

- ✓ The increase in the Sewage Disposal Fund Net Position is $32.1 million.
- ✓ Wholesale customer charges of $225.1 million account for 57.1% of Sewer System revenues. Wholesale customer charges are billed one-twelfth each month based on an agreed-upon historical average “share” of each customer’s historical flows which are formally revisited on a periodic basis. The result is no revenue shortfall or overestimation.
- ✓ Local system (DWSD) charges of $157.1 million account for 39.8% of total operating revenues. These are also billed at one-twelfth of the annual revenue requirement.
- ✓ Operating expenses of $262.9 million represent 66.6% of total operating revenue. Depreciation is the largest operating expense at $124.6 million or 47.4% of total operating expense.
- ✓ Operating income after operating expenses (including depreciation) equals $131.6 million or 33.4 % of operating revenue.
- ✓ The largest category within nonoperating activities is bonded debt interest expense of $80.4 million (this equates to the bonded debt interest expense less the offset from DWSD contractual obligation income).

Supplemental Schedule of Operations & Maintenance Expenses – All Funds Combined

This Supplemental Schedule of Operations & Maintenance Expenses (O&M) schedule is shown below in Table 3. This accrual basis of operations and maintenance expense may vary from the revenue requirement basis presented in the *Budget to Actual Analysis* section of the April 2021 Financial Report Binder. Explanatory notes follow this schedule.

Table 3 – Supplemental Schedule of Operations & Maintenance Expenses – All Funds Combined
For the Ten Months ended April 30, 2021
($000)

	Water	Percent of Total	Sewage Disposal	Percent of Total	Total Business-Type Activities	Percent of Total
Operating Expenses						
Personnel						
Salaries & Wages	18,927	18.5%	42,786	30.9%	61,714	25.7%
Overtime	3,811	3.7%	2,383	1.7%	6,194	2.6%
Benefits	14,530	14.2%	7,349	5.3%	21,879	9.1%
Total Personnel	$ 37,268	36.5%	$ 52,518	38.0%	$ 89,787	37.3%
Utilities						
Electric	22,274	21.8%	12,170	8.8%	34,444	14.3%
Gas	1,030	1.0%	3,783	2.7%	4,813	2.0%
Sewage	200	0.2%	1,332	1.0%	1,532	0.6%
Water	1	0.0%	2,089	1.5%	2,090	0.9%
Total Utilities	$ 23,504	23.0%	$ 19,375	14.0%	$ 42,879	17.8%
Chemicals	5,080	5.0%	6,546	4.7%	11,627	4.8%
Supplies and other	7,181	7.0%	15,985	11.6%	23,166	9.6%
Contractual services	34,677	33.9%	44,932	32.5%	79,609	33.1%
Capital Adjustment	-	0.0%	-	0.0%	-	0.0%
Capital program allocation	(1,751)	-1.7%	(824)	-0.6%	(2,575)	-1.1%
Intergovernmental Agreement	(248)	-0.2%	-	0.0%	(248)	-0.1%
Shared services allocation	(3,508)	-3.4%	(282)	-0.2%	(3,790)	-1.6%
Operations and Maintenance Expenses	**$ 102,203**	**100.0%**	**$ 138,251**	**100.0%**	**$ 240,454**	**100.0%**

Totals may be off due to rounding

- ✓ Core expenses for water and sewage disposal systems are utilities (17.8% of total O&M expenses) and chemicals (4.8% of total O&M expenses).
- ✓ Personnel costs (37.3% of total O&M expenses) include all salaries, wages, and benefits for employees as well as staff augmentation contracts that fill a vacant position (contractual transition services).
- ✓ Contractual services (33.1%) includes:
  - Water System costs of sludge removal and disposal services at the Northeast, Southwest and Springwells Water Treatment Plants (approximately $2.9 million);
  - Sewage Disposal System costs for the operation and maintenace of the biosolids dryer facility (approximately $12.8 million); and
  - Centralized and adminisitrative contractual costs allocated to both systems for information technology, building maintenace, field, planning and other services.
- ✓ The Capital Program Allocation, Intergovernmental Agreement and Shared Services Allocation are shown as negative amounts because they are 'contra' expense accounts representing offets to associated costs in other Operations and Maintenance expense categories.

Supplemental Schedule of Nonoperating Expenses – All Funds Combined

The Supplemental Schedule of Nonoperating Expenses – All Funds Combined is shown in Table 4. Explanatory notes follow this schedule.

Table 4 – Supplemental Schedule of Nonoperating Expenses – All Funds Combined
For the Ten Months ended April 30, 2021
($000)

	Water	Sewage Disposal	Total Business-type Activities	Comparative June 30, 2020
Nonoperating (Revenue)/Expense				
Interest income contractual obligation	$ (21,153)	$ (14,678)	$ (35,831)	$ (41,136)
Interest income DWSD Shortfall	-	(577)	(577)	(1,299)
Investment earnings	(3,760)	(2,478)	(6,238)	(19,445)
Net (increase)/decrease in fair value of investments	4,946	3,340	8,286	(5,972)
Other nonoperating revenue	(39)	(21)	(60)	(2,552)
Interest Expense				
Bonded debt	90,662	95,039	185,701	243,745
Lease obligation	14,390	17,587	31,977	38,808
Other obligations	3,939	1,294	5,233	6,395
Total interest expense	108,991	113,920	222,911	288,948
Other non-capital expense	-	-	-	-
Memorandum of Understanding	-	-	-	-
Capital Contribution	-	(5,948)	(5,948)	(5,960)
Amortization, issuance costs, debt	(13,411)	(10,603)	(24,014)	(10,303)
Amortization, raw water rights	2,972	-	2,972	3,567
(Gain) loss on disposal of capital assets	125	241	366	1,317
Loss on impairment of capital assets	-	-	-	1,432
Water Residential Assistance Program	1,320	1,882	3,201	3,315
Legacy pension expense	8,075	14,453	22,528	20,144
Total Nonoperating (Revenue)/Expense	**$ 88,067**	**$ 99,531**	**$ 187,598**	**$ 232,056**

- ✓ Interest income on contractual obligation relates to the portion of the total GLWA debt obligation attributable to DWSD. This interest income offsets the total debt interest expense paid by GLWA on behalf of both entities monthly.
- ✓ Interest income DWSD shortfall represents interest from a budgetary shortfall loan from fiscal years 2016, 2017 and 2018 and is paid in accordance with the 2018 Memorandum of Understanding (MOU).
- ✓ Investment earnings in this report are reflected at book value. Any differences between the Basic Financial report and Cash and Investment section of this Financial Report binder are due to accrued interest. FY 2020 market value adjustments for Water and Sewer totaled $4.9 million and $3.3 million,

respectively. FY 2021 market value adjustment will be made as part of audit preparation in June 2021.

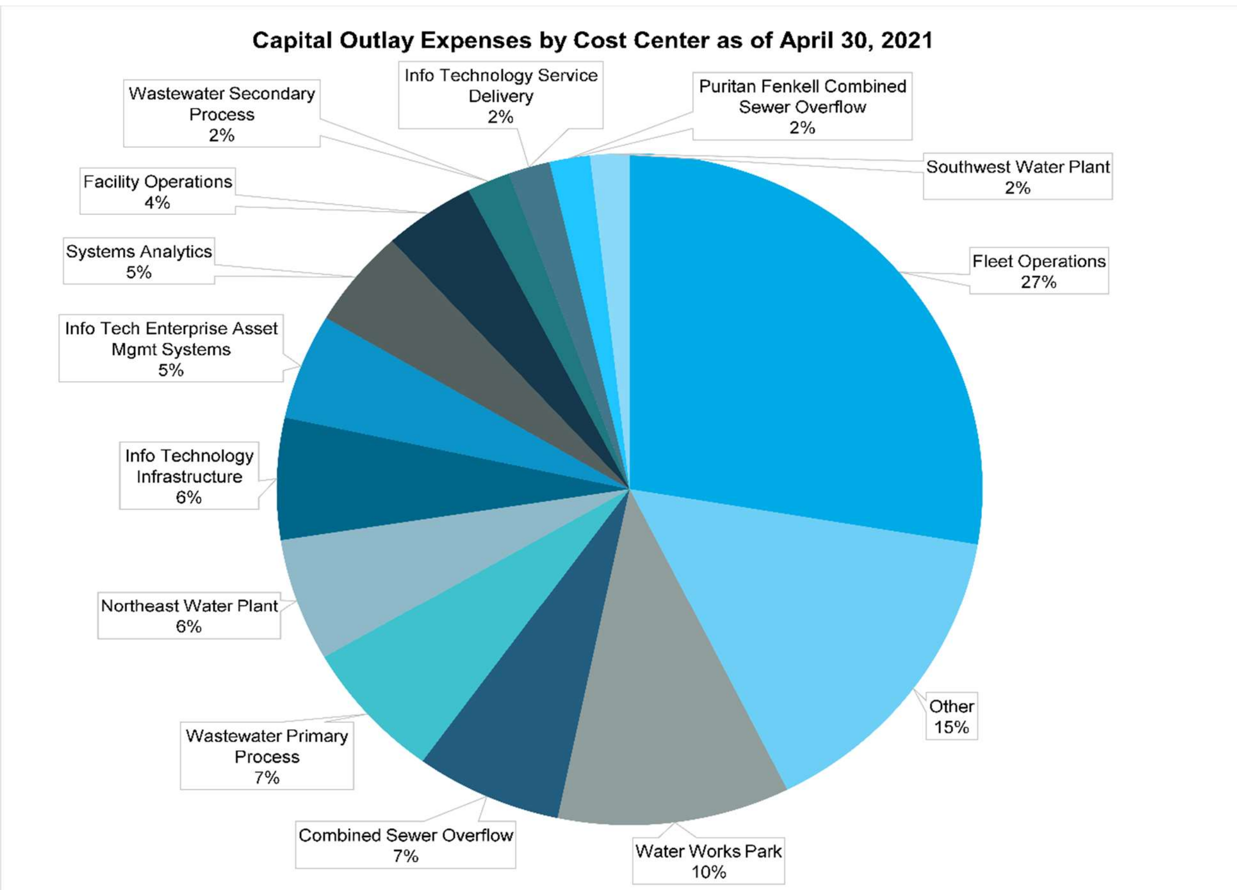
- ✓ Interest expense, the largest category of nonoperating expenses, is made up of three components:
  - Bonded debt;
  - Lease obligation for the regional assets from the City of Detroit; and
  - Other obligations such as an obligation payable to the City of Detroit for an allocation BC Notes related to assumed DWSD liabilities; acquisition of raw water rights related to the KWA Pipeline.
- ✓ The capital contribution in Nonoperating (revenue) expense represents one-half of an $11.92 million payment made by Oakland Macomb Interceptor Drainage District (OMIDD). The payment was part of an amendment to the OMIDD Wastewater Disposal Services Contract and was split between FY 2020 and FY 2021 based on budgeted revenue requirements for those respective years.

Financial Activity Charts

Chart 1 – Capital Outlay – Water and Sewer System Combined

Capital Outlay represents purchases of equipment, software, and small facility improvement projects. It *excludes* any capital investment which is included in the monthly construction work-in-progress report related to the Capital Improvement Program. Some items span several months so the entire cost may not have been incurred yet. In addition, items are capitalized only if they meet GLWA's capitalization policy.

Through April 30, 2021, total capital outlay spend is $13.7 million. Following this chart is a sample list of projects and purchases from the total spend of $13.7 million:



Note: *Due to rounding totals may not equal 100%.*

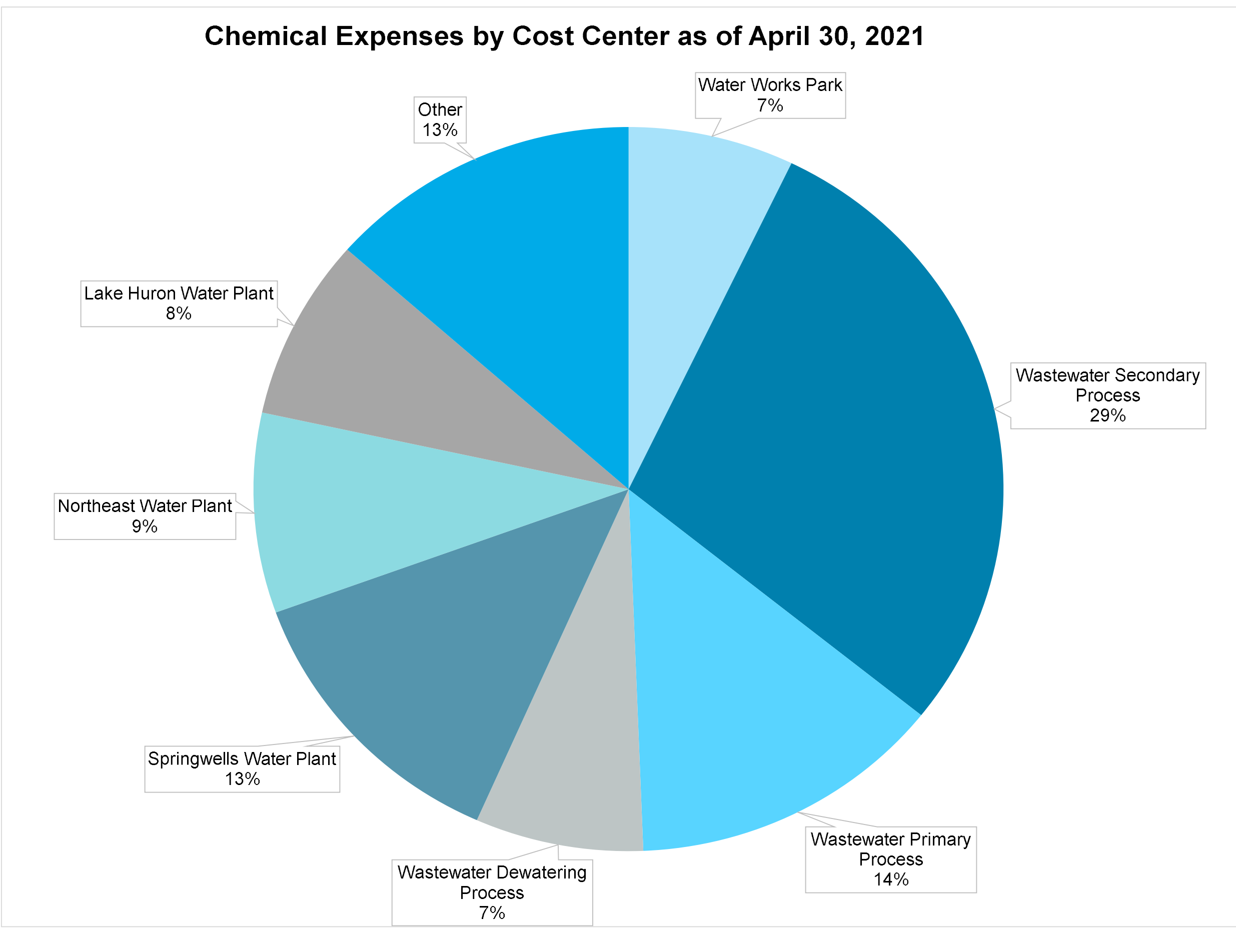
Water Operations: Water Works Park Ovation upgrade ($921k); High-pressure water tank ($424k); Water Works Park generator ($296k); Southwest Water Plant feed system ($110k); evaporators ($101k) and water pumps ($83k).

Wastewater Operations: Chemical containment improvements ($917k); pump at WRRF ($742k); level and flow instrumentation ($241k); B-Houses ($179k); submersible mixers ($135k); turbimeter, controller and process head ($134k); magnetic drive ($129k); actuators ($121k); 7 Mile CSO maintenance ($100k); Complex A Bio Solids dryer ($68k); rotork parts ($65k); Camera ($57k) and dilute water control ($56k).

Centralized & Administrative Facilities: Trucks and vehicles ($3.9m); IT software ($845k); bleacher design ($570k); sewer meter support ($472k); datacenter modernization ($320k); WRRF roof repair ($179k); IT computers ($149k); SCADA packs ($105k); universal power supply ($101k); IT service management ($84k); server drives ($61k); and CSF buildout ($49k).

Chart 2 – Chemical Expenses – Water and Sewer System Combined

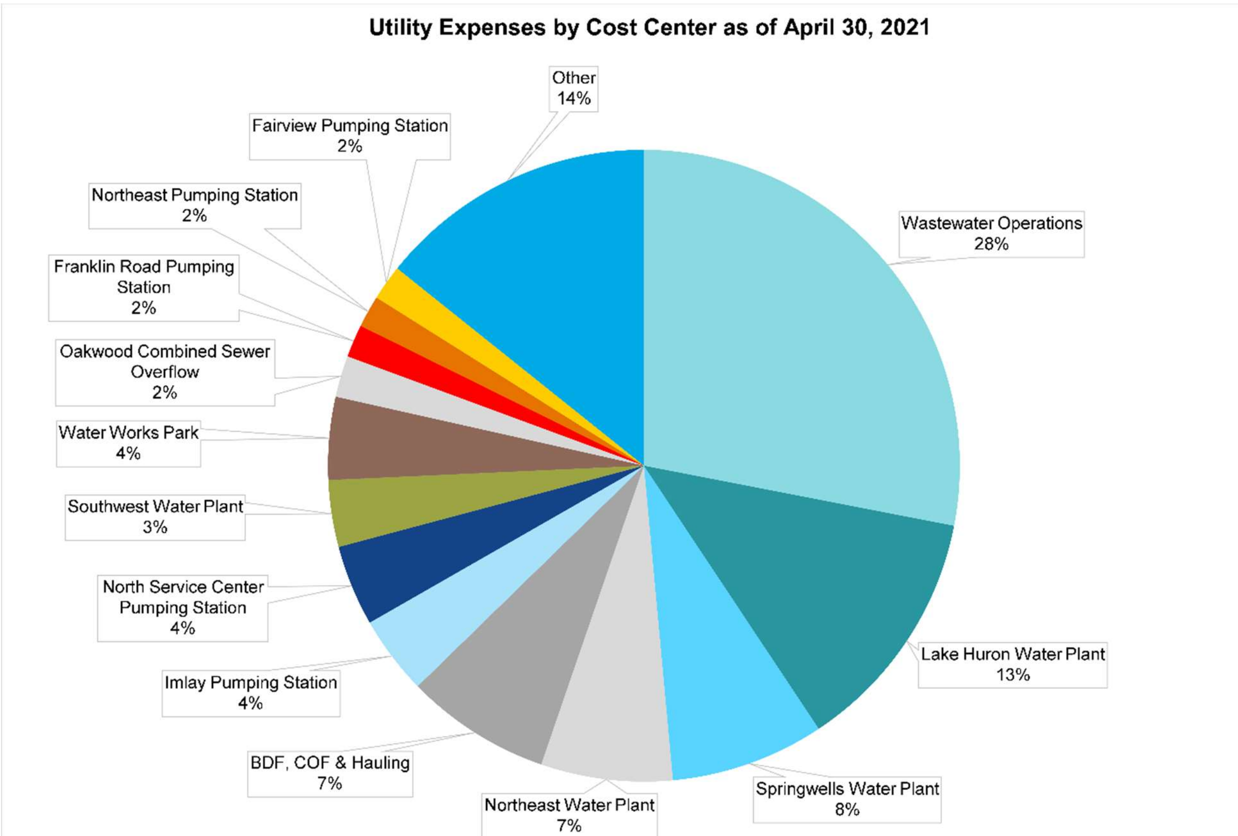
Chemical expenses are $11.6 million through April 30, 2021. The allocation is shown in the chart below and remains consistent with prior periods.



Note: *"Other" includes Combined Sewer Overflow (CSO), portions of the Wastewater process and two departments from Water. Due to rounding totals may not equal 100%.*

Chart 3 – Utility Expenses – Water and Sewer System Combined

Utility expenses are $42.9 million through April 30, 2021. The allocation is shown in the chart below and consistent with prior periods.



Note: *Due to rounding totals may not equal 100%.*

Financial Operations KPI

This key performance indicator shown in ***Chart 1 – Bank Reconciliation Completion Status*** below provides a measure of the progress made in the month-end close process which includes bank reconciliations with a completed status at month end. Through April 30, 2021 all reconciliations are up-to-date and complete.

There were no changes to the accounts since March 2021.

Chart 1 – Bank Reconciliation Completion Status

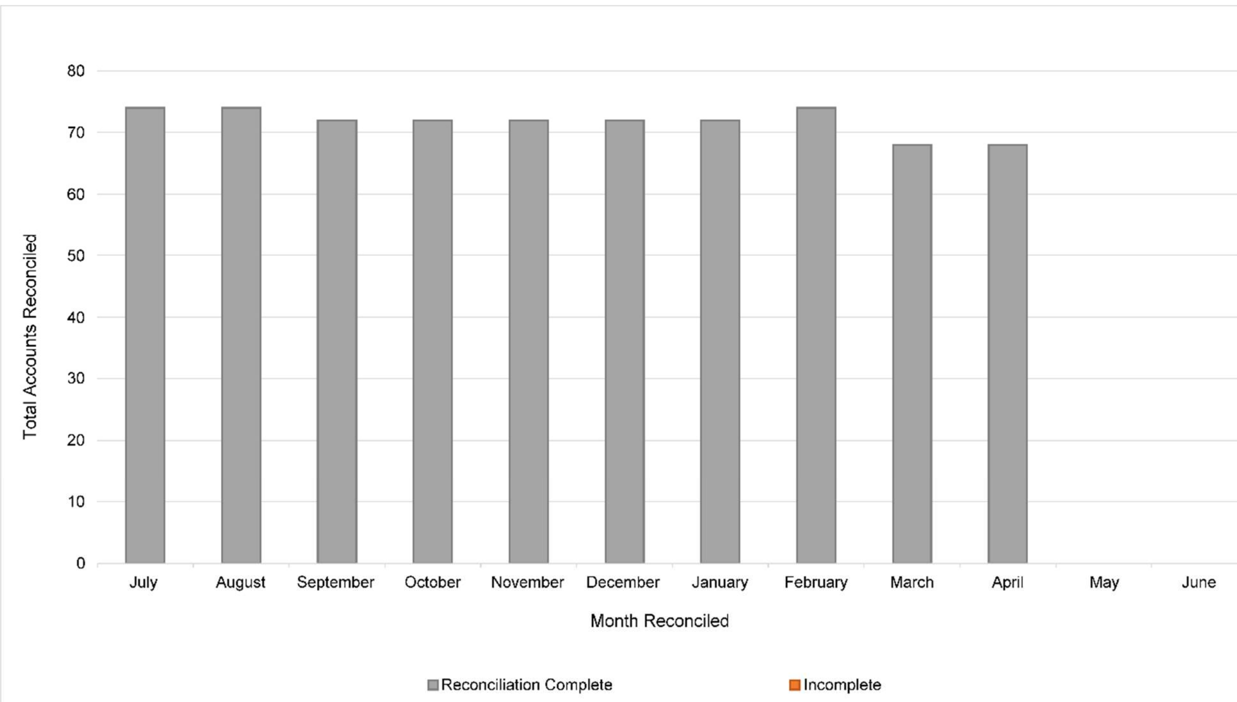


Table 1 – Fiscal Year 2021 GL Cash Account Rollforward

Total GL Cash accounts as of July 1, 2020	74
New GL Cash accounts	2
Inactivated GL Cash accounts	-8
Total GL Cash accounts as of April 30, 2021	68

The monthly Budget to Financial Statements Crosswalk includes the following.

1. Crosswalk Budget Basis to Financial Reporting Basis
2. Explanatory Notes for Crosswalk

Purpose for Crosswalk: The Great Lakes Water Authority establishes a "Revenue Requirements" budget for the purposes of establishing charges for services. The financial report is prepared in accordance with Generally Accepted Accounting Policies for enterprise funds of a local government. Because the budget and the financial statements are prepared using different basis of accounting, the crosswalk reconciles the "Net Revenue Requirement Basis" from the Budget to Actual Analysis (Table 1A and Table 1B) to the "Increase/(Decrease) in Net Position" in Table 2 of the Basic Financial Statements in the monthly Financial Report.

The Authority has a Water Master Bond Ordinance and a Sewer Master Bond Ordinance (MBO). The Ordinances provide additional security for payment of the bonds. All revenues of the system are deposited into Revenue Receipts Funds which are held in trust by a trustee. The cash is moved to multiple bank accounts monthly based on 1/12th of the budget as defined in the MBO ("the flow of funds") for all revenue requirements except for the Debt Service monthly transfer. The Debt Service monthly requirement is computed by the trustee, U.S. Bank. The cash transfer for debt is net of investment earnings that remain in the debt service accounts to be used for debt service.

The budget is prepared on a modified cash basis. The revenue requirements are determined based upon the cash needed to meet the financial commitments as required by the Master Bond Ordinance.

- Operation & Maintenance (O&M) expenses based on an accrual basis
- O&M Legacy Pension Allocation (includes administrative fee) and Accelerated Legacy Pension Allocation (includes B&C notes obligation) based on a cash basis
- Debt Service Allocation based on a cash set aside basis to provide the cash for the debt payments on the due dates
- Lease payments based on a cash basis
- Water Residential Assistance Program based on a percentage of budgeted revenue
- Regional System Improvement & Extension Fund Allocation on a cash basis

Budget: In Table 1A and Table 1B of the Budget to Actual Analysis the 'Revenues' section is the accrual basis revenues that are available to meet the 'Revenue Requirements'. The 'Revenue Requirements' section budget column indicates the annual cash transfers to be made.

Financial Reporting: The Authority's financial statements are prepared in conformity with generally accepted accounting principles (GAAP) as applied to government units. The Authority maintains its records on the accrual basis of accounting to conform to GAAP. Revenues from operations, investments and other sources are recorded when earned. Expenses (including depreciation) are recorded when incurred.

Table 1 – Crosswalk Budget Basis to Financial Reporting Basis provides a reconciliation of the "Net Difference" in Table 1A and Table 1B in the Budget to Actual Analysis report to the "Increase/(Decrease) in Net Position" in Table 2 of the Basic Financial Statements in this monthly Financial Report. Explanatory notes follow the Crosswalk shown in Table 1 below.

Table 1 – Crosswalk Budget Basis to Financial Reporting Basis ($000)
For the Ten Months Ended April 30, 2021

	Water	Sewer	Total
Net Revenue Requirement Budget Variance (a)	$ 9,625	$ 5,941	$ 15,566
Budgetary categories adjustments to financial reporting basis			
Pension delayed accounting election adjustments			
Current year pension transfers/payments recorded as deferral (c)	9,534	17,063	26,597
Prior year pension contribution accounted for in current year (d)	(8,075)	(14,453)	(22,528)
Administrative prepaid adjustment (e)	-	-	-
Debt service (f)	46,630	89,909	136,539
Accelerated pension B&C notes obligation portion (g)	155	347	502
Lease payment (h)	4,360	5,330	9,690
WRAP (i)	71	131	202
DWSD short term allocation (j)	2,166	7,694	9,860
Operating Reserve Deposit (j)	-	-	-
Improvement & Extension Fund (j)	23,721	31,179	54,900
Nonbudgeted financial reporting categories adjustments			
Depreciation (k)	(102,656)	(124,619)	(227,275)
Amortization (k)	10,439	10,603	21,042
Other nonoperating income (k)	39	21	60
Other nonoperating expense (k)	-	-	-
Gain(loss) on disposal of capital assets (k)	(125)	(241)	(366)
Raw water rights (l)	2,179	-	2,179
Investment earnings for construction fund (m)	20	22	42
Interest on DWSD note receivable (n)	-	577	577
Investment earnings unrealized gain/loss (o)	(4,946)	(3,340)	(8,286)
Interlocal agreement reimbursements to improvement & extension fund (p)	145	-	145
Capital contribution (q)	-	5,948	5,948
Net Position Increase/(Decrease) per Financial Statements (b)	$ (6,718)	$ 32,112	$ 25,394

Table 2- Explanatory Notes for Crosswalk

(a) Source: Budget to Actual Table 1A and Table 1B in Monthly Financial Report

(b) Source: Basic Financial Statements Table 2 in Monthly Financial Report

(c) Current year pension payments are an expense for budget purposes but not for financial reporting purposes.

(d) Prior year pension payments are accounted for in the current year financial statements.

(e) The administrative fee is part of the O&M Legacy Pension shown as an expense for budget purposes. For financial reporting purposes part of the administrative fee is considered prepaid based on the prior year General Retirement System audit information and therefore not an expense for the current year financial reporting. The prepaid portion is adjusted in June each year.

(f) Debt service (principal and interest payments) are shown as an expense for budget purposes. Most of the adjustment relates to principal payments which are not an expense for financial reporting purposes. A portion of the adjustment relates to interest expense variances on state revolving fund debt due to the timing of payment draws. The cash set aside basis for interest expense generally is the same as the accrual basis for financial reporting.

(g) The accelerated pension payment includes the obligation payable for the B&C notes. The pension portion is included in item (c) above. This adjustment relates to the B&C note obligation payments. The principal and interest cash basis payments are treated as an expense for budget purposes. The principal portion is not an expense for financial reporting purposes. For financial reporting purposes interest is expensed on an accrual basis which is different from the cash basis.

(h) The lease payment is included as an expense for budget and includes both principal and interest payments. Most of the adjustment relates to the principal payments which are not an expense for financial reporting purposes. A portion of the adjustment relates to interest expense which is recorded on an accrual basis for financial reporting which is different from the cash basis.

(i) WRAP is shown as an expense for budget purposes. For financial reporting purposes the expense is not recognized until the funds have been transferred to the WRAP administrator. The adjustment shown is the amount of current year transfers that have not been transferred to the WRAP administrator. Note that there are funds from the prior year that have not been transferred to the WRAP administrator.

(j) The DWSD short term allocation, Operating Reserve Deposit, and Improvement & Extension Fund transfers are shown as an expense for budget purposes but not for financial reporting purposes. For FY 2021, the Water Improvement and Extension fund reflects $1.6 million, and the Sewer Improvement and Extension fund reflects $3.9 million in expenses relating to repairs paid for through the Water and Sewer Improvement and Extension funds, respectively. These are consolidated expenses for financial reporting purposes but are not reflected in the current Operations and Maintenance budget expenses.

(k) Certain nonoperating income and expenses are reported in financial statements only.

(l) The water service contract with Flint includes a license for raw water rights which has been recorded as an asset and liability by the Authority. The contract provides a credit to Flint as Flint satisfies its monthly bond payment obligation to KWA. This KWA credit is treated as a noncash payment of principal and interest on the liability recorded for the raw water rights. For budget, wholesale customer charges are net of the anticipated KWA credits to Flint as that is the cash that will be received and available to meet the budgeted revenue requirements. For financial reporting basis the Flint wholesale charges are recorded at the total amount billed. When the KWA credit is issued, the receivable from Flint is reduced and the principal and interest payments on the liability for the raw water rights are recorded as a noncash transaction. Most of the adjustment shown relates to the principal reduction made for the credits applied which are not an expense for financial reporting basis.

(m) Investment earnings from the construction fund are not shown as revenue in the budget and are shown as revenue in the financial statements. Construction fund investment earnings are excluded from the definition of revenue for budget purposes as they are used for construction costs and are not used to meet the revenue requirements in the budget.

(n) Interest on the DWSD note receivable is budgeted as part of the Sewer improvement and extension fund and is transferred directly to that fund as payments are made.

(o) Unrealized gains and losses are recorded annually as required for financial reporting purposes but do not reflect actual investment earnings and are not included in cash basis reporting.

(p) GLWA enters Interlocal Agreements with other local governments to coordinate projects and services and reduce overlapping expense. Many of these agreements relate to current capital improvement projects. Where another local government reimburses GLWA for direct expenses associated with a capital improvement project financed using improvement and extension funds, those reimbursements received under the agreement are transferred back to the Improvement and Extension fund.

(q) The capital contribution is a one-time payment of $11.92 million made to GLWA by the Oakland Macomb Interceptor Drainage District (OMIDD) as part of an amendment to the OMIDD Wastewater Disposal Services Contract. This contribution is associated with revenue requirements for FY 2020 and 2021 so one-half of the contribution (or $5.96 million) was recognized in FY 2020 and the remaining $5.96 million is recognized as a capital contribution in FY 2021.

The Monthly Capital Improvement Plan Financial Summary includes the following.

1. Water System Capital Improvement Plan Spend Incurred to date
2. Sewer System Capital Improvement Plan Spend Incurred to date

Capital Improvement Plan Financial Summary

Great Lakes Water Authority (GLWA) capital improvement projects generally span two or more years due to size and complexity. Therefore, the GLWA Board of Directors adopts a five-year capital improvement plan (CIP). The CIP is a five-year, rolling plan which is updated annually and formally adopted by the GLWA Board of Directors. In addition, the Board of Directors adopts a capital spending ratio assumption (SRA) which allows the realities of capital program delivery to align with the financial plan. The SRA is an analytical approach to bridge the total dollar amount of projects in the CIP with what can realistically be spent due to limitations beyond GLWA's control and/or delayed for nonbudgetary reasons. Those limitations, whether financial or non-financial, necessitate the SRA for budgetary purposes, despite the prioritization established.

This report presents quarterly and monthly CIP spending against the prorated CIP in total and the CIP adjusted for the SRA. The prorated CIP is calculated by dividing the total fiscal year 2021 board-approved CIP plan by twelve equal months. It should be noted that for operational purposes, GLWA utilizes Primavera P6 for refined monthly projections for cash management and project management.

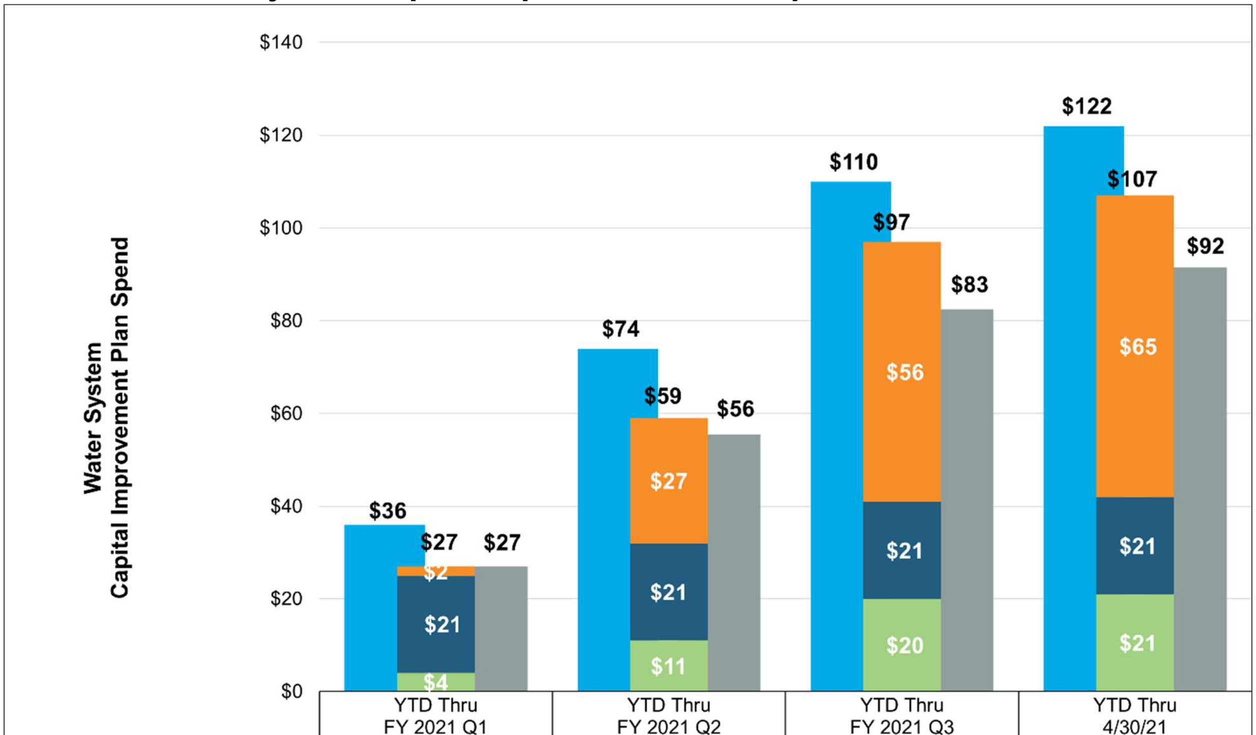
Beginning January 1, 2021, GLWA has intentionally depleted Bond funds and has moved to solely using I&E and State Revolving Loans to fund CIP expenditures to lower the cost of debt. It is expected that the I&E funds will be sufficient to fund the capital program through FY 2022 including an allowance to provide flexibility in the timing of future bond issues. In line with this change, the charts in this report have been revised as of March 2021 to show actual spend in terms of funding source.

This scope of this report and the associated charts were also expanded to the Capital Improvement Plan where in prior periods the focus had been solely on Construction Work in Progress. This change resulted in an increase of $1 million in actual I&E spend in FY 2021 Q1 for the Sewer Fund and a slight shift in previously reported amounts for actual I&E and Revenue Bond spend in FY 2021 Q2 for the Sewer Fund.

Chart 1 – Water System Capital Improvement Plan Spend Incurred to Date

As of April 2021, the Water system incurred over $107 million of construction costs to date. This is 88% of the fiscal year 2021 prorated CIP through April and 117% of the financial plan which is labeled as the FY 2021 CIP w/SRA in the chart below.

Chart 1 – Water System Capital Improvement Plan Spend Incurred to Date

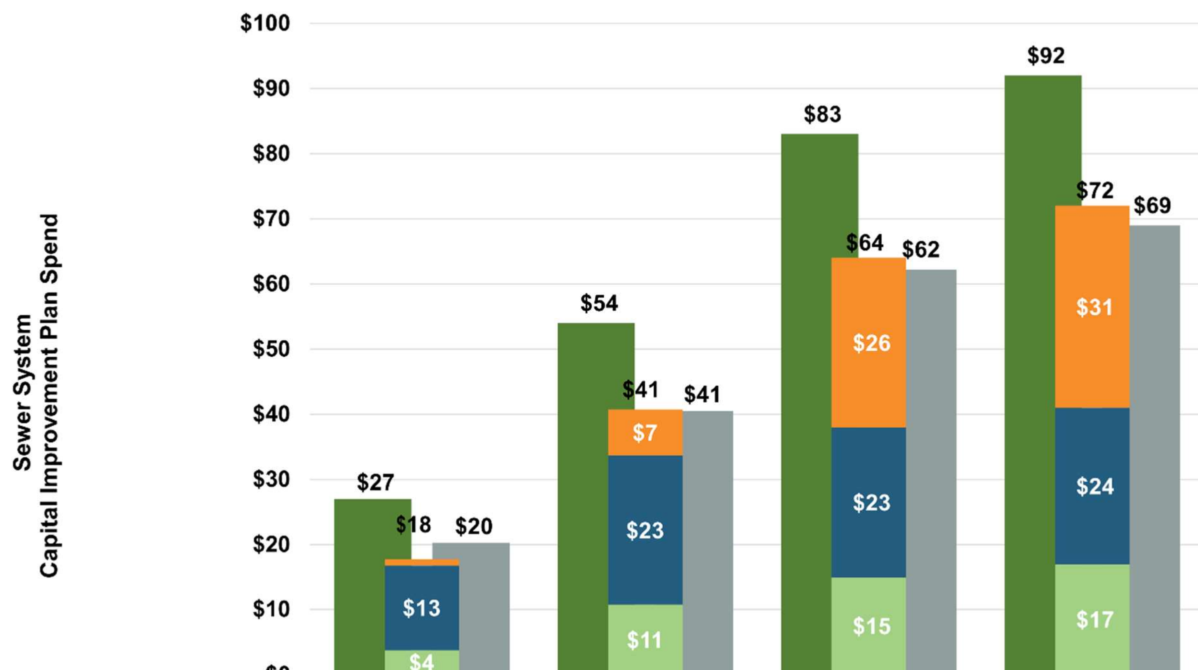


	YTD Thru FY 2021 Q1	YTD Thru FY 2021 Q2	YTD Thru FY 2021 Q3	YTD Thru 4/30/21
FY 2021 CIP	$36	$74	$110	$122
Spend Rate Assumption	$27	$56	$83	$92
Actual Spend - I & E	$2	$27	$56	$65
Actual Spend - Revenue Bond	$21	$21	$21	$21
Actual Spend - SRF	$4	$11	$20	$21

Chart 2 – Sewer System Capital Improvement Plan Spend Incurred to Date

As of April 2021, the Sewer system incurred nearly $72 million of construction costs to date. This is 78% of the fiscal year 2021 prorated CIP through April and 104% of the financial plan which is labeled as the FY 2021 CIP w/SRA in the chart below.

Chart 2 – Sewer System Capital Improvement Plan Spend Incurred to Date



	YTD Thru FY 2021 Q1	YTD Thru FY 2021 Q2	YTD Thru FY 2021 Q3	YTD Thru 4/30/21
FY 2021 CIP	$27	$54	$83	$92
Spend Rate Assumption	$20	$41	$62	$69
Actual Spend - I & E	$1	$7	$26	$31
Actual Spend - Revenue Bond	$13	$23	$23	$24
Actual Spend - SRF	$4	$11	$15	$17

This report includes the following.

1. Master Bond Ordinance (MBO) Required Transfers to Accounts Held by GLWA
2. Master Bond Ordinance (MBO) Required Transfers to Accounts Held by DWSD

MBO Transfers to Accounts Held by GLWA

GLWA Transfers: The Treasury team completes required MBO transfers on the first business day of each month. These transfers are completed in accordance with the Great Lakes Water Authority (GLWA) and Detroit Water & Sewerage Department (DWSD) budgets as approved and adopted by the GLWA Board of Directors and DWSD Board of Water Commissioners annually.

Monthly transfers for Operations & Maintenance (O&M), Pension, and Water Residential Assistance Program (WRAP) are one-twelfth of the annual, budgeted amount. Budget stabilization should not require additional funding due to new, baseline funding levels established as part of the June 2018 Memorandum of Understanding but is included to reflect historical activity. Transfers to the Extraordinary Repair & Replacement (ER&R) fund are completed annually based on budget and year-end fund status.

> ***Table 1 – GLWA FY 2021 Water MBO Transfers*** reflects the required transfers for FY 2021 completed through April 1, 2021. MBO transfers for water totaling $128.4 million have been transferred to GLWA accounts. The total transfer amounts for November and December are different than the prior months due to adjustments to reflect 1st Quarter budget amendments approved at the October 2020 GLWA Board meeting.
>
> ***Table 2 – GLWA FY 2021 Sewer MBO Transfers*** reflects the required transfers for FY 2021 completed through April 1, 2021. MBO transfers for sewer totaling $177.0 million have been transferred to GLWA accounts. The total transfer amounts for November and December are different than the prior months due to adjustments to reflect 1st Quarter budget amendments approved at the October 2020 GLWA Board meeting.
>
> ***Table 3 – GLWA MBO Transfer History*** reflects historical transfers for FY 2016 through FY 2021 to date.

Table 1 – GLWA FY 2021 Water MBO Transfers

WATER	Operations & Maintenance	Pension Sub Account	Pension Obligation	WRAP	Budget Stabilization (For Benefit of DWSD)	Extraordinary Repair & Replacement (ER&R)	Total Water
FY 2021							
July 2020	$ 11,160,517	$504,000	$891,308	$192,608	-	-	$12,748,433
August 2020	11,160,517	504,000	891,308	192,608	-	-	12,748,433
September 2020	11,160,517	504,000	891,308	192,608	-	-	12,748,433
October 2020	11,160,517	504,000	891,308	192,608	-	-	12,748,433
November 2020	11,994,307	504,000	891,308	197,988	-	-	13,587,603
December 2020	11,177,275	504,000	891,308	193,684	-	-	12,766,267
January 2021	11,177,275	504,000	891,308	193,684	-	-	12,766,267
February 2021	11,177,275	504,000	891,308	193,684	-	-	12,766,267
March 2021	11,177,275	504,000	891,308	193,684	-	-	12,766,267
April 2021	11,177,275	504,000	891,308	193,684	-	-	12,766,267
Total FY 2021	$ 112,522,750	$5,040,000	$8,913,080	$1,936,840	$ -	$ -	$128,412,670

Table 2 – GLWA FY 2021 Sewer MBO Transfers

SEWER	Operations & Maintenance	Pension Sub Account	Pension Obligation	WRAP	Budget Stabilization (For Benefit of DWSD)	Extraordinary Repair & Replacement (ER&R)	Total Sewer
FY 2021							
July 2020	$ 15,194,175	$902,000	$1,223,950	$313,500	-	-	$17,633,625
August 2020	15,194,175	902,000	1,223,950	313,500	-	-	17,633,625
September 2020	15,194,175	902,000	1,223,950	313,500	-	-	17,633,625
October 2020	15,194,175	902,000	1,223,950	313,500	-	-	17,633,625
November 2020	15,842,491	902,000	1,223,950	314,455	-	-	18,282,896
December 2020	15,191,333	902,000	1,223,950	313,691	-	-	17,630,974
January 2021	15,191,333	902,000	1,223,950	313,691	-	-	17,630,974
February 2021	15,191,333	902,000	1,223,950	313,691	-	-	17,630,974
March 2021	15,191,333	902,000	1,223,950	313,691	-	-	17,630,974
April 2021	15,191,333	902,000	1,223,950	313,691	-	-	17,630,974
Total FY 2021	$152,575,856	$9,020,000	$12,239,500	$3,136,910	$ -	$ -	$176,972,266

Table 3 – GLWA MBO Transfer History

GLWA MBO Transfer History

WATER	Operations & Maintenance	Pension Sub Account	Pension Obligation	WRAP	Budget Stabilization (For Benefit of DWSD)	Extraordinary Repair & Replacement (ER&R)	Total Water
Total FY 2016	$71,052,000	$6,037,100	$10,297,200	$1,983,300	$2,326,900	$606,000	$92,302,500
Total FY 2017	111,879,600	6,037,200	10,297,200	2,077,200	360,000	-	130,651,200
Total FY 2018	121,562,604	6,048,000	10,695,696	2,159,400	-	-	140,465,700
Total FY 2019	121,562,604	6,048,000	10,695,696	2,061,000	-	-	140,367,300
Total FY 2020	126,840,204	6,048,000	10,695,683	1,980,804	-	-	145,564,691
Total FY 2021 (10 months)	112,522,750	5,040,000	8,913,080	1,936,840	-	-	128,412,670
Life to Date	$665,419,762	$35,258,300	$61,594,555	$12,198,544	$2,686,900	$606,000	$777,764,061

SEWER	Operations & Maintenance	Pension Sub Account	Pension Obligation	WRAP	Budget Stabilization (For Benefit of DWSD)	Extraordinary Repair & Replacement (ER&R)	Total Sewer
Total FY 2016	$100,865,600	$10,838,400	$14,025,800	$2,523,400	$5,591,700	$779,600	$134,624,500
Total FY 2017	175,858,800	10,838,400	14,026,800	2,654,400	2,654,400	-	206,032,800
Total FY 2018	191,079,396	10,824,000	14,687,496	2,760,804	-	-	219,351,696
Total FY 2019	191,079,396	10,824,000	14,687,496	2,870,992	-	-	219,461,884
Total FY 2020	181,925,800	10,824,000	14,687,517	2,887,300	-	-	210,324,617
Total FY 2021 (10 months)	152,575,856	9,020,000	12,239,500	3,136,910	-	-	176,972,266
Life to Date	$993,384,848	$63,168,800	$84,354,609	$16,833,806	$8,246,100	$779,600	$1,166,767,763

MBO Required and Lease Payment Transfers to DWSD

DWSD Transfers: The GLWA Treasury team completes the required MBO transfers on the first business day of each month. These transfers are completed in accordance with the GLWA and DWSD budgets as approved and adopted by the GLWA Board of Directors and DWSD Board of Water Commissioners annually. Transfers are coordinated with other areas of GLWA Financial Services in advance of the first business day of each month. GLWA Treasury sends confirmation of transfers made to DWSD Treasury.

Monthly transfers for O&M and O&M Pension are one-twelfth of the annual, budgeted amount. The annual lease payment, as stated in the Water & Sewer Lease Agreements, is $22,500,000 for Water and $27,500,000 for Sewer. The monthly lease transfer is one-twelfth of the amount as stated in the Lease agreements unless otherwise designated by DWSD. Per Section 3.5 of the Lease, the Lease payment may be used for (a) bond principal and interest for Local System Improvements, (b) bond principal and interest for the City's share of common-to-all System Improvements, and (c) Local System improvements.

Table 4 – DWSD FY 2021 <u>Water</u> MBO Transfers reflects the required transfers for FY 2021 completed through April 1, 2021. MBO transfers for Water totaling $45.3 million have been transferred to accounts held by DWSD. The I&E transfer amounts for November and December are different than the prior months due to adjustments to reflect 1st Quarter budget amendments approved at the October 2020 GLWA Board meeting. For FY 2021, DWSD has requested that $8,278,300 of the lease payment be utilized to offset a portion of debt service.

Table 5 – DWSD FY 2021 <u>Sewer</u> MBO Transfers reflects the required transfers for FY 2021 completed through April 1, 2021. MBO transfers for Sewer totaling $80.8 million have been transferred to accounts held by DWSD. The I&E transfer amounts for November and December are different than the prior months due to adjustments to reflect 1st Quarter budget amendments approved at the October 2020 GLWA Board meeting. For FY 2021, DWSD has requested that $3,257,200 of the lease payment be utilized to offset a portion of debt service.

Table 6 – DWSD <u>Water</u> MBO and Lease Payment Transfer History reflects historical transfers for FY 2016 through FY 2021 to date.

Table 7 – DWSD <u>Sewer</u> MBO and Lease Payment Transfer History reflects historical transfers for FY 2016 through FY 2021 to date.

Table 4 – DWSD FY 2021 Water MBO Transfers

WATER				
	Operations & Maintenance	Pension	Lease Payment (I&E Fund)	Total Water
FY 2021				
July 2020	$2,986,158	$356,000	$1,139,808	$4,481,966
August 2020	2,986,158	356,000	1,139,808	4,481,966
September 2020	2,986,158	356,000	1,139,808	4,481,966
October 2020	2,986,158	356,000	1,139,808	4,481,966
November 2020	2,986,158	356,000	1,366,478	4,708,636
December 2020	2,986,158	356,000	1,185,142	4,527,300
January 2021	2,986,158	356,000	1,185,142	4,527,300
February 2021	2,986,158	356,000	1,185,142	4,527,300
March 2021	2,986,158	356,000	1,185,142	4,527,300
April 2021	2,986,158	356,000	1,185,142	4,527,300
Total FY 2021	$29,861,580	$3,560,000	$11,851,420	$45,273,000

Table 5 – DWSD FY 2021 Sewer MBO Transfers

SEWER				
	Operations & Maintenance	Pension	Lease Payment (I&E Fund)	Total Sewer
FY 2021				
July 2020	$5,826,308	$238,000	$2,109,017	$8,173,325
August 2020	5,826,308	238,000	2,109,017	8,173,325
September 2020	5,826,308	238,000	2,109,017	8,173,325
October 2020	5,826,308	238,000	2,109,017	8,173,325
November 2020	5,826,308	238,000	1,665,102	7,729,410
December 2020	5,826,308	238,000	2,020,234	8,084,542
January 2021	5,826,308	238,000	2,020,234	8,084,542
February 2021	5,826,308	238,000	2,020,234	8,084,542
March 2021	5,826,308	238,000	2,020,234	8,084,542
April 2021	5,826,308	238,000	2,020,234	8,084,542
Total FY 2021	$58,263,080	$2,380,000	$20,202,340	$80,845,420

Table 6 – DWSD Water MBO and Lease Payment Transfer History

Transfers to DWSD				
WATER				
	Operations & Maintenance	Operations & Maintenance Pension	Lease Payment (I&E Fund)	Total Water
FY 2016 *				
MBO/Lease Requirement	$26,185,600	$4,262,700	$22,500,000	$52,948,300
Offset to Debt Service	-	-	(2,326,900)	(2,326,900)
Net MBO Transfer	26,185,600	4,262,700	20,173,100	50,621,400
FY 2017				
MBO/Lease Requirement	33,596,400	4,262,400	22,500,000	60,358,800
Offset to Debt Service	-	-	-	-
Net MBO Transfer	33,596,400	4,262,400	22,500,000	60,358,800
FY 2018				
MBO/Lease Requirement	35,059,704	4,272,000	22,500,000	61,831,704
Offset to Debt Service	-	-	(1,875,000)	(1,875,000)
Net MBO Transfer	35,059,704	4,272,000	20,625,000	59,956,704
FY 2019				
MBO/Lease Requirement	35,484,300	4,272,000	22,500,000	62,256,300
Offset to Debt Service	-	-	(3,972,200)	(3,972,200)
Net MBO Transfer	35,484,300	4,272,000	18,527,800	58,284,100
FY 2020				
MBO/Lease Requirement	34,662,400	4,272,000	22,500,000	61,434,400
Offset to Debt Service	-	-	(3,548,000)	(3,548,000)
Net MBO Transfer	34,662,400	4,272,000	18,952,000	57,886,400
FY 2021 (10 months)				
MBO/Lease Requirement	29,861,580	3,560,000	18,750,000	52,171,580
Offset to Debt Service	-	-	(6,898,580)	(6,898,580)
Net MBO Transfer	29,861,580	3,560,000	11,851,420	45,273,000
Life-to-Date				
MBO/Lease Requirement	194,849,984	24,901,100	131,250,000	351,001,084
Offsets	-	-	(18,620,680)	(18,620,680)
Total Water	**194,849,984**	**24,901,100**	**112,629,320**	**332,380,404**

Table 7 – DWSD Sewer MBO and Lease Payment Transfer History

SEWER				
	Operations & Maintenance	Operations & Maintenance Pension	Lease Payment (I&E Fund)	Total Sewer
FY 2016 *				
MBO/Lease Requirement	$19,774,300	$2,861,800	$27,500,000	$50,136,100
Offset to Debt Service	-	-	(19,991,500)	(19,991,500)
Total MBO Transfer	19,774,300	2,861,800	7,508,500	30,144,600
FY 2017				
MBO/Lease Requirement	41,535,600	2,862,000	27,500,000	71,897,600
Offset to Debt Service	-	-	-	-
Total MBO Transfer	41,535,600	2,862,000	27,500,000	71,897,600
FY 2018				
MBO/Lease Requirement	60,517,992	2,856,000	27,500,000	90,873,992
Offset to Debt Service	-	-	(9,166,664)	(9,166,664)
Total MBO Transfer	60,517,992	2,856,000	18,333,336	81,707,328
FY 2019				
MBO/Lease Requirement	56,767,920	2,856,000	27,500,000	87,123,920
Offset to Debt Service	-	-	(4,415,000)	(4,415,000)
Total MBO Transfer	56,767,920	2,856,000	23,085,000	82,708,920
FY 2020				
MBO/Lease Requirement	62,343,500	2,856,000	27,500,000	92,699,500
Offset to address shortfall	(7,100,000)	-	-	(7,100,000)
Offset to Debt Service	-	-	(5,032,700)	(5,032,700)
Total MBO Transfer	55,243,500	2,856,000	22,467,300	80,566,800
FY 2021 (10 months)				
MBO/Lease Requirement	58,263,080	2,380,000	22,916,667	83,559,747
Offset to Debt Service	-	-	(2,714,327)	(2,714,327)
Total MBO Transfer	58,263,080	2,380,000	20,202,340	80,845,420
Life-to-Date				
MBO/Lease Requirement	299,202,392	16,671,800	160,416,667	476,290,859
Offsets	(7,100,000)	-	(41,320,191)	(48,420,191)
Total Sewer	**292,102,392**	**16,671,800**	**119,096,476**	**427,870,668**

* Note: FY 2016 lease transfer amounts shown do not incude prepayment on the lease amount for the 6 months period before bifurcation.

This report includes the following:

1. Monthly Cash Balances Compared to Investment Income
2. Cash Balance Detail

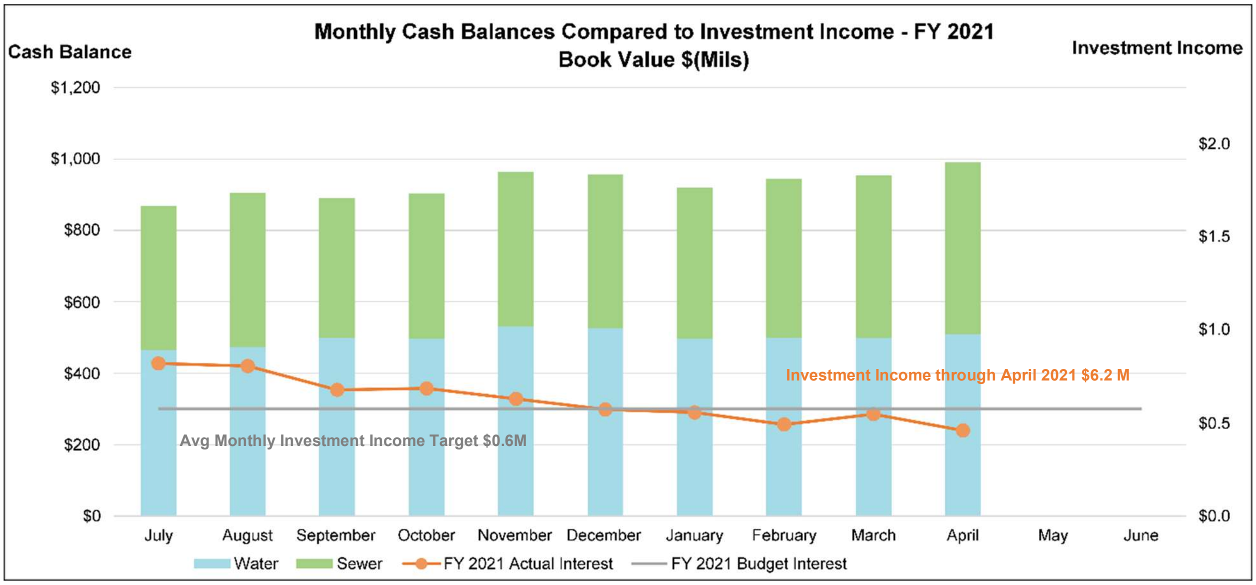
Monthly Cash Balances Compared to Investment Income

GLWA's investment holdings comply with the requirements of Public Act 20 of 1948, as amended and the GLWA Investment Policy. The cash balances shown in this report include bank deposits, money market funds, a local government investment pool, U.S. Treasuries, Federal Agencies, and commercial paper.

Cash and investment balances change each month based on Master Bond Ordinance (MBO) funding requirements, operational needs, capital spending pace, and mandatory debt payments. Investment income fluctuates monthly based on cash and investment balances as well as market conditions and investment strategy. For the month of April 2021, GLWA earned investment income of $0.5 million and the cumulative FY 2021 earnings through April is $6.2 million. Total investment income reported includes earnings from revenue requirement funds as well as construction bond funds.

Investment earnings for the remainder of the fiscal year are expected to decline due to maturities of existing investments being reinvested into lower, current market rate investments. GLWA continues to refine cash flows and work with its investment advisor to identify strategies to maximize future investment income while meeting the objectives of safety and liquidity.

Chart 1 – Monthly Cash Balances Compared to Investment Income – Through April 2021



$(Mils)	July	August	September	October	November	December	January	February	March	April	May	June
Water	$464	$473	$499	497	530	525	495	499	498	508	-	-
Sewer	$403	$431	$391	406	433	431	424	445	455	482	-	-
Total	$867	$904	$890	903	963	956	919	944	953	990	-	-
Investment Income	$0.8	$0.8	$0.7	$0.7	$0.6	$0.6	$0.6	$0.5	$0.5	$0.5	-	-

Cash Balance Detail

Funds Held By GLWA: GLWA cash balances are held in accounts as defined by the Master Bond Ordinance. The accounts are funded by monthly transfers, as stipulated in the MBO, on the first business day of each month. The "operations and maintenance" (O&M) fund transfer amounts are based upon the annual O&M budget approved by the GLWA Board of Directors for the regional systems and by the Board of Water Commissioners for the Detroit Water & Sewerage Department (DWSD) local system budgets. The water and sewer funds held by GLWA and their purpose, as defined by the MBO, are listed below.

Funds Held Within Trust:

- Receiving – all retail and wholesale revenues collected which are distributed in subsequent month(s)
- Debt Service – funds set aside for debt service and debt reserve requirements
- Pension Obligation – funds set aside to meet GLWA's annual funding requirements for the legacy General Retirement System Pension Plan
- Water Residential Assistance Program (WRAP) – funds set aside to be used to provide financial assistance to qualified residents throughout the local and regional water system as directed by program guidelines
- Budget Stabilization – funds held by GLWA on behalf of DWSD that can be applied against shortfalls in retail revenues
- Emergency Repair & Replacement (ER&R) – funds set aside to pay the costs for major unanticipated repairs and replacements of the local and regional systems
- Improvement & Extension (I&E) – funds set aside to be used for the improvements, enlargements, and extensions of the regional system

Funds Held Outside Trust:

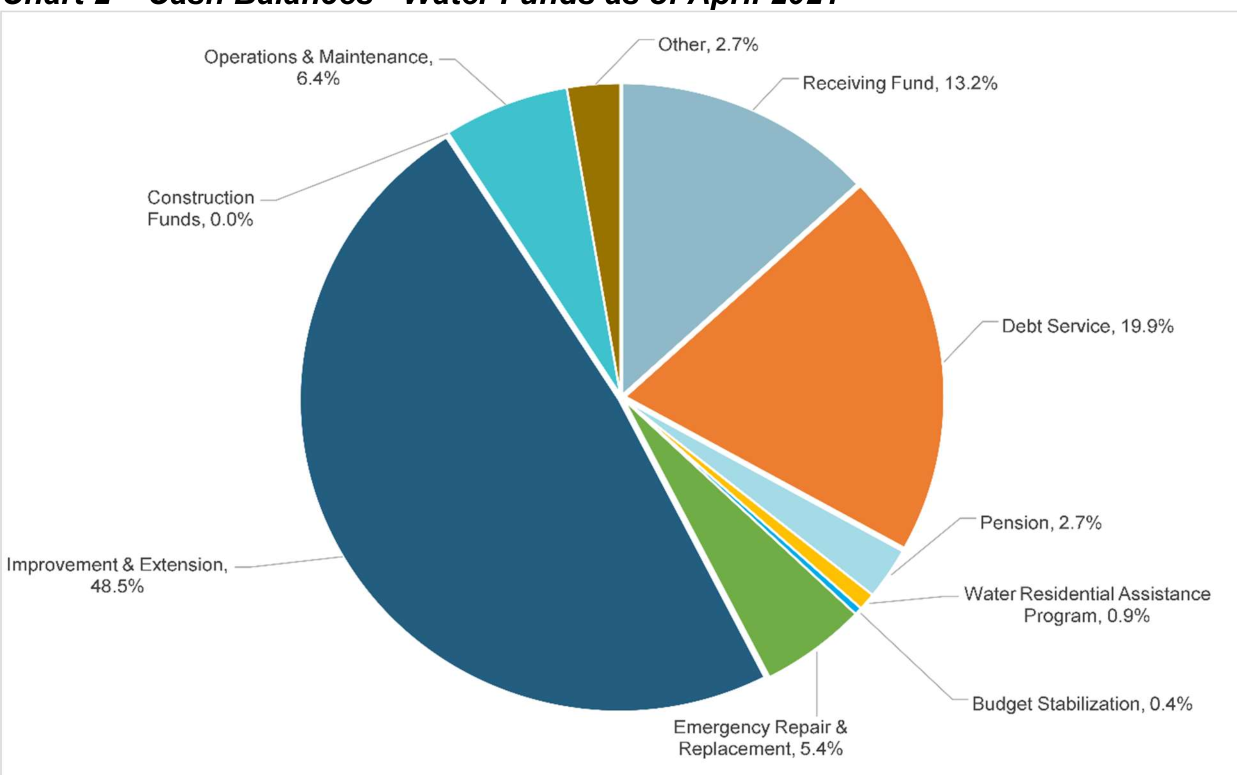
- Bond Proceeds – funds raised from debt issuance used for costs of repairs, construction, and improvements of the regional system
- Operations & Maintenance (O&M) – funds used to meet the operational and maintenance requirements of the regional system
- Other – retainage funds held on behalf of contractors and security deposit funds held on behalf of the City of Flint

A chart depicting the follow of funds is online at glwater.org as well as the MBO documents.

Chart 2 – Cash Balances - Water Funds as of April 2021 - Shows the allocation of the balance among the different categories defined in the section above. The total cash balance for Water Funds as of April 30, 2021 is $508 million. The allocation of balances among the I&E, bond proceeds, and debt service reserve funds reflects GLWA's commitment to funding capital improvements and meeting debt reserve requirements while simultaneously increasing I&E resources to fund pay-as-you-go capital funding to reduce long-term debt in the future.

It should be noted existing proceeds from revenue bonds are depleted. This means that all capital projects will now be funded with Improvement & Extension (I&E) funds, except for SRF funded projects. It is expected that the I&E funds will be sufficient to fund the capital program through FY 2022 including an allowance to provide flexibility in the timing of future bond issues.

Chart 2 – Cash Balances - Water Funds as of April 2021



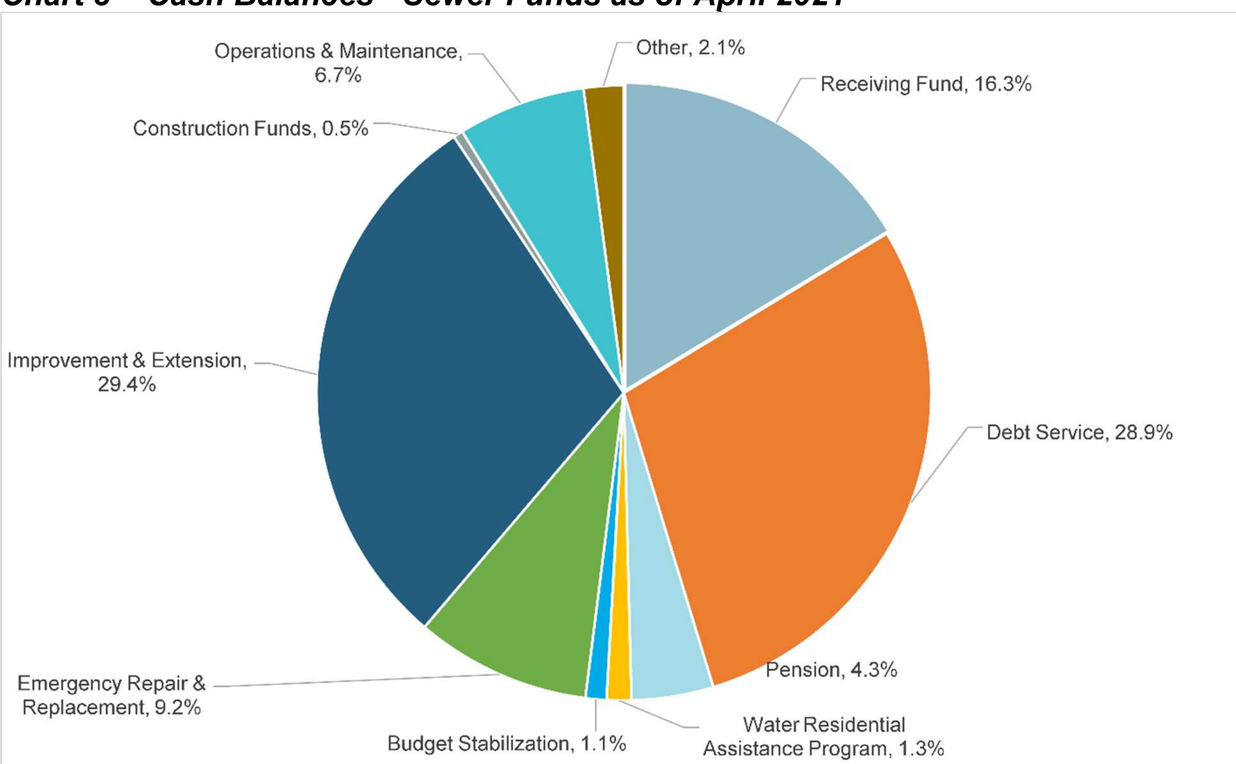
Note: *Due to rounding totals may not equal 100%.*

Chart 3 – Cash Balances - Sewer Funds as of April 2021 - Shows the allocation of the balance among the different funds defined in the section above. The total cash balance for Sewer Funds as of April 30, 2021 is $482 million. Like the Water Funds, the allocation of balances among the I&E, bond proceeds, and debt service reserve funds reflects GLWA's commitment to funding capital improvements and meeting debt reserve requirements while simultaneously increasing I&E resources to fund pay-as-you-go capital funding to reduce long-term debt in the future.

It should be noted existing proceeds from revenue bonds are depleted. This means that all capital projects will now be funded with Improvement & Extension (I&E) funds, except for SRF funded projects. It is expected that the I&E funds will be sufficient to fund the capital program through FY 2022 including an allowance to provide flexibility in the timing of future bond issues.

The pace for Sewer I&E deposits has been less than anticipated due to a budget shortfall over multiple years by DWSD. Beginning in February 2019, DWSD began making payments which will replenish the I&E fund.

Chart 3 – Cash Balances - Sewer Funds as of April 2021



Note: *Due to rounding totals may not equal 100%.*

Retail Revenues, Receivables, and Collections: Pursuant to the terms of the lease agreement between the City of Detroit and the Great Lakes Water Authority (GLWA), the Detroit Water & Sewerage Department (DWSD) serves as GLWA's agent for billing activities for the City of Detroit retail customer class. All water and sewer service collections from DWSD customers are deposited in a trust account and are administered in accordance with the GLWA Master Bond Ordinance.

The Monthly Retail Revenues, Receivables, & Collections Report includes the following.

1. DWSD Retail Water Revenue Billings and Collections
2. DWSD Retail Sewer Revenue Billings and Collections
3. DWSD Retail Water & Sewer System Accounts Receivable Aging Report

Note: *Wholesale customer revenues are billed by the Great Lakes Water Authority.*

DWSD Retail Water Billings and Collections

Retail Billing Basis: DWSD bills retail customers monthly. Customers are billed throughout the month in cycles based on a meter reading schedule beginning with residential accounts and ending with commercial and industrial customers.

> ***Table 1 - DWSD Retail Billings*** shows the FY 2021 water usage and billed revenue which are provided by DWSD staff. As of April 30, 2021, the DWSD usage was at 93.40% of the budget and billed revenue was at 94.41% of budget.

DWSD Retail Water Collections: The collections represent payments made by DWSD retail customers. These receipts are deposited directly into a lockbox with a trustee for administration of the flow of funds defined by GLWA's Master Bond Ordinance.

> ***Table 2 - Retail Water Collections*** shows collections by month for the past 12 months compared to collections for the prior year as well as the calculated difference between the periods.

Table 1 – DWSD Retail Water Billing

RETAIL WATER CUSTOMERS

	FY 2021 - Original Budget		FY 2021 - Actual		FY 2021 - Variance		FY 2020 - Actuals	
Month (1)	Volume Mcf	Revenue $	Volume Mcf	Revenue (2) $	Volume Mcf	Revenue $	Volume Mcf	Revenue $
July	273,700	10,099,621	265,796	9,747,518	(7,904)	(352,103)	267,054	9,802,572
August	263,300	9,828,389	250,308	9,378,385	(12,992)	(450,004)	259,489	9,601,097
September	239,800	9,215,509	218,840	8,544,457	(20,960)	(671,052)	228,961	8,811,834
October	228,800	8,928,629	197,362	7,978,833	(31,438)	(949,796)	217,031	8,578,738
November	208,200	8,391,381	194,648	7,952,436	(13,552)	(438,945)	200,432	7,879,694
December	208,900	8,409,637	197,125	7,985,955	(11,775)	(423,682)	201,225	7,811,106
January	210,200	8,443,541	190,289	7,827,536	(19,911)	(616,005)	205,993	7,981,382
February	214,600	8,558,293	191,180	7,895,496	(23,420)	(662,797)	196,490	7,748,377
March	216,500	8,607,845	205,631	8,242,563	(10,869)	(365,282)	198,483	7,755,210
April	211,700	8,482,661	214,288	8,438,333	2,588	(44,328)	191,691	7,550,074
May	221,300	8,733,029					207,387	7,929,281
June	261,800	9,789,269					248,085	8,951,538
Total	2,758,800	107,487,800	2,125,467	83,991,512	(150,233)	(4,973,991)	2,622,321	100,400,903
Subtotals ytd	*2,275,700*	*88,965,503*	*2,125,467*	*83,991,512*	*(150,233)*	*(4,973,991)*		
Achievement of Budget			*93.40%*	*94.41%*				

(1) Figures are stated as "Service Months"; that is, July figures represent bills issued in August, etc.

(2) Retail Revenues include Miscellaneous Revenues and Penalties

Table 2 – DWSD Retail Water Collections

Water

Month	Current Year	Prior Year	Variance	Ratio
May	8,109,469	8,415,767	(306,298)	-3.64%
June	7,821,791	7,554,457	267,334	3.54%
July	8,017,490	8,093,394	(75,904)	-0.94%
August	7,135,456	8,671,848	(1,536,392)	-17.72%
September	9,031,966	8,610,801	421,165	4.89%
October	9,079,199	9,619,977	(540,778)	-5.62%
November	10,803,009	7,067,667	3,735,342	52.85%
December	7,409,888	8,597,558	(1,187,670)	-13.81%
January	7,884,889	9,076,091	(1,191,202)	-13.12%
February	6,426,553	8,281,985	(1,855,432)	-22.40%
March	8,458,827	6,948,308	1,510,519	21.74%
April	7,536,272	5,956,105	1,580,167	26.53%
Rolling, 12-Month Total	97,714,809	96,893,958		
Rolling, 12-Month Average	8,142,901	8,074,497		

DWSD Retail Sewer Billings and Collections

Retail billing basis: DWSD bills retail customers monthly. Customers are billed throughout the month in cycles based on a meter reading schedule beginning with residential accounts and ending with commercial and industrial customers.

Table 3 - DWSD Retail Sewer Billings shows the FY 2021 sewer billed revenue which are provided by DWSD staff. As of April 30, 2021, the DWSD usage was at 95.23% of the budget and billed revenue was at 99.49% of budget.

DWSD Retail Sewer Collections: The collections represent payments made by DWSD retail customers. These receipts are deposited directly into a lockbox with a trustee for administration of the flow of funds defined by GLWA's Master Bond Ordinance.

Table 4 – DWSD Retail Sewer Collections shows collections by month for the past 12 months compared to collections for the prior year as well as the calculated difference between the periods.

Table 3 - DWSD Retail Sewer Billings

RETAIL SEWER CUSTOMERS								
	FY 2021 - Original Budget		FY 2021 - Actual		FY 2021 - Variance		FY 2020 - Actuals	
Month (1)	Volume	Revenue	Volume	Revenue (2)	Volume	Revenue	Volume	Revenue
	Mcf	$	Mcf	$	Mcf	$	Mcf	$
July	252,700	29,612,070	252,929	29,802,377	229	190,307	244,810	28,049,707
August	252,900	29,624,420	240,390	29,261,344	(12,510)	(363,076)	246,989	28,076,649
September	219,800	27,736,625	206,880	27,232,400	(12,920)	(504,225)	215,119	26,430,710
October	245,700	29,214,479	188,816	26,230,683	(56,884)	(2,983,796)	238,202	27,549,787
November	192,400	26,173,181	184,240	25,933,888	(8,160)	(239,293)	188,779	24,726,161
December	192,600	26,184,593	187,397	26,628,891	(5,203)	444,298	186,917	24,853,335
January	195,700	26,361,479	179,115	26,098,738	(16,585)	(262,741)	190,230	24,857,510
February	195,300	26,338,655	185,696	26,370,674	(9,604)	32,019	187,219	24,524,288
March	192,100	26,279,396	197,486	27,090,940	5,386	811,544	186,521	24,784,918
April	188,900	25,973,471	203,684	27,447,662	14,784	1,474,191	180,397	24,538,664
May	195,300	26,338,655					192,362	25,035,540
June	245,560	29,206,491					238,679	27,572,637
Total	2,568,960	329,043,516	2,026,633	272,097,597	(101,467)	(1,400,773)	2,496,224	310,999,906
Subtotals ytd	*2,128,100*	*273,498,370*	*2,026,633*	*272,097,597*		*(1,400,773)*		
Achievement of Budget/Goal			*95.23%*	*99.49%*				

(1) Figures are stated as "Service Months"; that is, July figures represent bills issued in August, etc.
(2) Retail Revenues include Miscellaneous Revenues and Penalties

Table 4 – DWSD Retail Sewer Collections

Sewer				
Month	**Current Year**	**Prior Year**	**Variance**	**Ratio**
May	23,639,652	22,807,283	832,369	3.65%
June	22,558,827	20,426,151	2,132,676	10.44%
July	20,652,159	20,940,157	(287,998)	-1.38%
August	22,395,220	23,175,643	(780,423)	-3.37%
September	26,463,387	21,972,754	4,490,633	20.44%
October	26,683,109	26,321,010	362,099	1.38%
November	28,730,139	17,546,180	11,183,959	63.74%
December	22,856,217	25,889,823	(3,033,606)	-11.72%
January	22,057,276	23,512,702	(1,455,426)	-6.19%
February	22,777,467	22,682,982	94,485	0.42%
March	25,002,508	19,325,377	5,677,131	29.38%
April	21,196,170	17,105,146	4,091,024	23.92%
Rolling 12-Month Total	285,012,131	261,705,208		
Rolling, 12-Month Average	23,751,011	21,808,767		

DWSD Retail Water and Sewer Accounts Receivable Aging Report

The DWSD detailed accounts receivable aging is categorized by customer category.

Table 5 is a summary of the total, current and non-current Water and Sewer receivables by category as of April 30, 2021 with comparative totals from April 30, 2020.

DWSD regularly adjusts the bad debt allowance to cover the past due balance over 180 days. To the extent this allowance is adjusted, and bad debt expense is recognized in the DWSD budget it does not impact GLWA.

Table 5 – DWSD Retail Accounts Receivable Aging Report – <u>Water & Sewer Combined</u>

Sales Class	# of Accounts	Avg. Balance	Current	> 30 Days	> 60 Days	> 180 Days	Balance
Residential	207,801	$ 535.02	$ 13,558,000	$ 6,939,000	$ 19,885,000	$ 70,796,000	$ 111,177,000
			12.2%	*6.2%*	*17.9%*	*63.7%*	*100.0%*
Commercial	21,153	1,376.61	6,944,000	2,374,000	5,609,000	14,193,000	29,119,000
			23.8%	*8.2%*	*19.3%*	*48.7%*	*100.0%*
Industrial	3,478	5,242.54	4,856,000	1,536,000	3,141,000	8,700,000	18,234,000
			26.6%	*8.4%*	*17.2%*	*47.7%*	*100.0%*
Tax Exempt	3,665	870.27	447,000	162,000	457,000	2,124,000	3,190,000
			14.0%	*5.1%*	*14.3%*	*66.6%*	*100.0%*
Government	59,071	331.57	2,499,000	632,000	3,703,000	12,752,000	19,586,000
			12.8%	*3.2%*	*18.9%*	*65.1%*	*100.0%*
Drainage	39,867	767.40	2,684,000	1,536,000	6,089,000	20,286,000	30,594,000
			8.8%	*5.0%*	*19.9%*	*66.3%*	*100.0%*
Subtotal - Active Accounts	**335,035**	**$ 632.47**	**$ 30,988,000**	**$ 13,180,000**	**$ 38,883,000**	**$ 128,850,000**	**$ 211,900,000**
			14.6%	*6.2%*	*18.3%*	*60.8%*	*100.0%*
Inactive Accounts	295,171	108.85	11,000	22,000	887,000	31,209,000	32,128,000
			0.0%	*0.1%*	*2.8%*	*97.1%*	*100.0%*
Total	**630,206**	**$ 387.22**	**$ 30,999,000**	**$ 13,201,000**	**$ 39,770,000**	**$ 160,059,000**	**$ 244,029,000**
% of Total A/R			*12.7%*	*5.4%*	*16.3%*	*65.6%*	*100.0%*
Water Fund	232,027	193.85	$ 6,734,000	$ 2,042,000	$ 6,233,000	$ 29,967,000	$ 44,978,000
Sewer Fund	279,409	712.40	$ 24,264,000	$ 11,159,000	$ 33,536,000	$ 130,092,000	$ 199,051,000
Total April 30, 2021 (a)	**630,206**	**387.22**	**$ 30,999,000**	**$ 13,201,000**	**$ 39,770,000**	**$ 160,059,000**	**$ 244,029,000**
Water Fund- Allowance							$ (31,839,000)
Sewer Fund- Allowance							$ (128,580,000)
Total Bad Debt Allowance							**$ (160,418,000)**
Comparative - April 2020 (b)	**612,746**	**356.36**	**$ 30,159,000**	**$ 14,987,000**	**$ 34,270,000**	**$ 138,940,000**	**$ 218,356,000**
Difference (a) - (b)	**17,460**	**30.86**	**$ 839,000**	**$ (1,786,000)**	**$ 5,500,000**	**$ 21,119,000**	**$ 25,673,000**

The Monthly Wholesale Billings, Receivables, & Collections Report includes the following.

1. Wholesale Water Billings and Collections
2. Wholesale Sewer Billings and Collections
3. City of Highland Park Billings and Collections
4. Wholesale Water & Sewer Accounts Receivable Aging Report

Wholesale Water Billings and Collections

Wholesale Water Contracts: Great Lakes Water Authority (GLWA) provides wholesale water service to 87 member-partners through a variety of service arrangements.

Service Arrangement Type

Model Contract	83
Emergency	1
Older Contracts	3
Total	87

Note: *Services are provided to the Detroit Water & Sewerage Department (DWSD) via a Water and Sewer Services Agreement (WSSA). See the "Retail Revenues, Receivables, and Collections Report" section of this monthly report.*

Wholesale Water Billing Basis: Beginning with FY 2016, wholesale water charges were restructured to create a more stable revenue stream by using a historical rolling average to project customer volumes which accounts for 40% of the monthly charges and 60% of the annual customer revenue requirement as a monthly fixed charge.

> ***Table 1 - Wholesale Water Billings*** shows the FY 2021 water billed usage and revenues. As of April 30, 2021, the billed usage was at 104.54% of budget and billed revenue at 102.28% of budget. Billings and usage from the City of Flint *are* included as they were assumed in the FY 2021 Budget. This schedule has been updated to reflect the most recent, Board-approved budget amendments.

Wholesale Water Collections: The collections represent payments made by wholesale customers. These receipts are deposited directly into a lockbox with a trustee for administration of the flow of funds defined by GLWA's Master Bond Ordinance.

> ***Table 2 - Wholesale Water Collections*** shows collections by month for the past 12 months compared to collections for the prior year as well as the calculated difference between the periods. The year-over-year rolling average from FY 2020 to FY 2021 reflects the increased usage billed and collected for FY 2021 to date.

Table 1 – FY 2021 Wholesale Water Billings Report

WHOLESALE WATER CHARGES								
	FY 2021 - Original Budget		FY 2021 - Amended Budget		FY 2021 - Actual		FY 2021 - Variance	
Month (1)	Volume Mcf	Revenue $	Volume Mcf	Revenue $	Volume Mcf	Revenue (2) $	Volume Mcf	Revenue $
July	1,639,200	32,266,700	1,639,200	31,200,500	1,862,791	33,583,619	223,591	2,383,119
August	1,491,400	30,810,000	1,491,400	29,826,800	1,622,324	31,230,027	130,924	1,403,227
September	1,331,600	28,737,000	1,331,600	27,851,500	1,313,440	27,836,560	(18,160)	(14,940)
October	1,034,400	25,778,000	1,034,400	25,055,600	1,070,660	25,454,840	36,260	399,240
November	901,700	24,559,000	901,700	23,897,700	956,542	24,390,303	54,842	492,603
December	982,100	25,192,800	982,100	24,506,200	981,770	24,600,202	(330)	94,002
January	985,300	25,261,300	985,300	25,263,400	969,483	25,235,130	(15,817)	(28,270)
February	884,200	24,343,500	884,200	24,348,400	920,467	24,794,259	36,267	445,859
March	984,200	25,211,000	984,200	25,213,400	1,001,073	25,450,418	16,873	237,018
April	912,200	24,591,700	912,200	24,594,700	954,308	25,140,003	42,108	545,303
May	1,032,900	25,895,200	1,032,900	25,896,700				
June	1,373,700	29,464,500	1,373,700	29,463,800				
Total	13,552,900	322,110,700	13,552,900	317,118,700	11,652,858	267,715,361	506,558	5,957,161
Subtotals ytd	*11,146,300*	*266,751,000*	*11,146,300*	*261,758,200*	*11,652,858*	*267,715,361*	*506,558*	*5,957,161*
Achievement of Budget					*104.54%*	*102.28%*		

(1) Figures are stated as "Service Months"; that is, July figures represent bills issued in August, etc.

(2) Water Revenues differ from Table 1A because amounts are reduced by the monthly payment to the City of Flint for a license to raw water rig Contract in Table 1A

Table 2 - Wholesale Water Collections

Water				
Month	**Current Year**	**Prior Year**	**Variance**	**Ratio**
May	24,811,582	20,749,943	4,061,639	19.57%
June	27,098,783	25,676,458	1,422,325	5.54%
July	25,080,575	23,212,979	1,867,596	8.05%
August	26,241,018	28,808,254	(2,567,236)	-8.91%
September	26,078,015	28,336,152	(2,258,137)	-7.97%
October	29,292,690	25,786,774	3,505,916	13.60%
November	32,218,822	29,245,969	2,972,853	10.17%
December	29,609,061	23,292,382	6,316,679	27.12%
January	20,716,948	25,470,795	(4,753,847)	-18.66%
February	25,694,176	24,629,768	1,064,408	4.32%
March	20,854,506	25,017,989	(4,163,483)	-16.64%
April	23,545,123	17,856,644	5,688,479	31.86%
Rolling 12-Month Total	311,241,299	298,084,107		
Rolling, 12-Month Average	25,936,775	24,840,342		

Wholesale Sewer Billings and Collections

Wholesale Sewer Contracts: GLWA provides wholesale sewer service to 18 member-partners via multiple service arrangements.

Service Arrangement Type

Model Contract	11
Emergency	0
Older Contracts	7
Total	18

Note: *Services are provided to the Detroit Water & Sewerage Department via a Water and Sewer Services Agreement (WSSA). See the "Retail Revenues, Receivables, and Collections Report" section of the monthly report.*

Wholesale Sewer Billing Basis: Beginning in FY 2015, the "sewer rate simplification" initiative was applied which provides for a stable revenue stream and predictability for our member partners. Wholesale sewer customers are billed a fixed monthly fee based upon the annual revenue requirement.

Table 3 - Wholesale Sewer Billings shows the FY 2021 sewer billed revenue. As of April 30, 2021 the billed revenue is at 100.00% of budget. This schedule has been updated to reflect the most recent, Board-approved budget amendments.

Wholesale Sewer Collections: The collections represent payments made by wholesale customers. These receipts are deposited directly into a lockbox with a trustee for administration of the flow of funds defined by GLWA's Master Bond Ordinance.

Table 4 - Wholesale Sewer Collections shows collections by month for the past 12 months compared to collections for the prior year as well as the calculated difference between the periods. The year-over-year rolling average from FY 2020 to FY 2021 remains consistent.

The shift in wholesale sewer collection patterns is largely attributable to the timing of payments received. There are several large accounts whose payments swing between the end of the current month and the beginning of the next month.

Table 3 – FY 2021 Wholesale Sewer Billings Report

WHOLESALE SEWER CHARGES								
	FY 2021 - Original Budget		FY 2021 - Amended Budget		FY 2021 - Actual		FY 2021 - Variance	
Month (1)	Volume (2)	Revenue	Volume (2)	Revenue	Volume (2)	Revenue	Volume (2)	Revenue
	Mcf	$	Mcf	$	Mcf	$	Mcf	$
July	N/A	23,005,800	N/A	22,323,183	N/A	22,323,183	N/A	-
August	N/A	23,005,800	N/A	22,323,183	N/A	22,323,183	N/A	-
September	N/A	23,005,800	N/A	22,323,183	N/A	22,323,183	N/A	-
October	N/A	23,005,800	N/A	22,323,183	N/A	22,323,183	N/A	-
November	N/A	23,005,800	N/A	22,323,183	N/A	22,323,183	N/A	-
December	N/A	23,005,800	N/A	22,323,183	N/A	22,323,183	N/A	-
January	N/A	23,005,800	N/A	22,633,025	N/A	22,633,025	N/A	-
February	N/A	23,005,800	N/A	22,633,025	N/A	22,633,025	N/A	-
March	N/A	23,005,800	N/A	22,633,025	N/A	22,633,025	N/A	-
April	N/A	23,005,800	N/A	22,633,025	N/A	22,633,025	N/A	-
May	N/A	23,005,800	N/A	22,633,025	N/A		N/A	
June	N/A	23,005,800	N/A	22,633,025	N/A		N/A	
Total		276,069,600		269,737,248		224,471,198		-
Subtotals ytd		*230,058,000*		*224,471,198*		*224,471,198*		-
Achievement of Budget						*100.00%*		

(1) Figures are stated as "Service Months"; that is, July figures represent bills issued in August, etc.
(2) Not tracked as part of the wholesale sewer charges.

Table 4 - Wholesale Sewer Collections

Sewer				
Month	**Current Year**	**Prior Year**	**Variance**	**Ratio**
May	21,189,047	9,284,000	11,905,047	128.23%
June	28,598,467	32,639,436	(4,040,969)	-12.38%
July	22,297,737	27,222,400	(4,924,663)	-18.09%
August	25,354,280	35,153,500	(9,799,220)	-27.88%
September	19,593,613	18,833,257	760,356	4.04%
October	16,853,983	29,833,760	(12,979,777)	-43.51%
November	18,966,208	19,428,000	(461,792)	-2.38%
December	25,232,649	19,999,642	5,233,007	26.17%
January	25,968,849	17,121,812	8,847,037	51.67%
February	16,872,900	23,284,737	(6,411,837)	-27.54%
March	22,368,124	21,108,100	1,260,024	5.97%
April	28,128,933	10,024,575	18,104,358	180.60%
Rolling 12-Month Total	271,424,790	263,933,219		
Rolling, 12-Month Average	22,618,733	21,994,435		

City of Highland Park Billings and Collections

The City of Highland Park is provided water service pursuant to an emergency service basis. Sewer service is provided pursuant to a 1982 amended contract which indicates that the parties are guided in their legal relationship by a Michigan Supreme Court decision from 1949.

As of April 30, 2021, Highland Park had a delinquent balance of $47.4 million, including $36.1 million for wastewater treatment services, $1.8 million for industrial waste control services, and $9.5 million for water supply services.

Table 5 - City of Highland Park Billings and Collections provides a life-to-date balance summary of the billing and collection history for Highland Park with detail provided for fiscal year 2021 through April 30, 2021. Please note the numbers below reflect the month the billing was sent and not the month the service was provided. A life-to-date summary is provided as an appendix to this monthly financial report.

Table 5 - City of Highland Park Billings and Collections

	Water	Sewer	IWC	Total
May 31, 2020 Balance	8,436,611	33,639,627	1,718,509	43,794,747
June 2020 Billing	97,073	472,500	3,831	573,404
June 2020 Payments	-	-	-	-
June 30, 2020 Balance	8,533,684	34,112,127	1,722,340	44,368,151
July 2020 Billing	100,390	472,500	3,831	576,721
July 2020 Payments	-	(926,053)	-	(926,053)
July 31, 2020 Balance	8,634,074	33,658,574	1,726,171	44,018,819
August 2020 Billing	104,325	472,500	3,835	580,660
August 2020 Payments	-	(560,097)	-	(560,097)
August 31, 2020 Balance	8,738,399	33,570,977	1,730,006	44,039,382
September 2020 Billing	105,628	472,500	3,835	581,963
September 2020 Payments	-	(296,930)	-	(296,930)
September 30, 2020 Balance	8,844,027	33,746,547	1,733,841	44,324,415
October 2020 Billing	105,071	472,500	3,862	581,433
October 2020 Payments	-	-	-	-
October 31, 2020 Balance	8,949,098	34,219,047	1,737,703	44,905,848
November 2020 Billing	98,963	472,500	3,929	575,392
November 2020 Payments	-	-	-	-
November 30, 2020 Balance	9,048,061	34,691,547	1,741,632	45,481,240
December 2020 Billing	96,582	472,500	3,929	573,011
December 2020 Payments	-	(227,283)	-	(227,283)
December 31, 2020 Balance	9,144,643	34,936,764	1,745,561	45,826,968
January 2021 Billing	92,525	472,500	3,941	568,966
January 2021 Payments	-	(328,365)	-	(328,365)
January 31, 2021 Balance	9,237,168	35,080,899	1,749,502	46,067,569
February 2021 Billing	95,775	478,900	4,032	578,707
February 2021 Payments	-	-	-	-
February 28, 2021 Balance	9,332,943	35,559,799	1,753,534	46,646,276
March 2021 Billing	95,121	478,900	4,060	578,081
March 2021 Payments	-	(220,241)	-	(220,241)
March 31, 2021 Balance	9,428,064	35,818,458	1,757,594	47,004,116
April 2021 Billing	96,950	478,900	4,051	579,901
April 2021 Payments	-	(224,583)	-	(224,583)
April 30, 2021 Balance	9,525,014	36,072,775	1,761,645	47,359,434

Wholesale Water & Sewer Accounts Receivable Aging Report

The detailed accounts receivable aging is in the Appendix to this monthly report. This report reflects the wholesale receivables only and does not include DWSD.

Table 6 - ***Wholesale Accounts Receivable Aging Report Summary*** is a summary of the total, current and non-current receivables by category as of April 30, 2021.

Table 7 - Wholesale Accounts Receivable Aging Report, Net of Highland Park is the same summary *without* the past due balances for the City of Highland Park. One member partner contract dispute accounts for $2.04 million of the current water past due balance.

GLWA staff is working with each member partner to identify the source of delay and resolve the remaining $25 thousand in water and $34 thousand in IWC past due balances. The GLWA Treasury team is also exploring possible payment method alternatives to address ongoing mail service challenges.

Pollutant surcharge invoices are billed to commercial and industrial customers, many of whom have been directly impacted by COVID. GLWA staff continue to stay in close communication with those that are past due. The pollutant surcharge balance over 105 days includes $28 thousand related to a bankruptcy that is currently pending further court action.

Table 6 - Wholesale Accounts Receivable Aging Report Summary

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	$ 47,481,653.69	$ 36,021,232.63	$ 954,856.06	$ 1,165,885.89	$ 9,339,679.11
Sewer	$ 55,834,296.41	$ 20,240,121.25	$ 479,200.00	$ 478,900.00	$ 34,636,075.16
IWC	$ 2,411,747.92	$ 623,957.62	$ 35,661.96	$ 6,567.34	$ 1,745,561.00
Pollutant Surcharge	$ 982,514.65	$ 892,555.55	$ 54,837.71	$ 2,462.97	$ 32,658.42
Total	$ 106,710,212.67	$ 57,777,867.05	$ 1,524,555.73	$ 1,653,816.20	$ 45,753,973.69
	100.00%	54.14%	1.43%	1.55%	42.88%

Table 7 - Wholesale Accounts Receivable Aging Report, Net of Highland Park

	Total	Current	46-74 Days	75-104 Days	>105 Days
Water	$ 37,956,639.85	$ 35,829,161.77	$ 859,081.58	$ 1,073,360.63	$ 195,035.87
Sewer	$ 19,761,521.25	$ 19,761,221.25	$ 300.00	$ -	$ -
IWC	$ 650,102.91	$ 615,846.81	$ 31,629.84	$ 2,626.26	$ -
Pollutant Surcharge	$ 982,514.65	$ 892,555.55	$ 54,837.71	$ 2,462.97	$ 32,658.42
Total	$ 59,350,778.66	$ 57,098,785.38	$ 945,849.13	$ 1,078,449.86	$ 227,694.29
	100.00%	96.21%	1.59%	1.82%	0.38%

Note: *percentages vary from 100% due to rounding.*

The Monthly Trust Receipts & Disbursements Report includes the following.

1. GLWA Trust Receipts & Disbursements – Net Cash Flows and Receipts
2. DWSD Trust Receipts & Disbursements – Net Cash Flows, Receipts & Loan Receivable
3. Combined System Trust Receipts & Disbursements – Net Cash Flows

GLWA Trust Receipts & Disbursements

Net Cash Flows and Receipts Basis: The trusts established pursuant to the Master Bond Ordinance (MBO) outline a flow of funds that governs the priority of the application of cash receipts from both the regional wholesale (i.e. Great Lakes Water Authority or GLWA) and local retail (i.e. Detroit Water & Sewerage Department or DWSD) activities which are further separated by the water system and the sewage disposal system.

This report provides an ongoing status of the net cash flow of both organizations (GLWA and DWSD) to fund their allocated share of Master Bond Ordinance requirements in accordance with the leases for the regional systems.

Table 1 – GLWA Net Cash Flows from Trust Receipts & Disbursements provides a summary of cash receipt collections and required MBO transfers by fiscal year as well as a total of all activity for GLWA since inception at January 1, 2016. Fiscal year 2021 reflects ten months of activity to date.

Water fund receipts exceeded required disbursements by 9% through April 30, 2021 with a historical ratio of receipts exceeding required disbursements by 14% since January 1, 2016.

Sewer fund receipts exceeded required disbursements by 8% through April 30, 2021 with a historical ratio of receipts exceeding required disbursements by 6% since January 1, 2016.

Chart 1 – GLWA 12-Month Net Receipts – Water outlines monthly cash receipt trends across two points of reference for the regional water system—current year and prior year. The black line at the zero highlights the minimum goal for net receipts.

Chart 2 – GLWA 12-Month Net Receipts – Sewer outlines monthly cash receipt trends across two points of reference for the regional sewer system—current year and prior year. The black line at the zero highlights the minimum goal for net receipts.

Table 1 – GLWA Net Cash Flows from Trust Receipts & Disbursements

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021 Thru Apr 30	Life-to-Date Total
	Water							
1	Receipts	$ 149,688,711	$ 352,941,909	$ 338,452,001	$ 336,594,234	$ 332,606,196	$ 282,122,769	$ 1,792,405,820
2	MOU Adjustments	-	-	-	-	-	-	-
3	Adjusted Receipts	149,688,711	352,941,909	338,452,001	336,594,234	332,606,196	282,122,769	1,792,405,820
4	Disbursements	(146,256,185)	(288,777,985)	(297,064,810)	(289,230,481)	(296,190,425)	(259,003,835)	(1,576,523,721)
5	Receipts Net of Required	3,432,526	64,163,924	41,387,191	47,363,753	36,415,771	23,118,934	215,882,099
6	I&E Transfer	-	-	(25,739,700)	(47,695,000)	(25,719,751)	(26,112,365)	(125,266,816)
7	Net Receipts	$ 3,432,526	$ 64,163,924	$ 15,647,491	$ (331,247)	$ 10,696,020	$ (2,993,431)	$ 90,615,283
8	*Ratio of Receipts to Required Disbursements (Line 3/Line 4)*	*102%*	*122%*	*114%*	*116%*	*112%*	*109%*	*114%*
	Sewer							
9	Receipts	$ 232,377,715	$ 469,788,882	$ 476,269,761	$ 467,743,744	$ 490,461,356	$ 394,163,232	$ 2,530,804,690
10	MOU Adjustments	-	-	-	-	-	-	-
11	Adjusted Receipts	232,377,715	469,788,882	476,269,761	467,743,744	490,461,356	394,163,232	2,530,804,690
12	Disbursements	(219,538,325)	(441,443,340)	(458,903,335)	(453,406,636)	(445,604,952)	(366,491,295)	(2,385,387,883)
13	Receipts Net of Required	12,839,390	28,345,542	17,366,426	14,337,108	44,856,404	27,671,937	145,416,807
14	I&E Transfer	-	-	(22,698,100)	(22,547,700)	(19,096,200)	(32,988,579)	(97,330,579)
15	DWSD Shortfall Advance	(1,285,466)	(28,014,534)	(24,113,034)	-	-	-	(53,413,034)
16	Shortfall Repayment (principal)	-	-	-	9,367,355	17,542,669	9,018,674	35,928,699
17	Net Receipts	$ 11,553,924	$ 331,008	$ (29,444,708)	$ 1,156,763	$ 43,302,873	$ 3,702,032	$ 30,601,893
18	*Ratio of Receipts to Required Disbursements (Line 11/Line 12)*	*106%*	*106%*	*104%*	*103%*	*110%*	*108%*	*106%*
	Combined							
19	Receipts	$ 382,066,426	$ 822,730,791	$ 814,721,762	$ 804,337,978	$ 823,067,552	$ 676,286,001	$ 4,323,210,510
20	MOU Adjustments	-	-	-	-	-	-	-
21	Adjusted Receipts	382,066,426	822,730,791	814,721,762	804,337,978	823,067,552	676,286,001	4,323,210,510
22	Disbursements	(365,794,510)	(730,221,325)	(755,968,145)	(742,637,117)	(741,795,377)	(625,495,130)	(3,961,911,604)
23	Receipts Net of Required	16,271,916	92,509,466	58,753,617	61,700,861	81,272,175	50,790,871	361,298,906
24	I&E Transfer	-	-	(48,437,800)	(70,242,700)	(44,815,951)	(59,100,944)	(222,597,395)
25	Shortfall Advance	(1,285,466)	(28,014,534)	(24,113,034)	-	-	-	(53,413,034)
26	Shortfall Repayment	-	-	-	9,367,355	17,542,669	9,018,674	35,928,699
27	Net Receipts	$ 14,986,450	$ 64,494,932	$ (13,797,217)	$ 825,516	$ 53,998,893	$ 708,601	$ 121,217,176
28	*Ratio of Receipts to Required Disbursements (Line 21/Line 22)*	*104%*	*113%*	*108%*	*108%*	*111%*	*108%*	*109%*

MOU Adjustments applies to DWSD and is shown here for consistency.

Chart 1 – GLWA 12-Month Net Receipts – Water

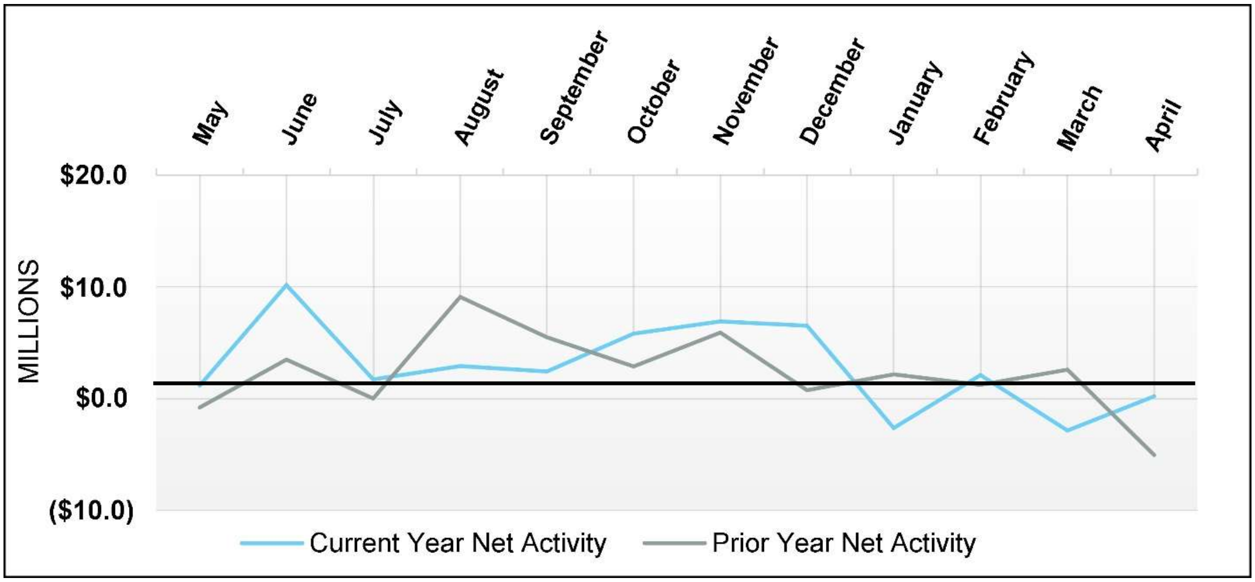
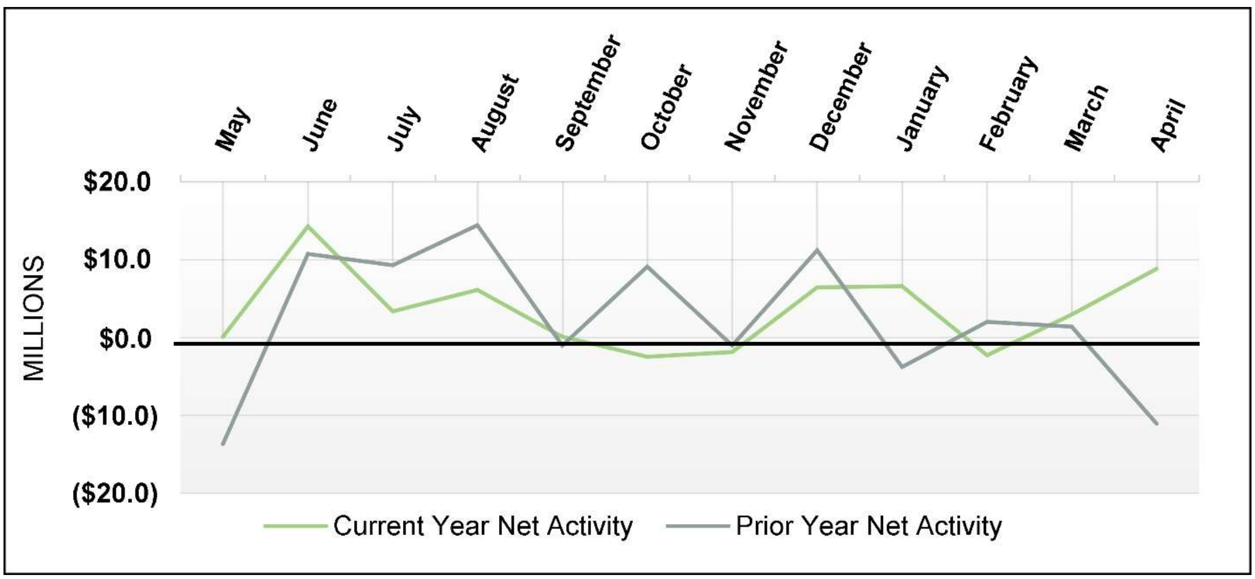


Chart 2 – GLWA 12-Month Net Receipts – Sewer



DWSD Trust Receipts & Disbursements

Net Cash Flows and Receipts Basis: The trusts established pursuant to the Master Bond Ordinance (MBO) outline a flow of funds that governs the priority of the application of cash receipts from both the regional wholesale (i.e. Great Lakes Water Authority or GLWA) and local retail (i.e. Detroit Water & Sewerage Department or DWSD) activities which are further separated by the water system and the sewage disposal system.

This report provides an ongoing status of the net cash flow of both organizations (GLWA and DWSD) to fund their allocated share of Master Bond Ordinance requirements in accordance with the leases for the regional systems.

Table 2 – DWSD Net Cash Flows from Trust Receipts & Disbursements provides a summary of cash receipt collections and required MBO transfers by fiscal year as well as a total of all activity for DWSD since inception at January 1, 2016. Fiscal year 2021 reflects ten months of activity to date.

Water fund receipts fell short of required disbursements by 3% through April 30, 2021 with a historical ratio of net receipts exceeding required disbursements by 1% since January 1, 2016.

Sewer fund receipts fell short of required disbursements by 1% through April 30, 2021 with a historic ratio of receipts falling short of required disbursements by 5% since January 1, 2016.

Both DWSD Water and Sewer funds closed fiscal year 2020 with shortfalls. However, agreed-upon terms under the April 2018 Memorandum of Understanding (MOU) state that DWSD has until June 30, 2021 to resolve this shortfall prior to establishment of a loan receivable with GLWA. This topic is discussed with executive leadership at quarterly Reconciliation Committee meetings and at regularly scheduled internal DWSD and GLWA management meetings. DWSD is working to address this shortfall resulting largely from this unforeseen COVID-19 pandemic using tax liens on commercial and industrial past due balances and the distribution of CARES Act funding from the State of Michigan. In April 2021, DWSD reimbursed $5 million from reserves as a first step in addressing the 2021 Sewer net receipt shortfall.

Table 3 – FY 2017 DWSD Loan Receivable - Sewer provides an activity summary of the loan receivable established under the terms of the April 2018 MOU addressing the cash shortfall from FY 2016 and FY 2017.

Table 4 – FY 2017 DWSD Loan Receivable Payments - Sewer provides an activity summary of loan receivable payments to date on the FY 2017 Sewer Loan Receivable including the interest on the loan. This payment is transferred directly to GLWA Sewer Improvement & Extension fund monthly.

The Reconciliation Committee monitors this balance and repayment progress as part of its quarterly meetings.

Table 5 – FY 2018 DWSD Loan Receivable - Sewer provides an activity summary of the loan receivable established under the terms of the April 2018 MOU addressing the cash shortfall from FY 2018.

Table 6 – FY 2018 DWSD Loan Receivable Payments - Sewer provides an activity summary of loan receivable payments to date on the FY 2018 Sewer Loan Receivable including the interest on the loan. This payment is transferred directly to GLWA Sewer Improvement & Extension fund monthly.

The Reconciliation Committee monitors this balance and repayment progress as part of its quarterly meetings.

Table 7 – Total DWSD Loan Receivable Balance – Sewer provides a summary of the FY 2017 and FY 2018 loan receivable balances in a combined total.

Chart 3 – DWSD 12-Month Net Receipts – Water outlines monthly activity trends across two points of reference for the local water system—current year and prior year. The black line at the zero highlights the breakeven goal for net receipts.

Chart 4 – DWSD 12-Month Net Receipts – Sewer outlines monthly activity trends across two points of reference for the local sewer system—current year and prior year. The black line at the zero highlights the breakeven goal for net receipts.

Table 2 – DWSD Net Cash Flows from Trust Receipts & Disbursements

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021 Thru Apr 30	Life-to-Date Total
	Water							
1	Receipts	$ 26,201,881	$ 96,451,105	$ 101,233,147	$ 99,868,219	$ 96,885,723	$ 81,784,347	$ 502,424,422
2	MOU Adjustments	18,446,100	-	-	-	-	-	18,446,100
3	Adjusted Receipts	44,647,981	96,451,105	101,233,147	99,868,219	96,885,723	81,784,347	520,870,522
4	Disbursements	(47,809,552)	(93,066,144)	(93,049,457)	(97,694,600)	(97,823,097)	(83,950,841)	(513,393,691)
5	Receipts Net of Required	(3,161,571)	3,384,961	8,183,690	2,173,619	(937,374)	(2,166,494)	7,476,831
6	I&E Transfer	-	-	-	(8,407,080)	-	-	(8,407,080)
7	Net Receipts	$ (3,161,571)	$ 3,384,961	$ 8,183,690	$ (6,233,461)	$ (937,374)	$ (2,166,494)	$ (930,249)
8	*Ratio of Receipts to Required Disbursements (Line 3/Line 4)*	*93%*	*104%*	*109%*	*102%*	*99%*	*97%*	*101%*
	Sewer							
9	Receipts	$ 65,256,734	$ 233,723,367	$ 242,104,791	$ 265,339,797	$ 264,689,559	$ 238,813,805	$1,309,928,053
10	MOU Adjustments	55,755,100	-	-	6,527,200	-	-	62,282,300
11	Adjusted Receipts	121,011,834	233,723,367	242,104,791	271,866,997	264,689,559	238,813,805	1,372,210,353
12	Disbursements	(122,297,300)	(261,963,973)	(266,217,825)	(271,018,306)	(275,507,374)	(241,508,737)	(1,438,513,515)
13	Receipts Net of Required	(1,285,466)	(28,240,606)	(24,113,034)	848,691	(10,817,815)	(2,694,932)	(66,303,162)
14	I&E Transfer	-	-	-	-	-	-	-
15	Shortfall Advance from GLWA	1,285,466	28,014,534	24,113,034	-	-	-	53,413,034
16	Net Receipts (a)	$ -	$ (226,072)	$ -	$ 848,691	$ (10,817,815)	$ (2,694,932)	$ (12,890,128)
17	*Ratio of Receipts to Required Disbursements (Line 11/Line 12)*	*99%*	*89%*	*91%*	*100%*	*96%*	*99%*	*95%*
	Combined							
18	Receipts	$ 91,458,615	$ 330,174,472	$ 343,337,938	$ 365,208,016	$ 361,575,282	$ 320,598,152	$1,812,352,475
19	MOU Adjustments	74,201,200	-	-	6,527,200	-	-	80,728,400
20	Adjusted Receipts	165,659,815	330,174,472	343,337,938	371,735,216	361,575,282	320,598,152	1,893,080,875
21	Disbursements	(170,106,852)	(355,030,117)	(359,267,282)	(368,712,906)	(373,330,471)	(325,459,578)	(1,951,907,206)
22	Receipts Net of Required	(4,447,037)	(24,855,645)	(15,929,344)	3,022,310	(11,755,189)	(4,861,426)	(58,826,331)
23	I&E Transfer	-	-	-	(8,407,080)	-	-	(8,407,080)
24	Shortfall Advance from GLWA	1,285,466	28,014,534	24,113,034	-	-	-	53,413,034
25	Net Receipts	$ (3,161,571)	$ 3,158,889	$ 8,183,690	$ (5,384,770)	$ (11,755,189)	$ (4,861,426)	$ (13,820,377)
26	*Ratio of Receipts to Required Disbursements (Line 20/Line 21)*	*97%*	*93%*	*96%*	*101%*	*97%*	*99%*	*97%*

(a) The $226,072 difference in FY 2017 is due to the June IWC payment from DWSD that was not past due at yearend and the $12,272 rounding difference on the loan receivable.

Note 1: *The $29,300,000 for the DWSD loan receivable balance is calculated as follows.*

(1,285,466)	FY 2016 Shortfall
(28,240,606)	FY 2017 Shortfall
(29,526,072)	Subtotal
238,264	June IWC not due unti July
(29,287,808)	FY 2017 Shortfall-to-Date
29,300,000	**FY 2017 Shortfall-to-Date, Rounded**

Table 3 – FY 2017 DWSD Loan Receivable – Sewer

Date	Transaction	Amount	Balance
06-30-18	Record Loan Receivable		29,300,000
02-08-19	Payment for July - Dec 2018	4,635,462	24,664,538
02-22-19	Payment for Jan - Mar 2019	2,353,768	22,310,770
04-15-19	Payment for the Apr 2019	789,990	21,520,780
05-08-19	Payment for May 2019	792,705	20,728,075
06-07-19	Payment for June 2019	795,430	19,932,645
07-05-19	Payment for July 2019	798,164	19,134,480
08-08-19	Payment for August 2019	800,908	18,333,572
09-06-19	Payment for September 2019	803,661	17,529,911
10-02-19	Payment for October 2019	806,424	16,723,487
11-04-19	Payment for November 2019	809,196	15,914,291
12-03-19	Payment for December 2019	811,978	15,102,314
01-06-20	Payment for January 2020	814,769	14,287,545
02-04-20	Payment for February 2020	817,570	13,469,975
03-03-20	Payment for March 2020	820,380	12,649,595
04-15-20	Payment for April 2020	823,200	11,826,395
05-06-20	Payment for May 2020	826,030	11,000,366
06-02-20	Payment for June 2020	828,869	10,171,497
07-07-20	Payment for July 2020	831,718	9,339,778
08-04-20	Payment for August 2020	834,577	8,505,201
09-02-20	Payment for September 2020	837,446	7,667,754
10-05-20	Payment for October 2020	840,325	6,827,429
11-03-20	Payment for November 2020	843,214	5,984,216
12-03-20	Payment for December 2020	846,112	5,138,103
01-05-21	Payment for January 2021	849,021	4,289,083
02-02-21	Payment for February 2021	851,939	3,437,143
03-03-21	Payment for March 2021	854,868	2,582,276
04-05-21	Payment for April 2021	857,806	1,724,470
		27,575,530	**1,724,470**

Table 4 – FY 2017 DWSD Loan Receivable Payments – Sewer

Date	Transaction	Principal	Interest	Total Paid
02-08-19	Payment for July - Dec 2018	4,635,462	564,636	5,200,098
02-22-19	Payment for Jan - Mar 2019	2,353,768	246,280	2,600,049
04-15-19	Payment for the Apr 2019	789,990	76,693	866,683
05-08-19	Payment for May 2019	792,705	73,978	866,683
06-07-19	Payment for June 2019	795,430	71,253	866,683
07-05-19	Payment for July 2019	798,164	68,518	866,683
08-08-19	Payment for August 2019	800,908	65,775	866,683
09-06-19	Payment for September 2019	803,661	63,022	866,683
10-02-19	Payment for October 2019	806,424	60,259	866,683
11-04-19	Payment for November 2019	809,196	57,487	866,683
12-03-19	Payment for December 2019	811,978	54,705	866,683
01-06-20	Payment for January 2020	814,769	51,914	866,683
02-04-20	Payment for February 2020	817,570	49,113	866,683
03-03-20	Payment for March 2020	820,380	46,303	866,683
04-15-20	Payment for April 2020	823,200	43,483	866,683
05-06-20	Payment for May 2020	826,030	40,653	866,683
06-02-20	Payment for June 2020	828,869	37,814	866,683
07-07-20	Payment for July 2020	831,718	34,965	866,683
08-04-20	Payment for August 2020	834,577	32,105	866,683
09-02-20	Payment for September 2020	837,446	29,237	866,683
10-05-20	Payment for October 2020	840,325	26,358	866,683
11-03-20	Payment for November 2020	843,214	23,469	866,683
12-03-20	Payment for December 2020	846,112	20,571	866,683
01-05-21	Payment for January 2021	849,021	17,662	866,683
02-02-21	Payment for February 2021	851,939	14,744	866,683
03-03-21	Payment for March 2021	854,868	11,815	866,683
04-05-21	Payment for April 2021	857,806	8,877	866,683
		27,575,531	**1,891,689**	**29,467,220**

Table 5 – FY 2018 DWSD Loan Receivable – Sewer

Date	Transaction	Amount	Balance
06-30-19	Record Loan Receivable		24,113,034
07-15-19	Payment for July 2019	638,978	23,474,056
08-08-19	Payment for August 2019	640,686	22,833,370
09-06-19	Payment for September 2019	642,400	22,190,970
10-02-19	Payment for October 2019	644,118	21,546,852
11-04-19	Payment for November 2019	645,840	20,901,012
12-03-19	Payment for December 2019	647,567	20,253,445
01-06-20	Payment for January 2020	649,299	19,604,146
02-04-20	Payment for February 2020	651,035	18,953,111
03-03-20	Payment for March 2020	652,776	18,300,335
04-15-20	Payment for April 2020	654,522	17,645,813
05-06-20	Payment for May 2020	656,272	16,989,541
06-02-20	Payment for June 2020	658,027	16,331,514
07-07-20	Payment for July 2020	659,787	15,671,727
08-04-20	Payment for August 2020	661,551	15,010,176
09-02-20	Payment for September 2020	663,320	14,346,855
10-05-20	Payment for October 2020	665,094	13,681,761
11-03-20	Payment for November 2020	666,873	13,014,888
12-03-20	Payment for December 2020	668,656	12,346,232
01-05-21	Payment for January 2021	670,444	11,675,788
02-02-21	Payment for February 2021	672,237	11,003,551
03-03-21	Payment for March 2021	674,035	10,329,517
04-05-21	Payment for April 2021	675,837	9,653,679
		14,459,355	**9,653,679**

Table 6 – FY 2018 DWSD Loan Receivable Payments – Sewer

Date	Transaction	Principal	Interest	Total Paid
07-15-19	Payment for July 2019	638,978	64,482	703,460
08-08-19	Payment for August 2019	640,686	62,774	703,460
09-06-19	Payment for September 2019	642,400	61,060	703,460
10-02-19	Payment for October 2019	644,118	59,342	703,460
11-04-19	Payment for November 2019	645,840	57,620	703,460
12-03-19	Payment for December 2019	647,567	55,893	703,460
01-06-20	Payment for January 2020	649,299	54,161	703,460
02-04-20	Payment for February 2020	651,035	52,425	703,460
03-03-20	Payment for March 2020	652,776	50,684	703,460
04-15-20	Payment for April 2020	654,522	48,938	703,460
05-06-20	Payment for May 2020	656,272	47,188	703,460
06-02-20	Payment for June 2020	658,027	45,433	703,460
07-07-20	Payment for July 2020	659,787	43,673	703,460
08-04-20	Payment for August 2020	661,551	41,909	703,460
09-02-20	Payment for September 2020	663,320	40,140	703,460
10-05-20	Payment for October 2020	665,094	38,366	703,460
11-03-20	Payment for November 2020	666,873	36,587	703,460
12-03-20	Payment for December 2020	668,656	34,804	703,460
01-05-21	Payment for January 2021	670,444	33,016	703,460
02-02-21	Payment for February 2021	672,237	31,223	703,460
03-03-21	Payment for March 2021	674,035	29,425	703,460
04-05-21	Payment for April 2021	675,837	27,623	703,460
		14,459,355	**1,016,765**	**15,476,120**

Table 7 – Total DWSD Loan Receivable Balance – Sewer

Date	FY17 Loan Balance	FY18 Loan Balance	Total
06-30-18	29,300,000	-	29,300,000
07-31-18	29,300,000	-	29,300,000
08-31-18	29,300,000	-	29,300,000
09-30-18	29,300,000	-	29,300,000
10-31-18	29,300,000	-	29,300,000
11-30-18	29,300,000	-	29,300,000
12-31-18	29,300,000	-	29,300,000
01-31-19	29,300,000	-	29,300,000
02-28-19	24,664,538	-	24,664,538
03-31-19	22,310,770	-	22,310,770
04-30-19	21,520,780	-	21,520,780
05-31-19	20,728,075	-	20,728,075
06-30-19	19,932,645	24,113,034	44,045,679
07-31-19	19,134,480	23,474,056	42,608,537
08-31-19	18,333,572	22,833,370	41,166,942
09-30-19	17,529,911	22,190,970	39,720,881
10-31-19	16,723,487	21,546,852	38,270,340
11-30-19	15,914,291	20,901,012	36,815,303
12-31-19	15,102,314	20,253,445	35,355,759
01-31-20	14,287,545	19,604,146	33,891,691
02-29-20	13,469,975	18,953,111	32,423,086
03-31-20	12,649,595	18,300,335	30,949,930
04-30-20	11,826,395	17,645,813	29,472,208
05-31-20	11,000,366	16,989,541	27,989,906
06-30-20	10,171,497	16,331,514	26,503,010
07-31-20	9,339,778	15,671,727	25,011,505
08-31-20	8,505,201	15,010,176	23,515,376
09-30-20	7,667,754	14,346,855	22,014,610
10-31-20	6,827,429	13,681,761	20,509,190
11-30-20	5,984,216	13,014,888	18,999,104
12-31-20	5,138,103	12,346,232	17,484,336
01-31-21	4,289,083	11,675,788	15,964,871
02-28-21	3,437,143	11,003,551	14,440,695
03-31-21	2,582,276	10,329,517	12,911,792
04-30-21	1,724,470	9,653,679	11,378,149

Chart 3 – DWSD 12-Month Net Receipts – Water

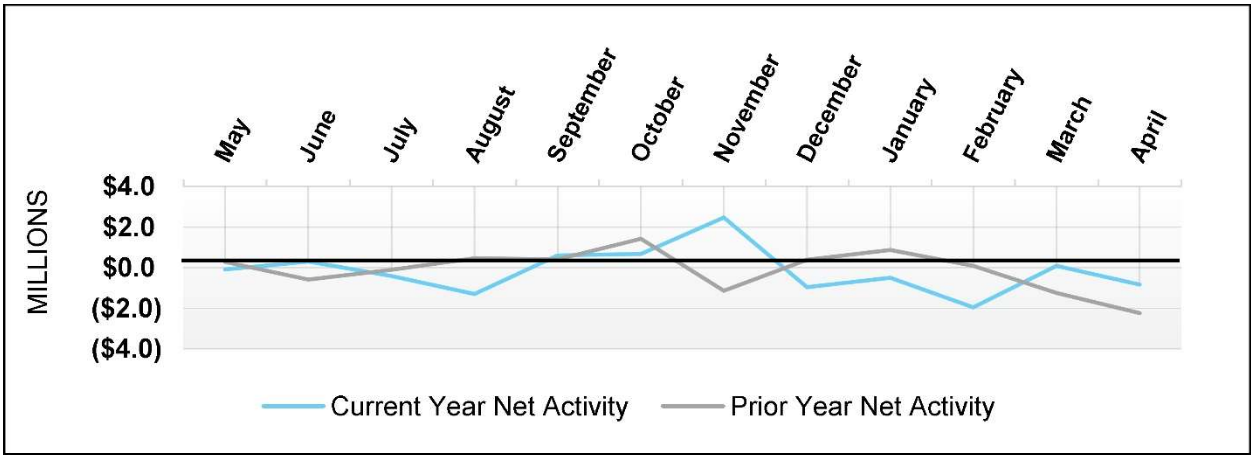
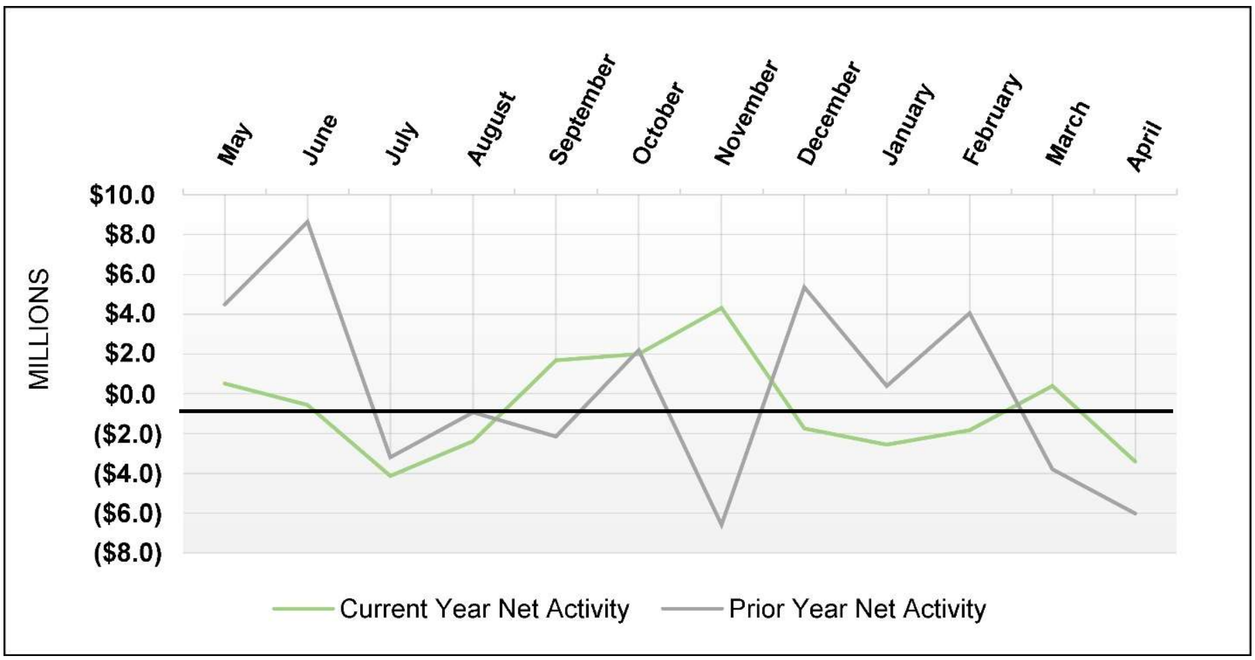


Chart 4 – DWSD 12-Month Net Receipts – Sewer



Combined System Trust Receipts & Disbursements

Net Cash Flows and Receipts Basis: The trusts established pursuant to the Master Bond Ordinance (MBO) outline a flow of funds that governs the priority of the application of cash receipts from both the regional wholesale (i.e. Great Lakes Water Authority or GLWA) and local retail (i.e. Detroit Water & Sewerage Department or DWSD) activities which are further separated by the water system and the sewage disposal system.

Table 8 – Combined Net Cash Flows from Trust Receipts & Disbursements provides a summary of cash receipt collections and required MBO transfers by fiscal year as well as a total of all activity for GLWA since inception at January 1, 2016. Fiscal year 2021 reflects ten months of activity to date.

Water fund net receipts exceeded required disbursements by 6% through April 30, 2021 with a historical ratio of receipts exceeding required disbursements by 11% since January 1, 2016.

Sewer fund receipts exceeded required disbursements by 4% through April 30, 2021 and with a historical ratio of receipts exceeding required disbursements by 2% since January 1, 2016.

Table 8 – Combined Net Cash Flows from Trust Receipts & Disbursements

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021 Thru Apr 30	Life-to-Date Total
	Water							
1	Receipts	$ 175,890,592	$ 449,393,014	$ 439,685,148	$ 436,462,453	$ 429,491,919	$ 363,907,116	$2,294,830,242
2	MOU Adjustments	18,446,100	-	-	-	-	-	18,446,100
3	Adjusted Receipts	194,336,692	449,393,014	439,685,148	436,462,453	429,491,919	363,907,116	2,313,276,342
4	Disbursements	(194,065,737)	(381,844,129)	(390,114,267)	(386,925,081)	(394,013,522)	(342,954,676)	(2,089,917,412)
5	Receipts Net of Required	270,955	67,548,885	49,570,881	49,537,372	35,478,397	20,952,440	223,358,930
6	I&E Transfer	-	-	(25,739,700)	(56,102,080)	(25,719,751)	(26,112,365)	(133,673,896)
7	Net Receipts	$ 270,955	$ 67,548,885	$ 23,831,181	$ (6,564,708)	$ 9,758,646	$ (5,159,925)	$ 89,685,034
8	*Ratio of Receipts to Required Disbursements (Line 3/Line 4)*	*100%*	*118%*	*113%*	*113%*	*109%*	*106%*	*111%*
	Sewer							
9	Receipts	$ 297,634,449	$ 703,512,249	$ 718,374,552	$ 733,083,541	$ 755,150,915	$ 632,977,037	$3,840,732,743
10	MOU Adjustments	55,755,100	-	-	6,527,200	-	-	62,282,300
11	Adjusted Receipts	353,389,549	703,512,249	718,374,552	739,610,741	755,150,915	632,977,037	3,903,015,043
12	Disbursements	(341,835,625)	(703,407,313)	(725,121,160)	(724,424,942)	(721,112,326)	(608,000,032)	(3,823,901,398)
13	Receipts Net of Required	11,553,924	104,936	(6,746,608)	15,185,799	34,038,589	24,977,005	79,113,645
14	I&E Transfer	-	-	(22,698,100)	(22,547,700)	(19,096,200)	(32,988,579)	(97,330,579)
15	Shortfall Advance	-	-	-	-	-	-	-
16	Shortfall Repayment (principal)	-	-	-	9,367,355	17,542,669	9,018,674	35,928,699
17	Net Receipts	$ 11,553,924	$ 104,936	$ (29,444,708)	$ (7,361,901)	$ 32,485,058	$ 1,007,100	$ 17,711,765
18	*Ratio of Receipts to Required Disbursements (Line 11/Line 12)*	*103%*	*100%*	*99%*	*102%*	*105%*	*104%*	*102%*
	Combined							
19	Receipts	$ 473,525,041	$1,152,905,263	$1,158,059,700	$1,169,545,994	$1,184,642,834	$ 996,884,153	$6,135,562,985
20	MOU Adjustments	74,201,200	-	-	6,527,200	-	-	80,728,400
21	Adjusted Receipts	547,726,241	1,152,905,263	1,158,059,700	1,176,073,194	1,184,642,834	996,884,153	6,216,291,385
22	Disbursements	(535,901,362)	(1,085,251,442)	(1,115,235,427)	(1,111,350,023)	(1,115,125,848)	(950,954,708)	(5,913,818,810)
23	Receipts Net of Required	11,824,879	67,653,821	42,824,273	64,723,171	69,516,986	45,929,445	302,472,575
24	I&E Transfer	-	-	(48,437,800)	(78,649,780)	(44,815,951)	(59,100,944)	(231,004,475)
25	Shortfall Advance	-	-	-	-	-	-	-
26	Shortfall Repayment	-	-	-	9,367,355	17,542,669	9,018,674	35,928,699
27	Net Receipts	$ 11,824,879	$ 67,653,821	$ (5,613,527)	$ (4,559,254)	$ 42,243,704	$ (4,152,825)	$ 107,396,799
28	*Ratio of Receipts to Required Disbursements (Line 21/Line 22)*	*102%*	*106%*	*104%*	*106%*	*106%*	*105%*	*105%*

APPENDIX

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	$458,431.42	$458,431.42	$0.00	$0.00	$0.00
ALMONT VILLAGE	$20,157.83	$20,157.83	$0.00	$0.00	$0.00
ASH TOWNSHIP	$69,498.78	$69,498.78	$0.00	$0.00	$0.00
BELLEVILLE	$38,520.29	$38,520.29	$0.00	$0.00	$0.00
BERLIN TOWNSHIP	$60,075.09	$60,075.09	$0.00	$0.00	$0.00
BROWNSTOWN TOWNSHIP	$289,251.70	$289,251.70	$0.00	$0.00	$0.00
BRUCE TOWNSHIP	$25,178.11	$25,178.11	$0.00	$0.00	$0.00
BURTCHVILLE TOWNSHIP	$53,379.27	$53,379.27	$0.00	$0.00	$0.00
CANTON TOWNSHIP	$822,704.86	$822,704.86	$0.00	$0.00	$0.00
CENTER LINE	$46,917.26	$46,917.26	$0.00	$0.00	$0.00
CHESTERFIELD TOWNSHIP	$351,098.55	$351,098.55	$0.00	$0.00	$0.00
CLINTON TOWNSHIP	$604,560.51	$604,560.51	$0.00	$0.00	$0.00
COMMERCE TOWNSHIP	$539,623.81	$539,623.81	$0.00	$0.00	$0.00
DEARBORN	$4,358,644.66	$2,315,121.28	$833,905.81	$1,014,581.70	$195,035.87
DEARBORN HEIGHTS	$611,262.96	$611,262.96	$0.00	$0.00	$0.00
EASTPOINTE	$136,068.54	$136,068.54	$0.00	$0.00	$0.00
ECORSE	$115,248.40	$115,248.40	$0.00	$0.00	$0.00
FARMINGTON	$82,705.62	$82,705.62	$0.00	$0.00	$0.00
FARMINGTON HILLS	$1,373,008.80	$1,373,008.80	$0.00	$0.00	$0.00
FERNDALE	$99,926.00	$99,926.00	$0.00	$0.00	$0.00
FLAT ROCK	$107,821.60	$107,821.60	$0.00	$0.00	$0.00
FLINT	$419,802.43	$419,802.43	$0.00	$0.00	$0.00
FRASER	$101,540.33	$101,540.33	$0.00	$0.00	$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
GARDEN CITY	$137,302.51	$137,302.51	$0.00	$0.00	$0.00
GIBRALTAR	$28,598.81	$28,598.81	$0.00	$0.00	$0.00
GROSSE ILE TOWNSHIP	$177,526.25	$177,526.25	$0.00	$0.00	$0.00
GROSSE POINTE PARK	$114,585.97	$114,585.97	$0.00	$0.00	$0.00
GROSSE POINTE SHORES	$45,167.94	$45,167.94	$0.00	$0.00	$0.00
GROSSE POINTE WOODS	$116,115.84	$116,115.84	$0.00	$0.00	$0.00
HAMTRAMCK	$67,628.34	$67,628.34	$0.00	$0.00	$0.00
HARPER WOODS	$71,044.10	$71,044.10	$0.00	$0.00	$0.00
HARRISON TWP	$126,942.36	$126,942.36	$0.00	$0.00	$0.00
HAZEL PARK	$185,081.19	$124,926.26	$1,376.00	$58,778.93	$0.00
HIGHLAND PARK	$9,525,013.84	$192,070.86	$95,774.48	$92,525.26	$9,144,643.24
HURON TOWNSHIP	$125,698.68	$125,698.68	$0.00	$0.00	$0.00
IMLAY CITY	$115,063.68	$115,063.68	$0.00	$0.00	$0.00
IMLAY TOWNSHIP	$1,351.56	$1,351.56	$0.00	$0.00	$0.00
INKSTER	$118,666.01	$118,666.01	$0.00	$0.00	$0.00
KEEGO HARBOR	$48,686.44	$48,686.44	$0.00	$0.00	$0.00
LAPEER	$133,531.66	$133,531.66	$0.00	$0.00	$0.00
LENOX TOWNSHIP	$71,306.53	$47,506.76	$23,799.77	$0.00	$0.00
LINCOLN PARK	$200,168.81	$200,168.81	$0.00	$0.00	$0.00
LIVONIA	$911,422.43	$911,422.43	$0.00	$0.00	$0.00
MACOMB TWP	$993,650.39	$993,650.39	$0.00	$0.00	$0.00
MADISON HEIGHTS	$161,575.73	$161,575.73	$0.00	$0.00	$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MAYFIELD TOWNSHIP	$5,575.90	$5,575.90	$0.00	$0.00	$0.00
MELVINDALE	$119,268.15	$119,268.15	$0.00	$0.00	$0.00
NEW HAVEN	$30,168.97	$30,168.97	$0.00	$0.00	$0.00
NOCWA	$3,460,433.76	$3,460,433.76	$0.00	$0.00	$0.00
NORTHVILLE	$69,510.70	$69,510.70	$0.00	$0.00	$0.00
NORTHVILLE TOWNSHIP	$843,812.28	$843,812.28	$0.00	$0.00	$0.00
NOVI	$699,125.93	$699,125.93	$0.00	$0.00	$0.00
OAK PARK	$117,170.03	$117,170.03	$0.00	$0.00	$0.00
OAKLAND CO DR COM	$5,559.92	$5,559.92	$0.00	$0.00	$0.00
PLYMOUTH	$87,649.50	$87,649.50	$0.00	$0.00	$0.00
PLYMOUTH TOWNSHIP	$684,384.94	$684,384.94	$0.00	$0.00	$0.00
REDFORD TOWNSHIP	$266,603.74	$266,603.74	$0.00	$0.00	$0.00
RIVER ROUGE	$107,682.44	$107,682.44	$0.00	$0.00	$0.00
RIVERVIEW	$72,413.60	$72,413.60	$0.00	$0.00	$0.00
ROCKWOOD	$23,354.38	$23,354.38	$0.00	$0.00	$0.00
ROMEO	$39,809.35	$39,809.35	$0.00	$0.00	$0.00
ROMULUS	$369,656.47	$369,656.47	$0.00	$0.00	$0.00
ROSEVILLE	$222,393.16	$222,393.16	$0.00	$0.00	$0.00
ROYAL OAK TOWNSHIP	$31,551.40	$31,551.40	$0.00	$0.00	$0.00
SHELBY TOWNSHIP	$1,087,726.26	$1,087,726.26	$0.00	$0.00	$0.00
SOCWA	$3,596,514.16	$3,596,514.16	$0.00	$0.00	$0.00
SOUTH ROCKWOOD	$9,604.93	$9,604.93	$0.00	$0.00	$0.00
SOUTHGATE	$190,071.44	$190,071.44	$0.00	$0.00	$0.00

GLWA Aged Accounts Receivable- WATER ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ST. CLAIR COUNTY-GREENWOOD T	$63,770.17	$63,770.17	$0.00	$0.00	$0.00
ST. CLAIR SHORES	$261,306.15	$261,306.15	$0.00	$0.00	$0.00
STERLING HEIGHTS	$2,523,492.79	$2,523,492.79	$0.00	$0.00	$0.00
SUMPTER TOWNSHIP	$58,896.03	$58,896.03	$0.00	$0.00	$0.00
SYLVAN LAKE	$19,159.66	$19,159.66	$0.00	$0.00	$0.00
TAYLOR	$755,559.54	$755,559.54	$0.00	$0.00	$0.00
TRENTON	$139,074.89	$139,074.89	$0.00	$0.00	$0.00
TROY (SEOC)	$1,064,768.75	$1,064,768.75	$0.00	$0.00	$0.00
UTICA	$44,853.99	$44,853.99	$0.00	$0.00	$0.00
VAN BUREN TOWNSHIP	$296,135.44	$296,135.44	$0.00	$0.00	$0.00
WALLED LAKE	$131,002.47	$131,002.47	$0.00	$0.00	$0.00
WARREN	$869,009.02	$869,009.02	$0.00	$0.00	$0.00
WASHINGTON TOWNSHIP	$174,066.71	$174,066.71	$0.00	$0.00	$0.00
WAYNE	$280,439.58	$280,439.58	$0.00	$0.00	$0.00
WEST BLOOMFIELD TWP (C-O)	$1,691,691.92	$1,691,691.92	$0.00	$0.00	$0.00
WESTLAND	$536,242.40	$536,242.40	$0.00	$0.00	$0.00
WIXOM	$201,002.31	$201,002.31	$0.00	$0.00	$0.00
WOODHAVEN	$271,566.32	$271,566.32	$0.00	$0.00	$0.00
YCUA	$1,698,018.25	$1,698,018.25	$0.00	$0.00	$0.00
TOTAL WATER ACCOUNTS	$47,481,653.69	$36,021,232.63	$954,856.06	$1,165,885.89	$9,339,679.11

GLWA Aged Accounts Receivable- SEWER ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	$72,200.00	$72,200.00	$0.00	$0.00	$0.00
CENTER LINE	$87,299.50	$87,299.50	$0.00	$0.00	$0.00
DEARBORN	$0.00	$0.00	$0.00	$0.00	$0.00
EVERGREEN-FARMINGTON	$2,944,100.00	$2,944,100.00	$0.00	$0.00	$0.00
FARMINGTON	$97,200.00	$97,200.00	$0.00	$0.00	$0.00
GROSSE POINTE	$0.00	$0.00	$0.00	$0.00	$0.00
GROSSE POINTE FARMS	$0.00	$0.00	$0.00	$0.00	$0.00
GROSSE POINTE PARK	$0.00	$0.00	$0.00	$0.00	$0.00
HAMTRAMCK	$0.00	$0.00	$0.00	$0.00	$0.00
HARPER WOODS	$18,500.00	$18,500.00	$0.00	$0.00	$0.00
HIGHLAND PARK	$36,072,775.16	$478,900.00	$478,900.00	$478,900.00	$34,636,075.16
MELVINDALE	$129,600.00	$129,600.00	$0.00	$0.00	$0.00
OAKLAND COUNTY GWK DD	$3,821,000.00	$3,821,000.00	$0.00	$0.00	$0.00
OMID	$5,914,121.75	$5,914,121.75	$0.00	$0.00	$0.00
REDFORD TOWNSHIP	$0.00	$0.00	$0.00	$0.00	$0.00
ROUGE VALLEY	$4,575,900.00	$4,575,900.00	$0.00	$0.00	$0.00
SOUTHEAST MACOMB SANITATION	$2,097,000.00	$2,097,000.00	$0.00	$0.00	$0.00
WAYNE COUNTY-AREA #3	$4,600.00	$4,300.00	$300.00	$0.00	$0.00
TOTAL SEWER ACCOUNTS	$55,834,296.41	$20,240,121.25	$479,200.00	$478,900.00	$34,636,075.16

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
ALLEN PARK	$1,596.63	$1,596.63	$0.00	$0.00	$0.00
AUBURN HILLS (C-O)	$0.00	$0.00	$0.00	$0.00	$0.00
AUBURN HILLS (C-O) ADMIN	$0.00	$0.00	$0.00	$0.00	$0.00
AUBURN HILLS (E-F)	$0.00	$0.00	$0.00	$0.00	$0.00
BERKLEY	$6,137.38	$6,137.38	$0.00	$0.00	$0.00
BEVERLY HILLS	$39.88	$39.88	$0.00	$0.00	$0.00
BINGHAM FARMS	$0.00	$0.00	$0.00	$0.00	$0.00
BIRMINGHAM (E-F)	$4,737.83	$4,737.83	$0.00	$0.00	$0.00
BIRMINGHAM (SEOC)	$11,031.80	$11,031.80	$0.00	$0.00	$0.00
BLOOMFIELD HILLS	$0.00	$0.00	$0.00	$0.00	$0.00
BLOOMFIELD TOWNSHIP	$0.00	$0.00	$0.00	$0.00	$0.00
CANTON TOWNSHIP	$0.00	$0.00	$0.00	$0.00	$0.00
CENTER LINE	$3,574.98	$3,574.98	$0.00	$0.00	$0.00
CHESTERFIELD TOWNSHIP	$24,271.34	$24,271.34	$0.00	$0.00	$0.00
CITY OF FARMINGTON (E-F)	$0.00	$0.00	$0.00	$0.00	$0.00
CITY OF FERNDALE	$17,287.74	$17,287.74	$0.00	$0.00	$0.00
CITY OF ROCHESTER	$7,230.38	$7,230.38	$0.00	$0.00	$0.00
CLARKSTON (C-O) ADMIN	$0.00	$0.00	$0.00	$0.00	$0.00
CLAWSON	$10,671.45	$5,363.46	$2,681.73	$2,626.26	$0.00
CLINTON TOWNSHIP	$25,364.74	$25,364.74	$0.00	$0.00	$0.00
DEARBORN	$35,247.54	$35,247.54	$0.00	$0.00	$0.00
DEARBORN HEIGHTS	$28,462.85	$18,908.52	$9,554.33	$0.00	$0.00
DETROIT METRO WC AIRPORT	$207.00	$207.00	$0.00	$0.00	$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
EASTPOINTE	$12,576.38	$12,576.38	$0.00	$0.00	$0.00
FARMINGTON	$0.00	$0.00	$0.00	$0.00	$0.00
FARMINGTON HILLS	$0.00	$0.00	$0.00	$0.00	$0.00
FRASER	$9,629.32	$9,629.32	$0.00	$0.00	$0.00
GARDEN CITY	$0.00	$0.00	$0.00	$0.00	$0.00
GROSSE POINTE	$0.00	$0.00	$0.00	$0.00	$0.00
GROSSE POINTE FARMS	$4,054.70	$4,054.70	$0.00	$0.00	$0.00
GROSSE POINTE PARK	$2,295.30	$2,295.30	$0.00	$0.00	$0.00
GROSSE POINTE SHORES	$0.00	$0.00	$0.00	$0.00	$0.00
GROSSE POINTE WOODS	$0.00	$0.00	$0.00	$0.00	$0.00
HAMTRAMCK	$4,052.03	$4,052.03	$0.00	$0.00	$0.00
HARPER WOODS	$3,655.69	$3,655.69	$0.00	$0.00	$0.00
HARRISON TWP	$0.00	$0.00	$0.00	$0.00	$0.00
HAZEL PARK	$6,130.29	$6,130.29	$0.00	$0.00	$0.00
HIGHLAND PARK	$1,761,645.01	$8,110.81	$4,032.12	$3,941.08	$1,745,561.00
HUNTINGTON WOODS	$555.56	$555.56	$0.00	$0.00	$0.00
INDEPENDENCE (C-O) ADMIN	$2,393.22	$2,393.22	$0.00	$0.00	$0.00
INKSTER	$10,793.50	$10,793.50	$0.00	$0.00	$0.00
KEEGO HARBOR	$0.00	$0.00	$0.00	$0.00	$0.00
LAKE ORION	$2,339.64	$1,559.76	$779.88	$0.00	$0.00
LATHRUP	$2,730.46	$2,730.46	$0.00	$0.00	$0.00
LENOX TOWNSHIP	$947.28	$631.52	$315.76	$0.00	$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
LIVONIA	$78,369.16	$78,369.16	$0.00	$0.00	$0.00
MACOMB TWP	$400.46	$400.46	$0.00	$0.00	$0.00
MADISON HEIGHTS	$54,968.63	$36,670.49	$18,298.14	$0.00	$0.00
MELVINDALE	$6,825.40	$6,825.40	$0.00	$0.00	$0.00
NEW HAVEN	$0.00	$0.00	$0.00	$0.00	$0.00
NORTHVILLE	$3,447.22	$3,447.22	$0.00	$0.00	$0.00
NOVI	$34,368.54	$34,368.54	$0.00	$0.00	$0.00
OAK PARK	$0.00	$0.00	$0.00	$0.00	$0.00
OAKLAND TOWNSHIP	$0.00	$0.00	$0.00	$0.00	$0.00
ORCHARD LAKE VILLAGE	$0.00	$0.00	$0.00	$0.00	$0.00
ORION TOWNSHIP (C-O)	$7,791.08	$7,791.08	$0.00	$0.00	$0.00
ORION TOWNSHIP (C-O) ADMIN	$464.69	$464.69	$0.00	$0.00	$0.00
OXFORD TOWNSHIP	$1,048.93	$1,048.93	$0.00	$0.00	$0.00
OXFORD VILLAGE	$2,443.80	$2,443.80	$0.00	$0.00	$0.00
PLEASANT RIDGE	$265.73	$265.73	$0.00	$0.00	$0.00
PLYMOUTH	$0.00	$0.00	$0.00	$0.00	$0.00
PLYMOUTH TOWNSHIP	$132.84	$132.84	$0.00	$0.00	$0.00
REDFORD TOWNSHIP	$14,274.57	$14,274.57	$0.00	$0.00	$0.00
ROCHESTER HILLS	$17,982.62	$17,982.62	$0.00	$0.00	$0.00
ROMULUS	$898.75	$898.75	$0.00	$0.00	$0.00
ROSEVILLE	$14,258.03	$14,258.03	$0.00	$0.00	$0.00
ROYAL OAK	$13,458.44	$13,458.44	$0.00	$0.00	$0.00
ROYAL OAK TOWNSHIP	$0.00	$0.00	$0.00	$0.00	$0.00

GLWA Aged Accounts Receivable- IWC ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
SHELBY TOWNSHIP	$14,263.05	$14,263.05	$0.00	$0.00	$0.00
SOUTHFIELD (E-F)	$54,877.07	$54,877.07	$0.00	$0.00	$0.00
SOUTHFIELD (SEOC)	$7,712.11	$7,712.11	$0.00	$0.00	$0.00
ST. CLAIR SHORES	$11,787.00	$11,787.00	$0.00	$0.00	$0.00
STERLING HEIGHTS	$30,780.13	$30,780.13	$0.00	$0.00	$0.00
TROY (E-F)	$0.00	$0.00	$0.00	$0.00	$0.00
TROY (SEOC)	$0.00	$0.00	$0.00	$0.00	$0.00
UTICA	$2,958.81	$2,958.81	$0.00	$0.00	$0.00
VAN BUREN TOWNSHIP	$2,044.27	$2,044.27	$0.00	$0.00	$0.00
VILLAGE OF FRANKLIN	$0.00	$0.00	$0.00	$0.00	$0.00
WASHINGTON TOWNSHIP	$0.00	$0.00	$0.00	$0.00	$0.00
WATERFORD TOWNSHIP DPW (ADMI	$3,021.26	$3,021.26	$0.00	$0.00	$0.00
WAYNE	$4,870.25	$4,870.25	$0.00	$0.00	$0.00
WEST BLOOMFIELD TWP (E-F)	$6,231.97	$6,231.97	$0.00	$0.00	$0.00
WEST BLOOMFIELD TWP. (C-O) A	$230.46	$230.46	$0.00	$0.00	$0.00
WESTLAND	$21,912.73	$21,912.73	$0.00	$0.00	$0.00
TOTAL IWC ACCOUNTS	$2,411,747.92	$623,957.62	$35,661.96	$6,567.34	$1,745,561.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
3M COMPANY	$3,593.79	$3,593.79	$0.00	$0.00	$0.00
A & R PACKING CO., LLC	$3,393.30	$3,393.30	$0.00	$0.00	$0.00
AACTRON	$0.00	$0.00	$0.00	$0.00	$0.00
ACADEMY PACKING CO.	$157.07	$157.07	$0.00	$0.00	$0.00
ACME RUSTPROOF	$45.99	$45.99	$0.00	$0.00	$0.00
ADORING PET FUNERAL HOME	$133.58	$133.58	$0.00	$0.00	$0.00
ADVANCE ENGINEERING COMPANY	$0.00	$0.00	$0.00	$0.00	$0.00
AEVITAS SPECIALITY SERVICES	$1,048.57	$1,048.57	$0.00	$0.00	$0.00
ALEXANDER & HORNUNG	$0.00	$0.00	$0.00	$0.00	$0.00
ALEXANDER & HORNUNG	$0.00	$0.00	$0.00	$0.00	$0.00
ALL CHEM CORP, LLC.	$0.00	$0.00	$0.00	$0.00	$0.00
ALPHA STAMPING COMPANY	$332.29	$332.29	$0.00	$0.00	$0.00
AMERICAN WASTE TECH INC.	$0.00	$0.00	$0.00	$0.00	$0.00
AMERITI MFG. CO.	$0.00	$0.00	$0.00	$0.00	$0.00
ATWATER IN THE PARK	$7.16	$7.16	$0.00	$0.00	$0.00
AUTOMOTIVE FINISH	$4.43	$4.43	$0.00	$0.00	$0.00
AXLE BREWING COMPANY, LLC	$0.00	$0.00	$0.00	$0.00	$0.00
B. NEKTAR MEADERY	$0.00	$0.00	$0.00	$0.00	$0.00
BAFFIN BREWING COMPANY	$(46.61)	$0.00	$0.00	$0.00	$(46.61)
BARON INDUSTRIES	$1,228.50	$0.00	$1,228.50	$0.00	$0.00
BARTZ BAKERY	$60.85	$60.85	$0.00	$0.00	$0.00
BASTONE BREWERY	$0.00	$0.00	$0.00	$0.00	$0.00
BATCH BREWING COMPANY	$828.85	$89.65	$0.00	$184.80	$554.40

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
BAYS MICHIGAN CORPORATION	$0.00	$0.00	$0.00	$0.00	$0.00
BEIRUT BAKERY, INC.	$37.00	$0.00	$0.00	$0.00	$37.00
BETTER MADE SNACK FOOD	$30,014.75	$30,014.75	$0.00	$0.00	$0.00
BLACK LOTUS BREWING CO.	$61.25	$0.00	$0.00	$0.00	$61.25
BOZEK'S MARKET	$52.37	$52.37	$0.00	$0.00	$0.00
BREW DETROIT	$5,485.96	$5,485.96	$0.00	$0.00	$0.00
BROADWAY MKT CORNED BEEF	$0.00	$0.00	$0.00	$0.00	$0.00
BROOKS BREWING, LLC.	$0.00	$0.00	$0.00	$0.00	$0.00
BROWN IRON BREWHOUSE	$0.00	$0.00	$0.00	$0.00	$0.00
CADILLAC STRAITS BREWING CO.	$36.70	$36.70	$0.00	$0.00	$0.00
CANTON BREW WORKS	$0.00	$0.00	$0.00	$0.00	$0.00
CAPITAL REPRODUCTIONS	$0.00	$0.00	$0.00	$0.00	$0.00
CF BURGER CREAMERY	$18,511.34	$18,511.34	$0.00	$0.00	$0.00
CHILANGO'S BAKERY	$1,880.47	$29.61	$14.80	$17.69	$1,818.37
CINTAS CORP. - MACOMB TWP.	$34,224.62	$34,224.62	$0.00	$0.00	$0.00
CINTAS CORPORATION	$0.00	$0.00	$0.00	$0.00	$0.00
CINTAS CORPORATION	$0.00	$0.00	$0.00	$0.00	$0.00
CITY LAUNDRY, INC.	$23.10	$19.03	$4.07	$0.00	$0.00
CLASSIC CONTAINER CORP.	$7.94	$7.94	$0.00	$0.00	$0.00
COCA-COLA REFRESHMENTS USA,	$1,747.42	$1,747.42	$0.00	$0.00	$0.00
COSTCO WHOLESALE STORE	$0.00	$0.00	$0.00	$0.00	$0.00
COSTCO WHOLESALE STORE	$0.00	$0.00	$0.00	$0.00	$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
COSTCO WHOLESALE STORE	$0.00	$0.00	$0.00	$0.00	$0.00
COSTCO WHOLESALE STORE	$0.00	$0.00	$0.00	$0.00	$0.00
COUNTRY FRESH DAIRY CO.	$0.00	$0.00	$0.00	$0.00	$0.00
CROSS CHEMICAL COMPANY, INC.	$0.00	$0.00	$0.00	$0.00	$0.00
DARLING INGREDIENTS, INC.	$13,029.44	$13,029.44	$0.00	$0.00	$0.00
DAVE'S SAUSAGE FACTORY 2	$388.46	$388.46	$0.00	$0.00	$0.00
DEARBORN BREWING	$29.68	$29.68	$0.00	$0.00	$0.00
DEARBORN SAUSAGE	$5,108.38	$5,108.38	$0.00	$0.00	$0.00
DEARBORN SAUSAGE CO., INC.	$8,171.50	$8,171.50	$0.00	$0.00	$0.00
DETROIT BEER CO.	$24.89	$24.89	$0.00	$0.00	$0.00
DETROIT LINEN SERVICE	$0.00	$0.00	$0.00	$0.00	$0.00
DETROIT METRO WC AIRPORT	$0.00	$0.00	$0.00	$0.00	$0.00
DETROIT RIVERTOWN BREWERY CO	$1,614.36	$1,614.36	$0.00	$0.00	$0.00
DETROIT SAUSAGES CO INC	$23.16	$11.64	$5.82	$2.85	$2.85
DETRONIC INDUSTRIES, INC.	$30.74	$30.74	$0.00	$0.00	$0.00
DIFCO LABORATORIES, INC.	$0.00	$0.00	$0.00	$0.00	$0.00
DIVERSIFIED CHEM TECH. INC.	$152.07	$152.07	$0.00	$0.00	$0.00
DOMESTIC UNIFORM RENTAL	$6,180.35	$6,180.35	$0.00	$0.00	$0.00
DOMESTIC UNIFORM RENTAL	$2,636.11	$2,636.11	$0.00	$0.00	$0.00
DOWNEY BREWING COMPANY	$0.36	$0.36	$0.00	$0.00	$0.00
E.W. GROBBEL'S SONS, INC.	$3,910.23	$3,910.23	$0.00	$0.00	$0.00
EASTERN MARKET BREWING COMPA	$55.69	$55.69	$0.00	$0.00	$0.00
ENVIROSOLIDS, L.L.C.	$0.00	$0.00	$0.00	$0.00	$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
EQ DETROIT, INC.	$2,805.09	$2,805.09	$0.00	$0.00	$0.00
EQ DETROIT, INC.	$14,919.41	$14,919.41	$0.00	$0.00	$0.00
EQ DETROIT, INC.	$199.75	$199.75	$0.00	$0.00	$0.00
EQ DETROIT, INC.	$0.00	$0.00	$0.00	$0.00	$0.00
ETON ST BREWERY- GRIFFIN CLA	$2,371.40	$2,371.40	$0.00	$0.00	$0.00
EXTRUDE HONE CORPORATION	$0.00	$0.00	$0.00	$0.00	$0.00
EXTRUDEHODE	$0.00	$0.00	$0.00	$0.00	$0.00
FARMINGTON BREWING COMPANY	$11.04	$11.04	$0.00	$0.00	$0.00
FAYGO BEVERAGES, INC.	$16,629.92	$16,629.92	$0.00	$0.00	$0.00
FITZGERALD FINISHING LLC	$0.00	$0.00	$0.00	$0.00	$0.00
FIVES CINETIC CORP.	$4,422.13	$4,422.13	$0.00	$0.00	$0.00
FORD NEW MODEL PROGRAM	$0.00	$0.00	$0.00	$0.00	$0.00
FOUNDERS BREWING COMPANY	$10.05	$10.05	$0.00	$0.00	$0.00
FRESH-PAK	$165.63	$165.63	$0.00	$0.00	$0.00
FRESH-PAK	$0.00	$0.00	$0.00	$0.00	$0.00
G2O ENERGY, LLC	$2,813.15	$2,813.15	$0.00	$0.00	$0.00
GENERAL LINEN SUPPLY CO.	$6,857.03	$6,857.03	$0.00	$0.00	$0.00
GLOBAL TITANIUM, INC.	$0.00	$0.00	$0.00	$0.00	$0.00
GRANITE CITY FOOD & BREWERY	$24.45	$24.45	$0.00	$0.00	$0.00
GRANITE CITY FOOD & BREWERY	$0.00	$0.00	$0.00	$0.00	$0.00
GRANITE CITY FOOD & BREWERY	$41.96	$41.96	$0.00	$0.00	$0.00
GREAT BARABOO BREWING CO.	$68.92	$68.92	$0.00	$0.00	$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
HACIENDA MEXICAN FOODS	$1,855.52	$1,055.38	$600.18	$199.96	$0.00
HENKEL CORPORATION	$0.00	$0.00	$0.00	$0.00	$0.00
HOME STYLE FOOD INC.	$22.97	$22.97	$0.00	$0.00	$0.00
HOMEGROWN BREWING COMPANY	$48.03	$48.03	$0.00	$0.00	$0.00
HOODS CLEANERS	$211.33	$0.00	$0.00	$0.00	$211.33
HOUGHTON INTERNATIONAL INC.	$493.58	$335.94	$153.09	$4.55	$0.00
HOUGHTON INTERNATIONAL INC.	$1,276.69	$850.48	$426.21	$0.00	$0.00
HOUGHTON INTERNATIONAL INC.	$15,934.17	$9,491.33	$4,579.82	$1,863.02	$0.00
HUNTINGTON CLEANERS	$983.67	$983.67	$0.00	$0.00	$0.00
IDP, INC.	$0.00	$0.00	$0.00	$0.00	$0.00
INDUSTRIAL METAL COATING	$700.58	$700.58	$0.00	$0.00	$0.00
ISLAMIC SLAUGHTER HOUSE	$1,382.21	$1,382.21	$0.00	$0.00	$0.00
ITALIAN BUTTER BREAD STICKS	$0.00	$0.00	$0.00	$0.00	$0.00
JAMEX BREWING CO.	$185.82	$34.01	$0.00	$36.75	$115.06
KAR NUT PRODUCTS	$0.00	$0.00	$0.00	$0.00	$0.00
KOWALSKI SAUSAGES, CO.	$644.34	$644.34	$0.00	$0.00	$0.00
KUHNHENN BREWING	$0.00	$0.00	$0.00	$0.00	$0.00
LA MICHOACANA FLOUR TORTILLA	$1,739.64	$1,739.64	$0.00	$0.00	$0.00
LA MICHOACANA FLOUR TORTILLA	$55.09	$55.09	$0.00	$0.00	$0.00
LEAR CORPORATION DBA EAGLE C	$0.00	$0.00	$0.00	$0.00	$0.00
LIBERTY STREET PROD. BREWERY	$0.00	$0.00	$0.00	$0.00	$0.00
LIFE TECHNOLOGIES	$63,884.52	$44,843.81	$19,040.71	$0.00	$0.00
LILY'S SEAFOOD GRILL & BREWE	$44.75	$44.75	$0.00	$0.00	$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
MACDERMID, INC.	$2,018.22	$2,018.22	$0.00	$0.00	$0.00
MCCLURE'S PICKLES	$632.14	$632.14	$0.00	$0.00	$0.00
MCNICHOLS POLISHING & ANODIZ	$0.00	$0.00	$0.00	$0.00	$0.00
MELLO MEATS INC, - KUBISCH S	$174.56	$174.56	$0.00	$0.00	$0.00
METROPOLITAN BAKERY	$522.97	$522.97	$0.00	$0.00	$0.00
MIBA HYDRAMECHANICA CORP.	$80.92	$80.92	$0.00	$0.00	$0.00
MICHIGAN DAIRY	$162,283.84	$162,283.84	$0.00	$0.00	$0.00
MICHIGAN PROD. MACHINING	$0.00	$0.00	$0.00	$0.00	$0.00
MICHIGAN SOY PRODUCTS CO.	$475.51	$475.51	$0.00	$0.00	$0.00
MIDWEST WIRE PRODUCTS, INC.	$0.00	$0.00	$0.00	$0.00	$0.00
MILANO BAKERY	$987.75	$987.75	$0.00	$0.00	$0.00
MILTON CHILI CO.	$0.00	$0.00	$0.00	$0.00	$0.00
MINNIE MARIE BAKERS, INC	$2,517.64	$2,517.64	$0.00	$0.00	$0.00
MISTER UNIFORM & MAT RENTALS	$(12.17)	$0.00	$0.00	$0.00	$(12.17)
MOTOR CITY BREWING WORKS	$1,765.01	$89.50	$0.00	$78.75	$1,596.76
NATIONAL CHILI COMPANY	$0.00	$0.00	$0.00	$0.00	$0.00
NATIONAL CHILI COMPANY	$0.00	$0.00	$0.00	$0.00	$0.00
NATIONAL CHILI COMPANY	$297.07	$297.07	$0.00	$0.00	$0.00
NEAPCO DRIVELINES	$0.00	$0.00	$0.00	$0.00	$0.00
NORTH CENTER BREWING COMPANY	$0.00	$0.00	$0.00	$0.00	$0.00
NORTHERN LAKES SEAFOOD & MEA	$24.66	$24.66	$0.00	$0.00	$0.00
OAKWOOD BAKERY	$(42.84)	$0.00	$0.00	$(42.84)	$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
OLIVER HATCH CONSTRUCTION	$0.00	$0.00	$0.00	$0.00	$0.00
PARKER'S HILLTOP BREWER & SI	$38.84	$38.84	$0.00	$0.00	$0.00
PELLERITO FOODS INC.	$0.00	$0.00	$0.00	$0.00	$0.00
PEPSI COLA, INC.	$44,798.12	$44,798.12	$0.00	$0.00	$0.00
PERDUE PREMIUM MEAT COMPANY	$72,383.81	$72,383.81	$0.00	$0.00	$0.00
PERDUE PREMIUM MEAT COMPANY	$14,389.26	$14,389.26	$0.00	$0.00	$0.00
PERDUE PREMIUM MEAT COMPANY	$5,282.54	$5,282.54	$0.00	$0.00	$0.00
PERSONAL UNIFORM SERVICE, IN	$67.90	$67.90	$0.00	$0.00	$0.00
PETRO ENVIRON TECH, INC.	$0.00	$0.00	$0.00	$0.00	$0.00
PINE TREE ACRES, INC.	$20,551.73	$20,551.73	$0.00	$0.00	$0.00
PLATING SPEC	$0.00	$0.00	$0.00	$0.00	$0.00
POWER VAC OF MICHIGAN, INC.	$0.00	$0.00	$0.00	$0.00	$0.00
PREMIER PLATING, LLC	$0.00	$0.00	$0.00	$0.00	$0.00
PRODUCTION SPRING, LLC.	$0.00	$0.00	$0.00	$0.00	$0.00
QUALA SERVICES, LLC	$983.09	$983.09	$0.00	$0.00	$0.00
RAY'S ICE CREAM CO.	$0.00	$0.00	$0.00	$0.00	$0.00
RED SPOT PAINT #409139	$0.00	$0.00	$0.00	$0.00	$0.00
RIVER ROUGE BREWING COMPANY	$440.60	$440.60	$0.00	$0.00	$0.00
ROAK BREWING CO. LLC	$0.00	$0.00	$0.00	$0.00	$0.00
ROCHESTER MILLS BEER COMPANY	$103.33	$103.33	$0.00	$0.00	$0.00
ROCHESTER MILLS PROD BREWERY	$1,612.73	$1,612.73	$0.00	$0.00	$0.00
ROYAL OAK BREWERY	$(487.43)	$0.00	$0.00	$0.00	$(487.43)
RTT	$27,772.36	$0.00	$0.00	$0.00	$27,772.36

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
SEAFARE FOODS, INC.	$95.67	$95.67	$0.00	$0.00	$0.00
SHERWOOD BREWING COMPANY	$33.34	$33.34	$0.00	$0.00	$0.00
SMITH-WATKINS, LLC	$0.00	$0.00	$0.00	$0.00	$0.00
SPRAYTEK, INC.	$14.52	$0.00	$0.00	$0.00	$14.52
SUPERNATURAL SPIRITS & BREWI	$(62.64)	$0.00	$(62.64)	$0.00	$0.00
SWEETHEART BAKERY, INC.	$1,215.64	$144.02	$62.36	$65.35	$943.91
THE CROWN GROUP-LIVONIA PLAN	$0.00	$0.00	$0.00	$0.00	$0.00
TOM LAUNDRY CLEANERS	$8.06	$8.06	$0.00	$0.00	$0.00
TRAFFIC JAM & SNUG	$(31.16)	$0.00	$0.00	$0.00	$(31.16)
TURRI'S ITALIAN FOODS	$0.00	$0.00	$0.00	$0.00	$0.00
TURRI'S ITALIAN FOODS	$233,326.74	$233,326.74	$0.00	$0.00	$0.00
U-METCO, INC.	$1,170.42	$1,170.42	$0.00	$0.00	$0.00
UNCLE RAYS SNACKS, LLC	$66,378.26	$39,097.68	$27,280.58	$0.00	$0.00
UNCLE RAYS SNACKS, LLC	$3,997.57	$2,493.36	$1,504.21	$0.00	$0.00
UNIQUE LINEN SERVICES, INC.	$0.00	$0.00	$0.00	$0.00	$0.00
UNITED FISH DISTRIBUTORS	$21.14	$21.14	$0.00	$0.00	$0.00
UNITED LINEN SERVICE, LLC.	$310.97	$310.97	$0.00	$0.00	$0.00
UNITED MEAT & DELI	$0.00	$0.00	$0.00	$0.00	$0.00
URBANREST BREWING COMPANY	$105.37	$53.28	$0.00	$52.09	$0.00
US ECOLOGY MICHIGAN	$568.65	$568.65	$0.00	$0.00	$0.00
US ECOLOGY ROMULUS, INC.	$2,700.51	$2,700.51	$0.00	$0.00	$0.00
USHER OIL SERVICES	$3,776.94	$3,776.94	$0.00	$0.00	$0.00

GLWA Aged Accounts Receivable- POLLUTANT SURCHARGE ACCOUNTS

Balances as of 04/30/21

Customer Name	Total Due	Current	46 - 74 Days	75 - 104 Days	>105 Days
VALICOR ENVIROMENTAL SERVICE	$1,857.91	$1,857.91	$0.00	$0.00	$0.00
VAUGHAN INDUSTRIES, INC.	$39.60	$39.60	$0.00	$0.00	$0.00
VERNDALE PRODUCTS	$8,851.79	$8,851.79	$0.00	$0.00	$0.00
VERNDALE PRODUCTS, INC.	$1,849.27	$1,849.27	$0.00	$0.00	$0.00
VERNOR FOOD PRODUCTS	$(36.26)	$0.00	$0.00	$0.00	$(36.26)
WIGLEY'S MEAT PROCESS	$750.64	$750.64	$0.00	$0.00	$0.00
WINTER SAUSAGE MFG. CO.	$1,131.75	$1,131.75	$0.00	$0.00	$0.00
WINTER SAUSAGE MFG. CO.	$206.56	$206.56	$0.00	$0.00	$0.00
WOLVERINE PACKING CO	$6,750.49	$6,750.49	$0.00	$0.00	$0.00
WOLVERINE PACKING CO.	$2,647.55	$2,647.55	$0.00	$0.00	$0.00
WOODWARD AVENUE BREWERS	$144.24	$0.00	$0.00	$0.00	$144.24
TOTAL POLLUTANT SURCHARGE ACCOUNTS	$982,514.65	$892,555.55	$54,837.71	$2,462.97	$32,658.42

City of Highland Park Billings and Collections

	Water	Sewer	IWC	Cumulative Total
June 30, 2012 Balance	$ -	$ 10,207,956	$ 852,987	$ 11,060,943
FY 2013 Billings	485,887	4,987,635	154,444	5,627,966
FY 2013 Payments	(65,652)	(2,206,211)	-	(2,271,863)
				-
June 30, 2013 Balance	$ 420,235	$ 12,989,380	$ 1,007,431	$ 14,417,046
FY 2014 Billings	1,004,357	6,980,442	161,951	8,146,750
FY 2014 Payments	-	(1,612,633)	-	(1,612,633)
				-
June 30, 2014 Balance	$ 1,424,592	$ 18,357,189	$ 1,169,382	$ 20,951,163
FY 2015 Billings	1,008,032	5,553,123	165,739	6,726,894
FY 2015 Payments	-	(1,444,623)	-	(1,444,623)
				-
June 30, 2015 Balance	$ 2,432,625	$ 22,465,689	$ 1,335,121	$ 26,233,435
FY 2016 Billings	1,157,178	5,612,167	106,431	6,875,776
FY 2016 Payments	-	(2,022,335)	-	(2,022,335)
				-
June 30, 2016 Balance	$ 3,589,803	$ 26,055,521	$ 1,441,551	$ 31,086,875
FY 2017 Billings	1,245,267	5,802,000	101,999	7,149,265
FY 2017 Payments	-	(2,309,186)	-	(2,309,186)
				-
June 30, 2017 Balance	$ 4,835,070	$ 29,548,335	$ 1,543,550	$ 35,926,954
FY 2018 Billings	1,277,179	5,657,101	80,472	7,014,752
FY 2018 Payments	-	(4,108,108)	-	(4,108,108)
June 30, 2018 Balance	$ 6,112,248	$ 31,097,327	$ 1,624,022	$ 38,833,597
FY 2019 Billings	1,238,797	5,617,100	51,220	6,907,117
FY 2019 Payments	-	(5,241,583)	-	(5,241,583)
June 30, 2019 Balance	$ 7,351,045	$ 31,472,844	$ 1,675,243	$ 40,499,132
FY 2020 Billings	1,182,639	5,665,400	47,097	6,895,136
FY 2020 Payments	-	(3,026,117)	-	(3,026,117)
June 30, 2020 Balance	$ 8,533,684	$ 34,112,127	$ 1,722,340	$ 44,368,151
FY 2021 Billings (10 Months)	991,330	4,744,200	39,305	5,774,835
FY 2021 Payments (10 Months)	-	(2,783,552)	-	(2,783,552)
Balance as of April 30, 2021	**$ 9,525,014**	**$ 36,072,775**	**$ 1,761,645**	**$ 47,359,434**

AGENDA ITEM #8C

Financial Services
Audit Committee Communication

Date: July 23, 2021

To: Great Lakes Water Authority Audit Committee

From: Megan Torti, Vendor Outreach Coordinator

Re: Business Inclusion & Diversity Program Update

Background: On November 25, 2020, the GLWA Board of Directors approved an amendment to the Procurement Policy allowing for the formation of a new Business Inclusion & Diversity (B.I.D.) Program within the Financial Services' Procurement Team. The B.I.D. Program Team, which includes internal GLWA Team Members as well as external consultants, executed a Phase I launch of the program on February 1, 2021.

Analysis: As the B.I.D. Program entered Phase II implementation on July 1, 2021, the B.I.D. Program Team undertook the following strategic efforts.

1. To date, GLWA has received solicitation responses for three Request for Bids (RFBs) that include the B.I.D. Program requirements. In addition, GLWA currently has eight open B.I.D. qualifying solicitations in our Bonfire Procurement Portal.
2. Developing a checklist of requirements for B.I.D. Program Diversity Plans to distribute to vendors as a template for future solicitations.
3. Discussing workplans for targeted outreach to small, minority-owned, and disadvantaged business enterprises.

Additionally, the following tasks remain at the top of our priority list.

- Upcoming B.I.D. Program Presentations at the Pure Michigan Business Connect (PMBC) and the Macomb Procurement Technical Assistance Center (PTAC) Virtual Meet the Buyer Events on August 12, 2021 and August 19, 2021.
- Developing contract language for B.I.D. Program requirements.
- Evaluating the insurance and bonding requirements for small, minority-owned, and disadvantaged business enterprises.
- Identifying meaningful reporting and performances measures.

Proposed Action: Receive and file this report.

The Quarterly WRAP Report includes the following:

1. Community Participation
2. Approved Program Changes
3. Current Year Budget Allocations
4. FY 2021 and FY 2020 Activity
5. Reallocation Activity
6. Program Review & Modifications

The Water Residential Assistance Program ("WRAP") provides sustainable funding for qualifying low-income residents served by the Great Lakes Water Authority's ("GLWA") customers. The program is funded by GLWA at an amount equal to 0.5 percent of budgeted revenues for the Regional System and not less than 0.5 percent, but not greater than 1.0 percent of budgeted revenues for the DWSD Local System. The budgeted WRAP funding for FY 2021 $6.1 million combined for water and sewer services.

The approved guidelines for FY2021 includes funding for a) payment assistance and b) water audit and water conservation measures. Eligible residential customers with a past due bill and/or who are in active shut off can receive assistance with paying down arrears and receive $25 toward monthly bill payment assistance annually up to $1,000. High volume water users can receive a one-time home audit and home water conservation services of an average $1,500 per household. To participate in WRAP, an applicant must have household gross incomes at or below 200% of the federal poverty income thresholds. Customers with water usage at or above 120% of the average residential usage are eligible to participate in a water audit and install water conservation measures. WRAP participants are also encouraged to participate in both financial coaching and water conservation workshops as well as other support services. The program is administered by Wayne Metro Community Action Agency ("Wayne Metro"), a nonprofit agency.

The WRAP began assisting residents in the GLWA service area on March 1, 2016. Since inception through FY2021, WRAP has committed over $21.6 million in assistance and conservation funds to qualified participants. This program has the potential to serve over 100 communities within the GLWA service area, but to assist qualified households, each community must opt into the program and sign a Memorandum of Agreement (MOA) with Wayne Metro.

Community Participation

A community participating in WRAP must receive water and/or sewer service from GLWA. Eligible communities must formally opt into the program by signing a memorandum of agreement with Wayne Metro. For FY2021, 79 communities have opted into WRAP. A list of current participating communities is presented in ***Table 1 – WRAP Participating Communities***.

Table 1 – WRAP Participating Communities

This table shows the level of participation that each community has chosen. Option 1 includes bill assistance, arrearage assistance and conservation. Option 2 includes bill assistance and conservation, and Option 3 includes conservation only. There has been no change in participation from the prior quarter.

County	Member Partner	Option #1	Option #2	Option #3	In Progress	Not Opted In
Genesee	Flint	X				
Lapeer	Almont		X			
Lapeer	Imlay City					X
Lapeer	Lapeer	X				
Macomb	Centerline	X				
Macomb	Chesterfield Township	X				
Macomb	Clinton Township		X			
Macomb	Eastpointe	X				
Macomb	Fraser					X
Macomb	Harrison Township					X
Macomb	Lenox Township					X
Macomb	Macomb Township	X				
Macomb	New Haven	X				
Macomb	Roseville					X
Macomb	Shelby Township	X				
Macomb	St. Clair Shores	X				
Macomb	Sterling Heights	X				
Macomb	Utica	X				
Macomb	Warren	X				
Macomb	Washington Township		X			
Monroe	Ash Township	X				
Monroe	Berlin					X
Monroe	South Rockwood					X
Oakland	Auburn Hills					X
Oakland	Berkley	X				
Oakland	Beverly Hills	X				
Oakland	Bingham Farms	X				
Oakland	Birmingham	X				
Oakland	Bloomfield Hills	X				
Oakland	Bloomfield Township	X				
Oakland	Clawson	X				
Oakland	Commerce Township	X				
Oakland	Farmington	X				
Oakland	Farmington Hills	X				
Oakland	Ferndale	X				
Oakland	Hazel Park		X			
Oakland	Huntington Woods	X				
Oakland	Keego Harbor	X				
Oakland	Lake Orion	X				
Oakland	Lathrup Village	X				
Oakland	Madison Heights	X				
Oakland	Novi					X
Oakland	Oak Park		X			
Oakland	Orchard Lake	X				
Oakland	Orion Township	X				
Oakland	Oxford	X				
Oakland	Pleasant Ridge	X				
Oakland	Pontiac	X				
Oakland	Rochester Hills					X
Oakland	Royal Oak	X				
Oakland	Royal Oak Township	X				
Oakland	Southfield	X				
Oakland	Sylvan Lake					X

County	Member Partner	Option #1	Option #2	Option #3	In Progress	Not Opted In
Oakland	Troy					X
Oakland	Walled Lake	X				
Oakland	Waterford Township		X			
Oakland	West Bloomfield Twp.		X			
Oakland	Wixom					X
St. Clair	Burtchville Township					X
Washtenaw	Augusta Township	X				
Washtenaw	Pittsfield Township	X				
Washtenaw	Superior Township	X				
Washtenaw	Ypsilanti	X				
Washtenaw	Ypsilanti Township	X				
Wayne	Allen Park	X				
Wayne	Belleville					X
Wayne	Brownstown Township	X				
Wayne	Canton Township	X				
Wayne	Dearborn	X				
Wayne	Dearborn Heights	X				
Wayne	Detroit	X				
Wayne	Ecorse	X				
Wayne	Flat Rock	X				
Wayne	Garden City	X				
Wayne	Gibraltar		X			
Wayne	Grosse Ile					X
Wayne	Grosse Pointe					X
Wayne	Grosse Pointe Farms					X
Wayne	Grosse Pointe Park					X
Wayne	Grosse Pointe Shores	X				
Wayne	Grosse Pointe Woods					X
Wayne	Hamtramck	X				
Wayne	Harper Woods		X			
Wayne	Huron Charter Township					X
Wayne	Inkster		X			
Wayne	Lincoln Park		X			
Wayne	Livonia	X				
Wayne	Melvindale	X				
Wayne	Northville	X				
Wayne	Northville Township					X
Wayne	Plymouth		X			
Wayne	Plymouth Township					X
Wayne	Redford Township	X				
Wayne	River Rouge	X				
Wayne	Riverview					X
Wayne	Rockwood					X
Wayne	Romulus		X			
Wayne	Southgate	X				
Wayne	Sumpter Township					X
Wayne	Taylor		X			
Wayne	Trenton	X				
Wayne	Van Buren Township	X				
Wayne	Wayne	X				
Wayne	Westland	X				
Wayne	Woodhaven		X			
Count	105	64	15	0	0	26

Color Key
Wayne Metro
Macomb Community Action
OLHSA

Approved Program Changes

As a first-of-its-kind assistance program in the state of Michigan, changes to WRAP may be required as the program matures. Following is a summary of program changes made to WRAP since 2016, as approved by the GLWA Board of Directors.

November 30, 2016:

Allow customer communities to opt into program features that best meet the needs of their community. This is captured in the three options below:

Option 1

- Assistance up to $300 per year in the form of $25 monthly bill credits. (Applicable if client continues to pay all current monthly/quarterly charges).
- Up to $700 in arrearage assistance to be paid 50% (up to $350) after six months in the program, and 50% (up to $350) after one year. Enrollees are eligible for a second-year arrearage assistance totaling $700.
- One-time home water audit for households above 120% of average usage.
- Home repairs up to $1,000 per household to fix minor plumbing issues leading to high usage (finding and fixing leaks, upgrading water using fixtures) and/or minor lead replacement assistance.

Option 2

- Assistance up to $300 per year in the form of $25 monthly bill credits. (Applicable if client continues to pay all current monthly/quarterly charges).
- One-time home water audit for households above 120% of average usage.
- Home repairs up to $1,000 per household to fix minor plumbing issues leading to high usage (finding and fixing leaks, upgrading water using fixtures) and/or minor lead replacement assistance.

Option 3

- One-time home water audit for households above 120% of average usage.
- Home repairs up to $1,000 per household to fix minor plumbing issues leading to high usage (finding and fixing leaks, upgrading water using fixtures) and/or minor lead replacement assistance.

August 22, 2018:

Removal of the 120% usage requirement for the lead fixture replacement for in-home faucets that pre-date the lead-free plumbing code change.

January 23, 2019:

Extend the 2-year time limitation to provide monthly bill assistance to senior citizens and disabled citizens.

March 11, 2020:

- Increase eligibility for residential customers from 150% to 200% or less of federal poverty level;

- Increase conservation and plumbing repairs spending per household from $1,000 to an average of $1,500 and a cap of $2,000 per customer for eligible residential customers; and

- Allow eligible residential customers that are renters to take advantage of conservation and plumbing repairs to reduce their water consumption, upon landlord executing an agreement not to raise rents for one year.

October 28, 2020:

- Temporary change to 1) allow program participants who are unable to make monthly payments on time to remain in WRAP if they demonstrate a significant loss of income or inability to make a timely payment due to COVID-19; and 2) participants will still be eligible to receive monthly bill credits and arrears payments if applicable, until December 31, 2020.

April 28, 2021:

- Enabled the use of categorical eligibility to determine if a household can receive WRAP funds.

- Increased the WRAP arrearages payment cap to $1,200 per household, per year, for a total of $2,400 per household if they complete two years of the program.

- Updated the program reporting to include additional data on number of applicants deemed not eligible for WRAP, timeframe from application submission to program enrollment, number of participants making on-time bill payments, amount of arrearages paid per household, number of water audits completed, average cost of repairs per household, water consumption per household, number of program referrals, and additional forms of assistance provided via supplemental funding.

FY2021 Budget and Allocations

Consistent with the previous fiscal years funding allocation for WRAP, the FY 2021 budgeted allocation is based on the proportionality of the revenues derived from each county and the City of Detroit, based on the approved FY 2021 water and sewer service charges and budget.

Table 2 - FY 2021 WRAP Budget and Allocations

This table shows the allocation of the FY 2021 budgeted WRAP funds, which is reflective of the approved FY 2021 budget of $6.1 million. In the table below, the City of Detroit is shown separately from the remaining Wayne County allocation. The City of Detroit is currently allocated 26.6% of total wholesale WRAP funding and contributes additional, local WRAP funding which increases the overall program impact for the City.

Community	Budgeted Direct Assistance	Budgeted Conservation Assistance	Budgeted Administration Costs	Total Budgeted Revenue (1)	Allocation
CITY OF DETROIT					
SHARE OF WHOLESALE FUNDING	$776,087	$194,022	$116,400	$1,086,509	26.60%
LOCAL WRAP FUNDING	1,431,440	357,860	214,700	2,004,000	
TOTAL DETROIT	$2,207,527	$551,882	$331,100	$3,090,509	26.60%
WAYNE COUNTY	736,129	184,032	73,600	993,761	24.33%
OAKLAND COUNTY	851,554	212,889	85,200	1,149,643	28.15%
MACOMB COUNTY	551,503	137,876	55,100	744,479	18.23%
GENESEE COUNTY	18,150	4,538	1,800	24,488	0.60%
WASHTENAW COUNTY	40,932	10,233	4,100	55,265	1.35%
LAPEER COUNTY	12,891	3,223	1,300	17,414	0.43%
MONROE COUNTY	6,536	1,634	600	8,771	0.21%
ST. CLAIR COUNTY	3,097	774	300	4,171	0.10%
TOTAL	$4,428,320	$1,107,080	$553,100	$6,088,500	100.00%

(1) Based on FY 2021 Budgeted WRAP Funding of:	Wholesale Funding	$4,084,500
	Detroit Local Funding	2,004,000
	Total WRAP Funding	$6,088,500

FY 2021 and FY 2020 Activity

Monies are transferred from GLWA to Wayne Metro as needed to fund the program and support the WRAP Assistance and Conservation efforts. Wayne Metro maintains records of this activity which are reviewed and monitored by GLWA. The following is a summary of this activity for FY 2021 as compared to FY 2020.

Table 3 – Summary of Activity FY 2021 Compared to FY 2020

This table summarizes the committed funds by community action agency. For FY 2021 95% of the $4.4 million budgeted for Direct Assistance has been committed and over 91% of the $1.1 million for Conservation has been spent.

Table 3 – Summary of WRAP Activity- FY 2021

	Direct Assistance				
Agency	Budget	Committed	Uncommitted (1)	FY 2021	FY 2020
Wayne Metro	2,991,124	3,771,259	(780,135)	126%	137% (2)
Oakland Livingston Human Services Agency (OHLSA)	851,554	247,099	604,455	29%	30%
Macomb County Community Action	567,491	101,329	466,162	18%	18%
Genesee County Community Action Resource Dept (GCCARD)	18,150	94,275	(76,125)	519%	1438% (2)
Total GLWA	4,428,319	4,213,963	214,356	95%	100%

	Conservation				
Agency	Budget	Committed	Uncommitted (1)	FY 2021	FY 2020
Wayne Metro	747,781	968,372	(220,591)	129%	69% (2)
Oakland Livingston Human Services Agency (OHLSA)	212,889	30,490	182,399	14%	4%
Macomb County Community Action	141,873	3,072	138,801	2%	6%
Genesee County Community Action Resource Dept (GCCARD)	4,538	-	4,538	0%	904% (2)
Total GLWA	1,107,081	1,001,934	105,147	91%	48%

(1) Negative uncommitted funds represent commitments that will only be funded after reallocation or the next WRAP plan year.
(2) Includes reallocated funds from prior years. FY2020 and FY2021 reallocation review is not complete.

The detailed performance metrics for FY 2021 WRAP program, based on reporting prepared by Public Sector Consultants, is shown in the attached Quarterly Report. The report includes overall performance information as well as separate reporting for Wayne Metro, Oakland Livingston Human Services Agency (OLHSA), Macomb County Community Action (MCCA) and Genesee County Community Action Resource Department (GCCARD).

Reallocation of Uncommitted Funds

After the completion of each fiscal year, Wayne Metro recommends to the GLWA Board of Directors the reallocation of uncommitted assistance and conservation funds to those member partners that have fully committed their annual budgeted funds due to the increased need within their community.

For FY 2020 and FY2021 the reallocation analysis has not been completed. A reallocation recommendation will be brought to the GLWA Board for both years when the review is complete.

Table 4 – Total WRAP Reallocation of Uncommitted Funds

This table summarizes the Board authorized reallocation of uncommitted FY 2016 to FY 2019 WRAP funds to the City of Detroit and the City of Flint. To date, $4.4 million has been reallocated to Detroit and $1.4 million to the City of Flint from the other counties within GLWA.

Reallocated Funds	Detroit	Flint	Total
FY 2016	$1,664,833	$117,485	$1,782,318
FY 2017	786,981	425,635	1,212,616
FY 2018	794,400	427,755	1,222,155
FY 2019	1,182,593	471,562	1,654,155
Total Reallocation	**$4,428,807**	**$1,442,437**	**$5,871,244**

Program Review & Modifications

GLWA, PSC, the community action agencies (CAA), and participating communities have been working together to make the WRAP program more effective. The following objectives have been identified for FY2022 program year:

- Provide flexibility for the community action agencies to administer the program
  Beginning July 2021, each community action agency will be responsible for WRAP program implementation in their communities using the decentralized program delivery model.

- Codify decentralized program delivery model
  The transition to the decentralized deliver model will be implemented for FY2022 and will be monitored for effectiveness throughout the year.

- Recruit nonparticipating member partner communities
  Each CAA will coordinate recruiting efforts for their community.

- Make WRAP more accessible for residents
  The CAA's, GLWA, & PSC will continue to work on efforts to increase the effectiveness of the WRAP program.

- Improve performance reporting, financial monitoring, cost of service, and program effectiveness
  GLWA will work with the CAA's to continually refine reporting.

- Simplify monthly bill payment process
  Study of current processes and review of alternatives is underway. The CAA's and participating communities will be included in the review and evaluation of alternatives.

- Enhance conservation and water repair services
  Recommendations for enhancements to the conservation program have been developed and are being reviewed with the CAA's and participating communities. Recommendation expected to be presented to the board no later than September 2021.

- Leverage other forms of assistance
  GLWA will work closely with the CAA's to stay abreast of the other forms of assistance and the impact on the WRAP program.

Q4 WRAP Quarterly Report

Maggie Pallone
Public Sector Consultants

July 23, 2021

PSC

PUBLICSECTORCONSULTANTS.COM

GLWA - WRAP Program Summary Report (FY 2021) - All Jurisdictions						
	Total FY 2021	Total FY 2020				
Budgeted Program Funding	**$6,888,500**	**$4,868,100**				
Total Funds Allocated - Direct Assistance	$4,428,320	$3,528,422				
Total Funds Allocated - Conservation Assistance	$1,107,080	$882,105				
Allocation Percentage	100.0%	100.0%				
	FY 2021 - Q1 July - September 2020	FY 2021 - Q2 October - December 2020	FY 2021 - Q3 January -March 2021	FY 2021 - Q4 April - June 2021	FY 2021 Year to date	FY 2020 Total
Goal One						
Number of enrollment appointments	1,416	1,056	346	1,171	**3,989**	3,913
Number of applicants not eligible for participation*						
Number of households enrolled	1,492	1,622	1,766	1,365	**6,245**	5,627
Amount ($) of total assistance provided (Committed)	$ 994,714.17	$ 1,050,620.76	$ 1,174,623.19	$ 994,006.00	**$ 4,213,964.12**	$ 3,521,396.66
Amount ($) of total assistance uncommitted	$ 3,433,605.83	$ 2,382,985.07	$ 1,208,361.88	$ 214,355.88	**$ 214,355.88**	$ 7,025.34
Amount ($) of average assistance provided per household	$ 666.70	$ 647.73	$ 665.13	$ 728.21	**$ 674.77**	$ 625.80
Number of repeat participants						
Year 1	1,023	1,068	1,157	921	**4,169**	2,965
Year 2	392	438	435	315	**1,580**	1,903
WRAPFinity	77	116	174	129	**496**	759
Timeframe from application to program enrollment*						
Number of participants removed from the program*						
Goal Two						
Number of shut-offs avoided	460	154	201	49	**864**	2,210
Number of households enrolled with an arrearage balance	1,604	1,312	1,426	1,141	**5,483**	4,546
Percentage of enrolled households	108%	81%	81%	84%	**88%**	81%
Average arrearage balance per household	$ 905.39	$ 857.69	$ 1,808.24	$ 1,097.91	**$ 1,187.49**	$ 1,004.64
Amount of arrearages paid (awarded) per household	$ 517.64	$ 490.38	$ 497.96	$ 542.39	**$ 501.51**	$ 478.81
Goal Three						
Number enrolled household with high water consumption	723	523	535	476	**2,257**	1,445
Percentage of households with high water consumption	48%	32%	30%	35%	**36%**	37%
Number of water audits completed	169	351	405	281	**1,206**	567
Number of repairs performed	127	220	144	104	**595**	321
Amount ($) of conservation assistance provided - Water Audits	$ 80,275.00	$ 166,725.00	$ 192,375.00	$ 112,400.00	**$ 551,775.00**	$ 269,325.00
Amount ($) of conservation assistance provided - Plumbing Repairs	$ 103,513.25	$ 167,367.03	$ 102,813.25	$ 76,465.75	**$ 450,159.28**	$ 157,568.25
Amount ($) of conservation assistance uncommitted	$ 923,291.75	$ 589,199.72	$ 294,011.47	$ 105,145.72	**$ 105,145.72**	$ 455,211.75
Average cost of repairs per household	$ 815.06	$ 760.76	$ 713.98	$ 735.25	**$ 756.57**	$ 490.87
Water consumption (CCF) per household	18.34	15.21	17.94	34	**17.06**	13.90
Goal Four						
Number of referrals from other community organizations*						
Goal Five						
Program participants served through supplemental water/ sewer funding*						
Additional forms of assistance provided via supplemental funding*						

GLWA - WRAP Program Summary Report (FY 2021) - Wayne Metro						
	Total FY 2021	Total FY 2020				
Budgeted Program Funding	**$4,148,306**	**$2,990,311**				
Total Funds Allocated - Direct Assistance	$2,991,124	$2,137,540				
Total Funds Allocated - Conservation Assistance	$747,781	$534,384				
Allocation Percentage	60.2%	61.4%				
	FY 2021 - Q1 July - September 2020	**FY 2021 - Q2 October - December 2020**	**FY 2021 - Q3 January -March 2021**	**FY 2021 - Q4 April - June 2021**	**FY 2021 Year to date**	**FY 2020 Total**
Goal One						
Number of enrollment appointments	1,071	853	195	1,135	**3,254**	3,022
Number of applicants not eligible for participation						
Number of households enrolled	1,206	1,321	1,547	1,236	**5,310**	4,680
Amount ($) of total assistance provided (Committed)	$ 869,849.36	$ 926,617.53	$ 1,061,296.34	$ 913,496.00	**$ 3,771,259.23**	$ 2,922,264.91
Amount ($) of total assistance provided (Uncommitted)	$ 2,121,274.64	$ 1,194,657.11	$ 133,360.77	$ (780,135.23)	**$ (780,135.23)**	$ (784,724.91)
Amount ($) of average assistance provided per household	$ 721.27	$ 701.45	$ 686.04	$ 739.07	**$ 710.22**	$ 624.42
Number of repeat applicants/participants						
Year 1	852	902	1,072	860	**3,686**	2,570
Year 2	298	329	333	275	**1,235**	1,437
WRAPFinity	56	90	142	101	**389**	673
Timeframe from application to program enrollment						
Number of participants making on-time bill payments						
Goal Two						
Number of shut-offs avoided	440	137	196	49	**822**	2,160
Number of households enrolled with an arrearage balance	1,443	1,128	1,289	1,046	**4,906**	3,980
Percentage of enrolled households	120%	85%	83%	85%	**92%**	85%
Average arrearage balance per household (reported for newly enrolled households)	$ 912.43	$ 898.96	$ 1,910.96	$ 1,112.48	**$ 1,241.94**	$ 1,025.39
Amount of arrearages paid per household	$ 519.33	$ 504.22	$ 503.17	$ 544.03	**$ 508.43**	$ 478.76
Goal Three						
Number enrolled household with high water consumption	639	446	506	446	**2037**	1,280
Percentage of households with high water consumption	53%	34%	33%	36%	**38%**	27%
Number of water audits completed	169	322	391	281	**1,163**	488
Number of repairs performed	127	204	143	104	**578**	285
Amount ($) of conservation assistance provided - Water Audits	$ 80,275.00	$ 152,950.00	$ 185,725.00	$ 112,400.00	**$ 531,350.00**	$ 231,800.00
Amount ($) of conservation assistance provided - Plumbing Repairs	$ 103,513.25	$ 154,649.03	$ 102,394.25	$ 76,465.75	**$ 437,022.28**	$ 138,487.25
Amount ($) of conservation assistance uncommitted	$ 563,992.75	$ 256,393.72	$ (31,725.53)	$ (220,591.28)	**$ (220,591.28)**	$ 164,096.75
Average cost of repairs per household	$ 815.06	$ 758.08	$ 716.04	$ 735.25	**$ 756.09**	$ 485.92
Water consumption (CCF) per household	-	-	-	-	-	-
Goal Four						
Number of referrals from other community organizations						
Goal Five						
Program participants served through supplemental water/ sewer funding						
Additional forms of assistance provided via supplemental funding						

GLWA - WRAP Program Summary Report (FY 2021) - Oakland Livingston Human Services Agency

	Total FY 2021	Total FY 2020
Budgeted Program Funding	**$1,149,643**	**$1,114,023**
Total Funds Allocated - Direct Assistance	$851,554	$825,138
Total Funds Allocated - Conservation Assistance	$212,889	$206,285
Allocation Percentage	16.7%	22.9%

	FY 2021 - Q1 July - September 2020	FY 2021 - Q2 October - December 2020	FY 2021 - Q3 January -March 2021	FY 2021 - Q4 April - June 2021	FY 2021 Year to date	FY 2020 Total
Goal One						
Number of enrollment appointments	61	64	49	88	**262**	286
Number of applicants not eligible for participation						
Number of households enrolled	83	90	80	102	**355**	353
Amount ($) of total assistance provided (Committed)	$ 66,376.78	$ 60,722.74	$ 50,171.84	$ 69,828.00	**$ 247,099.36**	$ 247,113.54
Amount ($) of total assistance provided (Uncommitted)	$ 785,177.49	$ 724,454.75	$ 674,282.91	$ 604,454.91	**$ 604,454.91**	$ 578,024.69
Amount ($) of average assistance provided per household	$ 799.72	$ 674.70	$ 627.15	$ 684.59	**$ 696.05**	$ 700.04
Number of repeat applicants/participants						
Year 1	59	66	38	60	**223**	224
Year 2	21	20	30	29	**100**	105
WRAPFinity	3	4	12	13	**32**	24
Timeframe from application to program enrollment						
Number of participants making on-time bill payments						
Goal Two						
Number of shut-offs avoided	1	0	0	0	**1**	0
Number of households enrolled with an arrearage balance	80	79	68	86	**313**	306
Percentage of enrolled households	96%	88%	85%	84%	**88%**	87%
Average arrearage balance per household (reported for newly enrolled households)	$ 1,168.70	$ 781.92	$ 892.98	$ 863.44	**$ 951.50**	$ 874.00
Amount of arrearages paid per household	$ 644.64	$ 540.04	$ 539.73	$ 633.46	**$ 578.37**	$ 495.87
Goal Three						
Number enrolled household with high water consumption	37	23	14	28	**102**	124
Percentage of households with high water consumption	45%	26%	18%	27%	**29%**	35%
Number of water audits completed	0	27	11	-	**38**	11
Number of repairs performed	0	15	1	-	**16**	5
Amount ($) of conservation assistance provided - Water Audits	-	$ 12,825.00	$ 5,225.00	-	**$ 18,050.00**	$ 5,225.00
Amount ($) of conservation assistance provided - Plumbing Repairs	-	$ 12,021.00	$ 419.00	-	**$ 12,440.00**	$ 3,632.00
Amount ($) of conservation assistance uncommitted	$ 212,888.57	$ 188,042.57	$ 182,398.57	-	**$ 182,398.57**	$ 197,427.56
Average cost of repairs per household	-	$ 801.40	$ 419.00	-	**$ 777.50**	$ 726.40
Water consumption (CCF) per household	40.74	29.81	33.30	41.27	**34.56**	24.20
Goal Four						
Number of referrals from other community organizations						
Goal Five						
Program participants served through supplemental water/ sewer funding						
Additional forms of assistance provided via supplemental funding						

GLWA - WRAP Program Summary Report (FY 2021) - Macomb County Community Action

	Total FY 2021	Total FY 2020
Budgeted Program Funding	**$766,064**	**$740,103**
Total Funds Allocated - Direct Assistance	$567,491	$548,215
Total Funds Allocated - Conservation Assistance	$141,873	$137,053
Allocation Percentage	8.2%	11.3%

	FY 2021 - Q1 July - September 2020	FY 2021 - Q2 October - December 2020	FY 2021 - Q3 January -March 2021	FY 2021 - Q4 April - June 2021	FY 2021 Year to date	FY 2020 Total
Goal One						
Number of enrollment appointments	188	77	68	17	**350**	183
Number of applicants not eligible for participation						
Number of households enrolled	145	147	89	26	**407**	270
Amount ($) of total assistance provided (Committed)	$ 27,138.32	$ 38,451.51	$ 26,058.53	$ 9,681.00	**$ 101,329.36**	$ 99,981.04
Amount ($) of total assistance provided (Uncommitted)	$ 540,352.68	$ 501,901.17	$ 475,842.64	$ 466,161.64	**$ 466,161.64**	$ 448,233.96
Amount ($) of average assistance provided per household	$ 187.16	$ 261.57	$ 292.79	$ 372.35	**$ 248.97**	$ 370.30
Number of repeat applicants/participants						
Year 1	111	100	46	1	**258**	122
Year 2	16	25	23	10	**74**	86
WRAPFinity	18	22	20	15	**75**	62
Timeframe from application to program enrollment						
Number of participants making on-time bill payments						
Goal Two						
Number of shut-offs avoided	19	17	5	0	**41**	50
Number of households enrolled with an arrearage balance	68	90	40	1	**199**	93
Percentage of enrolled households	47%	61%	45%	4%	**49%**	34%
Average arrearage balance per household (reported for newly enrolled households)	$ 349.53	$ 397.03	$ 462.31	$ 411.73	**$ 393.90**	$ 475.38
Amount of arrearages paid per household	$ 163.70	$ 135.31	$ 164.04	$ 272.68	**$ 151.55**	$ 321.59
Goal Three						
Number enrolled household with high water consumption	44	48	14	0	**106**	38
Percentage of households with high water consumption	30%	33%	16%	0%	**26%**	14%
Number of water audits completed	-	2	3	-	**5**	11
Number of repairs performed	-	1	-	-	**1**	6
Amount ($) of conservation assistance provided - Water Audits	$ -	$ 950.00	$ 1,425.00	-	**$ 2,375.00**	$ 5,225.00
Amount ($) of conservation assistance provided - Plumbing Repairs	$ -	$ 697.00	$ -	-	**$ 697.00**	$ 2,909.00
Amount ($) of conservation assistance uncommitted	$ 141,873.00	$ 140,226.00	$ 138,801.00	-	**$ 138,801.00**	$ 128,919.00
Average cost of repairs per household	n/a	$ 697.00	n/a	-	**$ 697.00**	$ 484.83
Water consumption (CCF) per household	8.45	9.62	6.05	-	**8.45**	6.01
Goal Four						
Number of referrals from other community organizations						
Goal Five						
Program participants served through supplemental water/ sewer funding						
Additional forms of assistance provided via supplemental funding						

GLWA - WRAP Program Summary Report (FY 2021) - Genesee County Community Action Resource Department

	Total FY 2021	Total FY 2020
Budgeted Program Funding	**$24,488**	**$23,663**
Total Funds Allocated - Direct Assistance	$18,150	$17,528
Total Funds Allocated - Conservation Assistance	$4,538	$4,382
Allocation Percentage	0.4%	0.5%

	FY 2021 - Q1 July - September 2020	FY 2021 - Q2 October - December 2020	FY 2021 - Q3 January -March 2021	FY 2021 - Q4 April - June 2021	FY 2021 Year to date	FY 2020 Total
Goal One						
Number of enrollment appointments	96	62	34	12	**204**	422
Number of applicants not eligible for participation						
Number of households enrolled	58	64	50	1	**173**	324
Amount ($) of total assistance provided (Committed)	$ 31,349.71	$ 24,828.98	$ 37,096.48	$ 1,000.00	**$ 94,275.17**	$ 252,037.17
Amount ($) of total assistance provided (Uncommitted)	$ (13,199.52)	$ (38,028.50)	$ (75,124.98)	$ (76,124.98)	**$ (76,124.98)**	$ (234,508.99)
Amount ($) of average assistance provided per household	$ 540.51	$ 387.95	$ 741.93	$ 1,000.00	**$ 544.94**	$ 777.89
Number of repeat applicants/participants						
Year 1	1	0	1	0	**2**	49
Year 2	57	64	49	1	**171**	275
WRAPFinity	0	0	0	0	**0**	0
Timeframe from application to program enrollment						
Number of participants removed from the program						
Goal Two						
Number of shut-offs avoided	0	0	0	0	**0**	0
Number of households enrolled with an arrearage balance	13	15	29	8	**65**	167
Percentage of enrolled households	22%	23%	58%	800%	**38%**	52%
Average arrearage balance per household (reported for newly enrolled households)	$ 1,410.30	$ 916.72	$ 1,244.99	$ 1,799.69	**$ 1,196.31**	$ 1,044.24
Amount of arrearages paid per household	$ 481.02	$ 325.21	$ 532.65	$ 700.00	**$ 472.22**	$ 513.81
Goal Three						
Number enrolled household with high water consumption	3	6	1	2	**12**	3
Percentage of households with high water consumption	5%	9%	2%	200%	**7%**	1%
Number of water audits completed	-	-	-	-	-	57
Number of repairs performed	-	-	-	-	-	25
Amount ($) of conservation assistance provided - Water Audits	-	-	-	-	**$ -**	$ 27,075.00
Amount ($) of conservation assistance provided - Plumbing Repairs	-	-	-	-	**$ -**	$ 12,540.00
Amount ($) of conservation assistance uncommitted	$ 4,537.55	$ 4,537.55	$ 4,537.55	-	**$ 4,537.55**	$ (35,232.95)
Average cost of repairs per household	-	-	-	-	-	$ 501.60
Water consumption (CCF) per household	4.84	4.40	6.51	4.38	**5.23**	4.82
Goal Four						
Number of referrals from other community organizations						
Goal Five						
Program participants served through supplemental water/ sewer funding						
Additional forms of assistance provided via supplemental funding						

GLWA Great Lakes Water Authority

Procurement Pipeline

AGENDA ITEM #9A

Great Lakes Water Authority (313) 964-9157 www.glwater.org **July 2021 - Volume 29**

Welcome to the July edition of *The Procurement Pipeline*, a monthly newsletter designed to provide informative updates on doing business with the Great Lakes Water Authority (GLWA).

Procurement Process Update: DocuSign

Effective July 6, 2021, the GLWA Procurement Team will now route all contract documents and agreements requiring the signature of vendors through a software application called DocuSign.

DocuSign is a widely used tool that enables users to digitally sign and manage all documents securely in one unified workspace. This software also allows for the efficient distribution and tracking of documents through the signatory process and helps to ensure that this process is faster and easier for both vendors and the GLWA Procurement Team.

For vendors doing business with GLWA, DocuSign provides several benefits that streamlines the procurement and contract process:

- ✓ Vendors will no longer need to print, sign, scan and then send important documents, saving resources and time;
- ✓ When a document requires review and signature, vendors will receive automatic email notifications and a link from DocuSign;
- ✓ Easily sign from iOS, Android, and Windows devices while on the go;
- ✓ Fully executed documents are automatically provided to those in the routing process.

Please note that while vendors will need to set up a DocuSign account and create an electronic signature, vendors are not required to download or purchase DocuSign software to utilize its features for GLWA-related contracts and documents. If you have any additional questions about using DocuSign, contact the GLWA Buyer of Record.

Visitor COVID-19 Badged Access Requirements to Remain in Effect Until September 1, 2021

On June 29, 2021, GLWA issued Coronavirus Update #130 to the vendor community detailing that GLWA's current Visitor COVID-19 Access Requirements and Safety Protocols will remain in effect until September 1, 2021. During this time, GLWA continues to strongly encourage COVID-19 vaccination for all who may safely receive it. For a detailed overview of the mandatory access requirements and safety protocols for Badged, Non-Badged, and Delivery Driver Access to GLWA facilities and project worksites, please carefully review Coronavirus Update #130 which is available on the GLWA Vendor Webpage. Any additional questions regarding GLWA's Visitor COVID-19 Access Requirements may be directed via email to Michael Lasley and Megan Torti. We appreciate the vendor community's cooperation and continued efforts to help ensure workplace safety for all.

Virtual Introduction Meetings with GLWA

If you are interested in learning more about doing business with GLWA, contact us at GLWAVendorOutreach@glwater.org to schedule a vendor introductory meeting. Topics include helpful information on submitting a competitive bid or proposal to a GLWA solicitation, as well as the requirements for GLWA's Business Inclusion and Diversity (B.I.D.) Program.

Where to Meet GLWA

GLWA attends vendor outreach events throughout southeast Michigan. We welcome you to join us at the following upcoming events:

- ✓ Pure Michigan Business Connect (PMBC) and Flint & Genesee Economic Alliance PTAC Virtual Meet the Buyer Event (tentatively scheduled for August 12, 2021).
- ✓ Macomb Regional PTAC Virtual Meet the Buyer Event on August 19, 2021.

What's Coming Down the Pipe? *Current Solicitations:* Be sure to register in Bonfire for new solicitations and contract award information. *Upcoming Procurements: Next Three to Nine Months* - See page 2

Visit GLWA online! See the Vendors page at www.glwater.org or contact us via email at procurement@glwater.org.

Upcoming Solicitations July 2021

Category	Description	Budget Estimate
Water System (next three months)		
Engineering	North Service Center Pumping Station Improvements (CIP #132016)	$10,000,000
Design Build	Belle Isle Seawall Rehabilitation (CIP #116005)	$1,740,000
Design	Reservoir Inspection, Design, Construction Administration, and RPR Services (CIP #170802)	$5,400,000
Progressive Design Build	Water Works Park High Lift Pumping Station Modernization (CIP #115007)	$89,000,000
Wastewater System (next three months)		
Design Build	Control System Upgrade – St. Aubin, Leib, and 7 Mile CSO Facilities (CIP #360619)	$7,000.000
Construction	Generator Improvements (Controls upgrades, Generator modifications) (JOC) (CIP #260622) (CSO)	$1,000,000
Construction	Hubbell Southfield CSO Basin Pipe Hanger Replacement	$1,500,000
Construction	HAZMAT (Hazardous Material) Building Renovation	$1,500,000
Maintenance Services	Facilities Maintenance Services	$17,000,000
Water System (next four to nine months)		
Progressive Design Build	Lake Huron WTP Instrumentation and Filter Control Improvements (CIP #111006)	$21,000,000
Construction	Roof Replacement – Lake Huron WTP and Southwest WTP (CIP #171500)	$3,000,000
Wastewater System (next four to nine months)		
Professional Services	Virtual Tour and Laser Scanning Services	TBD
Design	Pilot Netting Facility Project (CIP #270001) (CSO)	TBD
Construction	Rehabilitation of CSO Outfall Backwater Gates (CIP #260510)	$5,000,000
Construction	WRRF Administration Building 4th Floor Renovation	$2,500,000
Construction	Pump Station #1 Screenings Building HVAC Improvements (CIP #211006)	$1,000,000
Construction	Connor Creek Sewer System Rehabilitation (CIP #260208)	$24,400,000
Design Build	WRRF Rehabilitation of Intermediate Lift Pumps (ILPs) 1 & 2 and Modifications to Aeration Decks 1 & 2 to Incorporate Biological Phosphorus Removal and Step Feed (CIP #212008)	$60,000,000
Construction	WRRF Pump Station #1 Improvements (CIP #211006)	$55,000,000
Design Build	WRRF Structural Improvements (CIP #216011)	$12,000,000
Deign Build	Sewer Repair Contract (CIP #260209)	$22,400,000
Construction	Rehabilitation of Northwest Interceptor from 8 Mile Road to Warren Pierson (CIP #260295)	$7,000,000
Design	Architectural & Safety Improvements to CSO Facilities	$1,400,000
Enterprise (next three months)		
Professional Services	Document Scanning and Management Services (WRRF, Conner Creek, Enterprise)	TBD

Vendors should continue to monitor Bonfire for solicitation updates.

Acronyms		
WRRF: Water Resource Recovery Facility	**CSO:** Combined Sewer Overflow	**WTP:** Water Treatment Plant